

APPENDIX E

CULTURAL RESOURCES CONSULTATION

Cultural Resources Consultation Log

Redding Rancheria Fee-to-Trust and Casino Project

Tribe	Phone number	First Name	Last Name	Title	Letter	Phone Call	Results/Information/Notes
Ajumawi Band	(530) 917-9687	Mary	Mike	Cultural Resource Representative	2/24/2016	3/4/2016	Wrong number
Aporige Band, Pit River Indians	(530) 249-6678	Everado	Dela Torre		2/24/2016	3/4/2016	Electronic msg - voice mailbox not set up.
Atsuge Band, Pit River Indians	(530) 410-4786	Bill	George		2/24/2016	3/4/2016	No comment - not their territory.
Illmawi Band, Pit River Indian Tribe	(916) 956-3576	Suntana	Sanchez		2/24/2016	3/4/2016	Number no longer in service.
Itsatawi Band	(530) 410-4800	Debbie	Rouse	Cultural Resource Representative	2/24/2016	3/4/2016	Left message
Madesi Band	(209) 597-7469	Brandon	Harrison	Cultural Resource Representative	2/24/2016	3/4/2016	Wrong number
Nor-Rel-Muk Nation	(530) 623-4940	Marilyn	Delgado	Chairperson	2/24/2016	3/4/2016	Left message
Pit River Tribe of California	(530) 335-5421	Morning Star	Gali	THPO	2/24/2016	3/4/2016	Left message
Pit River Tribe of California	(530) 335-5421	Mickey	Gemmill	Chairperson	2/24/2016	3/4/2016	Left message
Quartz Valley Indian Community	(530) 468-5907	Harold	Bennett	Chairperson	2/24/2016	3/4/2016	Left message
Redding Rancheria	(530) 225-8979	Jason	Hart	Chairperson	2/24/2016		Provided backhoe/monitoring for XPI testing
Redding Rancheria	(530) 242-4543	James	Hayward	Cultural Resource Representative	2/24/2016		
United Tribe of Northern Calif., Inc., Wintu, Wintun, Wintoon	(530) 275-1915	Gloria	Gomes	Chairperson	2/24/2016	3/4/2016	Not happy about the politics of it, no comment on resources.
Winnemem Wintu Tribe	none given	Caleen	Sisk-Franco	Chairperson	2/24/2016	3/4/2016	No phone number
Wintu Tribe of Northern California	530-605-1726	Kelli	Hayward		2/24/2016	3/4/2016	
Wintu Tribe of Northern California		Greg	Bergin			4/18/16, 4/25/16	Received an email from Mr. Burgin on 4/10/16 saying he has knowledge of cultural resources within the area. Received a voicemail from Greg Burgin on April 18 asking about monitors at the Strawberry Fields site; AES replied leaving a VM saying that Redding Rancheria was monitoring the excavations. AES called on 4/25 to follow up, and spoke to him. Mr. Bergin stated that he's concerned about development in the area, which is culturally significant.
Wintu Tribe of Northern California		Greg	Bergin			4/28/2016	Mr. Bergin left a VM saying that he's been speaking with Bob Burns, who claims that the site we've been working at was previously recorded and asking that the work there be monitored by the Wintu Tribe, as well as informing AES that he (Mr. Burgin) had contacted the NAHC.
Native American Heritage Commission		Katie	Sanchez			4/28/2016	Received a call from the NAHC, asking about the project and spoke with Katie Sanchez, who asked about the background/details of what is going on. I gave her the background, including 2007 survey, 3/16 backhoe testing, 4/16 Phase II work. I explained that Bob Burns had visited during the backhoe work and stated that there was a known site, recorded in the 1950s, but that no information about the site had come from the NEIC record search. I confirmed for Ms. Sanchez that the property is privately owned by a Federally recognized tribe, that the archaeological program there has been completed, and that the BIA is fully aware of activities on the site; she asked for a BIA contact and I gave her Dan Hall's name. She is going to get in touch with Mr. Bergin to follow up.
Wintu Tribe of Northern California		Lori	Light	Cultural Resource Manager		3/30/2017	Received a call from Lori Light asking about monitoring, status of fieldwork at Redding, stated that it is Wintu territory, and so Wintu should be monitors. Also asked for copies of CR reports and EIS.

APPENDIX F

TRAFFIC IMPACT STUDY

TRAFFIC IMPACT STUDY

Redding Rancheria

PREPARED FOR:
ANALYTICAL ENVIRONMENTAL SERVICES

JUNE 2018

Prepared By:

Kimley»»Horn

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EXECUTIVE SUMMARY

Kimley-Horn was retained by Analytical Environmental Services (AES) to prepare a traffic impact study in support of an Environmental Impact Statement (EIS) for the Redding Rancheria Casino Project (Proposed Project) located in Shasta County, California.

The Project consists of a new casino and resort, including an approximately 69,515 square foot casino, 250-room hotel, an event/convention center, and a retail center. The project site, also referred to as the Strawberry Fields Site, is located in the southwest quadrant of the Interstate 5 (I-5) interchange with South Bonnyview Road. While the I-5/South Bonnyview Road interchange is located within the City of Redding's jurisdiction, the project site is located farther south, within unincorporated Shasta County.

As part of the project, six total development alternatives (four of which are on the project site, two of which are located off site) were evaluated. The development alternatives evaluated and their respective project sites are as follows:

Strawberry Fields Site:

- Alternative A: Proposed Project
- Alternative B: Proposed Project with No Retail Alternative
- Alternative C: Reduced Intensity Alternative
- Alternative D: Non-Gaming Alternative

Anderson Site:

- Alternative E: Anderson Site Alternative (City of Anderson)

Win River Casino Site:

- Alternative F: Expansion of the Existing Win River Casino Resort

In addition, three project access options were evaluated for each development alternative on the Strawberry Fields Site. The access options are listed below:

- North Access Only – access to South Bonnyview Road via Bechelli Lane
- North and South Access – access to South Bonnyview Road via Bechelli Lane and access to Smith Road via a new connecting roadway (overpass only at Smith Road)
- South Access Only – access to Smith Road via a new connecting roadway and a new I-5 Interchange at Smith Road

The traffic study was completed for the following scenarios:

- Existing (2016) Conditions
- Opening Year (2025) Conditions
- Opening Year (2025) plus Proposed Project Conditions
- Cumulative (2040) Conditions
- Cumulative (2040) plus Proposed Project Conditions

Significant findings of this study include:

- Several intersections, primarily in and around the South Bonnyview Road/I-5 interchange, operate unacceptably with the addition of the proposed project for various study scenarios and access options. Each impact can be mitigated to be ***less than significant***.

INTRODUCTION

Kimley-Horn was retained by Analytical Environmental Services (AES) to prepare a traffic impact study in support of an Environmental Impact Statement (EIS) for the Redding Rancheria Casino Project (Proposed Project), located in Shasta County, California. The purpose of this study is to address the traffic and transportation effects of the Proposed Project.

Project Description

The Project consists of a new casino and resort, including an approximately 69,515 square foot casino, 250-room hotel, an event/convention center, a retail center, as well as associated parking and infrastructure. The Strawberry Fields Site is located in the southwest quadrant of the Interstate 5 (I-5) interchange with South Bonnyview Road.

Strawberry Fields Site Development Alternatives

As part of the project, four development alternatives at the Strawberry Fields Site were evaluated. The development alternatives evaluated are as follows:

- Alternative A: Proposed Project
- Alternative B: Proposed Project with No Retail Alternative
- Alternative C: Reduced Intensity Alternative
- Alternative D: Non-Gaming Alternative

Strawberry Fields Site Access Alternatives

As part of the project, three project access options were evaluated for each development alternative on the Strawberry Fields Site. The access options evaluated are listed below:

- North Access Only (Option 1) – access to South Bonnyview Road via Bechelli Lane
- North and South Access (Option 2) – access to South Bonnyview Road via Bechelli Lane and access to Smith Road via a new connecting roadway (overpass only at Smith Road)
- South Access Only (Option 3) – access to Smith Road via a new connecting roadway and a new I-5 Interchange at Smith Road

Site Alternatives

In addition to the alternatives listed above, two additional site alternatives were evaluated. These additional alternatives are as follows:

- Alternative E: Anderson Site Alternative (City of Anderson)
- Alternative F: Expansion of the Existing Win River Casino Resort

Study Methodology

This traffic study was based on relevant information from the Shasta County General Plan (amended September 2004), the City of Redding General Plan Transportation Element (adopted October 2000) and Caltrans.

Development Conditions

The traffic study was based on the following study scenarios:

- **Existing (2016) Conditions**
Evaluates current traffic counts, existing roadway geometry/traffic control, and existing development conditions.
- **Opening Year (2025) Conditions**
Evaluates year 2025 traffic volumes. Volumes for intersections #1-9 were taken directly from the 2017 *River Crossing Marketplace Specific Plan Traffic Impact Analysis Report*¹ Year 2020 Plus Project Conditions volumes². Volumes for intersections #10-23 were developed by linearly interpolating between existing and 2040 traffic volumes. The scenario assumes existing roadway geometry/traffic control.
- **Opening Year (2025) plus Proposed Project Conditions**
Evaluates year 2025 traffic volumes and traffic generated by the project.
- **Cumulative (2040) Conditions**
Volumes for intersections #1-9 were taken directly from the 2017 *River Crossing Marketplace Specific Plan Traffic Impact Analysis Report* Year 2040 Plus Project Conditions volumes². Volumes for intersections #10-23 were developed using the Shasta County Regional Travel Demand Model (SCRTDF)³. The scenario assumes existing roadway geometry/traffic control.
- **Cumulative (2040) plus Proposed Project Conditions**
Evaluates year 2040 traffic volumes and traffic generated by the project.

Operating Conditions and Criteria

Operating conditions experienced by drivers are described in terms of Level of Service (LOS), which is a qualitative measure of factors such as delay, speed, travel time, freedom to maneuver, and driving comfort and convenience. Levels of service are represented by a letter scale from LOS A to LOS F, with LOS A representing the best performance and LOS F representing the poorest performance.

¹ *River Crossing Marketplace Specific Plan Traffic Impact Analysis*, Omni-Means, A GHD Company, 2017.

² Note: Some movements presented in the *Redding Rancheria Traffic Impact Study* are higher than those presented in the *River Crossing Marketplace Specific Plan Traffic Impact Analysis* report.

³ Adjusted SCRTDF Model based on I-5 / S. Bonnyview Interchange PSR Technical Memorandum 1 – 14, Omni-Means to City of Redding – Engineering, May 06, 2016 – April 28, 2017.

Table 1 relates the operational characteristics associated with each level of service category for both signalized and unsignalized intersections. **Table 2** and **Table 3** list the level of service thresholds for roadway segments, one-lane and multilane respectively. Level of service thresholds for two-lane highways are based on average travel speed and the percent time spent following based on the segment’s classification. Level of service on Class I facilities is defined in terms of average travel speed as well as percent time-spent-following (where mobility is critical). Percent time-spent-following is defined as the average percent of total travel time that vehicles must travel in platoons behind slower vehicles due to inability to pass on a two-lane highway. The level of service on Class II facilities is based only on the percent time-spent-following. Level of service thresholds for multilane highways are based on density measured in passenger cars per mile per lane. **Table 4** lists the level of service thresholds for freeway segments which is also based on density.

Table 1 – Intersection Level of Service Definitions

Level of Service	Description	Signalized (Avg. control delay per vehicle)	Unsignalized (Avg. control delay per vehicle)	Volume to Capacity
A	Free flow with no delays. Users are virtually unaffected by others in the traffic stream	≤ 10	≤ 10	And ≤ 1.0
B	Stable traffic. Traffic flows smoothly with few delays.	> 10 – 20	> 10 – 15	And ≤ 1.0
C	Stable flow but the operation of individual users becomes affected by other vehicles. Modest delays.	> 20 – 35	> 15 – 25	And ≤ 1.0
D	Approaching unstable flow. Operation of individual users becomes significantly affected by other vehicles. Delays may be more than one cycle during peak hours.	> 35 – 55	> 25 – 35	And ≤ 1.0
E	Unstable flow with operating conditions at or near the capacity level. Long delays and vehicle queuing.	> 55 – 80	> 35 – 50	And ≤ 1.0
F	Forced or breakdown flow that causes reduced capacity. Stop and go traffic conditions. Excessive long delays and vehicle queuing.	> 80	> 50	Or > 1.0

Source: Transportation Research Board, *Highway Capacity Manual 2010*, National Research Council, 2010.

Table 2 – Roadway Segment Level of Service Thresholds: Two-Lane Highway

Level of Service	Class I ^a Percent Time Spent Following (%)	Class I ^a Average Travel Speed (mph)	Class II ^b Percent Time Spent Following (%)
A	<= 35	=> 55	<= 40
B	> 35 – 50	> 50 – 55	> 40 – 55
C	> 50 – 65	> 45 – 50	> 55 – 70
D	> 65 – 80	> 40 – 45	> 70 – 85
E	> 80	<= 40	> 85

Source: Transportation Research Board, *Highway Capacity Manual 2010*, National Research Council, 2010.

^aClass I: Highways on which motorists expect to travel at relatively high speeds, including major intercity routes, primary arterials, and daily commuter routes.

^bClass II: Highways on which motorists do not necessarily expect to travel at high speeds, including access routes, scenic and recreational routes that are not primarily arterials, and routes through rugged terrain.

LOS F applies whenever the flow rate exceeds the segment capacity.

Table 3 - Roadway Segment Level of Service Thresholds: Multilane Highway

Level of Service (LOS)	Free Flow Speed (mph)	Density (pc/mi/ln)
A	All	> 0 – 11
B	All	> 11 – 18
C	All	> 18 – 26
D	All	> 26 – 35
E	60	> 35 – 40
	55	> 35 – 41
	50	> 35 – 43
	45	> 35 – 45
F (demand exceeds capacity)	60	> 40
	55	> 41
	50	> 43
	45	> 45

Source: *Highway Capacity Manual, 2010*

Note: Passenger Cars per Mile per Lane (pc/mi/ln)

Table 4 – Freeway Facility Level of Service Criteria

Level of Service (LOS)	Basic Segments Density (pc/mi/ln)	Merge/Diverge Segments Density (pc/mi/ln)
A	≤ 11	≤ 10
B	> 11 – 18	> 10 – 20
C	> 18 – 26	> 20 – 28
D	> 26 – 35	> 28 – 35
E	> 35 – 45	> 35
F*	> 45*	*

Source: *Highway Capacity Manual, 2010*

* Demand exceeds capacity

Note: Passenger Cars per Mile per Lane (pc/mi/ln)

Table 5 summarizes the local level of service standards.

Table 5 – Local Level of Service Standards

Jurisdiction	Satisfactory Criteria	Significance Criteria
Shasta County	LOS C	Project causes LOS to fall below LOS C. The project is considered to have a significant impact if the project increases the average delay by more than 5 seconds per vehicle at an intersection having an unacceptable LOS without project traffic.
Redding	LOS C/D	Project causes LOS to fall below LOS C for arterial streets and intersections. The project is considered to have a significant impact if the project increases the average delay by more than 5 seconds per vehicle (and meets peak hour volume signal warrants for stop controlled intersections) at an intersection having an unacceptable LOS without project traffic. *Note LOS D is considered acceptable for areas in the downtown area, as well as along streets within the state highway system and corresponding intersections.
Anderson	LOS D	Project causes LOS to fall below LOS D.
Caltrans	LOS D	Project causes LOS to fall below LOS D at intersections and highways. If LOS is already below criteria, the existing LOS and related measure of effectiveness (i.e. delay, percent time-spent-following, and average speed) are to be maintained.

Sources:

- Shasta County General Plan, Circulation Element, September 2004
- City of Redding General Plan, October 2000
- City of Redding *Traffic Impact Analysis Guidelines*, January 2009
- City of Anderson General Plan, May 2007
- Caltrans *Guide for the Preparation of Traffic Impact Studies*, December 2002
- State Route 273 *Transportation Concept Report*, Caltrans District 2, Office of Planning, December 2004

Traffic analysis was completed using Synchro and VISSIM software at intersections and Highway Capacity Software (HCS) at roadway and freeway segments. Both software platforms are based on the methodology of the *Highway Capacity Manual (HCM, 2010)*.

Significant Impact and Mitigation Thresholds

Shasta County

The Shasta County General Plan, Circulation Element, dated September 2004, was used to determine the Proposed Project impacts to facilities within the County's jurisdiction. These guidelines state that Shasta County shall adopt LOS C standards for any new roads. New developments shall not be approved unless traffic impacts are adequately mitigated. Such mitigation may take the form of, but not limited to, provision of capacity improvements and demand reduction measures. The County has determined that a project may have significant impacts on traffic and circulation if it does any of the following:

- Causes an intersection or roadway segment that operates acceptable without the project to degrade to an unacceptable LOS due to the addition of traffic from the project
- Causes an intersection that is operating at an unacceptable LOS without the project and experiences an increase of 5 or more seconds of control delay due to the addition of the project traffic.
- Causes a roadway segment that operates unacceptably to experience an increase in its daily volume to a capacity ration of 0.05 or greater due to the addition of project traffic.

City of Redding

The *City of Redding Traffic Impact Analysis Guidelines*, dated January 2009, was used to determine the Proposed Project impacts to facilities within the City of Redding's jurisdiction. These guidelines state that the minimum LOS standard to be used in the analysis shall be LOS C for most arterial streets and their intersections and LOS D for the Downtown area or for streets within the State highway system and interchanges. When an existing Redding facility is operating at less than appropriate target LOS, the following thresholds are used to determine significant impacts:

- The project increases the delay by more than 5 seconds per vehicle at an intersection having an unacceptable LOS without project traffic.
- The project causes the v/c ratio to increase by more than 0.05 on a roadway having an unacceptable LOS without project traffic.
- The project causes the amount of traffic on a local street to exceed 2,000 daily vehicles or 180 peak hour vehicles; or adds any amount of traffic to a local street which exceeds these limits without the project.
- The project causes the amount of traffic on a residential collector, having individual access to single family lots, to exceed 4,000 daily vehicles or 360 peak hour vehicles; or adds any amount of traffic to a residential collector which exceeds these limits without the project.

For impacts that occur in cumulative conditions, the project applicant is responsible for mitigating the impact by providing a fair share contribution. If the project's fair share is 25 percent or more, then the recommended improvements shall be installed at the time

of the development, subject to a reimbursement agreement. If the recommended improvement is included in the current list of Traffic Impact Fee projects, reimbursement will be in the form of either TIF credit or payment from the TIF. If the project's fair share is less than 25 percent, then the project will be required to pay its fair share of the cost of the improvements to be constructed later by others, prior to the realization of the impact. If the recommended improvement is included in the current list of TIF projects, then payment of the project's TIF fee will be considered mitigation for the impact.

City of Anderson

The City of Anderson General Plan, Circulation Element, dated May 2007, was used to determine the Proposed Project impacts to facilities within the City of Anderson's jurisdiction. These guidelines state that the City of Anderson strives to maintain a LOS D as the minimum acceptable service standard for intersections during peak periods. For this study, the Shasta County significance was used for City of Anderson facilities.

Caltrans

The *Caltrans Guide for the Preparation of Traffic Impact Studies*, dated December 2002, was used to determine the Proposed Project impacts to facilities within Caltrans's jurisdiction. These guidelines state that Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D for all of its facilities. However, in the *State Route 273 Transportation Concept Report*, Caltrans indicated that a lower level of service (LOS D) is acceptable before mitigation would be required². When an existing State Highway facility is operating at less than appropriate target LOS, the existing measure of effectiveness (MOE) for that facility should be maintained. This means that, for facilities that operate at a LOS E or F, a significant project impact would occur if a project causes a decrease in the MOE for that facility.

Cumulative traffic impacts are those projected to occur when project traffic is added to future traffic, and where this resulting combined future traffic exceeds each Jurisdiction's significance criteria. Future traffic is based on additional proposed developments in the area (short and long-term cumulative). The project applicant would be responsible for mitigating its cumulatively considerable impact by providing a fair share contribution towards the implementation of mitigation measures needed to improve the intersection or roadway segment to an acceptable LOS or to a level that is equal to better than pre-project operations. A fair share contribution is based on the projects proportionate traffic contribution to the overall future traffic volumes at locations which exceed the significance criteria.

Study Areas

The proposed project site is located in the southwest quadrant of the I-5 interchange with South Bonnyview Road. While the I-5/South Bonnyview Road interchange is located within the City of Redding's jurisdictions, the project site is located immediately south of and outside the City's boundary within unincorporated Shasta County.

² *State Route 273 Transportation Concept Report*, Caltrans District 2, Office of Planning, December 2004.

Two additional site alternatives were evaluated. The Anderson Site is located at the northwest quadrant of the I-5 and North Street Interchange, off of Oak Street within the City of Anderson. The Win River Casino Site is located at the intersection of Market Street (SR-273) and Canyon Road, off of Redding Rancheria Road in Shasta County.

Intersections Included in Analysis

The Project would generate new vehicular trips that would increase traffic volumes on the nearby street network. To assess changes in traffic conditions associated with the Project, the following study intersections were selected based on relevance to the Project and additional site alternatives, and the existing traffic conditions.

Figure 1 illustrates the study intersections for the Strawberry Fields Site:

1. South Bonnyview Road @ Market Street (SR-273) – Caltrans
2. South Bonnyview Road @ East Bonnyview Road – City of Redding
3. South Bonnyview Road @ Bechelli Lane – City of Redding
4. South Bonnyview Road @ I-5 SB Ramps – Caltrans
5. South Bonnyview Road @ I-5 NB Ramps – Caltrans
6. South Bonnyview Road @ Churn Creek Road – City of Redding
7. Churn Creek Road @ Alrose Lane – City of Redding
8. Churn Creek Road @ Victor Avenue – City of Redding
9. Churn Creek Road @ Rancho Road – City of Redding
10. Churn Creek Road @ Smith Road – Shasta County
24. Smith Road @ Proposed Project South Driveway (*Options 1 & 2*) – Shasta County
25. Smith Road @ I-5 SB Ramps (*Option 2*) – Caltrans
26. Smith Road @ I-5 NB Ramps (*Option 2*) – Caltrans

Figure 2 illustrates the study intersections for the Anderson Site (City of Anderson):

17. Market Street (SR-273) @ North Street – Caltrans
18. North Street @ Oak Street – City of Anderson
19. North Street @ I-5 SB Off Ramp – Caltrans
20. North Street @ I-5 NB On-Ramp/ McMurray Drive – Caltrans
21. Balls Ferry Road @ Oak Street – City of Anderson
22. Balls Ferry Road @ I-5 SB On-Ramp/ Ventura Street – Caltrans
23. Balls Ferry Road @ I-5 NB Off-Ramp/ McMurray Drive – Caltrans

Figure 3 illustrates the study intersections for the Win River Casino Site:

1. South Bonnyview Road @ Market Street (SR-273) – Caltrans
11. Market Street (SR-273) @ Westwood Avenue – Caltrans
12. Market Street (SR-273) @ Clear Creek Road – Caltrans
13. Market Street (SR-273) @ Girvan Road – Caltrans
14. Market Street (SR-273) @ Redding Rancheria Road – Caltrans
15. Redding Rancheria Road @ Canyon Road – City of Redding
16. Market Street (SR-273) @ Happy Valley Road – Caltrans

Roadway Segments Included in Analysis

Roadway segments were selected for evaluation. Roadway segments studied are illustrated in **Figures 1-3**.

Strawberry Fields Site:

1. South Bonnyview Road, west of Bechelli Lane
2. Bechelli Lane, south of South Bonnyview Road
3. Churn Creek Road, east of Alrose Lane
4. Smith Road, west of Churn Creek Road

Anderson Site:

1. North Street west of Oak Street
2. Oak Street south of North Street
3. North Street east of Oak Street
4. Oak Street north of North Street

Win River Casino Site:

1. Market Street (SR-273) north of Redding Rancheria Road
2. Market Street (SR-273) south of Redding Rancheria Road
3. Canyon Road south of Redding Rancheria Road

Freeway Segments Included in Analysis

Freeway segments were selected for evaluation. Freeway segments studied are illustrated in **Figures 1-3**.

Strawberry Fields Site:

Northbound and Southbound:

1. I-5 south of Bonnyview Road Off-Ramp
2. Bonnyview Road Off-Ramp
3. I-5 between Bonnyview Road Off-Ramp and On-Ramp
4. Bonnyview Road On-Ramp
5. I-5 North of Bonnyview Road On-Ramp
6. I-5 South of Smith Road Off-Ramp*
7. Smith Road Off-Ramp*
8. I-5 between Smith Road Off-Ramp and On-Ramp*
9. Smith Road On-Ramp*

(*Option 2 only)

Alternative Site (City of Anderson):

Northbound and Southbound:

1. I-5 South of Balls Ferry Road Off-Ramp
2. Balls Ferry Road On-Ramp/Off-Ramp
3. I-5 between Balls Ferry Road Off-Ramp and North Street On-Ramp
4. North Street On-Ramp/Off-Ramp
5. I-5 between North Street On/Off-Ramp and Riverside Ave On/Off-Ramp

Win River Casino Site:

- None

Redding Rancheria: Traffic Impact Study



Kimley»Horn Study Intersections and Roadway Segments for the Strawberry Fields Site Figure 1



Redding Rancheria: Traffic Impact Study



Kimley»Horn Study Intersections and Roadway Segments for the Win River Casino Site Figure 3

EXISTING (2016) CONDITIONS

Existing Roadways

Below is a description of the roadway facilities and roadway segments included in this study.

I-5 is a major interstate freeway. It runs north-south and connects the cities in northern California and Oregon to the Sacramento Valley in the south. I-5 is also a major truck route, designated as part of the National STAA Network. I-5 runs along the eastern edge of the Proposed Project Site in Redding and the eastern edge of the Alternative Project Site in Anderson. Across the study area, I-5 has a four-lane divided cross section.

Market Street (SR-273) is a divided, four-lane expressway, running north-south along the Southern Pacific Railroad tracks. The expressway serves to connect Redding and Anderson, with limited access to adjacent land. SR-273 is designated a terminal access STAA Route. It intersects South Bonnyview Road north of the Win River Casino Ssite. All intersections are at grade.

South Bonnyview Road is a two to four lane arterial within the City of Redding with curbs and gutters. The road runs east-west, connecting SR-273, I-5, and Churn Creek Road. A class II bike path runs along the route from SR-273 to I-5. Sidewalks are present from SR-273 to Alrose Lane on the east side of I-5.

East Bonnyview Road is a two lane collector within the City of Redding with curb and gutter on the east side of the roadway. The road runs north-south connecting residential housing to South Bonnyview Road. Sidewalks are present along the east side of the roadway.

Bechelli Lane is a two-lane arterial north of South Bonnyview Road and a two-lane local roadway south of Bonnyview Road within the City of Redding. The roadway connects residential housing to Cypress Avenue and South Bonnyview Road. It runs north-south, parallel to I-5.

Churn Creek Road runs north-south from SR-299 to Knighton Road within the City of Redding. North of South Bonnyview Road, Churn Creek Road is a four-lane divided arterial. After the intersection with Bonnyview Road, Churn Creek Road narrows to two lanes and runs east-west for about a mile before continuing south to Airport Road.

Alrose Lane is a two-lane local roadway within the City of Redding. The roadway runs north-south and connects residential housing to Churn Creek Road.

Victor Avenue is a two-lane arterial roadway within the City of Redding. The roadway runs north-south and connects Churn Creek Road with SR-44 to the north.

Rancho Road is a two-lane arterial roadway within the City of Redding. The roadway runs east-west and connects Churn Creek Road with residential housing to the east.

Smith Road is a two-lane local roadway within Shasta County running east-west from Churn Creek Road to the Sacramento River.

Westwood Avenue is a two-lane local roadway within the City of Redding. The roadway runs east-west and connects SR-273 to residential housing to the west.

Clear Creek Road is a two-lane arterial roadway within the City of Redding. The roadway runs east-west and connects SR-273 to residential housing and businesses to the west.

Girvan Road is a two-lane collector roadway within the City of Redding. The roadway runs east-west and connects SR-273 to residential housing to the east.

Redding Rancheria Road is a two-lane collector. It joins Canyon Road and intersects SR-273 just east of the Win River Casino Resort. It is the major access point for the existing Win River Casino Resort facilities.

Canyon Road is a two-lane arterial running northeast and southwest within the City of Redding. The road extends from SR-273 to Happy Valley Road.

North Street is a four-lane arterial roadway running east-west from the Sacramento River to SR-273. This road is a designated Truck Route under the City of Anderson Municipal Code.

Balls Ferry Road is a four-lane arterial roadway running east-west from the I-5 to SR-273.

Oak Street is a two-lane local road running parallel to SR-273 within the City of Anderson, to the east of the alternative project site.

McMurray Drive is a two-lane local road running parallel to I-5 within the City of Anderson. The roadway connects the I-5 Northbound ramps.

Ventura Street is a two-lane local road running parallel to I-5 within the City of Anderson. The roadway connects North Street with Balls Ferry Road.

Happy Valley Road is a two-lane arterial running northeast and southwest within Shasta County. The road extends from SR-273 to Canyon Road, continuing south to Gas Point Road.

Existing Lane Configurations and Traffic Control

Existing intersection lane configurations and traffic control at study intersections are illustrated in **Figures 4-6**. Traffic signals are located at 16 of the 23 study intersections.

Existing Traffic Turning Movement Volumes

Friday and Saturday intersection turning movement volumes were manually collected in July 2016 at all project study area intersections. Additional intersection turning movement counts were manually collected in September 2016. Volumes were collected during the PM peak period, from 5:00 PM to 7:00 PM on both Friday and Saturday, when the combination of background traffic and casino traffic is at the highest levels. Based on existing traffic volume information and expected trip generation from the Project, it was determined that the Friday and Saturday evening peak periods represent the worst case periods to evaluate. Additionally, September traffic counts were higher than July traffic counts, suggesting season variation in the Project vicinity. Based on a comparison of the July and September traffic counts, adjustments were applied to the July turning movement counts to proportionally increase volumes to reflect observed seasonal variation. The resulting Existing (2016) Friday and Saturday afternoon peak hour volumes are shown in **Figures 7-9**. Traffic volume data sheets are included in **Appendix A**.

Existing Pedestrian and Bicycle Facilities

According to the City of Redding *Bikeway Action Plan: 2010-2015*³, there is a class II bicycle facility running along South Bonnyview Road, from SR-273 to Bechelli Road, and on Churn Creek Road east of South Bonnyview Road. Bicycle facilities are planned for South Bonnyview Road between Bechelli Lane and Churn Creek Road. There are additional class II facilities extending north on East Bonnyview Road, Bechelli Lane and Victor Avenue. None of these facilities connect directly to the Strawberry Fields Site; however, bicycle facilities are planned along the eastern side of the Sacramento River adjacent to the Strawberry Fields Site. Additionally, sidewalks are present on Bechelli Lane north of the Strawberry Fields Site. No sidewalks exist on Smith Road.

According to the Shasta County *2010 Bicycle Transportation Plan*⁴, the Anderson Site in the City of Anderson is not located in close proximity to existing bicycle facilities. However, bicycle access is provided along sections of Market Street (SR-273) and I-5 north and south of the Anderson Site. Bicycle facilities are planned on local roads in the City of Anderson on East Street, North Street, Ventura Street, and Balls Ferry Road in the project vicinity. Additionally, sidewalks are present on North Street and Oak Street south of Mill Street in the project vicinity.

The Win River Casino Site is located adjacent to Market Street (SR-273) which has 15 miles open to bicyclists between the City of Redding to the City of Anderson. Additionally, sidewalks are present on both sides of Redding Rancheria Road.

³ City of Redding, *Bikeway Action Plan: 2010-2015*, 2010.

⁴ Shasta County, *2010 Bicycle Transportation Plan*, 2010.

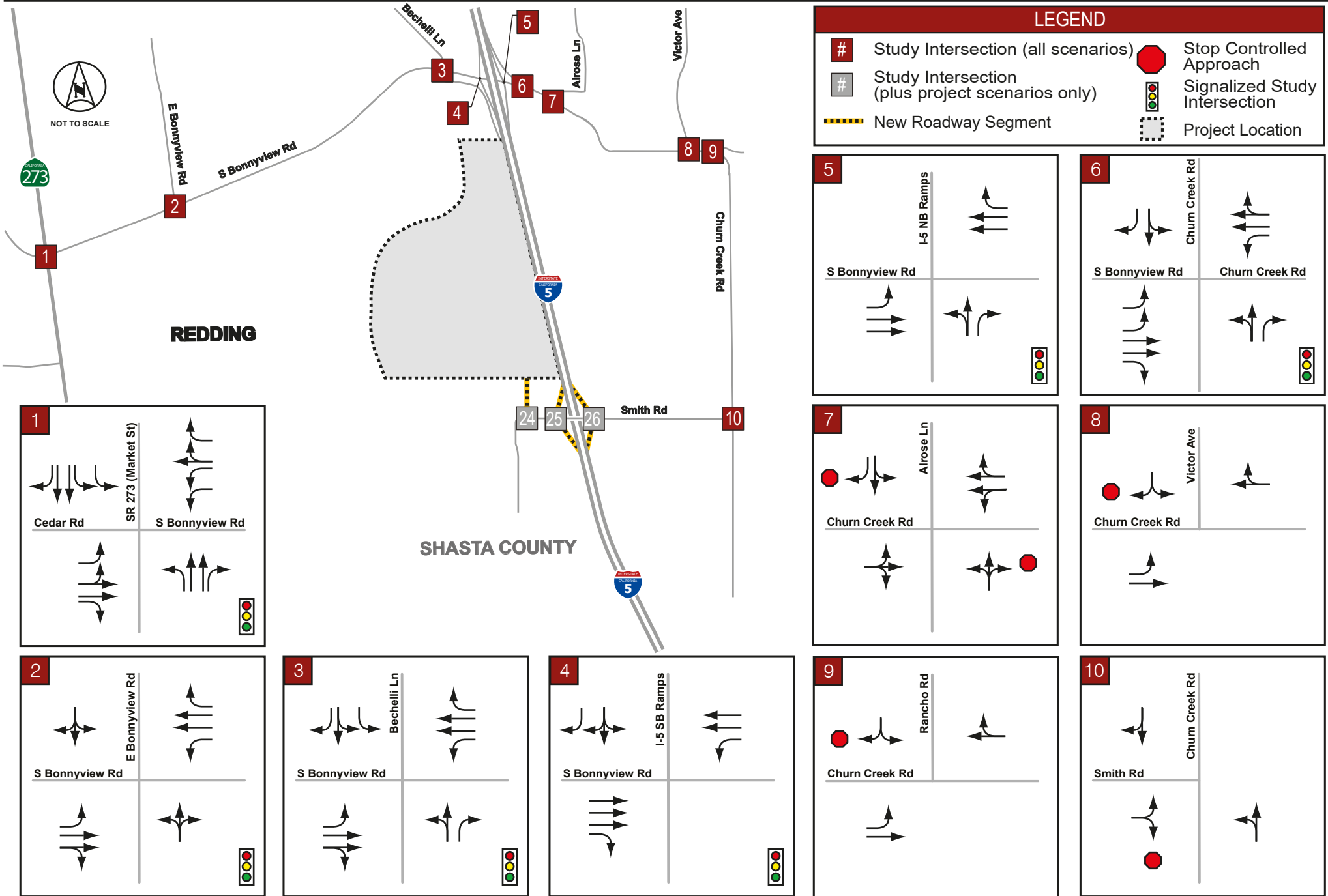
Existing Transit Service

Transit service in Redding and Anderson is provided by the Redding Area Bus Authority (RABA). There are no transit stops in close proximity to the Strawberry Fields Site.

Route 3 and the Anderson Commuter (AC) Route serve the SR-273 corridor with stops near the Anderson Site at North Street, and near the Win River Casino Site at Canyon Road. Route 3 includes stops along the western portion of South Bonnyview Road west of the Strawberry Fields Site. The Route 3 transit services operate during the week and Saturdays, with buses running every hour. The Anderson Commuter only operates between select commuting hours (7-9 AM) on weekday mornings. Additionally, Route 9 provides service within the City of Anderson with stops on North Street near the Anderson Site.

The existing Win River Resort and Casino offers a shuttle between the Casino site and the Hilton Garden Inn, which is located off of Bechelli Lane.

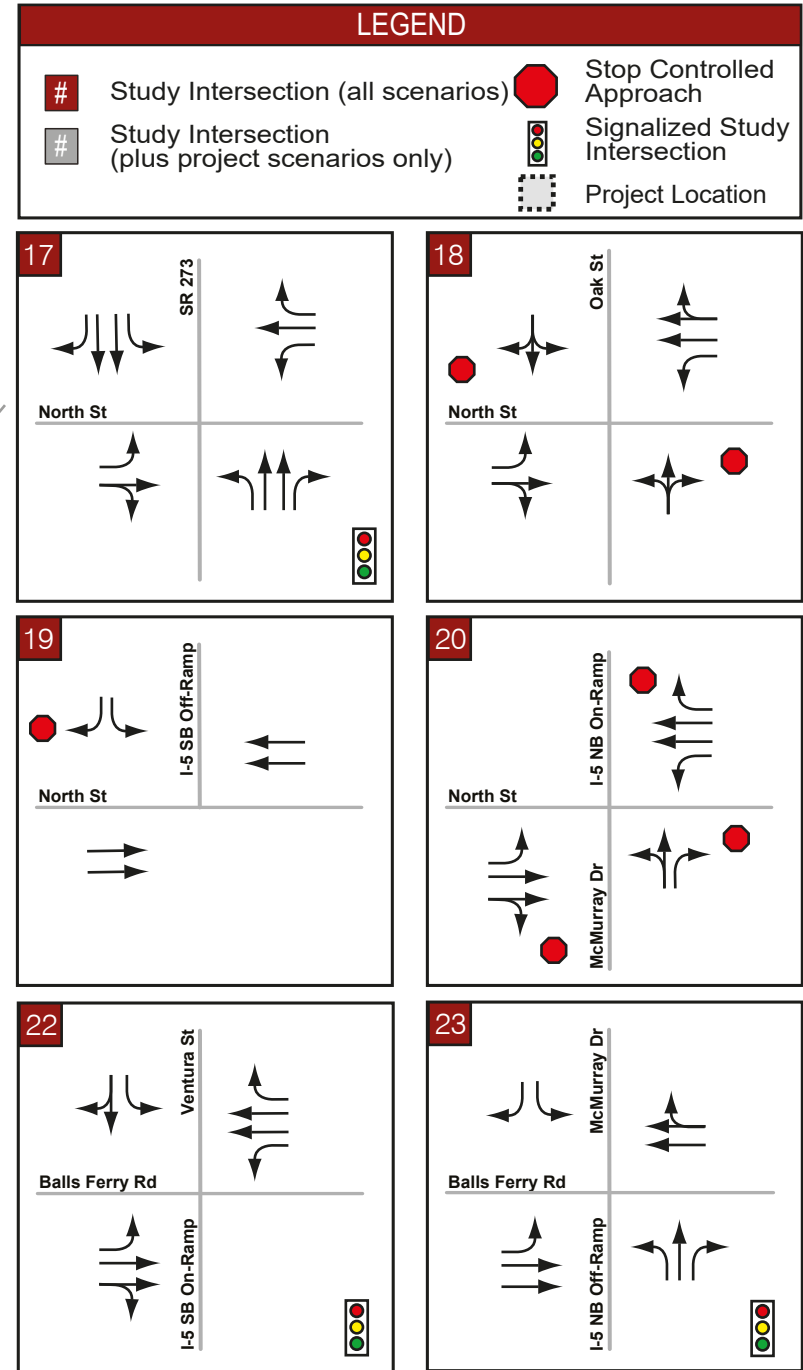
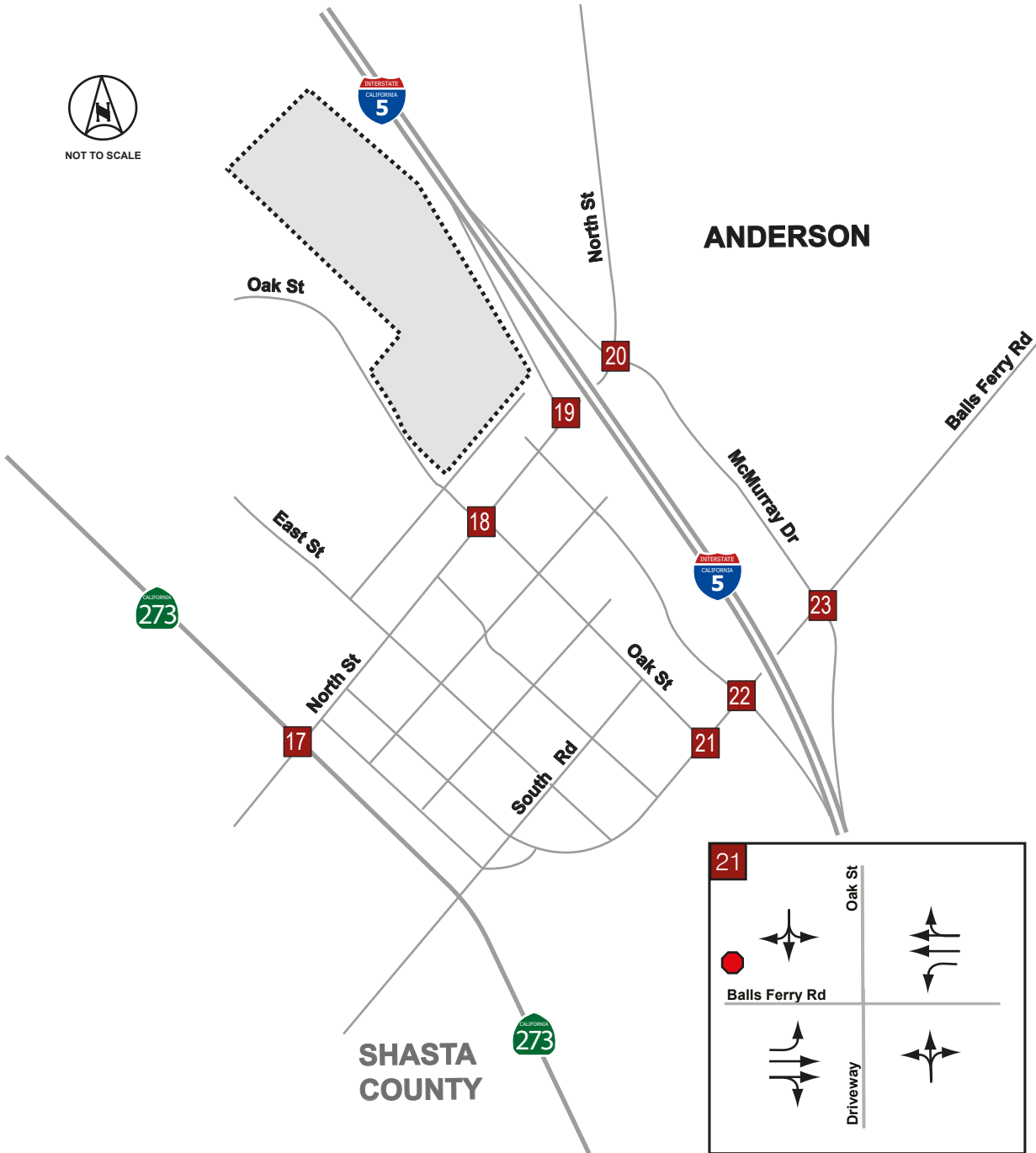
Redding Rancheria: Traffic Impact Study



Redding Rancheria: Traffic Impact Study



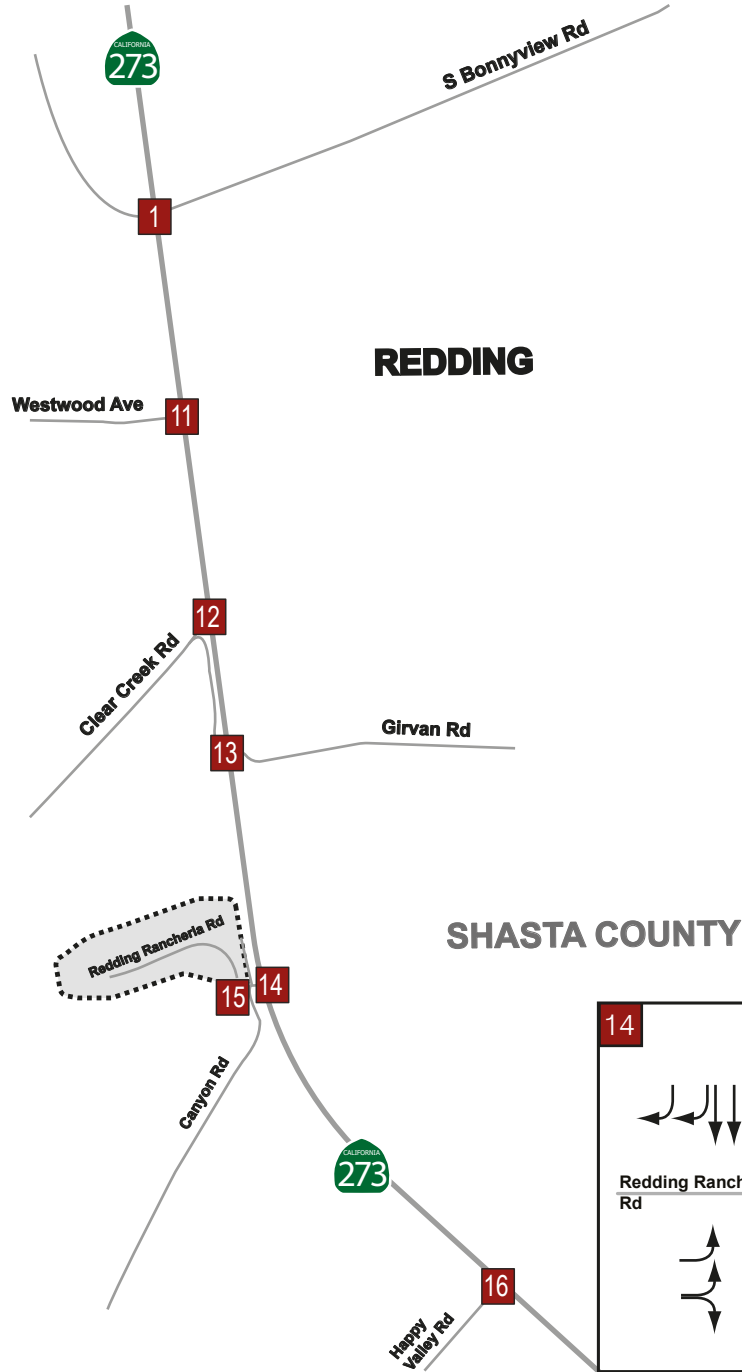
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Redding Rancheria: Traffic Impact Study

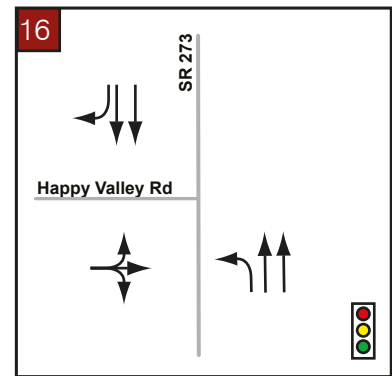
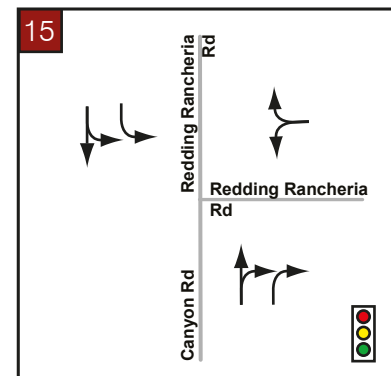
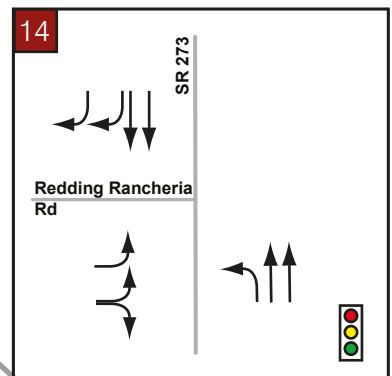
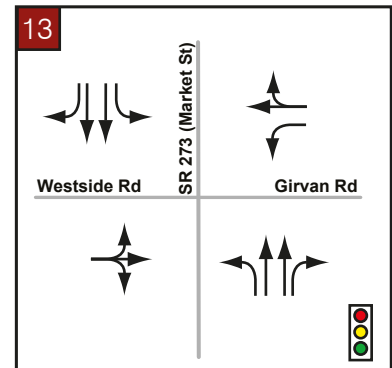
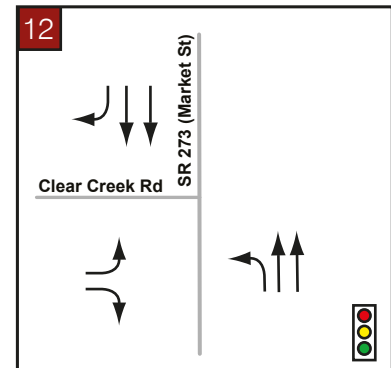
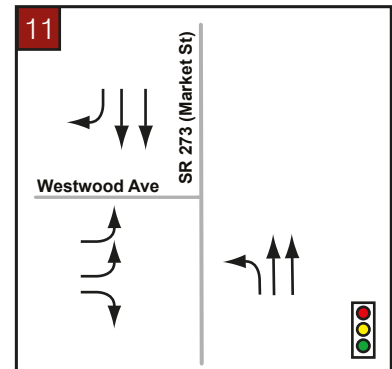
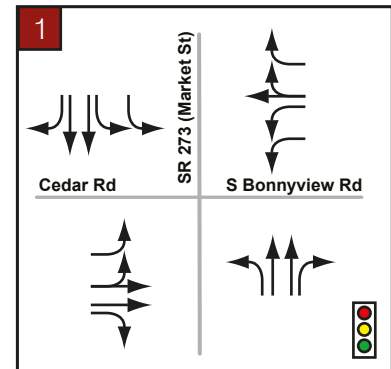


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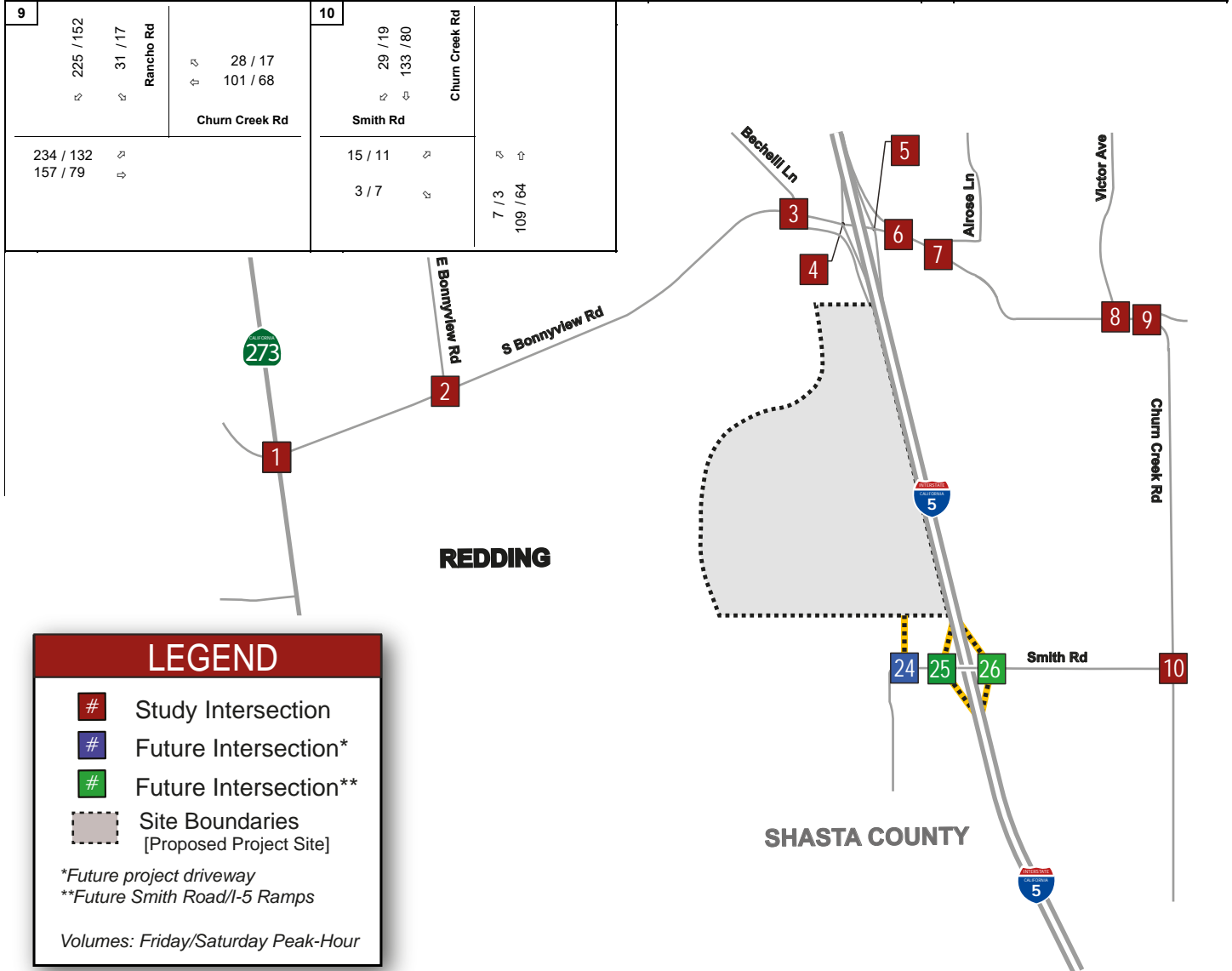
LEGEND

- # Study Intersection (all scenarios)
- # Study Intersection (plus project scenarios only)
- Signalized Study Intersection
- Project Location



Redding Rancheria: Traffic Impact Study

<p>1</p> <p>4 / 2 592 / 341 273 / 192</p> <p>S Market St (SR-273)</p> <p>191 / 123 78 / 56 492 / 351</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>2 / 0 56 / 31 66 / 52</p> <p>54 / 34 375 / 312 309 / 222</p>	<p>2</p> <p>39 / 25 1 / 0 260 / 92</p> <p>E Bonnyview Rd</p> <p>185 / 101 960 / 669</p> <p>S Bonnyview Rd</p> <p>41 / 17 846 / 575</p>	<p>3</p> <p>227 / 96 5 / 3 226 / 81</p> <p>Bechelli Ln</p> <p>114 / 65 921 / 696 11 / 5</p> <p>S Bonnyview Rd</p> <p>127 / 69 984 / 617 10 / 10</p> <p>17 / 15 13 / 4 29 / 13</p>	<p>4</p> <p>481 / 339 1 / 1 152 / 94</p> <p>I-5 SB Ramps</p> <p>601 / 426 214 / 127</p> <p>S Bonnyview Rd</p> <p>923 / 560 318 / 162</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>141 / 110 587 / 400</p> <p>S Bonnyview Rd</p> <p>508 / 322 569 / 335</p> <p>225 / 143 3 / 2 161 / 119</p>	<p>6</p> <p>316 / 198 3 / 0 102 / 91</p> <p>Churn Creek Rd</p> <p>67 / 41 411 / 243 0 / 2</p> <p>S Bonnyview Rd</p> <p>221 / 176 499 / 263 10 / 13</p> <p>5 / 7 2 / 1 1 / 2</p>	<p>7</p> <p>92 / 72 25 / 10</p> <p>Alrose Ln</p> <p>16 / 16 378 / 261 1 / 0</p> <p>Churn Creek Rd</p> <p>98 / 72 489 / 276 14 / 0</p> <p>7 / 0 2 / 0</p>	<p>8</p> <p>102 / 106 62 / 43</p> <p>Victor Ave</p> <p>67 / 29 261 / 192</p> <p>Churn Creek Rd</p> <p>144 / 90 346 / 177</p>
<p>9</p> <p>225 / 152 31 / 17</p> <p>Rancho Rd</p> <p>28 / 17 101 / 68</p> <p>Churn Creek Rd</p> <p>234 / 132 157 / 79</p>	<p>10</p> <p>29 / 19 133 / 80</p> <p>Churn Creek Rd</p> <p>Smith Rd</p> <p>15 / 11 3 / 7</p> <p>7 / 3 109 / 64</p>		



LEGEND

- Study Intersection
- Future Intersection*
- Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway
**Future Smith Road/I-5 Ramps

Volumes: Friday/Saturday Peak-Hour

Redding Rancheria: Traffic Impact Study

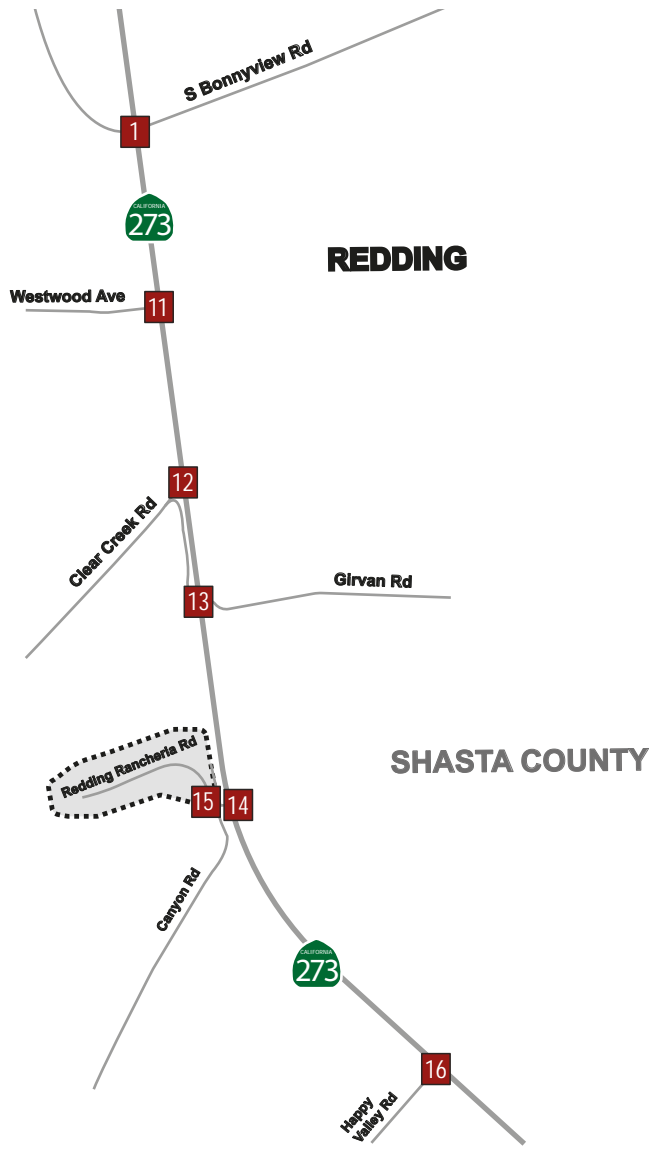
<p>17</p> <p>19 / 10 ↔ ↔ 266 / 171 ↔ ↔ 91 / 63 S Market St (SR-273)</p> <p>87 / 73 ↔ ↔ 109 / 59 ↔ ↔ 111 / 67 North St</p> <p>15 / 5 ↔ ↔ 112 / 74 ↔ ↔ 37 / 12 ↔ ↔</p> <p>36 / 18 ↔ ↔ 173 / 144 ↔ ↔ 114 / 82 ↔ ↔</p>	<p>18</p> <p>10 / 9 ↔ ↔ 6 / 10 ↔ ↔ 39 / 47 Oak St</p> <p>42 / 30 ↔ ↔ 382 / 201 ↔ ↔ 12 / 9 North St</p> <p>21 / 11 ↔ ↔ 304 / 195 ↔ ↔ 4 / 2 ↔ ↔</p> <p>3 / 3 ↔ ↔ 7 / 3 ↔ ↔ 16 / 13 ↔ ↔</p>	<p>19</p> <p>161 / 100 ↔ ↔ 232 / 139 ↔ ↔ I-5 SB Ramps</p> <p>312 / 178 ↔ ↔ North St</p> <p>391 / 267 ↔ ↔</p>	<p>20</p> <p>I-5 NB Ramps</p> <p>25 / 27 ↔ ↔ 217 / 120 ↔ ↔ 118 / 89 North St</p> <p>130 / 73 ↔ ↔ 185 / 129 ↔ ↔ 283 / 189 ↔ ↔ McMurray Dr</p> <p>92 / 61 ↔ ↔ 192 / 116 ↔ ↔ 160 / 133 ↔ ↔</p>
<p>21</p> <p>0 / 2 ↔ ↔ 0 / 5 ↔ ↔ 26 / 14 ↔ ↔ Oak St</p> <p>11 / 5 ↔ ↔ 230 / 181 ↔ ↔ 22 / 37 Balls Ferry Rd</p> <p>1 / 1 ↔ ↔ 231 / 131 ↔ ↔ 11 / 4 ↔ ↔</p> <p>15 / 12 ↔ ↔ 3 / 4 ↔ ↔ 53 / 33 ↔ ↔</p>	<p>22</p> <p>6 / 18 ↔ ↔ 59 / 37 ↔ ↔ 14 / 9 ↔ ↔ Ventura St</p> <p>19 / 15 ↔ ↔ 258 / 209 ↔ ↔ 285 / 239 Balls Ferry Rd</p> <p>3 / 2 ↔ ↔ 258 / 140 ↔ ↔ 42 / 31 ↔ ↔ I-5 SB Ramp</p>	<p>23</p> <p>152 / 130 ↔ ↔ 232 / 162 ↔ ↔ McMurray Dr</p> <p>198 / 138 ↔ ↔ 402 / 322 ↔ ↔ Balls Ferry Rd</p> <p>62 / 33 ↔ ↔ 205 / 109 ↔ ↔ I-5 NB Ramp</p> <p>49 / 33 ↔ ↔ 102 / 76 ↔ ↔ 164 / 95 ↔ ↔</p>	



Figure 8:

Redding Rancheria: Traffic Impact Study

<p>1</p> <p>4 / 2 592 / 341 273 / 192</p> <p>S Market St (SR-273)</p> <p>Cedars Rd</p> <p>191 / 123 78 / 56 492 / 351</p> <p>S Bonnyview Rd</p> <p>2 / 0 56 / 31 66 / 52</p> <p>54 / 34 375 / 312 309 / 222</p>	<p>11</p> <p>409 / 250 714 / 467</p> <p>S Market St (SR-273)</p> <p>Westwood Ave</p> <p>270 / 201</p> <p>227 / 170</p> <p>145 / 124 534 / 351</p>	<p>12</p> <p>72 / 52 865 / 582</p> <p>S Market St (SR-273)</p> <p>Clear Creek Rd</p> <p>120 / 67</p> <p>32 / 16</p> <p>17 / 19 570 / 410</p>	<p>13</p> <p>25 / 23 751 / 496 93 / 68</p> <p>S Market St (SR-273)</p> <p>61 / 51 14 / 5 157 / 101</p> <p>Girvan Rd</p> <p>6 / 11 15 / 9 43 / 30</p> <p>26 / 23 521 / 374 146 / 100</p>
<p>14</p> <p>457 / 354 487 / 272</p> <p>S Market St (SR-273)</p> <p>Redding Rancheria Rd</p> <p>339 / 286</p> <p>61 / 41</p> <p>65 / 59 422 / 248</p>	<p>15</p> <p>12 / 8 176 / 149</p> <p>Canyon Rd</p> <p>175 / 203 352 / 197</p> <p>Redding Rancheria Rd</p> <p>7 / 8 220 / 211</p>	<p>16</p> <p>69 / 45 411 / 233</p> <p>S Market St (SR-273)</p> <p>Happy Valley Rd</p> <p>63 / 40</p> <p>75 / 53</p> <p>74 / 56 325 / 232</p>	



LEGEND

Study Intersection

Site Boundaries
[Existing Casino Site]

Volumes: Friday/Saturday Peak-Hour



Existing Levels of Service at Study Intersections

Traffic operations were evaluated under existing traffic conditions. Results of the analysis are presented in **Table 6**, along with the jurisdictional standard for acceptable level of service (as previously described in Operating Conditions and Criteria). The method of intersection control is listed as Signal for a signalized intersection, AWSC for an all-way stop-controlled intersection and SSSC for a side-street stop-controlled intersection. The overall level of service is reported for signalized intersections and all-way stop-controlled intersections. Only the worst movement is reported in the table for SSSC intersections per the methodology of the *Highway Capacity Manual (2010)*. Additional detail of the analysis is provided in **Appendix B**. Results of the analysis indicate that the existing study area intersections currently operate at acceptable levels of service based on established significance criteria.

Table 6 – Existing Intersection Level of Service Summary

ID	Intersection	Control	Target LOS	Peak Hour	Existing (2016)	
					Delay (sec) (a)	LOS (b)
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	19.6	B
				SAT PM	16.7	B
2	S Bonnyview Rd @ E Bonnyview Rd	Signal	D	FRI PM	11.4	B
				SAT PM	5.2	A
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	20.4	C
				SAT PM	10.9	B
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	33.8	C
				SAT PM	25.6	C
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	30.5	C
				SAT PM	15.5	B
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	15.0	B
				SAT PM	32.3	C
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	12.7	B
				SAT PM	10.2	B
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	24.5	C
				SAT PM	12.5	B
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	12.9	B
				SAT PM	10.1	B
10	Churn Creek Rd @ Smith Rd	SSSC*	C	FRI PM	10.1	B
				SAT PM	9.3	A
11	SR-273 (Market St) @ Westwood Ave	Signal	D	FRI PM	12.1	B
				SAT PM	9.9	A
12	SR-273 (Market St) @ Clear Creek Rd	Signal	D	FRI PM	5.9	A
				SAT PM	5.2	A
13	SR-273 (Market St) @ Girvan Rd	Signal	D	FRI PM	13.8	B
				SAT PM	11.8	B
14	SR-273 (Market St) @ Redding Rancheria Rd	Signal	D	FRI PM	8.7	A
				SAT PM	7.8	A
15	Canyon Rd @ Redding Rancheria Rd	Signal	D	FRI PM	11.6	B
				SAT PM	10.0	B
16	SR-273 (Market St) @ Happy Valley Rd	Signal	D	FRI PM	7.3	A
				SAT PM	6.4	A

Notes:

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual

Table 6 – Existing Intersection Level of Service Summary (Continued)

ID	Intersection	Control	Target LOS	Peak Hour	Existing (2016)	
					Delay (sec) (a)	LOS (b)
17	SR-273 (Market St) @ North St	Signal	D	FRI PM	14.9	B
				SAT PM	12.6	B
18	North St @ Oak St	SSSC*	D	FRI PM	20.8	C
				SAT PM	13.7	B
19	North St @ I-5 SB Off Ramp	AWSC	D	FRI PM	11.7	B
				SAT PM	8.8	A
20	North Street @ McMurray Dr/I-5 NB On Ramp	AWSC	D	FRI PM	22.6	C
				SAT PM	21.1	C
21	Balls Ferry Rd @ Oak St	SSSC*	D	FRI PM	13.2	B
				SAT PM	11.5	B
22	Balls Ferry Rd @ Venutra St/I-5 SB On Ramp	Signal	D	FRI PM	26.6	C
				SAT PM	23.7	C
23	Balls Ferry Rd @ McMurray Dr/I-5 NB Off Ramp	Signal	D	FRI PM	19.2	B
				SAT PM	17.6	B

Notes:

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2010 Highway Capacity Manual*

Existing Conditions Traffic Signal Warrant Analysis

Traffic signals may be justified when traffic operations fall below acceptable thresholds and when one or more signal warrants are satisfied.

Existing traffic volumes at the unsignalized study intersections were compared against the peak-hour warrant in the *California Manual of Uniform Traffic Control Devices*, November 2014. Traffic Signal Warrant #3 – Peak-Hour Volume Warrant is satisfied when traffic volumes on the major and minor approaches exceed thresholds for one hour of the day.

This warrant is generally the first warrant to be satisfied. The warrant applies to traffic conditions during a one-hour peak that are sufficiently high such that minor street traffic experiences excessive delay in entering and crossing the main street due to the high traffic volumes on the main street. The results of a signal warrant analysis are not indicative of impacts, but are provided for informational purposes. When intersections satisfy the peak-hour volume warrant, it does not necessarily mean that a signal will or should be installed. For example, in some instances, the intersection may operate at an acceptable level even though volumes satisfy one or more signal warrants, e.g. a right in/out driveway.

Results of the analysis show that the following intersections currently satisfy Traffic Signal Warrant #3:

- #20 – North Street at McMurray Dr/ I-5 NB On Ramp

Other warrants such as for minimum vehicle volumes, interruption of continuous traffic, and traffic progression were not evaluated because they generally require additional traffic volumes to be satisfied. A copy of the analysis summary for Traffic Signal Warrant #3 is included in **Appendix C**.

Existing Levels of Service on Study Roadway Segments

Traffic analyses were completed to evaluate the existing PM peak hour of Friday and Saturday operation of the study segments. Results of the analyses are presented in **Table 7** and **Table 8**. Results of the analysis indicate that all of the study roadway segments currently operate at acceptable levels of service based on established significance criteria. Additional detail of the analysis is provided in **Appendix B**.

Existing Levels of Service on Study Freeway Segments

Traffic analyses were completed to evaluate the existing PM peak hour of Friday and Saturday operation of the study segments. Results of the analyses are presented in **Table 9** and **Table 10**. Results of the analysis indicate that all of the study freeway segments currently operate at acceptable levels of service based on established significance criteria. Additional details of the analysis are provided in **Appendix B**.

Table 7 – Existing Roadway Segment Level of Service Summary (Two-Lane)

Location	Peak-Hour	Analysis Direction	LOS	PFFS (%)	v/c
Bechelli Ln south of Bonnyview Rd	FRI	NB	A	93.8	0.04
		SB	A	93.8	0.02
	SAT	NB	A	94.3	0.02
		SB	A	94.3	0.01
Churn Creek Rd west of Alrose Ln	FRI	EB	C	81.1	0.33
		WB	C	83.0	0.25
	SAT	EB	B	85.2	0.19
		WB	B	85.2	0.18
Smith Rd west of Churn Creek Rd	FRI	EB	A	98.1	0.01
		WB	A	98.1	0.02
	SAT	EB	A	94.6	0.01
		WB	A	94.6	0.01
Canyon Rd south of Redding Rancheria Rd	FRI	NB	B	85.1	0.15
		SB	B	85.0	0.15
	SAT	NB	B	85.1	0.15
		SB	B	84.6	0.24
North St east of Oak St	FRI	EB	A	97.4	0.05
		WB	A	97.4	0.04
	SAT	EB	A	97.7	0.03
		WB	A	97.7	0.04
North St west of Oak St	FRI	EB	B	85.6	0.21
		WB	B	85.4	0.25
	SAT	EB	B	90.4	0.14
		WB	B	90.4	0.14
Oak St north of North St	FRI	NB	B	83.9	0.28
		SB	B	84.1	0.25
	SAT	NB	B	89	0.16
		SB	B	89	0.17
Oak St south of North St	FRI	NB	A	98.2	0.02
		SB	A	98.2	0.02
	SAT	NB	A	98.3	0.01
		SB	A	98.3	0.01

Notes:

PFFS = Percent Free-Flow Speed, v/c = Volume to Capacity

Table 8 – Existing Roadway Segment Level of Service Summary (Multilane)

Location	Peak-Hour	Analysis Direction	LOS	Density (pc/mi/ln)
Bonnyview Rd west of Bechelli Ln	AM	EB	B	14.2
		WB	B	14.8
	PM	EB	A	8.8
		WB	A	10.2
Market St (SR 275) north of Canyon Rd	AM	NB	A	6.8
		SB	A	8.4
	PM	NB	A	4.7
		SB	A	5.6
Market St (SR 275) south of Canyon Rd	AM	NB	A	4.3
		SB	A	4.9
	PM	NB	A	2.7
		SB	A	2.8

Table 9 – Existing Freeway Segment Level of Service Summary (Strawberry Fields Site)

I-5				Existing (2016)	
Direction	Segment	Type	Peak Hour	Density ^a	LOS
Northbound	South of Bonnyview Rd Off-Ramp	Basic	FRI PM	15.1	B
			SAT PM	10.7	A
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	13.2	B
			SAT PM	10.1	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	8.3	A
			SAT PM	6.1	A
	Bonnyview Rd On-Ramp	Merge	FRI PM	16.5	B
			SAT PM	12.3	B
	North of Bonnyview Rd On-Ramp	Basic	FRI PM	11.4	B
			SAT PM	8.2	A
Southbound	North of Bonnyview Rd Off-Ramp	Basic	FRI PM	14.0	B
			SAT PM	9.9	A
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	22.4	C
			SAT PM	16.9	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	10.9	A
			SAT PM	7.9	A
	Bonnyview Rd On-Ramp	Merge	FRI PM	18.7	B
			SAT PM	13.4	B
	South of Bonnyview Rd On-Ramp	Basic	FRI PM	21.1	C
			SAT PM	13.6	B

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)

Table 10 – Existing Freeway Segment Level of Service Summary (Anderson Site)

I-5				Existing (2016)	
Direction	Segment	Type	Peak Hour	Density ^a	LOS
Northbound	South of Balls Ferry Rd Off-Ramp	Basic	FRI PM	17.1	B
			SAT PM	12.9	B
	Balls Ferry Rd Off-Ramp	Diverge	FRI PM	20.3	C
			SAT PM	15.3	B
	Balls Ferry Rd Off-Ramp to North St On-Ramp	Basic	FRI PM	13.5	B
			SAT PM	10.4	A
	North St On-Ramp	Merge	FRI PM	19.1	B
			SAT PM	17.3	B
	North St On-Ramp to Riverside Ave Off-Ramp	Basic	FRI PM	16.0	B
			SAT PM	12.0	B
Southbound	Riverside Ave On-Ramp to North St Off-Ramp	Basic	FRI PM	22.1	C
			SAT PM	15.5	B
	North St Off-Ramp	Diverge	FRI PM	27.6	C
			SAT PM	21.9	C
	North St Off-Ramp to Balls Ferry On-Ramp	Basic	FRI PM	18.8	C
			SAT PM	13.7	B
	Balls Ferry On-Ramp	Merge	FRI PM	25.7	C
			SAT PM	19.4	B
	South of Balls Ferry Rd On-Ramp	Basic	FRI PM	22.0	C
			SAT PM	16.0	B

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)

BASELINE CONDITIONS

The Baseline represents the evaluation of traffic conditions without the Proposed Project. Traffic conditions were evaluated for the Opening Year (2025) and Cumulative (2040) forecast.

Opening Year (2025) Traffic Volumes without Project

Opening Year (2025) traffic volumes for intersections #1-9 were taken directly from the 2017 *River Crossing Marketplace Specific Plan Traffic Impact Analysis Report*¹ Year 2020 Plus Project Conditions volumes². Volumes for intersections #10-23 were developed by linearly interpolating between existing and 2040 traffic volumes. Opening Year (2025) traffic volumes assume the full buildout of the River Crossing Marketplace, including a 152,101-square foot Costco, located in the northwest quadrant of the South Bonnyview Road/I-5 interchange. **Figures 10-12** show the Opening Year traffic volumes at the study intersections. These volumes represent anticipated traffic levels in the year 2025, without the proposed project.

Cumulative (2040) Forecasted Traffic Volumes without Project

Volumes for intersections #1-9 were taken directly from the 2017 *River Crossing Marketplace Specific Plan Traffic Impact Analysis Report*¹ Year 2040 Plus Project Conditions volumes². Volumes for intersections #10-23 were developed using the Shasta County Regional Travel Demand Model (SCRTDF). Cumulative (2040) traffic volumes assume the full buildout of the River Crossing Marketplace, including a 152,101-square foot Costco, located in the northwest quadrant of the South Bonnyview Road/I-5 interchange.

The Shasta County Regional Transportation Agency (SRTA) develops and maintains the regional travel demand model, which forecasts land use and corresponding travel behavior into the future for the Shasta County region. The transportation network in the model was updated to be current as of December 31, 2013, reflects recent improvements over the last few years, and includes forecasted improvements through 2040.

The Long-Term forecast for this study is based on the year 2040 directional link volumes from an adjusted Shasta County Regional Travel Demand Model (SCRTDF) provided by Omni-Means⁵. While the model maintained by Shasta County RTPA is the applicable regional planning resource, modifications to the model have been made to address specific impacts of development proposals within the vicinity of the Strawberry Fields Site. Adjustments to the model include:

- Updated dwelling units and number of employees
- Full development of California Gold site
- Full development of River Crossing Marketplace site
- Full development of Terraces TAZ

⁵ I-5 / S. Bonnyview Interchange PSR Technical Memorandum 1 – 14, Omni-Means to City of Redding – Engineering, May 06, 2016 – April 28, 2017.

Approach volumes were then converted to turning movement volumes using methodologies from National Cooperative Highway Research Program (NCHRP) 255 – Highway Traffic Data for Urbanized Area Project Planning and Design, Chapter 8. NCHRP Report 255 is a compilation of the best techniques that are currently being used in urban areas to forecast future traffic volumes. These techniques were identified through a survey of state and local agencies with follow-up field visits to obtain detailed information on procedural steps and typical applications. The method used to forecast the future turning movement volumes evaluation is the NCHRP’s “Directional Volume Forecast”. For this method, existing and future peak hour volumes, existing peak hour turning movements, and projected directional “D” factors are used to calculate future year turning movements. Existing peak hour intersection turning movements were counted in the field. Future peak hour volumes were obtained from the forecast model. Using the “Directional Volume Forecast” technique, the existing turning movements at each study intersection were factored based on increases in peak hour approach traffic and D factors. Each respective movement was derived using an iterative approach that balances the inflows and outflows for each approach.

Figures 13-15 show the Cumulative (2040) traffic volumes.

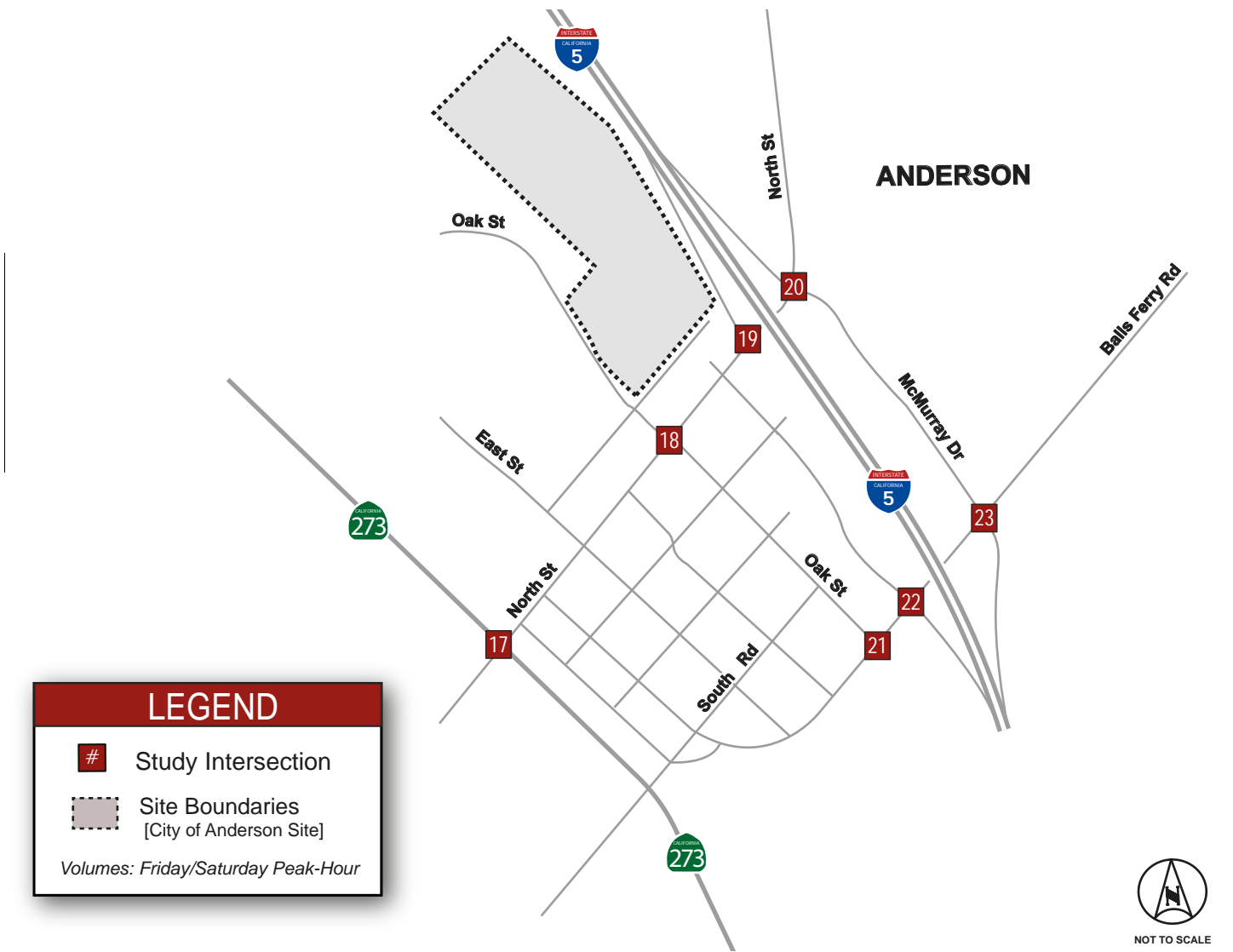
Redding Rancheria: Traffic Impact Study

<p>1</p> <p>9 / 5 705 / 406 338 / 238 S Market St (SR-273)</p> <p>224 / 144 80 / 57 523 / 373</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>10 / 0 83 / 46 68 / 54</p> <p>55 / 35 420 / 349 377 / 271</p>	<p>2</p> <p>39 / 25 5 / 0 341 / 121 E Bonnyview Rd</p> <p>216 / 118 1092 / 761 10 / 10</p> <p>S Bonnyview Rd</p> <p>45 / 19 980 / 666 5 / 5</p> <p>10 / 10 15 / 15 10 / 10</p>	<p>3</p> <p>265 / 112 20 / 12 756 / 271 Bechelli Ln</p> <p>306 / 174 1053 / 796 36 / 16</p> <p>S Bonnyview Rd</p> <p>208 / 113 1052 / 660 25 / 25</p> <p>25 / 22 15 / 15 30 / 13</p>	<p>4</p> <p>632 / 445 1 / 1 280 / 173 I-5 SB Ramps</p> <p>893 / 633 300 / 178</p> <p>S Bonnyview Rd</p> <p>1254 / 761 590 / 301</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>285 / 222 822 / 560</p> <p>S Bonnyview Rd</p> <p>665 / 422 874 / 515</p> <p>371 / 236 5 / 3 250 / 185</p>	<p>6</p> <p>483 / 303 15 / 0 145 / 129 Churn Creek Rd</p> <p>130 / 80 499 / 295 35 / 35</p> <p>S Bonnyview Rd</p> <p>418 / 333 631 / 333 80 / 104</p> <p>125 / 175 10 / 5 25 / 50</p>	<p>7</p> <p>95 / 74 25 / 10 Alrose Ln</p> <p>30 / 30 559 / 386 5 / 0</p> <p>Churn Creek Rd</p> <p>105 / 77 691 / 390 12 / 0</p> <p>10 / 0 5 / 5 5 / 0</p>	<p>8</p> <p>157 / 163 75 / 52 Victor Ave</p> <p>73 / 32 377 / 277</p> <p>Churn Creek Rd</p> <p>198 / 124 428 / 219</p>
<p>9</p> <p>289 / 195 40 / 22 Rancho Rd</p> <p>45 / 27 128 / 86</p> <p>Churn Creek Rd</p> <p>360 / 203 163 / 82</p>	<p>10</p> <p>31 / 20 140 / 84 Churn Creek Rd</p> <p>Smith Rd</p> <p>16 / 12 3 / 7</p> <p>8 / 3 115 / 68</p>		



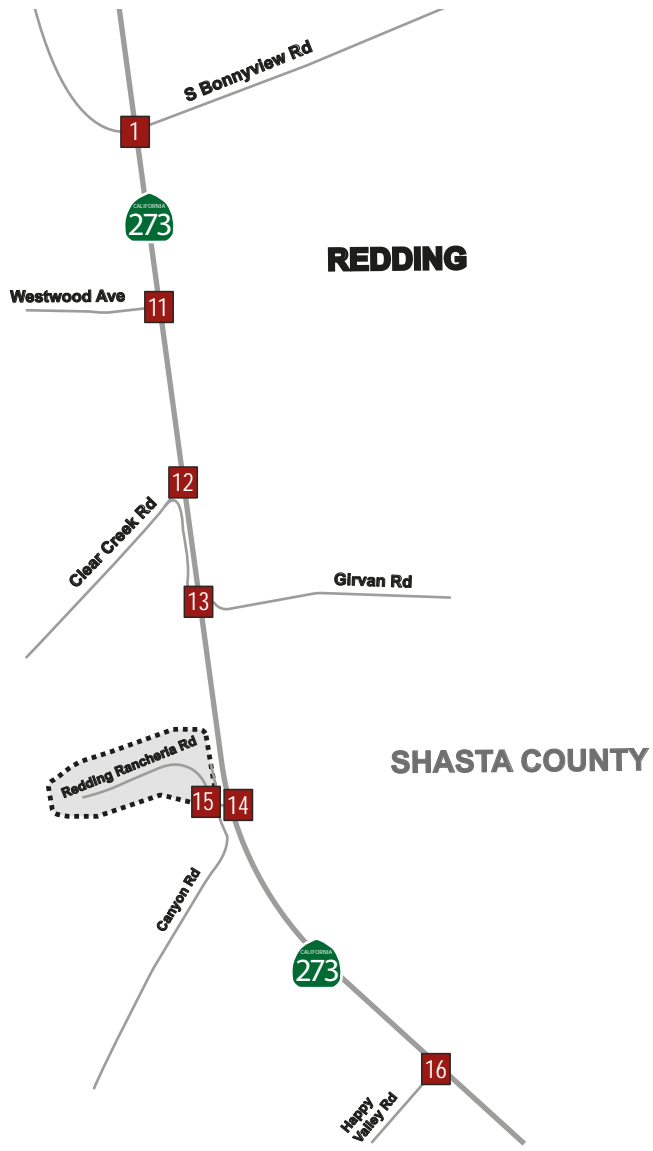
Redding Rancheria: Traffic Impact Study

<p>17</p> <p>17 / 9 ↔ ↔ 329 / 212 ↔ ↔ 86 / 60 S Market St (SR-273)</p> <p>↔ ↔ 82 / 69 ↔ ↔ 103 / 56 ↔ ↔ 154 / 93 North St</p> <p>14 / 5 ↔ ↔ 106 / 70 ↔ ↔ 48 / 16</p> <p>↔ ↔ 47 / 24 ↔ ↔ 216 / 180 ↔ ↔ 157 / 113</p>	<p>18</p> <p>10 / 9 ↔ ↔ 6 / 10 ↔ ↔ 40 / 48 Oak St</p> <p>↔ ↔ 42 / 30 ↔ ↔ 429 / 226 ↔ ↔ 12 / 9 North St</p> <p>21 / 11 ↔ ↔ 344 / 221 ↔ ↔ 4 / 2</p> <p>↔ ↔ 3 / 3 ↔ ↔ 7 / 3 ↔ ↔ 16 / 13</p>	<p>19</p> <p>197 / 122 ↔ ↔ 226 / 135 I-5 SB Ramps</p> <p>↔ ↔ 328 / 187 North St</p> <p>435 / 297 ↔</p>	<p>20</p> <p>I-5 NB Ramps</p> <p>↔ ↔ 32 / 35 ↔ ↔ 233 / 129 ↔ ↔ 151 / 114 North St</p> <p>129 / 72 ↔ ↔ 204 / 142 ↔ ↔ 296 / 198 McMurray Dr</p> <p>↔ ↔ 92 / 61 ↔ ↔ 210 / 127 ↔ ↔ 199 / 165</p>
<p>21</p> <p>30 / 16 Oak St</p> <p>↔ ↔ 12 / 5 ↔ ↔ 289 / 227 ↔ ↔ 22 / 37 Balls Ferry Rd</p> <p>1 / 1 ↔ ↔ 292 / 166 ↔ ↔ 11 / 4</p> <p>↔ ↔ 15 / 12 ↔ ↔ 3 / 4 ↔ ↔ 54 / 34</p>	<p>22</p> <p>7 / 21 ↔ ↔ 68 / 43 ↔ ↔ 18 / 12 Ventura St</p> <p>↔ ↔ 22 / 17 ↔ ↔ 318 / 258 ↔ ↔ 364 / 305 Balls Ferry Rd</p> <p>3 / 2 ↔ ↔ 322 / 175 ↔ ↔ 51 / 38 I-5 SB Ramp</p>	<p>23</p> <p>194 / 166 ↔ ↔ 231 / 161 McMurray Dr</p> <p>↔ ↔ 196 / 137 ↔ ↔ 491 / 393 Balls Ferry Rd</p> <p>80 / 43 ↔ ↔ 254 / 135 I-5 NB Ramp</p> <p>↔ ↔ 73 / 49 ↔ ↔ 129 / 96 ↔ ↔ 201 / 116</p>	



Redding Rancheria: Traffic Impact Study

<p>1</p> <p>9 / 5 705 / 406 338 / 238 S Market St (SR-273)</p> <p>224 / 144 80 / 57 523 / 373</p> <p>Cedars Rd</p> <p>10 / 0 83 / 46 68 / 54</p> <p>55 / 35 420 / 349 377 / 271</p>	<p>11</p> <p>421 / 257 731 / 478 S Market St (SR-273)</p> <p>Westwood Ave</p> <p>278 / 207</p> <p>236 / 177</p> <p>152 / 130 546 / 359</p>	<p>12</p> <p>77 / 56 885 / 595 S Market St (SR-273)</p> <p>Clear Creek Rd</p> <p>130 / 73</p> <p>36 / 18</p> <p>20 / 22 581 / 418</p>	<p>13</p> <p>32 / 29 766 / 506 94 / 69 S Market St (SR-273)</p> <p>61 / 51 18 / 6 160 / 103</p> <p>Girvan Rd</p> <p>8 / 15 20 / 12 57 / 40</p> <p>35 / 31 532 / 382 148 / 101</p>
<p>14</p> <p>448 / 347 547 / 306 S Market St (SR-273)</p> <p>Redding Rancheria Rd</p> <p>329 / 278</p> <p>71 / 48</p> <p>82 / 74 472 / 277</p>	<p>15</p> <p>13 / 9 169 / 143 Canyon Rd</p> <p>175 / 203 350 / 196 Redding Rancheria Rd</p> <p>9 / 10 222 / 213</p> <p>Canyon Rd</p>	<p>16</p> <p>72 / 47 467 / 265 S Market St (SR-273)</p> <p>Happy Valley Rd</p> <p>65 / 41</p> <p>79 / 56</p> <p>77 / 58 370 / 264</p>	



LEGEND

Study Intersection

Site Boundaries
[Existing Casino Site]

Volumes: Friday/Saturday Peak-Hour



Redding Rancheria: Traffic Impact Study

<p>1</p> <p>20 / 10 800 / 461 378 / 266 S Market St (SR-273)</p> <p>249 / 160 88 / 63 578 / 412</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>55 / 35 550 / 458 427 / 307</p>	<p>2</p> <p>45 / 29 10 / 0 386 / 137 E Bonnyview Rd</p> <p>241 / 132 1202 / 838 15 / 15</p> <p>S Bonnyview Rd</p> <p>55 / 23 1105 / 751 10 / 10</p> <p>15 / 15 20 / 20 15 / 15</p>	<p>3</p> <p>345 / 146 20 / 12 901 / 323 Bechelli Ln</p> <p>431 / 246 1158 / 875 51 / 23</p> <p>S Bonnyview Rd</p> <p>258 / 140 1232 / 773 25 / 25</p> <p>30 / 26 25 / 8 40 / 18</p>	<p>4</p> <p>707 / 498 1 / 1 285 / 176 I-5 SB Ramps</p> <p>1018 / 722 340 / 202</p> <p>S Bonnyview Rd</p> <p>1459 / 885 710 / 362</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>380 / 296 912 / 621</p> <p>S Bonnyview Rd</p> <p>755 / 479 974 / 573</p> <p>456 / 290 5 / 3 295 / 218</p>	<p>6</p> <p>558 / 350 15 / 0 195 / 174 Churn Creek Rd</p> <p>185 / 113 619 / 366 35 / 35</p> <p>S Bonnyview Rd</p> <p>498 / 397 716 / 377 80 / 104</p> <p>125 / 175 10 / 5 25 / 50</p>	<p>7</p> <p>95 / 74 25 / 10 Alrose Ln</p> <p>30 / 30 744 / 514 5 / 0</p> <p>Churn Creek Rd</p> <p>105 / 77 846 / 477 12 / 0</p> <p>10 / 0 5 / 5 5 / 0</p>	<p>8</p> <p>222 / 231 105 / 73 Victor Ave</p> <p>90 / 39 482 / 355</p> <p>Churn Creek Rd</p> <p>213 / 133 558 / 285</p>
<p>9</p> <p>379 / 256 40 / 22 Rancho Rd</p> <p>50 / 30 173 / 116</p> <p>Churn Creek Rd</p> <p>470 / 265 213 / 107</p>	<p>10</p> <p>40 / 26 168 / 101 Churn Creek Rd</p> <p>Smith Rd</p> <p>21 / 15 5 / 12</p> <p>13 / 6 136 / 80</p>		

LEGEND

- # Study Intersection
- # Future Intersection*
- # Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway
**Future Smith Road/I-5 Ramps

Volumes: Friday/Saturday Peak-Hour

Redding Rancheria: Traffic Impact Study

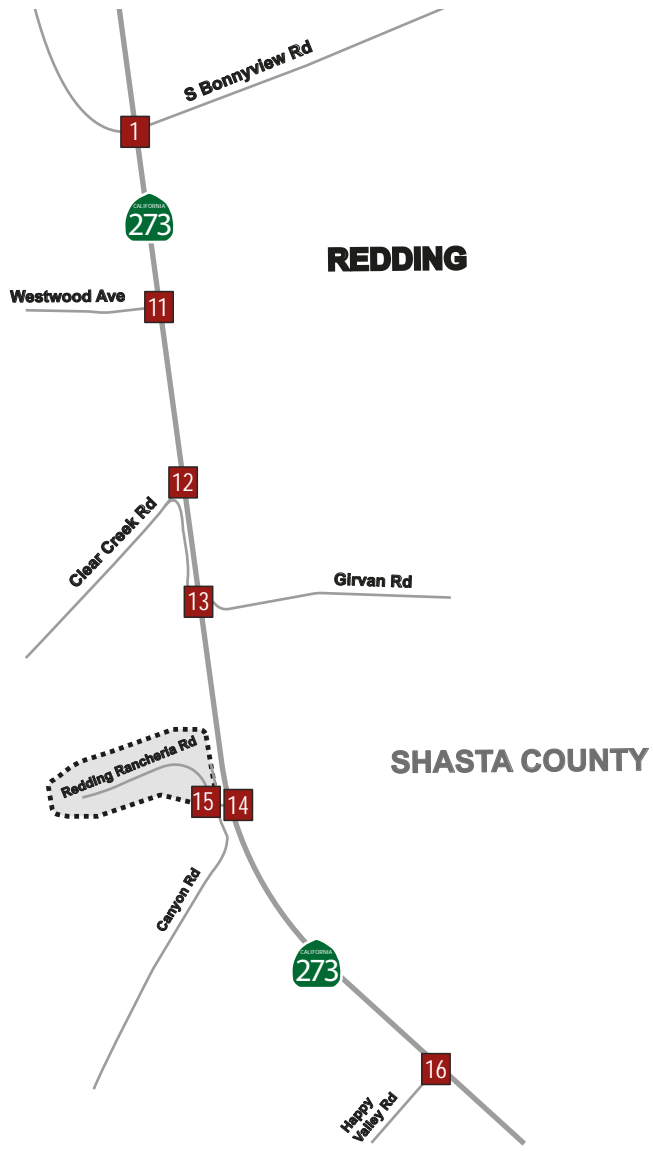
<p>17</p> <p>18 / 9 ↔ 429 / 276 ↔ 87 / 60 S Market St (SR-273)</p> <p>↔ 83 / 70 ↔ 104 / 56 ↔ 256 / 155 North St</p> <p>15 / 5 107 / 71 68 / 22</p> <p>↔ 66 / 33 ↔ 284 / 236 ↔ 253 / 182</p>	<p>18</p> <p>10 / 9 ↔ 7 / 12 ↔ 42 / 51 Oak St</p> <p>↔ 43 / 31 ↔ 505 / 266 ↔ 13 / 10 North St</p> <p>22 / 12 407 / 261 4 / 2</p> <p>↔ 4 / 4 ↔ 7 / 3 ↔ 16 / 13</p>	<p>19</p> <p>↔ 250 / 155 ↔ 227 / 136 I-5 SB Ramps</p> <p>↔ 355 / 203 North St</p> <p>508 / 347</p>	<p>20</p> <p>I-5 NB Ramps</p> <p>↔ 44 / 48 ↔ 260 / 144 ↔ 214 / 161 North St</p> <p>130 / 73 236 / 165 317 / 212</p> <p>McMurray Dr</p> <p>↔ 93 / 62 ↔ 241 / 146 ↔ 262 / 218</p>
<p>21</p> <p>↔ 36 / 19 Oak St</p> <p>↔ 14 / 6 ↔ 392 / 308 ↔ 23 / 39 Balls Ferry Rd</p> <p>3 / 3 400 / 227 12 / 4</p> <p>↔ 16 / 13 ↔ 4 / 5 ↔ 56 / 35</p>	<p>22</p> <p>↔ 9 / 27 ↔ 83 / 52 ↔ 24 / 15 Ventura St</p> <p>↔ 27 / 21 ↔ 413 / 335 ↔ 513 / 430 Balls Ferry Rd</p> <p>4 / 3 431 / 234 64 / 47</p> <p>I-5 SB Ramp</p>	<p>23</p> <p>↔ 272 / 233 ↔ 232 / 162 McMurray Dr</p> <p>↔ 197 / 137 ↔ 619 / 496 Balls Ferry Rd</p> <p>115 / 61 333 / 177</p> <p>I-5 NB Ramp</p> <p>↔ 134 / 90 ↔ 177 / 132 ↔ 256 / 148</p>	



Figure 14

Redding Rancheria: Traffic Impact Study

<p>1</p> <p>20 / 10 800 / 461 378 / 266 S Market St (SR-273)</p> <p>249 / 160 88 / 63 578 / 412</p> <p>Cedars Rd</p> <p>20 / 0 98 / 54 80 / 63</p> <p>55 / 35 550 / 458 427 / 307</p>	<p>11</p> <p>441 / 270 759 / 496 S Market St (SR-273)</p> <p>Westwood Ave</p> <p>291 / 217</p> <p>252 / 189</p> <p>164 / 140 567 / 373</p>	<p>12</p> <p>85 / 61 919 / 618 S Market St (SR-273)</p> <p>Clear Creek Rd</p> <p>147 / 82</p> <p>42 / 21</p> <p>25 / 28 599 / 431</p>	<p>13</p> <p>43 / 40 790 / 522 96 / 70 S Market St (SR-273)</p> <p>62 / 52 26 / 9 165 / 106</p> <p>Girvan Rd</p> <p>13 / 24 28 / 17 80 / 56</p> <p>53 / 47 551 / 396 152 / 104</p>
<p>14</p> <p>449 / 348 644 / 360 S Market St (SR-273)</p> <p>Redding Rancheria Rd</p> <p>330 / 278</p> <p>87 / 58</p> <p>106 / 96 555 / 326</p>	<p>15</p> <p>15 / 10 170 / 144 Canyon Rd</p> <p>175 / 203 351 / 196 Redding Rancheria Rd</p> <p>12 / 14 226 / 217</p> <p>Canyon Rd</p>	<p>16</p> <p>78 / 51 556 / 315 S Market St (SR-273)</p> <p>Happy Valley Rd</p> <p>69 / 44</p> <p>86 / 61</p> <p>83 / 63 440 / 314</p>	



LEGEND

Study Intersection

Site Boundaries
[Existing Casino Site]

Volumes: Friday/Saturday Peak-Hour



LOS Conditions and Impacts at Intersections

Traffic operations were evaluated under the following development conditions:

- Opening Year (2025) conditions without Proposed Project
- Cumulative (2040) conditions without Proposed Project

Results of the analysis are presented in **Table 11**. Additional details are provided in **Appendix D**. As seen in **Table 11**, the following intersections will fail to meet acceptable level of service thresholds in the Opening Year (2025) and Cumulative (2040) conditions based on established significance criteria.

Opening Year (2025) without Project Intersections Operating Deficiently

- #4 – Bonnyview Road at I-5 SB Ramps
- #6 – Bonnyview Road at Churn Creek Road
- #8 – Churn Creek Road at Victor Avenue
- #20 – North Street McMurray Drive/I-5 NB On-Ramp

Cumulative (2040) without Project Intersections Operating Deficiently

- #3 – Bonnyview Road at Bechelli Lane
- #8 – Churn Creek Road at Victor Avenue
- #9 – Churn Creek Road at Rancho Road
- #20 – North Street McMurray Drive/I-5 NB On-Ramp

Table 11 – Baseline Intersection Level of Service Summary

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025)		Cumulative Year (2040)	
					Delay (sec) (a)	LOS (b)	Delay (sec) (a)	LOS (b)
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	23.2	C	28.4	C
				SAT PM	20.2	C	18.7	B
2	S Bonnyview Rd @ E Bonnyview Rd	Signal	D	FRI PM	17.8	B	24.8	C
				SAT PM	7.5	A	8.3	A
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	49.9	D	116.9	F
				SAT PM	15.1	B	89.2	F
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	103.1	F	46.1	D
				SAT PM	27.9	C	38.1	D
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	54.6	D	32.3	C
				SAT PM	19.7	B	19.7	B
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	96.2	F	39.4	D
				SAT PM	43.6	D	20.5	C
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	17.2	C	10.8	B
				SAT PM	11.2	B	1.6	A
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	68.0	F	439.6	F
				SAT PM	16.6	C	31.7	D
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	21.1	C	72.2	F
				SAT PM	11.2	B	12.8	B
10	Churn Creek Rd @ Smith Rd	SSSC*	C	FRI PM	10.3	B	10.8	B
				SAT PM	9.3	A	9.5	A
11	SR-273 (Market St) @ Westwood Ave	Signal	D	FRI PM	12.7	B	13.8	B
				SAT PM	10.2	B	10.3	B
12	SR-273 (Market St) @ Clear Creek Rd	Signal	D	FRI PM	6.2	A	6.6	A
				SAT PM	5.4	A	5.6	A
13	SR-273 (Market St) @ Girvan Rd	Signal	D	FRI PM	14.7	B	18.4	B
				SAT PM	12.3	B	14.2	B
14	SR-273 (Market St) @ Redding Rancheria Rd	Signal	D	FRI PM	9.1	A	10.4	B
				SAT PM	8.1	A	8.5	A
15	Canyon Rd @ Redding Rancheria Rd	Signal	D	FRI PM	11.5	B	11.6	B
				SAT PM	10.0	A	10.0	B
16	SR-273 (Market St) @ Happy Valley Rd	Signal	D	FRI PM	7.4	A	17.6	A
				SAT PM	6.4	A	6.4	A

Notes:

Bold represents unacceptable operations.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2010 Highway Capacity Manual*

(c) Under Cumulative (2040) conditions, LOS calculations for intersections 3-7 were performed using VISSIM, all other intersections were performed using Synchro 9.0. (Shaded text represents intersections analyzed with VISSIM.)

Table 11 – Baseline Intersection Level of Service Summary (Continued)

No.	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025)		Cumulative Year (2040)	
					Delay (sec) (a)	LOS (b)	Delay (sec) (a)	LOS (b)
17	SR-273 (Market St) @ North St	Signal	D	FRI PM	15.9	B	20.0	B
				SAT PM	12.7	B	13.8	B
18	North St @ Oak St	SSSC*	D	FRI PM	24.3	C	33.1	D
				SAT PM	14.6	B	16.6	C
19	North St @ I-5 SB Off Ramp	AWSC	D	FRI PM	12.2	B	13.7	B
				SAT PM	9.0	A	9.4	A
20	North Street @ McMurray Dr/I-5 NB On Ramp	AWSC	D	FRI PM	36.2	E	72.3	F
				SAT PM	13.7	B	18.8	C
21	Balls Ferry Rd @ Oak St	SSSC*	D	FRI PM	15.0	C	19.6	C
				SAT PM	12.8	B	15.0	C
22	Balls Ferry Rd @ Venutra St/I-5 SB On Ramp	Signal	D	FRI PM	26.5	C	28.3	C
				SAT PM	8.6	A	23.0	D
23	Balls Ferry Rd @ McMurray Dr/I-5 NB Off Ramp	Signal	D	FRI PM	23.3	C	41.7	D
				SAT PM	8.3	A	42.2	D

Notes:

Bold represents unacceptable operations.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2010 Highway Capacity Manual*

Traffic Signal Warrant Analysis

Opening Year (2025) and Cumulative (2040) traffic volumes at unsignalized study intersections were compared against the peak-hour warrant in the *2014 California Manual on Uniform Traffic Control Devices (CMUTCD)*.

Results of the analysis showed that the following intersections will satisfy Traffic Signal Warrant #3 by the year 2025 and 2040.

- #7 – Churn Creek Road at Alrose Lane
- #8 – Churn Creek Road at Victor Ave
- #9 – Churn Creek Road at Rancho Road
- #19 – North Street at I-5 Off-Ramp
- #20 – North Street at McMurry Drive and I-5 Northbound On-Ramp

Other warrants, such as minimum vehicle volumes, interruption of continuous traffic, and traffic progression, were not evaluated because they generally require additional traffic volumes to be satisfied. A copy of the analysis summary for Traffic Signal Warrant #3 is included in **Appendix C**.

LOS Conditions and Impacts on Roadway Segments without Project

Opening Year (2025) and Cumulative (2040) roadway segment volumes were determined from the turning movement approach volumes at the study intersections within the study area.

Results of the analysis are presented in **Table 12** and **Table 13**. As shown in **Table 12** and **Table 13**, the roadway segments are expected to operate at acceptable levels of service based on established significance criteria under Opening Year (2025) and Cumulative (2040) Conditions. Additional detail of the analysis is provided in **Appendix D**.

LOS Conditions and Impacts on Freeway Segments without Project

Opening Year (2025) and Cumulative (2040) freeway segment volumes were determined from the year 2040 directional link volumes from the Shasta County Regional Travel Demand Model (SCRTDF) travel forecast model³.

Results of the analysis are presented in **Table 14** and **Table 15**. As shown in the **Table 13** and **Table 15**, the freeway segments are expected to operate at acceptable levels of service based on established significance criteria under Opening Year (2025) and Cumulative (2040) Conditions. Additional details of the analysis are provided in **Appendix D**.

Table 12 – Baseline Roadway Segment Level of Service Summary (Two-Lane)

Location	Peak-Hour	Analysis Direction	Opening Year (2025)			Cumulative (2040)		
			LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c
Bechelli Ln south of Bonnyview Rd	FRI	NB	A	92.7	0.05	A	91.9	0.06
		SB	A	92.7	0.05	A	91.9	0.06
	SAT	NB	A	93.6	0.03	A	93.3	0.03
		SB	A	93.6	0.03	A	93.3	0.04
Churn Creek Rd east of Alrose Ln	FRI	EB	C	77.9	0.46	D	73.9	0.56
		WB	C	78.6	0.38	D	71.4	0.5
	SAT	EB	C	82.8	0.26	C	81.7	0.31
		WB	C	82.8	0.27	C	80.8	0.35
Smith Rd west of Churn Creek Rd	FRI	EB	A	98.1	0.01	A	97.8	0.02
		WB	A	98.1	0.03	A	97.8	0.03
	SAT	EB	A	94.5	0.01	A	94.3	0.02
		WB	A	94.5	0.02	A	94.3	0.02
Canyon Rd south of Redding Rancheria Rd	FRI	NB	B	85	0.15	B	84.9	0.16
		SB	B	84.6	0.24	B	84.5	0.24
	SAT	NB	B	86.9	0.15	B	86.8	0.15
		SB	B	86.9	0.13	B	86.8	0.14
North St east of Oak St	FRI	EB	C	82.6	0.31	C	80.5	0.36
		WB	C	82.9	0.28	C	80.7	0.33
	SAT	EB	B	88.1	0.17	B	86.6	0.2
		WB	B	88.1	0.19	B	86.6	0.22
North St west of Oak St	FRI	EB	B	84.4	0.24	C	82.5	0.28
		WB	B	84	0.26	C	82	0.33
	SAT	EB	B	89.6	0.15	C	88.2	0.18
		WB	B	89.6	0.15	B	88.2	0.18
Oak St north of North St	FRI	NB	A	97.4	0.05	A	97.3	0.05
		SB	A	97.4	0.04	A	97.3	0.04
	SAT	NB	A	97.7	0.03	A	97.6	0.03
		SB	A	97.7	0.04	A	97.6	0.05
Oak St south of North St	FRI	NB	A	98.1	0.02	A	98	0.02
		SB	A	98.1	0.02	A	98	0.02
	SAT	NB	A	98.4	0.01	A	98.4	0.01
		SB	A	98.4	0.01	A	98.4	0.01

Notes:

PFFS = Percent Free-Flow Speed, v/c = Volume to Capacity

Table 13 – Baseline Roadway Segment Level of Service Summary (Multilane)

Location	Peak-Hour	Analysis Direction	Opening Year (2025)		Cumulative (2040)	
			LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)
Bonnyview Rd west of Bechelli Ln	FRI	EB	B	17	A	2.1
		WB	B	17.7	C	20.8
	SAT	EB	A	10.1	B	12
		WB	B	12.5	B	14.5
Market St (SR 273) north of Canyon Rd	FRI	NB	A	7.1	A	7.8
		SB	A	8.8	A	9.7
	SAT	NB	A	4.9	A	5.4
		SB	A	5.8	A	6.3
Market St (SR 273) south of Canyon Rd	FRI	NB	A	4.9	A	5.9
		SB	A	5.5	A	6.5
	SAT	NB	A	3.1	A	3.7
		SB	A	3.1	A	3.7

Table 14 – Baseline Freeway Segment Level of Service Summary (Strawberry Fields Site)

c- Weave segment LOS calculated using Leisch Method				Opening Year 2025		Cumulative 2040	
Direction	Segment	Type	Peak Hour	Density ^a	LOS	Density ^a	LOS
Northbound	South of Bonnyview Rd Off-Ramp	Basic	FRI PM	17.1	B	13.6	B
			SAT PM	12.6	B	10.8	A
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	12.9	B	18.2	B
			SAT PM	10.2	B	12.3	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	8.3	A	9.9	A
			SAT PM	6.5	A	8.4	A
	Bonnyview Rd On-Ramp	Merge	FRI PM	24.0	C	26.2	C
			SAT PM	17.9	B	21.6	C
	North of Bonnyview Rd On-Ramp	Basic	FRI PM	12.9	B	15.5	B
			SAT PM	9.6	A	12.1	B
Southbound	North of Bonnyview Rd Off-Ramp	Basic	FRI PM	16.0	B	19.7	C
			SAT PM	11.8	B	15.0	B
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	20.0	C	28.7	D
			SAT PM	15.9	B	19.7	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	11.4	B	14.2	B
			SAT PM	8.8	A	11.6	B
	Bonnyview Rd On-Ramp	Merge	FRI PM	26.8	C	31.5	D
			SAT PM	18.4	B	22.6	C
	South of Bonnyview Rd On-Ramp	Basic	FRI PM	26.1	D	20.1	C
			SAT PM	16.7	B	14.4	B

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)

b- Bold represents unacceptable operations

c- Weave segment LOS calculated using Leisch Method

Table 15 – Baseline Freeway Segment Level of Service Summary (Anderson Site)

I-5				Opening Year 2025		Cumulative 2040	
Direction	Segment	Type	Peak Hour	Density ^a	LOS	Density ^a	LOS
Northbound	South of Balls Ferry Rd Off-Ramp	Basic	FRI PM	20.6	C	16.9	B
			SAT PM	16.0	B	14.0	B
	Balls Ferry Rd Off-Ramp	Diverge	FRI PM	24.5	C	17.2	B
			SAT PM	18.9	B	13.5	B
	Balls Ferry Rd Off-Ramp to North St On-Ramp	Basic	FRI PM	16.2	B	13.7	B
			SAT PM	13.3	B	11.9	B
	North St On-Ramp	Merge	FRI PM	22.6	C	18.3	B
			SAT PM	18.0	B	15.2	B
	North St On-Ramp to Riverside Ave Off-Ramp	Basic	FRI PM	19.0	C	15.7	B
			SAT PM	15.0	B	13.2	B
Southbound	Riverside Ave On-Ramp to North St Off-Ramp	Basic	FRI PM	28.6	D	22.3	C
			SAT PM	20.5	C	17.8	B
	North St Off-Ramp	Diverge	FRI PM	33.8	D	2.9	A
			SAT PM	25.8	C	2.9	A
	North St Off-Ramp to Balls Ferry On-Ramp	Basic	FRI PM	24.1	C	19.6	C
			SAT PM	18.4	C	16.4	B
	Balls Ferry On-Ramp	Merge	FRI PM	31.9	D	26.4	C
			SAT PM	25.3	C	22.1	C
	South of Balls Ferry Rd On-Ramp	Basic	FRI PM	29.3	D	23.4	C
			SAT PM	21.6	C	19.1	C

Notes:

- a- Density measured in passenger cars/lane/mile (pc/ln/mi)
- b- Bold represents unacceptable operations
- c- Weave segment LOS calculated using Leisch Method

PROPOSED PROJECT

Strawberry Fields Site

As part of the project, four development alternatives at the proposed project site were evaluated.

- **Alternative A: Proposed Project** – Consists of a new casino and resort, including an approximately 69,515 square foot casino, 250-room hotel, an event/ convention center, and a retail center, as well as associated parking and infrastructure.
- **Alternative B: Proposed Project with No Retail** – Consists of the same land uses and intensities as the Proposed project without the retail center.
- **Alternative C: Reduced Intensity Alternative** – Consists of a reduced version of the Proposed Project including a new casino and resort, an approximately 250-room hotel, an event/ convention center, and a retail center, as well as associated parking and infrastructure.
- **Alternative D: Non-Gaming Alternative** – Consists of an approximately 128-room hotel, restaurants, and a retail center, as well as associated parking and infrastructure.

Site Access

As part of the project, three project access options were evaluated for each development alternative listed above (A through D). The first option has north access only. For this option, the only access point to the project will be from Bechelli Lane off of Bonnyview Road. The second option has both north and south access. For this second option, the primary access point to the project will be from Bechelli Lane off of Bonnyview Road while secondary access will be provided from a new connecting roadway off of Smith Road. The third option has south access only with a new I-5 interchange at Smith Road. For this option, the only access point to the project will be from a new connecting roadway off of Smith Road. The access options evaluated are listed below:

- North Access Only (Option 1) – access to South Bonnyview Road via Bechelli Lane
- North and South Access (Option 2) – access to South Bonnyview Road via Bechelli Lane and access to Smith Road via a new connecting roadway (overpass only at Smith Road)
- South Access Only (Option 3) – access to Smith Road via a new connecting roadway and a new I-5 Interchange at Smith Road

Project Trip Generation

Trip generation for tribal gaming facilities generally peaks on Saturday evenings. However, background traffic on adjacent streets is lower during this period than during traditional peak weekday periods, resulting in a lower total number of vehicles on the adjacent streets. In addition, casino facilities are open 24 hours a day, 7 days a week and typically do not generate extreme peaks of traffic like other uses. Instead, casino traffic patterns typically follow a smoother curve that builds steadily from early morning until approximately 7:00 PM, after which traffic levels slowly decline. Based on existing traffic volume information and expected trip generation from the Proposed Project, it was determined that the Friday and Saturday PM peak periods represent the worst-case periods to evaluate in this traffic impact study. It is during these periods that the combination of background traffic and casino traffic are anticipated to be at the highest levels. Trip generation estimates for Project Alternatives A-D are summarized in **Tables 16-19⁶**.

Project Trip Distribution and Assignment

Because of the unique nature of casino developments, customers and employees are expected to travel from nearby locations, as well as from the regions surrounding Redding, mainly from within Shasta County. The Proposed Project Site is located just outside of Redding's southern city limit. Based on the likely customer and employee base for the site, the immediate roadway system, and the north-south split of traffic on I-5, it was estimated that approximately half of the project traffic would originate from destinations north of the project site. The majority of these trips are expected to use SR-273 and I-5. Many of the trips from Redding's residential developments located east of I-5 are expected to travel along I-5 to the project site, as well as from neighboring cities to the north. A smaller proportion of trips are expected to use Bechelli Road to/from communities directly north of the Proposed Project Site. Approximately 37 percent of the project traffic is expected to come from south of the site, with the majority of this traffic traveling along I-5 from Anderson, Red Bluff, and other neighboring communities. The project traffic distribution for the proposed site is shown in **Figure 16**.

Project traffic assigned to the study intersections based on the assumed trip distribution and generation for the four development alternatives and three site access alternatives are shown in **Figures 17-28**.

⁶ Trip Generation Details are included in the Redding Rancheria Traffic Impact Study Trip Generation and Distribution Memo, Kimley-Horn, September 7, 2016

Table 16 – Project Trip Generation at Strawberry Fields Site (Alternative A)

Land Use	ITE Code	Quantity	Units	Weekday	Weekday PM Peak Hour			Saturday	Saturday Peak Hour		
				Daily	In	Out	Total	Daily	In	Out	Total
Casino	N/A	48,060	Gaming Floor Area	9277	302	302	605	8273	348	213	561
Conference Center	N/A	10,080	SF	965	111	11	122	965	111	11	122
Event Center	N/A	1,800	Seats	1063	123	12	135	1063	123	12	135
Hotel	310	250	Rooms	511	19	18	38	512	25	20	45
Sporting Goods Superstore	861	130,000	SF	2927	115	124	239	3819	255	245	499
Subtotal Vehicle Trips				14742	670	468	1139	14632	862	501	1363
<i>Diverted Link Trips (10%)- Applied only to Casino And Sporting Goods Store</i>				(1220)	(42)	(43)	(84)	(1209)	(60)	(46)	(106)
Net New Vehicle Trips				13521	629	426	1054	13423	801	455	1257

SF- Square Feet

Casino

Weekday PM Peak Hour

T=12.58 x (1000 SF Gaming Floor Area)

50% In

50% Out

Saturday Peak Hour

T=11.67 x (1000 SF Gaming Floor Area)

62% In

38% Out

Hotel

Weekday PM Peak Hour (ITE 310)

T=0.15 x (Rooms)

51% In

49% Out

Weekday Daily (ITE 310)

T=2.04 x (Rooms)

50% In

50% Out

Saturday Peak Hour (ITE 310)

T=0.18 x (Rooms)

56% In

44% Out

Saturday Daily (ITE 310)

T=2.05 x (Rooms)

50% In

50% Out

Sports Retail

Weekday PM Peak Hour (ITE 861)

T=1.84 x (1000 SF)

48% In

52% Out

Saturday Peak Hour (ITE 861)

T=3.84 x (1000 SF)

51% In

49% Out

(1) Source of Land Use Information: Redding Rancheria Casino Master Plan (February, 2016) and subsequent correspondence with Analytical Environmental Services.

(2) Casino trip generation rates based on local traffic data collected for existing Win River Casino. This rate is also consistent with the traffic data collected for the Win River Casino in 2007. (Omni-Means, 2007). The directional distributions were based on the existing conditions.

(3) The proposed casino facility includes other auxiliary/internal uses in addition to gaming area, such as restaurants, back of house, lounges, etc.

However, only the number of gaming position is used as the independent variable for the purposes of estimating trip generation. This is because the trip generation rates use gaming positions as the independent variable, and were developed based on empirical data from similar existing casino facilities, and include the trips associated with all of the casino uses (gaming areas, restaurants, lounges, back of house, etc.), excluding hotel facilities and convention space.

(4) The project site is located adjacent to Interstate, which carries over 45,000 vehicles per day. For the purposes of this analysis, the base daily and peak hour trip generation estimates are adjusted based on an average diverted link rate of 10 percent. This adjustment is likely conservative and is within the range identified by Caltrans' guidance for pass-by/diverted link trip reductions (Caltrans Guide for the Preparation of Traffic Impact Studies, 2002). Only diverted link trip reductions are used to account for all trips assumed to already be on the adjacent network, including pass-by trips. The diverted link trip reduction is applied only to the trips generated by the casino and the sporting good store.

(5) Trip generation for the proposed conference center was developed based on the estimated number of attendees. The maximum number of event attendees/seats was estimated to be 672 people, based on an average of 15 SF per attendee, which is consistent with industry best practices for conference/event space planning. For the purposes of this traffic analysis, the peak trip generation for the conference center assumes an event with 85 percent of the capacity filled, which corresponds to approximately 571 attendees.

Based on the 2016 study of Cache Creek Casino Resort, it is assumed that when conference/meeting activities are scheduled, 25 percent of the 250 on-site hotel rooms would be occupied by event attendees with an average occupancy of 1.3 attendees per room. Thus, 81 attendees would stay on-site, and not drive to/from an event. The remaining attendees (490) would drive to the site. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 223 vehicles trips would generated. The majority of event trips are anticipated to occur outside of the PM peak traffic period (4:00 PM to 6:00 PM), as events typically have a start time between 7:00 PM and 8:00 PM. It was assumed that 50 percent of event attendees would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

(6) Trip generation rates for the proposed event center were based on a previous study of a similar facility at the Cache Creek Casino and Resort. This assumes that most of the patrons visiting the event are already onsite at the casino, and only 30 percent of the patrons represent new trips. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 245 new trips are generated by event facility. It was assumed that 50 percent of patrons would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

(7) Trip generation rates for the Hotel (ITE 310) and Sporting Goods Superstore (ITE 861) are based on ITE Trip Generation Manual, 9th Edition. The trip generation rate for the Hotel (ITE 310) is reduced by 75 percent to account for internal capture to/from the casino. For the Sporting Goods Store (ITE 861), it was conservatively assumed that the peak hour of Generator occurs during the peak hour for the Casino Facility.

(8) Daily rates for Casino, Conference Center and Event Center are calculated from the peak hour to daily relationships from Kimley-Horn's 2016 lone Casino and Cash Creek Casino studies; daily rates for Sporting Goods Superstore are are calculated from the peak hour to daily relationships from the ITE use of Department Store (ITE 861)

Table 17 – Project Trip Generation at Strawberry Fields Site (Alternative B)

Land Use	ITE Code	Quantity	Units	Weekday				Saturday			
				Daily	In	Out	Total	Daily	In	Out	Total
Casino	N/A	48,060	Gaming Floor Area	9277	302	302	605	8273	348	213	561
Conference Center	N/A	10,080	SF	965	111	11	122	965	111	11	122
Event Center	N/A	1,800	Seats	1063	123	12	135	1063	123	12	135
Hotel	310	250	Rooms	511	19	18	38	512	25	20	45
Subtotal Vehicle Trips				11815	556	344	900	10813	607	256	863
<i>Diverted Link Trips(10%)- Applied only to Casino</i>				<i>(928)</i>	<i>(30)</i>	<i>(30)</i>	<i>(60)</i>	<i>(827)</i>	<i>(35)</i>	<i>(21)</i>	<i>(56)</i>
Net New Vehicle Trips				10887	525	314	839	9986	572	235	807

SF- Square Feet

Casino

Weekday PM Peak Hour	T=12.58 x (1000 SF Gaming Floor Area)	50% In	50% Out
Saturday Peak Hour	T=11.67 x (1000 SF Gaming Floor Area)	62% In	38% Out

Hotel

Weekday PM Peak Hour (ITE 310)	T=0.15 x (Rooms)	51% In	49% Out
Weekday Daily (ITE 310)	T=2.04 x (Rooms)	50% In	50% Out
Saturday Peak Hour (ITE 310)	T=0.18 x (Rooms)	56% In	44% Out
Saturday Daily (ITE 310)	T=2.05 x (Rooms)	50% In	50% Out

(1) Source of Land Use Information: Redding Rancheria Casino Master Plan (February, 2016) and subsequent correspondence with Analytical Environmental Services.

(2) Casino trip generation rates based on local traffic data collected for existing Win River Casino. This rate is also consistent with the traffic data collected for the Win River Casino in 2007. (Omni-Means, 2007). The directional distributions were based on the existing conditions.

(3) The proposed casino facility includes other auxiliary/internal uses in addition to gaming area, such as restaurants, back of house, lounges, etc. However, only the number of gaming position is used as the independent variable for the purposes of estimating trip generation. This is because the trip generation rates use gaming positions as the independent variable, and were developed based on empirical data from similar existing casino facilities, and include the trips associated with all of the casino uses (gaming areas, restaurants, lounges, back of house, etc.), excluding hotel facilities and convention space.

(4) The project site is located adjacent to Interstate, which carries over 45,000 vehicles per day. For the purposes of this analysis, the base daily and peak hour trip generation estimates are adjusted based on an average diverted link rate of 10 percent. This adjustment is likely conservative and is within the range identified by Caltrans' guidance for pass-by/diverted link trip reductions (Caltrans Guide for the Preparation of Traffic Impact Studies, 2002). Only diverted link trip reductions are used to account for all trips assumed to already be on the adjacent network, including pass-by trips. The diverted link trip reduction is applied only to the trips generated by the casino and the sporting good store.

(5) Trip generation for the proposed conference center was developed based on the estimated number of attendees. The maximum number of event attendees/seats was estimated to be 672 people, based on an average of 15 SF per attendee, which is consistent with industry best practices for conference/event space planning. For the purposes of this traffic analysis, the peak trip generation for the conference center assumes an event with 85 percent of the capacity filled, which corresponds to approximately 571 attendees. Based on the 2016 study of Cache Creek Casino Resort, it is assumed that when conference/meeting activities are scheduled, 25 percent of the 250 on-site hotel rooms would be occupied by event attendees with an average occupancy of 1.3 attendees per room. Thus, 81 attendees would stay on-site, and not drive to/from an event. The remaining attendees (490) would drive to the site. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 223 vehicles trips would generated. The majority of event trips are anticipated to occur outside of the PM peak traffic period (4:00 PM to 6:00 PM), as events typically have a start time between 7:00 PM and 8:00 PM. It was assumed that 50 percent of event attendees would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

(6) Trip generation rates for the proposed event center were based on a previous study of a similar facility at the Cache Creek Casino and Resort. This assumes that most of the patrons visiting the event are already onsite at the casino, and only 30 percent of the patrons represent new trips. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 245 new trips are generated by event facility. It was assumed that 50 percent of patrons would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

(7) Trip generation rates for the Hotel (ITE 310) is based on ITE Trip Generation Manual, 9th Edition. The trip generation rate for the Hotel (ITE 310) is reduced by 75 percent to account for internal capture to/from the casino.

(8) Daily rates for Casino, Conference Center and Event Center are calculated from the peak hour to daily relationships from Kimley-Horn's 2016 Lone Casino and Cash Creek Casino studies.

Table 18 – Project Trip Generation at Strawberry Fields Site (Alternative C)

Land Use	ITE Code	Quantity	Units	Weekday				Saturday			
				Daily	In	Out	Total	Daily	In	Out	Total
Casino	N/A	36,060	Gaming Floor Area	6960	227	227	454	6208	261	160	421
Conference Center	N/A	10,080	SF	965	111	11	122	965	111	11	122
Event Center	N/A	1,800	Seats	1063	123	12	135	1063	123	12	135
Hotel	310	250	Rooms	511	19	18	38	512	25	20	45
Sporting Goods Superstore	861	130,000	SF	2927	115	124	239	3819	255	245	499
Subtotal Vehicle Trips				12425	595	393	988	12566	775	448	1223
<i>Diverted Link Trips(10%)- Applied only to Casino And Sporting Goods Store</i>				<i>(989)</i>	<i>(34)</i>	<i>(35)</i>	<i>(69)</i>	<i>(1003)</i>	<i>(52)</i>	<i>(40)</i>	<i>(92)</i>
Net New Vehicle Trips				11437	561	358	919	11564	723	407	1131

SF- Square Feet

Casino

Weekday PM Peak Hour

T=12.58 x (1000 SF Gaming Floor Area)

50% In

50% Out

Saturday Peak Hour

T=11.67 x (1000 SF Gaming Floor Area)

62% In

38% Out

Hotel

Weekday PM Peak Hour (ITE 310)

T=0.15 x (Rooms)

51% In

49% Out

Weekday Daily (ITE 310)

T=2.04 x (Rooms)

50% In

50% Out

Saturday Peak Hour (ITE 310)

T=0.18 x (Rooms)

56% In

44% Out

Saturday Daily (ITE 310)

T=2.05 x (Rooms)

50% In

50% Out

Sports Retail

Weekday PM Peak Hour (ITE 861)

T=1.84 x (1000 SF)

48% In

52% Out

Saturday Peak Hour (ITE 861)

T=3.84 x (1000 SF)

51% In

49% Out

(1) Source of Land Use Information: Redding Rancheria Casino Master Plan (February, 2016) and subsequent correspondence with Analytical Environmental Services.

(2) Casino trip generation rates based on local traffic data collected for existing Win River Casino. This rate is also consistent with the traffic data collected for the Win River Casino in 2007. (Omni-Means, 2007). The directional distributions were based on the existing conditions.

(3) The proposed casino facility includes other auxiliary/internal uses in addition to gaming area, such as restaurants, back of house, lounges, etc. However, only the number of gaming position is used as the independent variable for the purposes of estimating trip generation. This is because the trip generation rates use gaming positions as the independent variable, and were developed based on empirical data from similar existing casino facilities, and include the trips associated with all of the casino uses (gaming areas, restaurants, lounges, back of house, etc.), excluding hotel facilities and convention space.

(4) The project site is located adjacent to Interstate, which carries over 45,000 vehicles per day. For the purposes of this analysis, the base daily and peak hour trip generation estimates are adjusted based on an average diverted link rate of 10 percent. This adjustment is likely conservative and is within the range identified by Caltrans' guidance for pass-by/diverted link trip reductions (Caltrans Guide for the Preparation of Traffic Impact Studies, 2002). Only diverted link trip reductions are used to account for all trips assumed to already be on the adjacent network, including pass-by trips. The diverted link trip reduction is applied only to the trips generated by the casino and the sporting good store.

(5) Trip generation for the proposed conference center was developed based on the estimated number of attendees. The maximum number of event attendees/seats was estimated to be 672 people, based on an average of 15 SF per attendee, which is consistent with industry best practices for conference/event space planning. For the purposes of this traffic analysis, the peak trip generation for the conference center assumes an event with 85 percent of the capacity filled, which corresponds to approximately 571 attendees.

Based on the 2016 study of Cache Creek Casino Resort, it is assumed that when conference/meeting activities are scheduled, 25 percent of the 250 on-site hotel rooms would be occupied by event attendees with an average occupancy of 1.3 attendees per room. Thus, 81 attendees would stay on-site, and not drive to/from an event. The remaining attendees (490) would drive to the site. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 223 vehicles trips would be generated. The majority of event trips are anticipated to occur outside of the PM peak traffic period (4:00 PM to 6:00 PM), as events typically have a start time between 7:00 PM and 8:00 PM. It was assumed that 50 percent of event attendees would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

(6) Trip generation rates for the proposed event center were based on a previous study of a similar facility at the Cache Creek Casino and Resort. This assumes that most of the patrons visiting the event are already onsite at the casino, and only 30 percent of the patrons represent new trips. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 245 new trips are generated by event facility. It was assumed that 50 percent of patrons would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

(7) Trip generation rates for the Hotel (ITE 310) and Sporting Goods Superstore (ITE 861) are based on ITE Trip Generation Manual, 9th Edition. The trip generation rate for the Hotel (ITE 310) is reduced by 75 percent to account for internal capture to/from the casino. For the Sporting Goods Store (ITE 861), it was conservatively assumed that the peak hour of Generator occurs during the peak hour for the Casino Facility.

(8) Daily rates for Casino, Conference Center and Event Center are calculated from the peak hour to daily relationships from Kimley-Horn's 2016 Lone Casino and Cash Creek Casino studies; daily rates for Sporting Goods Superstore are calculated from the peak hour to daily relationships from the ITE use of Department Store (ITE 861)

Table 19 – Project Trip Generation at Strawberry Fields Site (Alternative D)

Land Use	ITE Code	Quantity	Units	Weekday	Weekday PM Peak Hour			Saturday	Saturday Peak Hour		
				Daily	In	Out	Total	Daily	In	Out	Total
Hotel	310	128	Rooms	1046	39	38	77	1048	52	41	92
High Turnover Restaurant	932	99	Seats	478	23	17	41	615	28	25	52
Quality Restaurant	931	66	Seats	189	11	6	17	185	13	9	22
Sporting Goods Superstore	862	120,000	SF	2702	106	115	221	3525	235	226	461
Subtotal Vehicle Trips				4414	180	176	355	5374	327	300	627
<i>Diverted Link Trips(15%)- Applied to All Uses</i>				(662)	(27)	(26)	(53)	(806)	(49)	(45)	(94)
Net New Vehicle Trips				3752	153	149	302	4568	278	255	533

SF- Square Feet

<u>Hotel</u>			
Weekday PM Peak Hour (ITE 310)		T=0.6 x (Rooms)	51% In 49% Out
Weekday Daily (ITE 310)		T=8.17 x (Rooms)	50% In 50% Out
Saturday Peak Hour (ITE 310)		T=0.72 x (Rooms)	56% In 44% Out
Saturday Daily (ITE 310)		T=8.19 x (Rooms)	50% In 50% Out
<u>High Turnover Restaurant</u> : Sports Bar			
Weekday PM Peak Hour (ITE 932)		T=0.41 x (Seats)	57% In 43% Out
Weekday Daily (ITE 932)		T=4.83 x (Seats)	50% In 50% Out
Saturday Peak Hour (ITE 932)		T=0.53 x (Seats)	53% In 47% Out
Saturday Daily (ITE 932)		T=6.21 x (Seats)	50% In 50% Out
<u>Quality Restaurant</u> : Specialty Restaurants			
Weekday PM Peak Hour (ITE 931)		T=0.26 x (Seats)	67% In 33% Out
Weekday Daily (ITE 931)		T=2.86 x (Seats)	50% In 50% Out
Saturday Peak Hour (ITE 931)		T=0.33 x (Seats)	59% In 41% Out
Saturday Daily (ITE 931)		T=2.81 x (Seats)	50% In 50% Out
<u>Sports Retail</u>			
Weekday PM Peak Hour (ITE 861)		T=1.84 x (1000 SF)	48% In 52% Out
Saturday Peak Hour (ITE 861)		T=3.84 x (1000 SF)	51% In 49% Out

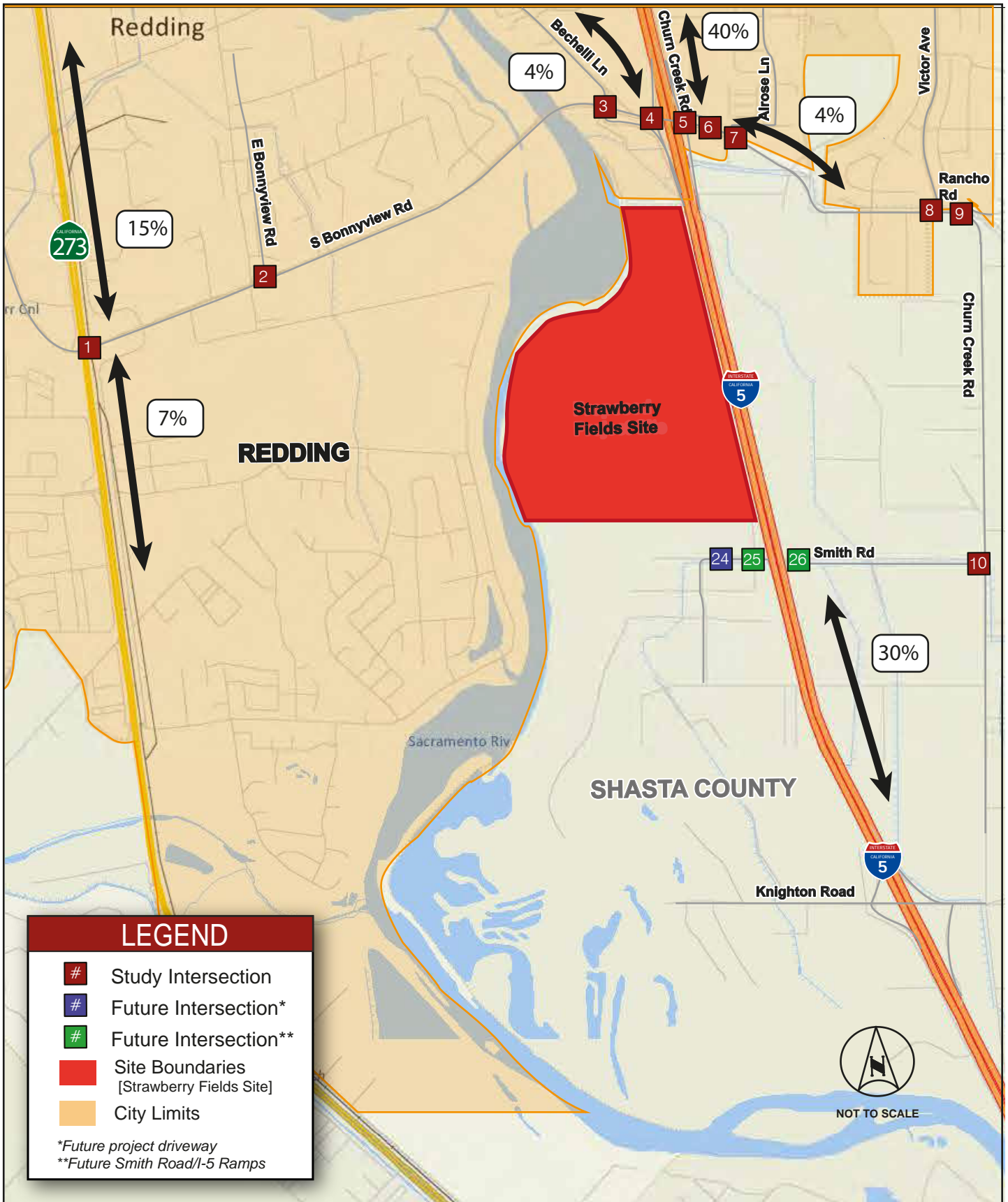
(1) Source of Land Use Information: *Redding Rancheria Casino Master Plan* (February, 2016) and subsequent correspondence with Analytical Environmental Services.

(2) According to the ITE Trip Generation Manual, 9th Edition, the land use category Hotel (ITE 310) includes supporting facilities such as restaurants, cocktail lounges, and/or retail and service shops. However, the amount of restaurant facilities in the non-gaming land use option was more than would normally be present at an average hotel. It is more conservative to treat the excess restaurants as a separate land use category. Therefore, for the purposes of this trip generation analysis, only the Cafe/Deli and Bakery are considered part of the amenities provided by the hotel. The separate land use categories for the sports bar and specialty restaurant are "High Turnover Restaurant" (ITE 932) and "Quality Restaurant" (ITE 931), respectively.

(3) For Alternative C, a diverted link trip reduction of 15 percent was applied. This adjustment is likely conservative and is within the range identified by Caltrans' guidance for pass-by/diverted link trip reductions. (Caltrans Guide for the Preparation of Traffic Impact Studies, 2002). Only diverted link trip reductions are used to account for all trips assumed to already be on the adjacent network, including pass-by trips.

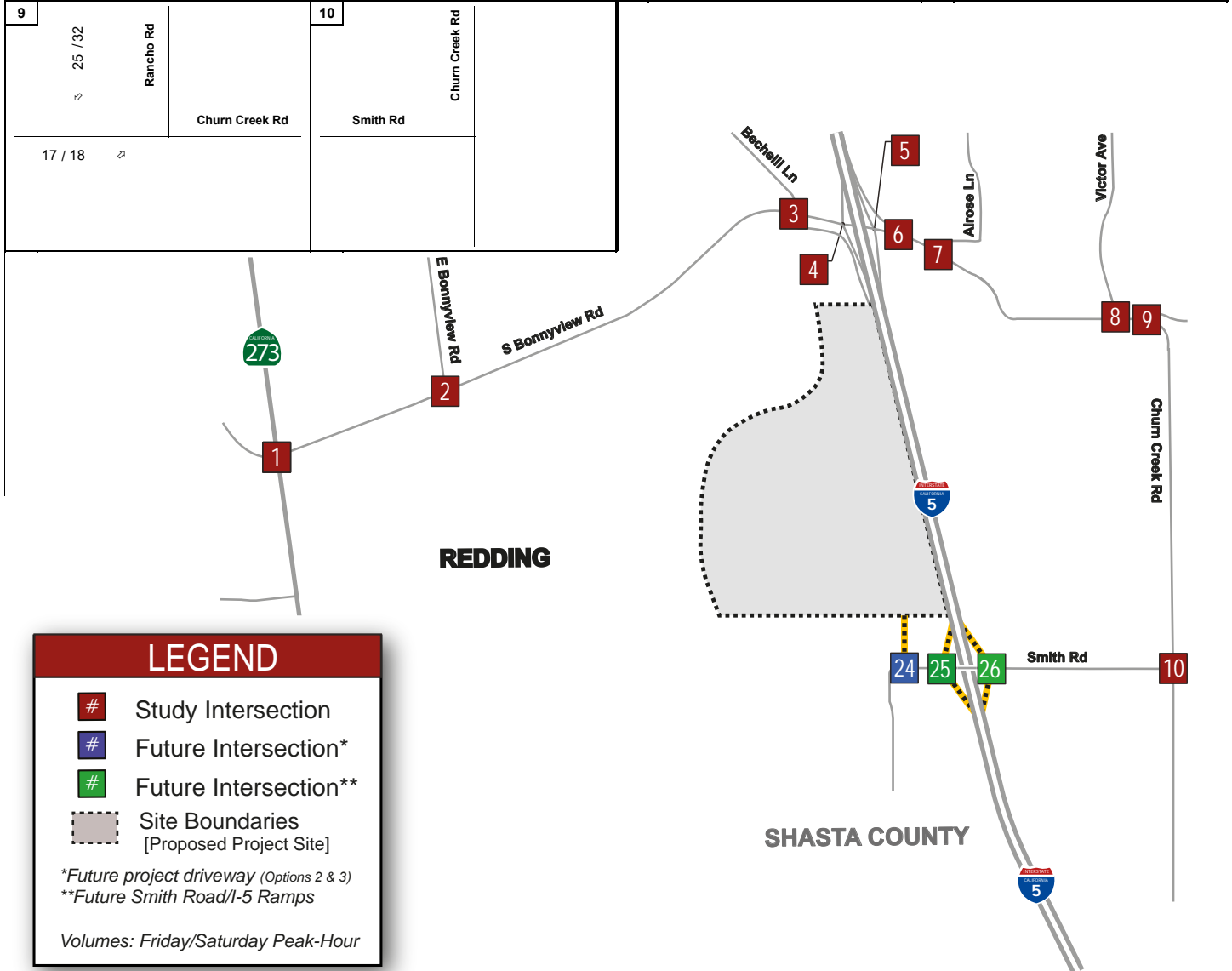
(4) Daily rates for Sporting Goods Superstore are calculated from the peak hour to daily relationships from the ITE use of Department Store (ITE 861)

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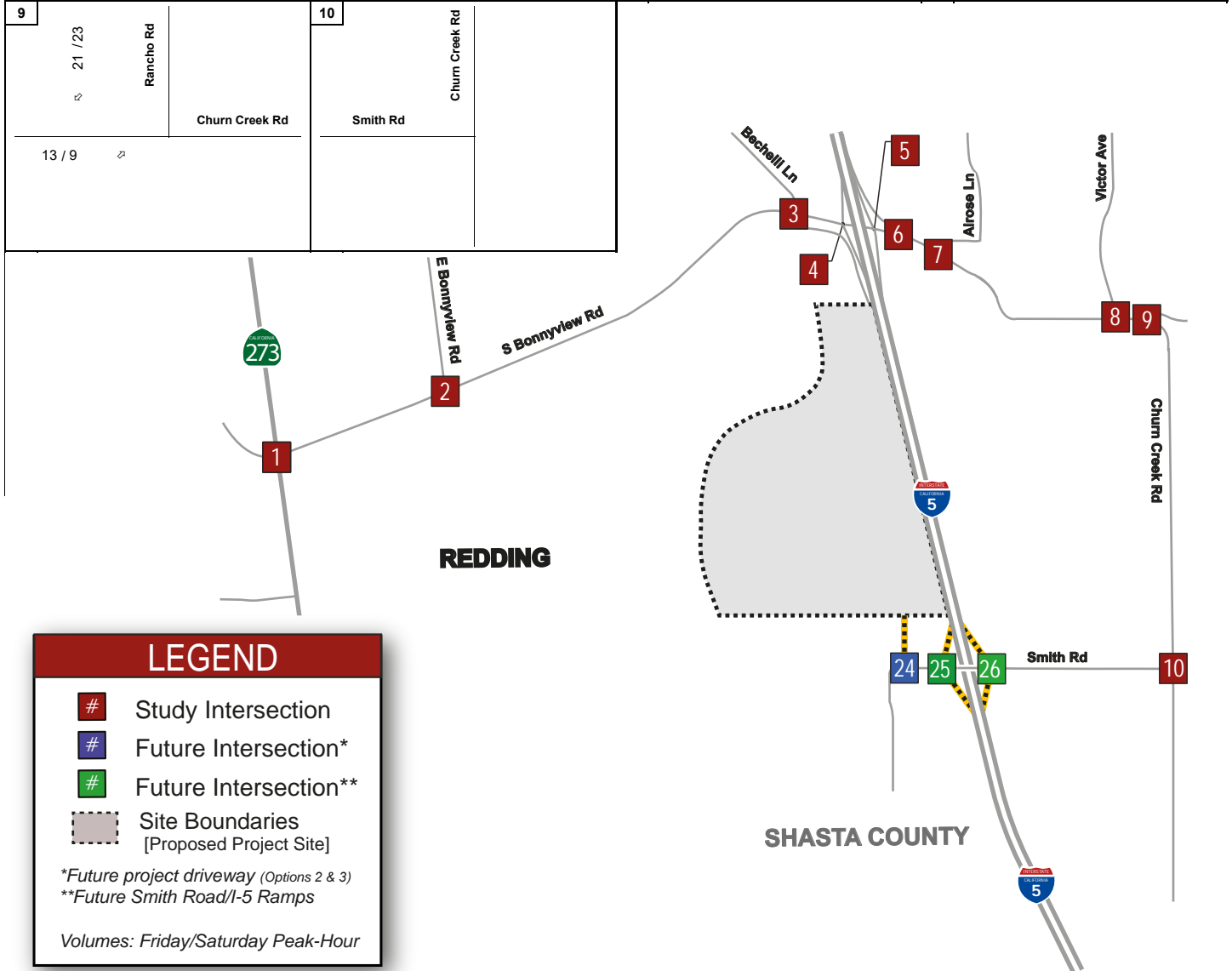
Redding Rancheria: Traffic Impact Study

<p>1</p> <p>94 / 120 S Market St (SR-273)</p> <p>↔ 64 / 68</p> <p>↔ 30 / 32</p> <p>Cedars Rd ↔ S Bonnyview Rd</p> <p>↔ 44 / 56</p>	<p>2</p> <p>E Bonnyview Rd</p> <p>↔ 94 / 100</p> <p>S Bonnyview Rd</p> <p>138 / 176 ↔</p>	<p>3</p> <p>25 / 32</p> <p>Bechelli Ln</p> <p>↔ 507 / 653</p> <p>S Bonnyview Rd</p> <p>↔ 94 / 100</p> <p>↔ 17 / 18</p> <p>↔ 358 / 383</p>	<p>4</p> <p>272 / 351</p> <p>I-5 SB Ramps</p> <p>↔ 235 / 303</p> <p>S Bonnyview Rd</p> <p>209 / 223</p> <p>149 / 159 ↔</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>↔ 25 / 32</p> <p>S Bonnyview Rd</p> <p>192 / 205</p> <p>17 / 18 ↔</p> <p>209 / 271 ↔</p>	<p>6</p> <p>Churn Creek Rd</p> <p>↔ 25 / 32</p> <p>S Bonnyview Rd</p> <p>17 / 18 ↔</p>	<p>7</p> <p>Alrose Ln</p> <p>↔ 25 / 32</p> <p>Churn Creek Rd</p> <p>17 / 18 ↔</p>	<p>8</p> <p>Victor Ave</p> <p>↔ 25 / 32</p> <p>Churn Creek Rd</p> <p>17 / 18 ↔</p>
<p>9</p> <p>25 / 32</p> <p>Rancho Rd</p> <p>↔ 17 / 18</p> <p>Churn Creek Rd</p>	<p>10</p> <p>Churn Creek Rd</p> <p>Smith Rd</p>		



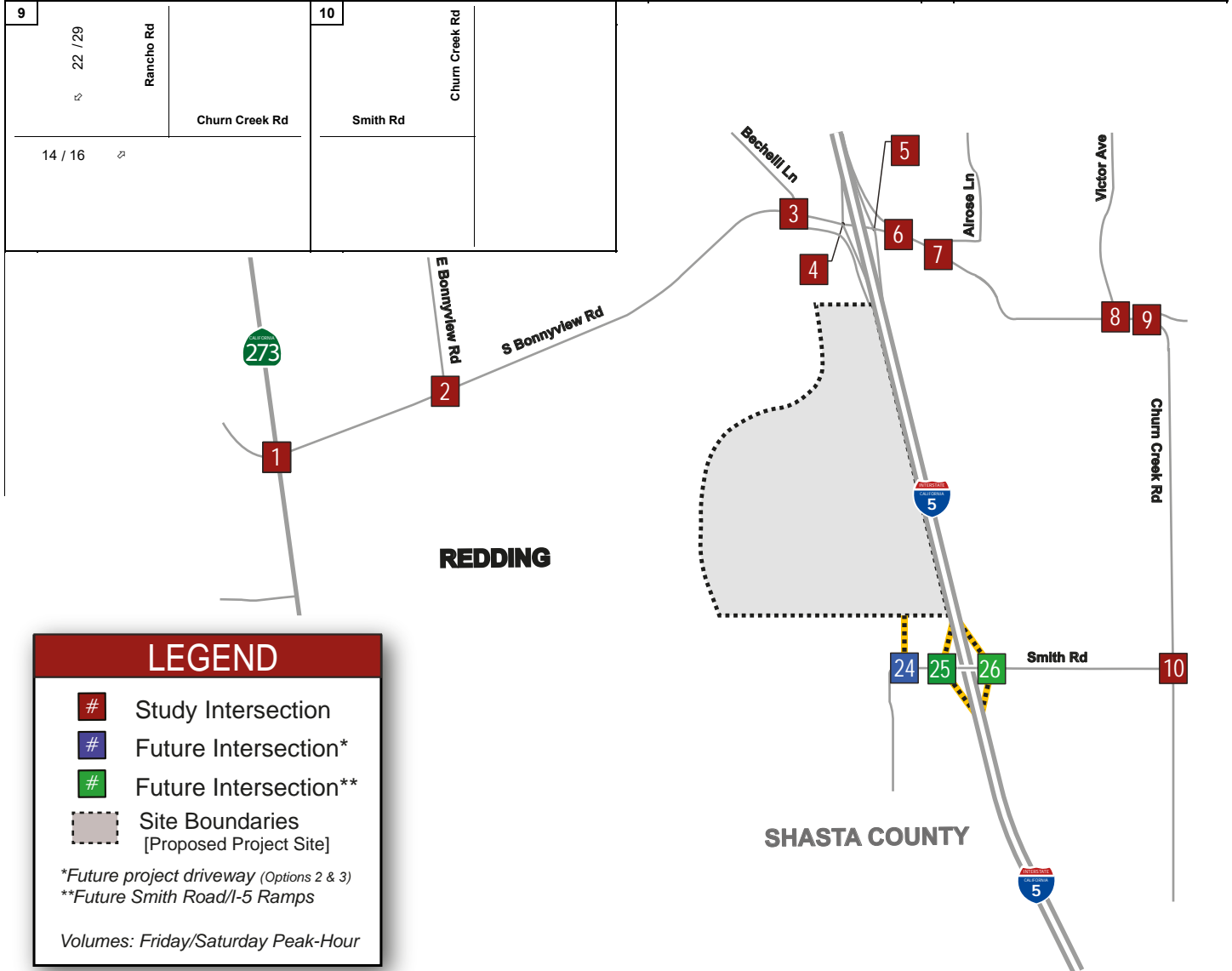
Redding Rancheria: Traffic Impact Study

<p>1</p> <p>79 / 86 S Market St (SR-273)</p> <p>↔ 47 / 35 ↔ 22 / 16</p> <p>Cedars Rd ↔ S Bonnyview Rd</p> <p>↔ 37 / 40</p>	<p>2</p> <p>E Bonnyview Rd</p> <p>↔ 69 / 52</p> <p>S Bonnyview Rd</p> <p>116 / 126 ↔</p>	<p>3</p> <p>21 / 23</p> <p>Bechelli Ln</p> <p>↔ 419 / 458</p> <p>S Bonnyview Rd</p> <p>116 / 126 ↔</p> <p>69 / 52 ↔ 13 / 9 ↔ 262 / 195 ↔</p>	<p>4</p> <p>225 / 246</p> <p>I-5 SB Ramps</p> <p>↔ 194 / 212</p> <p>S Bonnyview Rd</p> <p>153 / 114 ↔ 109 / 81 ↔</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>↔ 21 / 23</p> <p>S Bonnyview Rd</p> <p>141 / 105 ↔ 13 / 9 ↔</p> <p>173 / 189 ↔</p>	<p>6</p> <p>Churn Creek Rd</p> <p>↔ 21 / 23</p> <p>S Bonnyview Rd</p> <p>13 / 9 ↔</p>	<p>7</p> <p>Alrose Ln</p> <p>↔ 21 / 23</p> <p>Churn Creek Rd</p> <p>13 / 9 ↔</p>	<p>8</p> <p>Victor Ave</p> <p>↔ 21 / 23</p> <p>Churn Creek Rd</p> <p>13 / 9 ↔</p>
<p>9</p> <p>21 / 23</p> <p>Rancho Rd</p> <p>↔ 13 / 9 ↔</p> <p>Churn Creek Rd</p>	<p>10</p> <p>Churn Creek Rd</p> <p>Smith Rd</p>		



Redding Rancheria: Traffic Impact Study

<p>1</p> <p>84 / 108 S Market St (SR-273)</p> <p>↔ 54 / 61 ↔ 25 / 29</p> <p>Cedars Rd ↔ S Bonnyview Rd</p> <p>↔ 39 / 51</p>	<p>2</p> <p>E Bonnyview Rd</p> <p>↔ 79 / 90</p> <p>S Bonnyview Rd</p> <p>123 / 159 ↘</p>	<p>3</p> <p>22 / 29</p> <p>Bechelli Ln</p> <p>↔ 449 / 587</p> <p>S Bonnyview Rd</p> <p>↔ 79 / 90 ↔ 14 / 16 ↔ 300 / 342</p>	<p>4</p> <p>241 / 315</p> <p>I-5 SB Ramps</p> <p>↔ 208 / 272</p> <p>S Bonnyview Rd</p> <p>175 / 199 125 / 142 ↘</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>↔ 22 / 29</p> <p>S Bonnyview Rd</p> <p>161 / 183 14 / 16 ↘</p> <p>185 / 243 ↘</p>	<p>6</p> <p>Churn Creek Rd</p> <p>↔ 22 / 29</p> <p>S Bonnyview Rd</p> <p>14 / 16 ↘</p>	<p>7</p> <p>Alrose Ln</p> <p>↔ 22 / 29</p> <p>Churn Creek Rd</p> <p>14 / 16 ↘</p>	<p>8</p> <p>Victor Ave</p> <p>↔ 22 / 29</p> <p>Churn Creek Rd</p> <p>14 / 16 ↘</p>
<p>9</p> <p>22 / 29</p> <p>Rancho Rd</p> <p>↔ 14 / 16</p> <p>Churn Creek Rd</p>	<p>10</p> <p>Churn Creek Rd</p> <p>Smith Rd</p>		



LEGEND

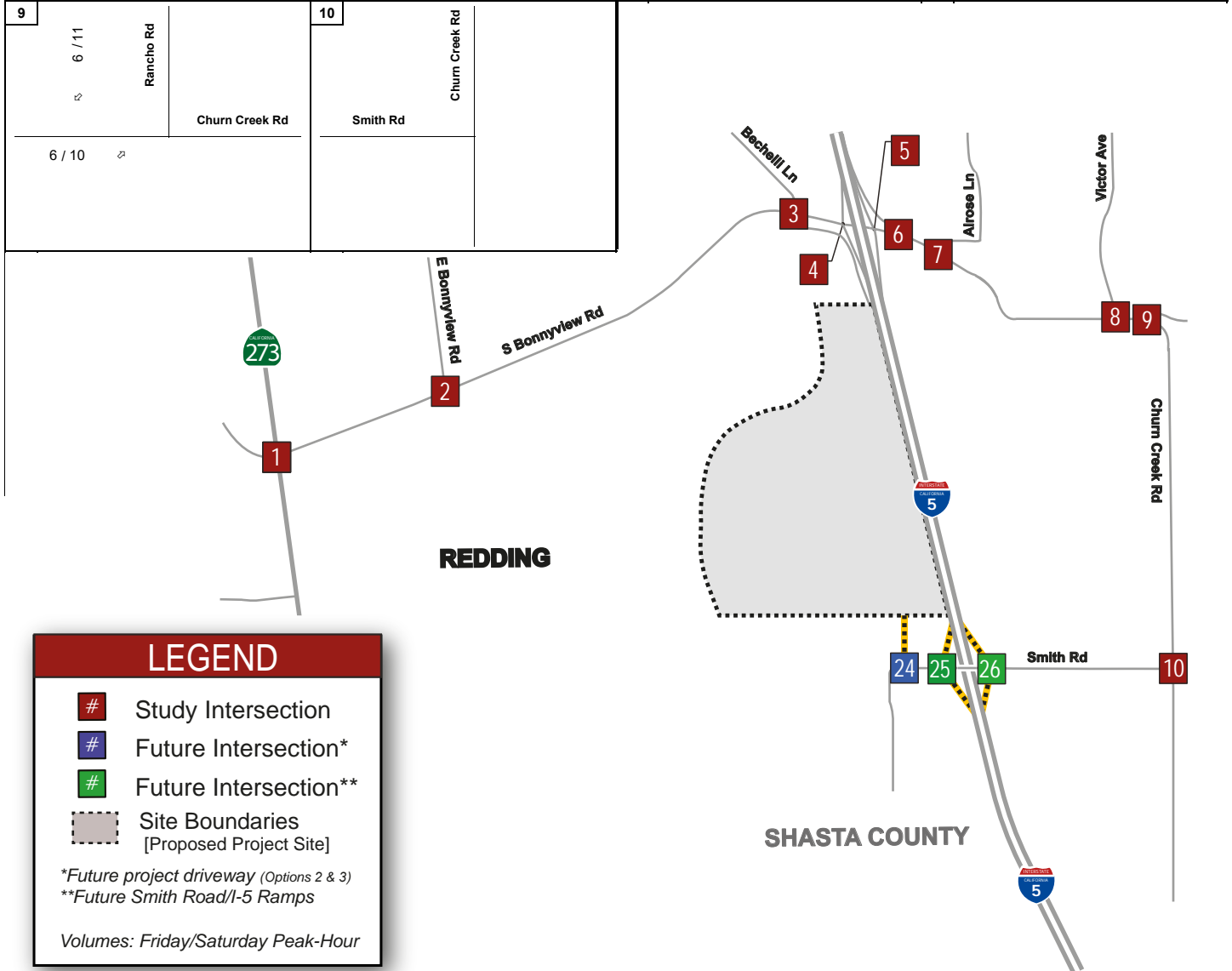
- # Study Intersection
- # Future Intersection*
- # Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway (Options 2 & 3)
**Future Smith Road/I-5 Ramps

Volumes: Friday/Saturday Peak-Hour

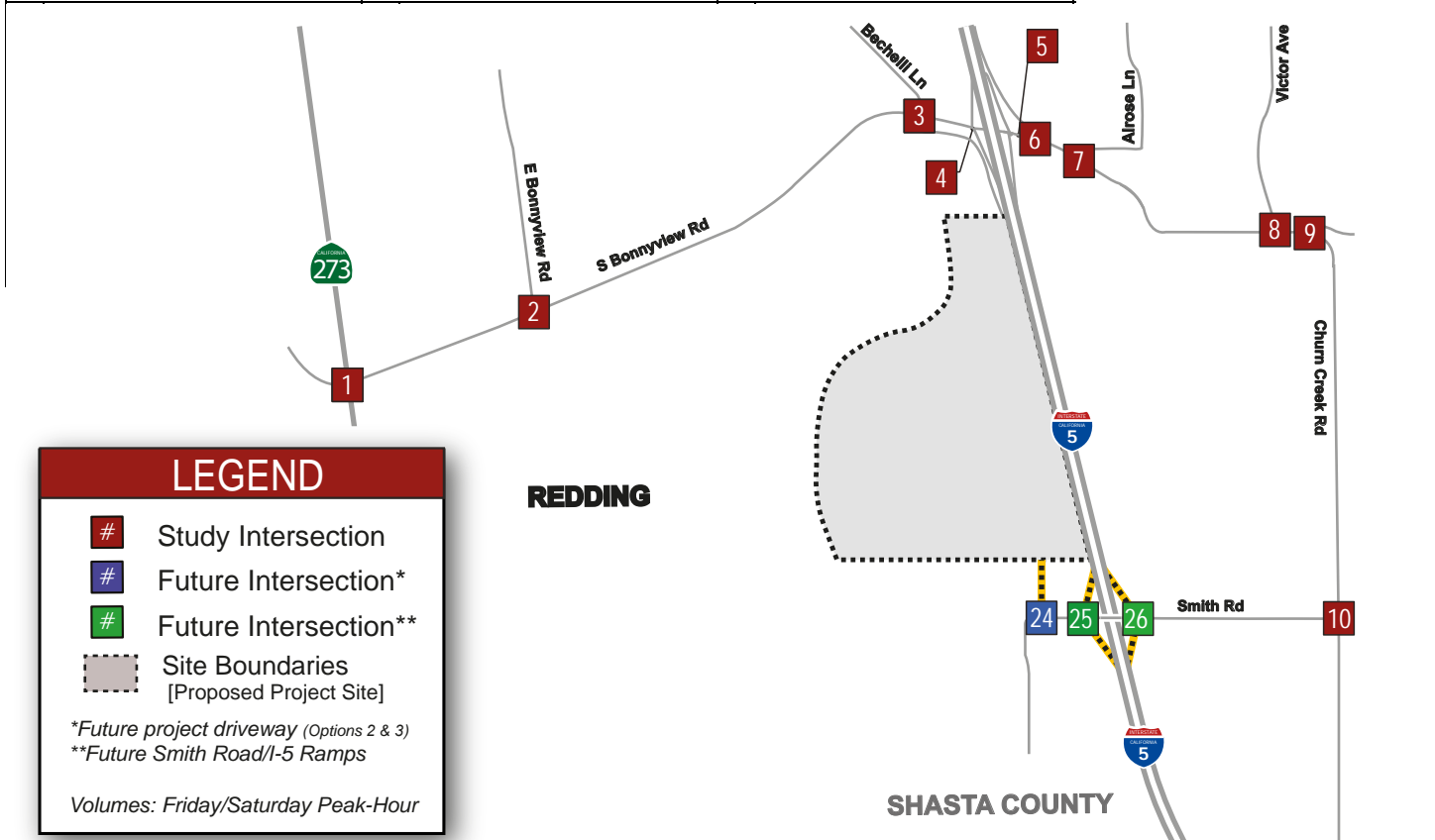
Redding Rancheria: Traffic Impact Study

<p>1</p> <p>23 / 42 S Market St (SR-273)</p> <p>↔ 22 / 38 ↔ 10 / 18</p> <p>Cedars Rd ↔ S Bonnyview Rd</p>	<p>2</p> <p>E Bonnyview Rd</p> <p>↕ 33 / 56</p> <p>S Bonnyview Rd</p>	<p>3</p> <p>6 / 11</p> <p>Bechelli Ln</p> <p>↔ 140 / 255</p> <p>S Bonnyview Rd</p>	<p>4</p> <p>75 / 136</p> <p>I-5 SB Ramps</p> <p>↕ 65 / 119</p> <p>S Bonnyview Rd</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>↕ 6 / 11</p> <p>S Bonnyview Rd</p>	<p>6</p> <p>Churn Creek Rd</p> <p>↕ 6 / 11</p> <p>S Bonnyview Rd</p>	<p>7</p> <p>Alrose Ln</p> <p>↕ 6 / 11</p> <p>Churn Creek Rd</p>	<p>8</p> <p>Victor Ave</p> <p>↕ 6 / 11</p> <p>Churn Creek Rd</p>
<p>9</p> <p>6 / 11</p> <p>Rancho Rd</p> <p>↔</p> <p>Churn Creek Rd</p>	<p>10</p> <p>Churn Creek Rd</p> <p>↔</p> <p>Smith Rd</p>		



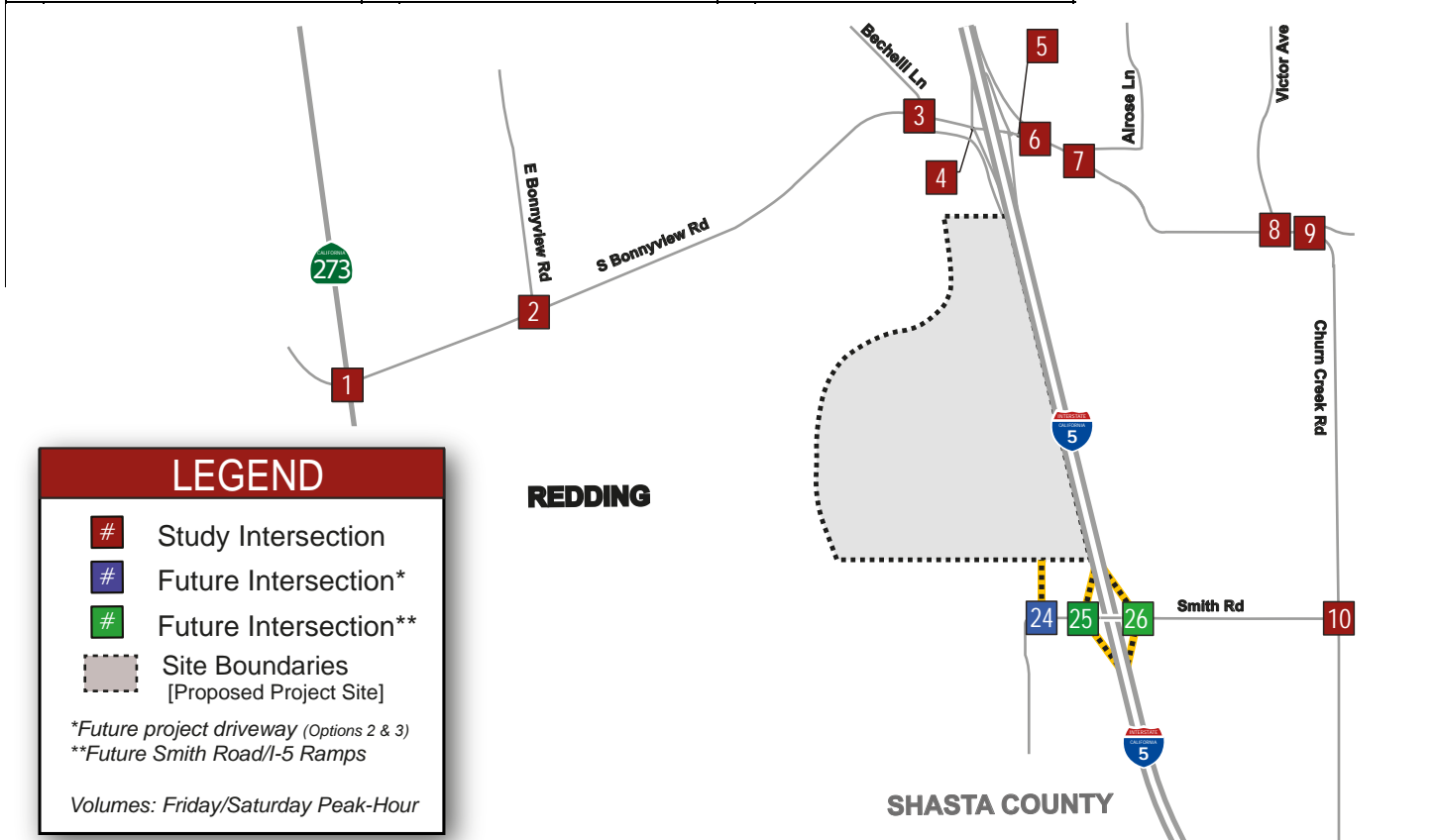
Redding Rancheria: Traffic Impact Study

<p>1</p> <p>94 / 120 S Market St (SR-273)</p> <p>↔ 64 / 68</p> <p>↔ 30 / 32</p> <p>Cedars Rd ↔ S Bonnyview Rd</p> <p>↔ 44 / 56</p>	<p>2</p> <p>E Bonnyview Rd</p> <p>↔ 94 / 100</p> <p>S Bonnyview Rd</p> <p>↔ 138 / 176</p>	<p>3</p> <p>25 / 32</p> <p>Bechelli Ln</p> <p>↔ 318 / 413</p> <p>S Bonnyview Rd</p> <p>↔ 94 / 100</p> <p>↔ 17 / 18</p> <p>↔ 230 / 246</p>	<p>4</p> <p>272 / 351</p> <p>I-5 SB Ramps</p> <p>↔ 46 / 62</p> <p>S Bonnyview Rd</p> <p>↔ 209 / 223</p> <p>↔ 21 / 23</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>↔ 25 / 32</p> <p>S Bonnyview Rd</p> <p>↔ 192 / 205</p> <p>↔ 17 / 18</p> <p>↔ 21 / 30</p>	<p>6</p> <p>Churn Creek Rd</p> <p>↔ 25 / 32</p> <p>S Bonnyview Rd</p> <p>↔ 17 / 18</p>	<p>7</p> <p>Alrose Ln</p> <p>↔ 25 / 32</p> <p>Churn Creek Rd</p> <p>↔ 17 / 18</p>	<p>8</p> <p>Victor Ave</p> <p>↔ 25 / 32</p> <p>Churn Creek Rd</p> <p>↔ 17 / 18</p>
<p>9</p> <p>25 / 32</p> <p>Rancho Rd</p> <p>↔ 17 / 18</p> <p>Churn Creek Rd</p>	<p>10</p> <p>Churn Creek Rd</p> <p>↔ 128 / 137</p> <p>Smith Rd</p> <p>↔ 189 / 240</p>	<p>24</p> <p>128 / 137</p> <p>Proposed Project South Access</p> <p>↔ 189 / 240</p> <p>Smith Rd</p>	



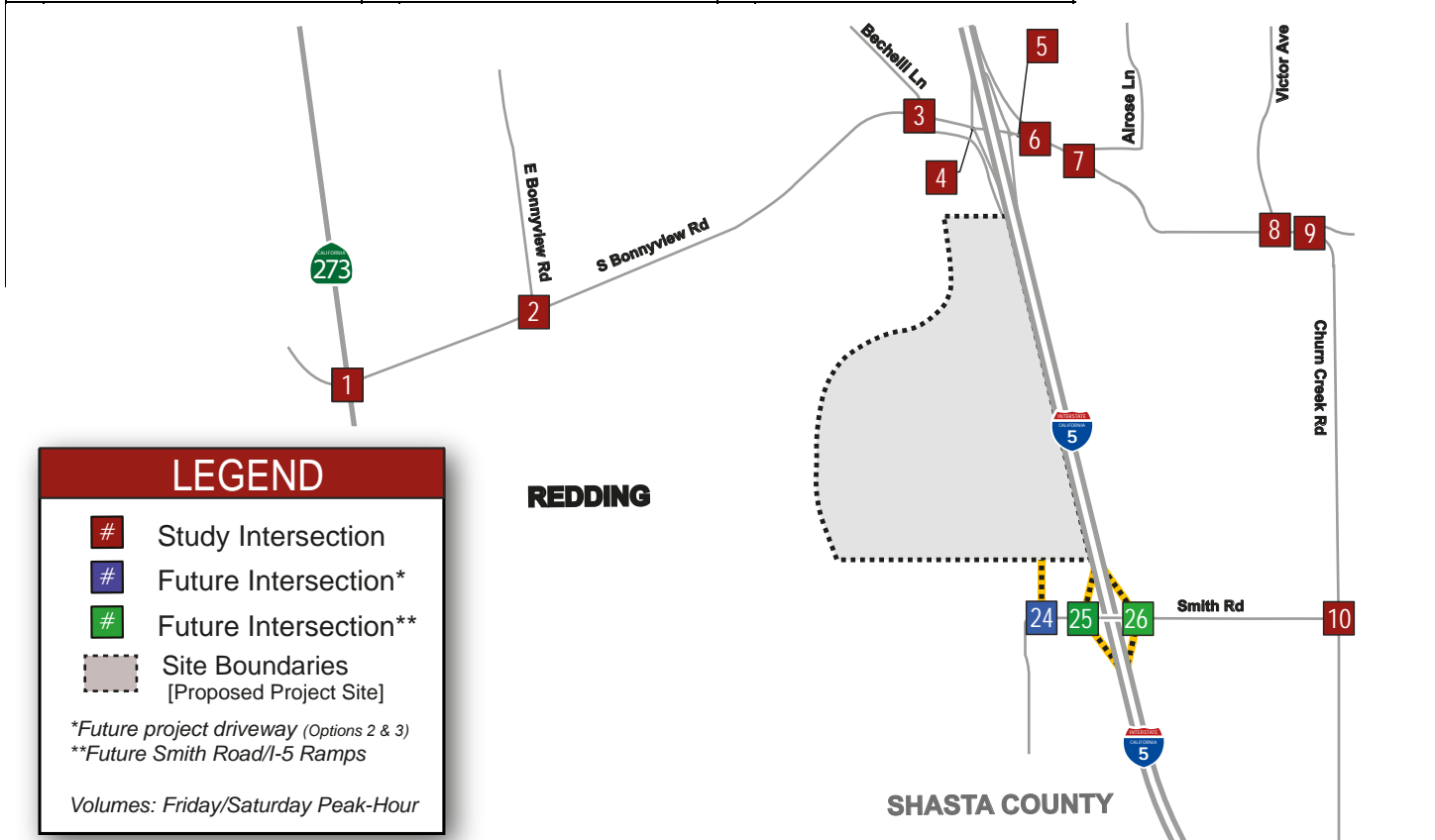
Redding Rancheria: Traffic Impact Study

<p>1</p> <p>79 / 86 S Market St (SR-273)</p> <p>↔ 47 / 35</p> <p>↔ 22 / 16</p> <p>Cedars Rd ↔ S Bonnyview Rd</p> <p>↔ 37 / 40</p>	<p>2</p> <p>E Bonnyview Rd</p> <p>↔ 69 / 52</p> <p>S Bonnyview Rd</p> <p>116 / 126 ↔</p>	<p>3</p> <p>21 / 23</p> <p>Bechelli Ln</p> <p>↔ 261 / 287</p> <p>S Bonnyview Rd</p> <p>↔ 69 / 52</p> <p>↔ 13 / 9</p> <p>↔ 168 / 125</p>	<p>4</p> <p>225 / 246</p> <p>I-5 SB Ramps</p> <p>↔ 36 / 40</p> <p>S Bonnyview Rd</p> <p>153 / 114</p> <p>↔ 15 / 11</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>↔ 21 / 23</p> <p>S Bonnyview Rd</p> <p>141 / 105</p> <p>↔ 13 / 9</p> <p>↔ 15 / 17</p>	<p>6</p> <p>Churn Creek Rd</p> <p>↔ 21 / 23</p> <p>S Bonnyview Rd</p> <p>13 / 9 ↔</p>	<p>7</p> <p>Alrose Ln</p> <p>↔ 21 / 23</p> <p>Churn Creek Rd</p> <p>13 / 9 ↔</p>	<p>8</p> <p>Victor Ave</p> <p>↔ 21 / 23</p> <p>Churn Creek Rd</p> <p>13 / 9 ↔</p>
<p>9</p> <p>21 / 23</p> <p>Rancho Rd</p> <p>Churn Creek Rd</p> <p>↔ 13 / 9</p>	<p>10</p> <p>Churn Creek Rd</p> <p>Smith Rd</p> <p>94 / 71</p> <p>158 / 172</p>	<p>24</p> <p>94 / 71 Proposed Project South Access</p> <p>↔ 158 / 172</p> <p>Smith Rd</p>	



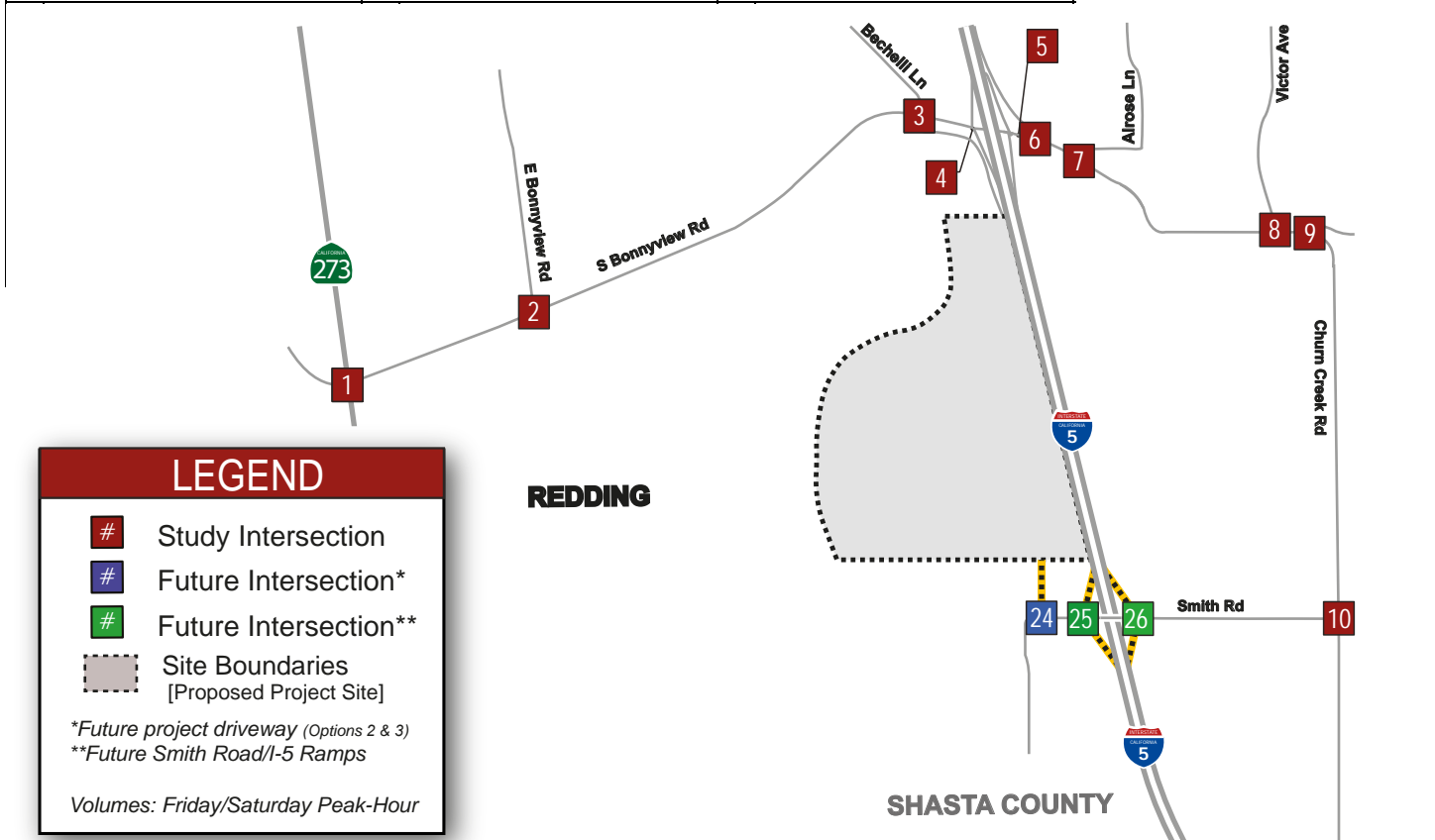
Redding Rancheria: Traffic Impact Study

<p>1</p> <p>84 / 108 S Market St (SR-273)</p> <p>↔ 54 / 61</p> <p>↔ 25 / 29</p> <p>Cedars Rd ↔ S Bonnyview Rd</p> <p>↔ 39 / 51</p>	<p>2</p> <p>E Bonnyview Rd</p> <p>↔ 79 / 90</p> <p>S Bonnyview Rd</p> <p>123 / 159 ↘</p>	<p>3</p> <p>22 / 29</p> <p>Bechelli Ln</p> <p>↔ 281 / 370</p> <p>S Bonnyview Rd</p> <p>↔ 79 / 90</p> <p>↔ 14 / 16</p> <p>↔ 193 / 220</p>	<p>4</p> <p>241 / 315</p> <p>I-5 SB Ramps</p> <p>↔ 40 / 55</p> <p>S Bonnyview Rd</p> <p>175 / 199</p> <p>18 / 20 ↘</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>↔ 22 / 29</p> <p>S Bonnyview Rd</p> <p>161 / 183</p> <p>14 / 16 ↘</p> <p>17 / 26 ↘</p>	<p>6</p> <p>Churn Creek Rd</p> <p>↔ 22 / 29</p> <p>S Bonnyview Rd</p> <p>14 / 16 ↘</p>	<p>7</p> <p>Alrose Ln</p> <p>↔ 22 / 29</p> <p>Churn Creek Rd</p> <p>14 / 16 ↘</p>	<p>8</p> <p>Victor Ave</p> <p>↔ 22 / 29</p> <p>Churn Creek Rd</p> <p>14 / 16 ↘</p>
<p>9</p> <p>22 / 29</p> <p>Rancho Rd</p> <p>Churn Creek Rd</p> <p>14 / 16 ↘</p>	<p>10</p> <p>Churn Creek Rd</p> <p>Smith Rd</p> <p>107 / 122 ↘</p> <p>168 / 217 ↘</p>	<p>24</p> <p>107 / 122</p> <p>Proposed Project South Access</p> <p>↔ 168 / 217</p> <p>Smith Rd</p>	



Redding Rancheria: Traffic Impact Study

<p>1</p> <p>23 / 42 S Market St (SR-273)</p> <p>↔ 22 / 38 ↔ 10 / 18</p> <p>Cedars Rd ↔ S Bonnyview Rd</p>	<p>2</p> <p>E Bonnyview Rd</p> <p>↕ 33 / 56</p> <p>S Bonnyview Rd</p>	<p>3</p> <p>6 / 11</p> <p>Bechelli Ln</p> <p>↔ 94 / 171</p> <p>S Bonnyview Rd</p>	<p>4</p> <p>75 / 136</p> <p>I-5 SB Ramps</p> <p>↕ 20 / 36</p> <p>S Bonnyview Rd</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>↕ 6 / 11</p> <p>S Bonnyview Rd</p>	<p>6</p> <p>Churn Creek Rd</p> <p>↕ 6 / 11</p> <p>S Bonnyview Rd</p>	<p>7</p> <p>Alrose Ln</p> <p>↕ 6 / 11</p> <p>Churn Creek Rd</p>	<p>8</p> <p>Victor Ave</p> <p>↕ 6 / 11</p> <p>Churn Creek Rd</p>
<p>9</p> <p>6 / 11</p> <p>Rancho Rd</p> <p>↔</p> <p>Churn Creek Rd</p>	<p>10</p> <p>Churn Creek Rd</p> <p>↔</p> <p>Smith Rd</p>	<p>24</p> <p>45 / 76 Proposed Project South Access</p> <p>↔ 46 / 83</p> <p>Smith Rd</p>	
<p>73 / 124 6 / 10</p> <p>↔</p> <p>13 / 25</p>	<p>34 / 61</p> <p>↕</p> <p>6 / 10</p>	<p>34 / 61</p> <p>↕</p> <p>33 / 56 6 / 10 92 / 157</p>	<p>79 / 135 13 / 22</p> <p>↕</p> <p>6 / 10</p>



Redding Rancheria: Traffic Impact Study

<p>1</p> <p>94 / 120 S Market St (SR-273)</p> <p>↔ 64 / 68 ↔ 30 / 32</p> <p>Cedars Rd ↔ S Bonnyview Rd</p> <p>↔ 44 / 56</p>	<p>2</p> <p>E Bonnyview Rd</p> <p>↔ 94 / 100</p> <p>S Bonnyview Rd</p> <p>138 / 176 →</p>	<p>3</p> <p>25 / 32 Bechelli Ln</p> <p>↔ 17 / 18 ↔ 94 / 100</p> <p>S Bonnyview Rd</p> <p>138 / 176 ↓</p>	<p>4</p> <p>I-5 SB Ramps</p> <p>S Bonnyview Rd</p> <p>163 / 208 ↔</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>S Bonnyview Rd</p> <p>111 / 118 ↔</p>	<p>6</p> <p>Churn Creek Rd</p> <p>S Bonnyview Rd</p>	<p>7</p> <p>Alrose Ln</p> <p>Churn Creek Rd</p>	<p>8</p> <p>Victor Ave</p> <p>Churn Creek Rd</p>
<p>9</p> <p>25 / 32 Rancho Rd</p> <p>↔ 17 / 18</p> <p>Churn Creek Rd</p>	<p>10</p> <p>25 / 32 Churn Creek Rd</p> <p>↔ 17 / 18</p> <p>Smith Rd</p>	<p>24</p> <p>468 / 501 Proposed Project South Access</p> <p>↔ 670 / 862</p> <p>Smith Rd</p>	<p>25</p> <p>436 / 559 NEW I-5 SB Ramps</p> <p>↔ 235 / 303</p> <p>Smith Rd</p> <p>149 / 159 31⁺ / 342 ↔</p>
<p>26</p> <p>NEW I-5 NB Ramps</p> <p>↔ 25 / 32</p> <p>Smith Rd</p> <p>302 / 323 17 / 18 ↔</p> <p>↔ 209 / 271</p>			

LEGEND

- # Study Intersection
- # Future Intersection*
- # Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway (Options 2 & 3)
**Future Smith Road/I-5 Ramps

Volumes: Friday/Saturday Peak-Hour

REDDING

SHASTA COUNTY

Redding Rancheria: Traffic Impact Study

<p>1</p> <p>79 / 86 S Market St (SR-273)</p> <p>↔ 47 / 35 ↔ 22 / 16</p> <p>Cedars Rd ↔ S Bonnyview Rd</p> <p>↔ 37 / 40</p>	<p>2</p> <p>E Bonnyview Rd</p> <p>↔ 69 / 52</p> <p>S Bonnyview Rd</p> <p>116 / 126 →</p>	<p>3</p> <p>21 / 23 Bechelli Ln</p> <p>↔ 13 / 9 ↔ 69 / 52</p> <p>S Bonnyview Rd</p> <p>116 / 126 ↓</p>	<p>4</p> <p>I-5 SB Ramps</p> <p>S Bonnyview Rd</p> <p>137 / 149 ↔</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>S Bonnyview Rd</p> <p>82 / 61 ↔</p>	<p>6</p> <p>Churn Creek Rd</p> <p>S Bonnyview Rd</p>	<p>7</p> <p>Alrose Ln</p> <p>Churn Creek Rd</p>	<p>8</p> <p>Victor Ave</p> <p>Churn Creek Rd</p>
<p>9</p> <p>21 / 23 Rancho Rd</p> <p>↔ 13 / 9</p> <p>Churn Creek Rd</p>	<p>10</p> <p>21 / 23 Churn Creek Rd</p> <p>↔ 13 / 9</p> <p>Smith Rd</p>	<p>24</p> <p>344 / 256 Proposed Project South Access</p> <p>↔ 556 / 607</p> <p>Smith Rd</p>	<p>25</p> <p>362 / 395 NEW I-5 SB Ramps</p> <p>↔ 194 / 212</p> <p>Smith Rd</p> <p>109 / 81 23^c / 175</p>
<p>26</p> <p>NEW I-5 NB Ramps</p> <p>↔ 21 / 23</p> <p>Smith Rd</p> <p>222 / 166 13 / 9</p> <p>↔ 173 / 189</p>			



LEGEND

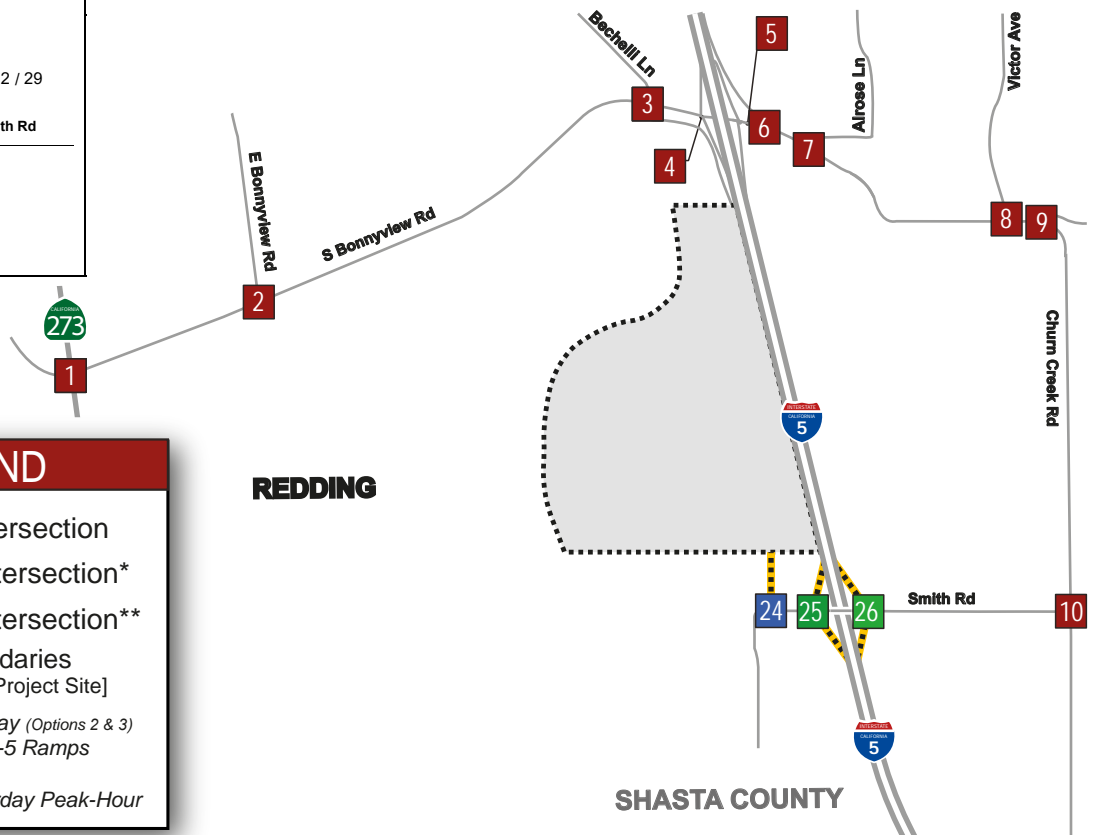
- # Study Intersection
- # Future Intersection*
- # Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway (Options 2 & 3)
**Future Smith Road/I-5 Ramps

Volumes: Friday/Saturday Peak-Hour

Redding Rancheria: Traffic Impact Study

<p>1</p> <p>84 / 108 S Market St (SR-273)</p> <p>↔ 54 / 61 ↔ 25 / 29</p> <p>Cedars Rd ↔ S Bonnyview Rd</p> <p>↔ 39 / 51</p>	<p>2</p> <p>E Bonnyview Rd</p> <p>↔ 79 / 90</p> <p>S Bonnyview Rd</p> <p>123 / 159 →</p>	<p>3</p> <p>22 / 29 Bechelli Ln</p> <p>↔ 14 / 16 ↔ 79 / 90</p> <p>S Bonnyview Rd</p> <p>123 / 159 ↓</p>	<p>4</p> <p>I-5 SB Ramps</p> <p>S Bonnyview Rd</p> <p>146 / 188 ↔</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>S Bonnyview Rd</p> <p>93 / 106 ↔</p>	<p>6</p> <p>Churn Creek Rd</p> <p>S Bonnyview Rd</p>	<p>7</p> <p>Alrose Ln</p> <p>Churn Creek Rd</p>	<p>8</p> <p>Victor Ave</p> <p>Churn Creek Rd</p>
<p>9</p> <p>22 / 29 Rancho Rd</p> <p>↔ 14 / 16</p> <p>Churn Creek Rd</p>	<p>10</p> <p>22 / 29 Churn Creek Rd</p> <p>↔ 14 / 16</p> <p>Smith Rd</p>	<p>24</p> <p>393 / 448 Proposed Project South Access</p> <p>↔ 595 / 775</p> <p>Smith Rd</p>	<p>25</p> <p>387 / 503 NEW I-5 SB Ramps</p> <p>↔ 208 / 272</p> <p>Smith Rd</p> <p>125 / 142 26° / 305</p>
<p>26</p> <p>NEW I-5 NB Ramps</p> <p>↔ 22 / 29</p> <p>Smith Rd</p> <p>254 / 289 14 / 16</p> <p>↔ 185 / 243</p>			



LEGEND

- # Study Intersection
- # Future Intersection*
- # Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway (Options 2 & 3)
**Future Smith Road/I-5 Ramps

Volumes: Friday/Saturday Peak-Hour

Redding Rancheria: Traffic Impact Study

<p>1</p> <p>23 / 42 S Market St (SR-273)</p> <p>↔ 22 / 38 ↔ 10 / 18</p> <p>Cedars Rd ↔ S Bonnyview Rd</p>	<p>2</p> <p>E Bonnyview Rd</p> <p>↔ 33 / 56</p> <p>S Bonnyview Rd</p>	<p>3</p> <p>6 / 11 Bechelli Ln</p> <p>↔ 6 / 10 ↔ 33 / 56</p> <p>S Bonnyview Rd</p>	<p>4</p> <p>I-5 SB Ramps</p> <p>S Bonnyview Rd</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>S Bonnyview Rd</p>	<p>6</p> <p>Churn Creek Rd</p> <p>S Bonnyview Rd</p>	<p>7</p> <p>Alrose Ln</p> <p>Churn Creek Rd</p>	<p>8</p> <p>Victor Ave</p> <p>Churn Creek Rd</p>
<p>9</p> <p>6 / 11 Rancho Rd</p> <p>↔ 6 / 10</p> <p>Churn Creek Rd</p>	<p>10</p> <p>6 / 11 Churn Creek Rd</p> <p>↔ 6 / 10 ↔</p> <p>Smith Rd</p>	<p>24</p> <p>176 / 300 Proposed Project South Access</p> <p>↔ 180 / 327</p> <p>Smith Rd</p>	<p>25</p> <p>114 / 208 NEW I-5 SB Ramps</p> <p>↔ 65 / 119</p> <p>Smith Rd</p>
<p>26</p> <p>NEW I-5 NB Ramps</p> <p>↔ 6 / 11</p> <p>Smith Rd</p>			

LEGEND

- # Study Intersection
- # Future Intersection*
- # Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway (Options 2 & 3)
**Future Smith Road/I-5 Ramps

Volumes: Friday/Saturday Peak-Hour

REDDING

SHASTA COUNTY

Existing Win River Casino Resort Operations

With the construction of the new casino at the Strawberry Fields Site, the existing Win River Resort and Casino is expected to close and be redeveloped into tribal services and housing uses. This change in use at the existing casino site is expected to result in approximately one-third of the trips that currently access the existing Win River Casino Resort remaining on the network. As a result, to accurately evaluate the conditions at the study intersections, roadway segments, and freeway facilities with the addition of the proposed project, the existing Win River Casino Resort's trips were first removed from the network and the trips anticipated to be generated by the redevelopment of the site (one-third of the existing trips per the logic explained above) were the added to the network.

The removal of the existing site's trips from the network required an evaluation of the existing trips' travel patterns. To accomplish this, an origin-destination study using Wi-fi technology in which individual unique devices are matched as multiple locations, was completed during both peak periods to establish patterns for the traffic originating from and destined for the existing site. The Wi-fi data was collected on Market Street (SR-273) north and south of Redding Rancheria Road and along Bonnyview Road to determine the travel patterns of the existing Win River Resort and Casino patrons and the tribal services. The existing casino traffic distribution is shown in **Figure 29**. The existing tribal services traffic distribution is shown in **Figure 30**. Origin-destination data is included in **Appendix E**.

The number of trips that currently access the Win River Resort and Casino was determined based on traffic volume counts taken at the existing casino driveways in July 2016. The number of trips anticipated to be generated by the redevelopment of the existing Win River Resort and Casino was derived using data included in Trip Generation Manual, 9th Edition, published by the Institute of Transportation Engineers (ITE). Trip generation estimates for the existing casino and the proposed redeveloped are summarized in **Table 20**.

The number of trips estimated to be currently accessing the existing casino were subtracted from the roadway network based on the existing casino traffic distribution and the number of trips estimated to be generated by the proposed redevelopment were then added back into the roadway network based on the existing tribal services traffic distribution. The resulting existing Win River Resort and Casino adjustments are shown in **Figure 31**.

Table 20 – Existing Win River Casino Resort Adjustments

Land Use	ITE Code	Quantity	Units	Daily	Weekday PM Peak Hour			Saturday Peak	
					In	Out	Total	In	Out
Existing Site					203	208	411	238	143
Proposed Land Use Changes									
Mid-Rise Apartment	223	180	Dwelling Units	1,198	41	29	70	28	28
General Office Building	710	45	KSF	498	11	56	67	10	9
Net New Vehicle Trips				1,696	52	85	137	38	37

Note: Saturday Peak Hour and Daily trips for Mid-Rise Apartment (ITE 223) estimated based on Apartment (220) Land Use

Redding Rancheria: Traffic Impact Study

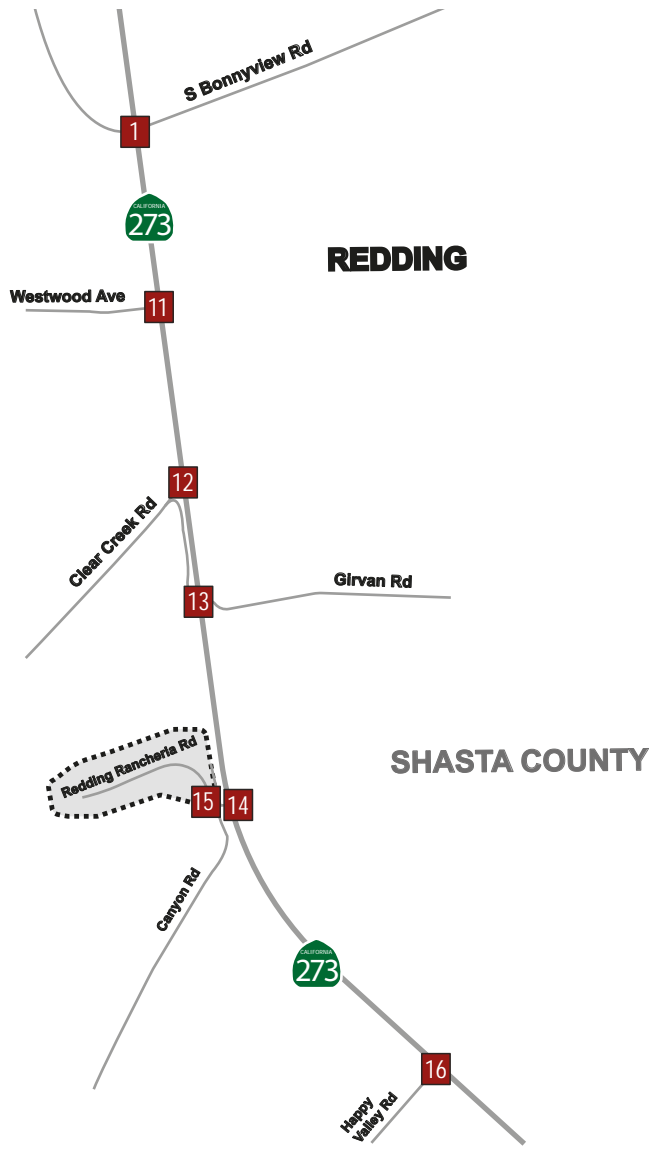


Redding Rancheria: Traffic Impact Study



Redding Rancheria: Traffic Impact Study

<p>1</p> <p>-28 / -38</p> <p>S Market St (SR-273)</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>-81 / -105</p> <p>-23 / -20</p> <p>-69 / -57</p>	<p>11</p> <p>-109 / -142</p> <p>S Market St (SR-273)</p> <p>Westwood Ave</p> <p>-91 / -76</p>	<p>12</p> <p>-109 / -142</p> <p>S Market St (SR-273)</p> <p>Clear Creek Rd</p> <p>-3 / -4</p> <p>-2 / -2</p> <p>-91 / -76</p>	<p>13</p> <p>-111 / -146</p> <p>S Market St (SR-273)</p> <p>Girvan Rd</p> <p>-93 / -78</p>
<p>14</p> <p>-111 / -146</p> <p>S Market St (SR-273)</p> <p>Redding Rancheria Rd</p> <p>-93 / -78</p> <p>-25 / -24</p> <p>-34 / -46</p>	<p>15</p> <p>-5 / -4</p> <p>-118 / -102</p> <p>Canyon Rd</p> <p>Redding Rancheria Rd</p> <p>-145 / -192</p> <p>-6 / -8</p>	<p>16</p> <p>-25 / -24</p> <p>S Market St (SR-273)</p> <p>Happy Valley Rd</p> <p>-34 / -46</p>	



LEGEND

- # Study Intersection
- Site Boundaries
[Win River Casino Site]

Volumes: Friday/Saturday Peak-Hour



Anderson Site

As part of the project, a development at an alternative site in the City of Anderson was evaluated.

- **Alternative E: Anderson Site Alternative (City of Anderson)** - Consists of a new casino and resort, including an approximately 69,515 square foot casino, 250-room hotel, an event/ convention center, and a retail center, as well as associated parking and infrastructure.

Site Access

The project site will be located in the northwest quadrant of the I-5 interchange and North Street in the City of Anderson. Site access for the Alternative Project Site is provided by Oak Street, located west of the I-5/North Street interchange in the City of Anderson.

Project Trip Generation

Trip generation rates are consistent with the proposed site trip generation alternatives (described above). Trip generation estimates for Project Alternative E are summarized in **Table 21**⁶.

To accurately evaluate the conditions at the study intersections, roadway segments, and freeway facilities, the existing Win River Casino Resort's trips were removed from the network and the trips anticipated to be generated by the redevelopment of the site were added on the network.

Table 21 – Project Trip Generation at Anderson Site (Alternative E)

Land Use	ITE Code	Quantity	Units	Weekday		Weekday PM Peak Hour		Saturday		Saturday Peak Hour	
				Daily	In	Out	Total	Daily	In	Out	Total
Casino	N/A	48,060	Gaming Floor Area	9277	302	302	605	8273	348	213	561
Conference Center	N/A	10,080	SF	965	111	11	122	965	111	11	122
Event Center	N/A	1,800	Seats	1063	123	12	135	1063	123	12	135
Hotel	310	250	Rooms	511	19	18	38	512	25	20	45
Sporting Goods Superstore	861	120,000	SF	2702	106	115	221	3525	235	226	461
Subtotal Vehicle Trips				14517	661	459	1120	14338	842	482	1324
<i>Diverted Link Trips(10%)- Applied only to Casino And Sporting Goods Store</i>				<i>(1198)</i>	<i>(41)</i>	<i>(42)</i>	<i>(83)</i>	<i>(1180)</i>	<i>(58)</i>	<i>(44)</i>	<i>(102)</i>
Net New Vehicle Trips				13319	621	417	1038	13158	784	438	1222

SF- Square Feet

Casino

Weekday PM Peak Hour

T=12.58 x (1000 SF Gaming Floor Area)

50% In

50% Out

Saturday Peak Hour

T=11.67 x (1000 SF Gaming Floor Area)

62% In

38% Out

Hotel

Weekday PM Peak Hour (ITE 310)

T=0.15 x (Rooms)

51% In

49% Out

Weekday Daily (ITE 310)

T=2.04 x (Rooms)

50% In

50% Out

Saturday Peak Hour (ITE 310)

T=0.18 x (Rooms)

56% In

44% Out

Saturday Daily (ITE 310)

T=2.05 x (Rooms)

50% In

50% Out

Sports Retail

Weekday PM Peak Hour (ITE 861)

T=1.84 x (1000 SF)

48% In

52% Out

Saturday Peak Hour (ITE 861)

T=3.84 x (1000 SF)

51% In

49% Out

(1) Source of Land Use Information: Redding Rancheria Casino Master Plan (February, 2016) and subsequent correspondence with Analytical Environmental Services.

(2) Casino trip generation rates based on local traffic data collected for existing Win River Casino. This rate is also consistent with the traffic data collected for the Win River Casino in 2007. (Omni-Means, 2007). The directional distributions were based on the existing conditions.

(3) The proposed casino facility includes other auxiliary/internal uses in addition to gaming area, such as restaurants, back of house, lounges, etc.

However, only the number of gaming position is used as the independent variable for the purposes of estimating trip generation. This is because the trip generation rates use gaming positions as the independent variable, and were developed based on empirical data from similar existing casino facilities, and include the trips associated with all of the casino uses (gaming areas, restaurants, lounges, back of house, etc.), excluding hotel facilities and convention space.

(4) The project site is located adjacent to Interstate, which carries over 45,000 vehicles per day. For the purposes of this analysis, the base daily and peak hour trip generation estimates are adjusted based on an average diverted link rate of 10 percent. This adjustment is likely conservative and is within the range identified by Caltrans' guidance for pass-by/diverted link trip reductions (Caltrans Guide for the Preparation of Traffic Impact Studies, 2002). Only diverted link trip reductions are used to account for all trips assumed to already be on the adjacent network, including pass-by trips. The diverted link trip reduction is applied only to the trips generated by the casino and the sporting good store.

(5) Trip generation for the proposed conference center was developed based on the estimated number of attendees. The maximum number of event attendees/seats was estimated to be 672 people, based on an average of 15 SF per attendee, which is consistent with industry best practices for conference/event space planning. For the purposes of this traffic analysis, the peak trip generation for the conference center assumes an event with 85 percent of the capacity filled, which corresponds to approximately 571 attendees.

Based on the 2016 study of Cache Creek Casino Resort, it is assumed that when conference/meeting activities are scheduled, 25 percent of the 250 on-site hotel rooms would be occupied by event attendees with an average occupancy of 1.3 attendees per room. Thus, 81 attendees would stay on-site, and not drive to/from an event. The remaining attendees (490) would drive to the site. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 223 vehicles trips would be generated. The majority of event trips are anticipated to occur outside of the PM peak traffic period (4:00 PM to 6:00 PM), as events typically have a start time between 7:00 PM and 8:00 PM. It was assumed that 50 percent of event attendees would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

(6) Trip generation rates for the proposed event center were based on a previous study of a similar facility at the Cache Creek Casino and Resort. This assumes that most of the patrons visiting the event are already onsite at the casino, and only 30 percent of the patrons represent new trips. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 245 new trips are generated by event facility. It was assumed that 50 percent of patrons would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.

(7) Trip generation rates for the Hotel (ITE 310) and Sporting Goods Superstore (ITE 861) are based on ITE Trip Generation Manual, 9th Edition. The trip generation rate for the Hotel (ITE 310) is reduced by 75 percent to account for internal capture to/from the casino. For the Sporting Goods Store (ITE 861), it was conservatively assumed that the peak hour of Generator occurs during the peak hour for the Casino Facility.

(8) Daily rates for Casino, Conference Center and Event Center are calculated from the peak hour to daily relationships from Kimley-Horn's 2016 Lone Casino and Cash Creek Casino studies; daily rates for Sporting Goods Superstore are calculated from the peak hour to daily relationships from the ITE use of Department Store (ITE 861)

Project Trip Distribution and Assignment

Most of the casino project trips are expected to travel to and from I-5 with origins and destinations in Redding to the north and Red Bluff and neighboring communities to the south. A significant portion of the trips are expected to come from Redding, given the city's population relative to neighboring cities. Therefore, based on the likely customer and employee base for the site and orientation of the regional roadway network, it was estimated that approximately 73 percent of the project traffic would come from the north – the vast majority of these trips using I-5 and SR-273. A smaller proportion of the trips coming from communities in eastern Anderson are expected to use North Street. Approximately 20 percent of the project traffic would come from the south of the site via I-5, with an additional 7 percent traveling to the site from within Anderson via North Street, South Road and Balls Ferry Road. The project traffic distribution for the alternative site is shown in **Figure 32**.

Project traffic assigned to the study intersections based on the assumed trip distribution and generation for the alternative site alternative is shown in **Figure 33**.



Redding Rancheria: Traffic Impact Study

<p>17</p> <p>137 / 172 S Market St (SR-273)</p> <p>92 / 96 13 / 13</p> <p>North St</p> <hr/> <p>19 / 24</p>	<p>18</p> <p>104 / 110 121 / 127 234 / 245</p> <p>Oak St</p> <p>337 / 429</p> <p>North St</p> <hr/> <p>155 / 196</p> <p>169 / 217</p>	<p>19</p> <p>318 / 405</p> <p>I-5 SB Ramps</p> <p>19 / 24</p> <p>North St</p> <hr/> <p>234 / 245</p>	<p>20</p> <p>I-5 NB Ramps</p> <p>19 / 24</p> <p>North St</p> <hr/> <p>221 / 232 13 / 13</p> <p>McMurray Dr</p>
<p>21</p> <p>113 / 118</p> <p>Oak St</p> <p>157 / 202</p> <p>Balls Ferry Rd</p>	<p>22</p> <p>Ventura St</p> <p>157 / 202</p> <p>Balls Ferry Rd</p> <hr/> <p>8 / 9 104 / 110</p> <p>I-5 SB Ramp</p>	<p>23</p> <p>McMurray Dr</p> <p>12 / 16</p> <p>Balls Ferry Rd</p> <hr/> <p>8 / 9</p> <p>I-5 NB Ramp</p> <p>145 / 186</p>	



LEGEND

- # Study Intersection
- Site Boundaries [Anderson Site]

Volumes: Friday/Saturday Peak-Hour

Win River Casino Site

As part of the project, the expansion of the existing Win River Casino Resort was evaluated.

- **Alternative F: Expansion of Existing Win River Casino Resort-** Consists of the remodeling of the existing event center into additional casino area, a new event center and a 7-story parking garage.

Site Access

Site access to the Win River Casino Site is provided by Redding Rancheria Road, located west of Market Street (SR-273).

Project Trip Generation

Trip generation rates are consistent with the proposed site trip generation alternatives (described above). Trip generation estimates for Project Alternative F are summarized in **Table 22**⁶.

Unlike the other alternatives, this alternative “credits” the proposed project with the trips associated with the existing casino’s operations and evaluates the “proposed project” as only the additional trips anticipated to be generated by the expansion.

Project Trip Distribution and Assignment

The trip distribution for the expansion of the existing Win River Casino Resort was estimated based on the location of the site and the surrounding land uses, as well as the existing traffic flow patterns. The Win River Casino Site is located in southwest Redding, just off SR-273. SR-273 and I-5 will likely carry the vast majority of the project trips. SR-273 is expected to carry an estimated 25 percent of the trips from neighborhoods in southwest Redding, as well as the City of Anderson. Additionally, an estimated 25 percent of the project trips are expected to travel south from downtown Redding and the surrounding developments. The remaining half of the project trips are also expected to use I-5, with a small proportion traveling along Churn Creek Road. The trips will travel then along South Bonnyview Road before reaching SR-273. The project traffic distribution for the existing casino site is shown in **Figure 34**.

Project traffic assigned to the study intersections based on the assumed trip distribution and generation for the existing site alternative is shown in **Figure 35**.

Table 22 – Project Trip Generation at Win River Casino Site (Alternative F)

Land Use	ITE Code	Quantity	Units	Weekday	Weekday PM Peak Hour			Saturday	Saturday Peak Hour		
				Daily	In	Out	Total	Daily	In	Out	Total
Proposed Expansion											
Casino	N/A	9,826	Gaming Floor Area	1897	62	62	124	1691	71	44	115
Subtotal Vehicle Trips				1897	62	62	124	1691	71	44	115
<i>Diverted Link Trips(0%)- Applied only to CasinoTrips</i>											
Net New Vehicle Trips				1897	62	62	124	1691	71	44	115

SF- Square Feet

<u>Casino</u>				
Weekday PM Peak Hour		T=12.58 x (1000 SF Gaming Floor Area)	50% In	50% Out
Saturday Peak Hour		T=11.67 x (1000 SF Gaming Floor Area)	62% In	38% Out
<u>Hotel</u>				
Weekday PM Peak Hour (ITE 310)		T=0.15 x (Rooms)	51% In	49% Out
Saturday Peak Hour (ITE 310)		T=0.18 x (Rooms)	56% In	44% Out

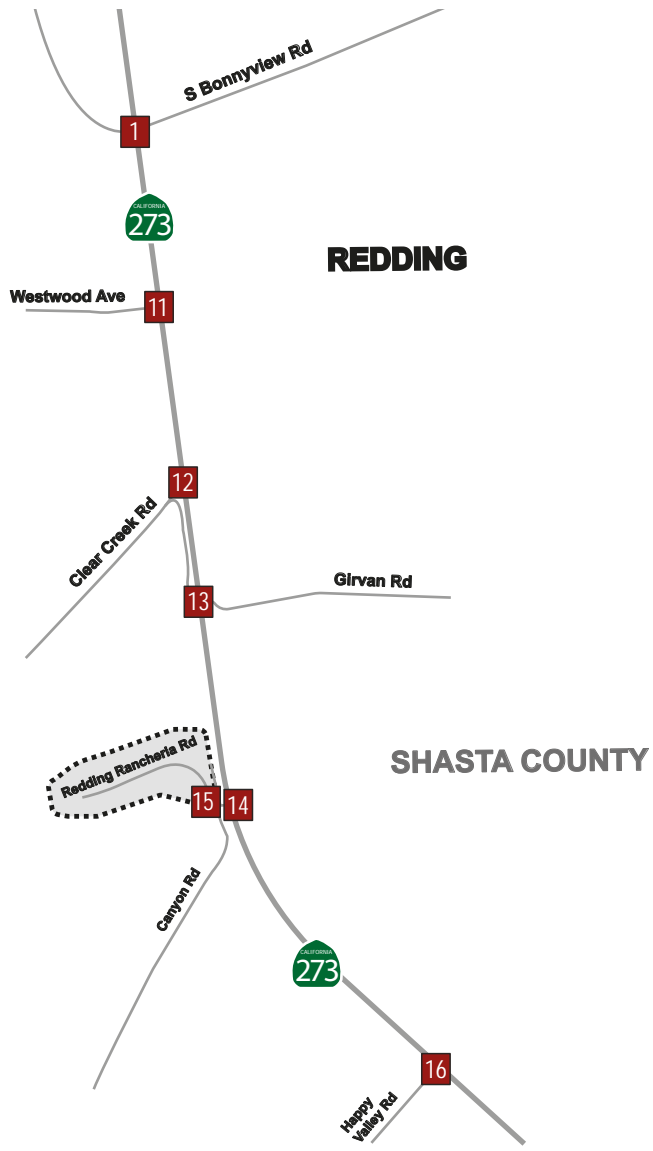
- (1) Source of Land Use Information: Redding Rancheria Casino Master Plan (February, 2016) and subsequent correspondence with Analytical Environmental Services.
- (2) Casino trip generation rates based on local traffic data collected for existing Win River Casino. This rate is also consistent with the traffic data collected for the Win River Casino in 2007. (Omni-Means, 2007). The directional distributions were based on the existing conditions.
- (3) The proposed casino facility includes other auxiliary/internal uses in addition to gaming area, such as restaurants, back of house, lounges, etc. However, only the number of gaming position is used as the independent variable for the purposes of estimating trip generation. This is because the trip generation rates use gaming positions as the independent variable, and were developed based on empirical data from similar existing casino facilities, and include the trips associated with all of the casino uses (gaming areas, restaurants, lounges, back of house, etc.), excluding hotel facilities and convention space.
- (4) Trip generation rates for the proposed event center were based on a previous study of a similar facility at the Cache Creek Casino and Resort. This assumes that most of the patrons visiting the event are already onsite at the casino, and only 30 percent of the patrons represent new trips. Assuming an average auto occupancy of 2.2 people per vehicle, approximately 245 new trips are generated by event facility. It was assumed that 50 percent of patrons would arrive during the peak hour. Conservatively, 10-percent of these trips were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits.
- (5) Daily rates for Casino, Conference Center and Event Center are calculated from the peak hour to daily relationships from Kimley-Horn's 2016 Lone Casino and Cash Creek Casino studies; daily rates for Sporting Goods Superstore are are calculated from the peak hour to daily relationships from the ITE use of Department Store (ITE 861)
- (6) Unlike the other alternatives, this alternative "credits" the proposed project with the trips associated with the existing casino's operations and evaluates the "proposed project" as only the additional trips anticipated to be generated by the expansion. It was assumed that the expansion will include the replacement of the existing event center with 9,826 square feet of additional Casino space, a new event center nearly equivalent in size to the existing event center, and a 7-story parking garage.

Redding Rancheria: Traffic Impact Study



Redding Rancheria: Traffic Impact Study

<p>1</p> <p>15 / 18</p> <p>S Market St (SR-273)</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>31 / 36</p> <p>15 / 11</p> <p>31 / 22</p>	<p>11</p> <p>46 / 53</p> <p>S Market St (SR-273)</p> <p>Westwood Ave</p> <p>46 / 33</p>	<p>12</p> <p>46 / 53</p> <p>S Market St (SR-273)</p> <p>Clear Creek Rd</p> <p>1 / 1</p> <p>1 / 1</p> <p>46 / 33</p>	<p>13</p> <p>48 / 55</p> <p>S Market St (SR-273)</p> <p>Girvan Rd</p> <p>48 / 34</p>
<p>14</p> <p>48 / 55</p> <p>S Market St (SR-273)</p> <p>Redding Rancheria Rd</p> <p>48 / 34</p> <p>12 / 9</p> <p>12 / 14</p>	<p>15</p> <p>2 / 1</p> <p>60 / 42</p> <p>Canyon Rd</p> <p>Redding Rancheria Rd</p> <p>60 / 69</p> <p>2 / 2</p>	<p>16</p> <p>12 / 9</p> <p>S Market St (SR-273)</p> <p>Happy Valley Rd</p> <p>12 / 14</p>	



LEGEND

- # Study Intersection
- Site Boundaries [Win River Casino Site]

Volumes: Friday/Saturday Peak-Hour



Opening Year (2025) Plus Project Traffic Volumes

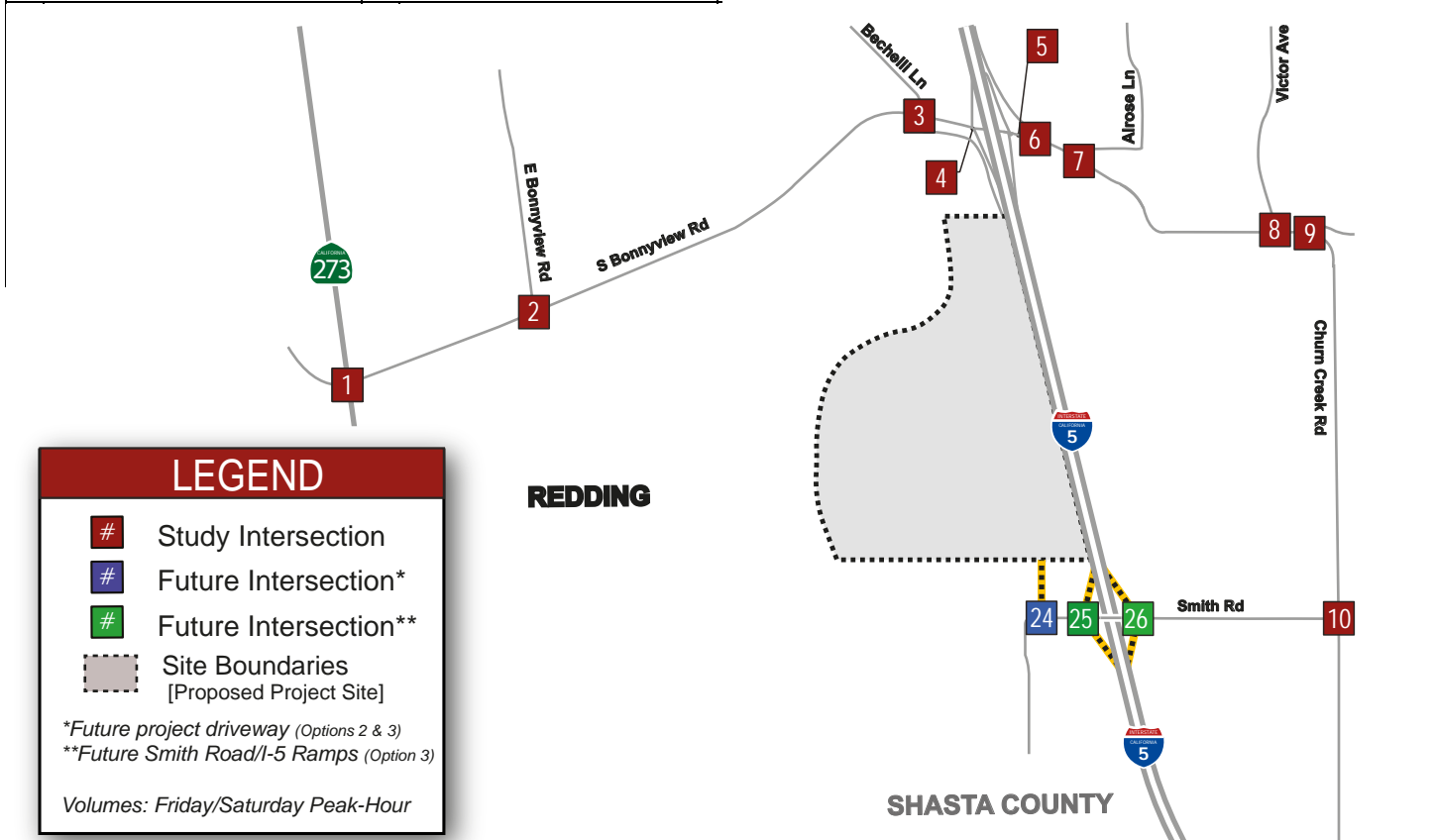
Opening Year (2025) traffic volumes were combined with vehicle trips expected to be generated by the proposed Project. **Figures 36-49** illustrate the Opening Year (2025) Plus Project turning movement volumes at the study intersections for all alternatives.

Cumulative (2040) Plus Project Traffic Volumes

Cumulative (2040) traffic volumes were combined with vehicle trips expected to be generated by the proposed project. **Figures 50-63** illustrate the Cumulative (2040) Plus Project turning movement volumes at the study intersections for all alternatives.

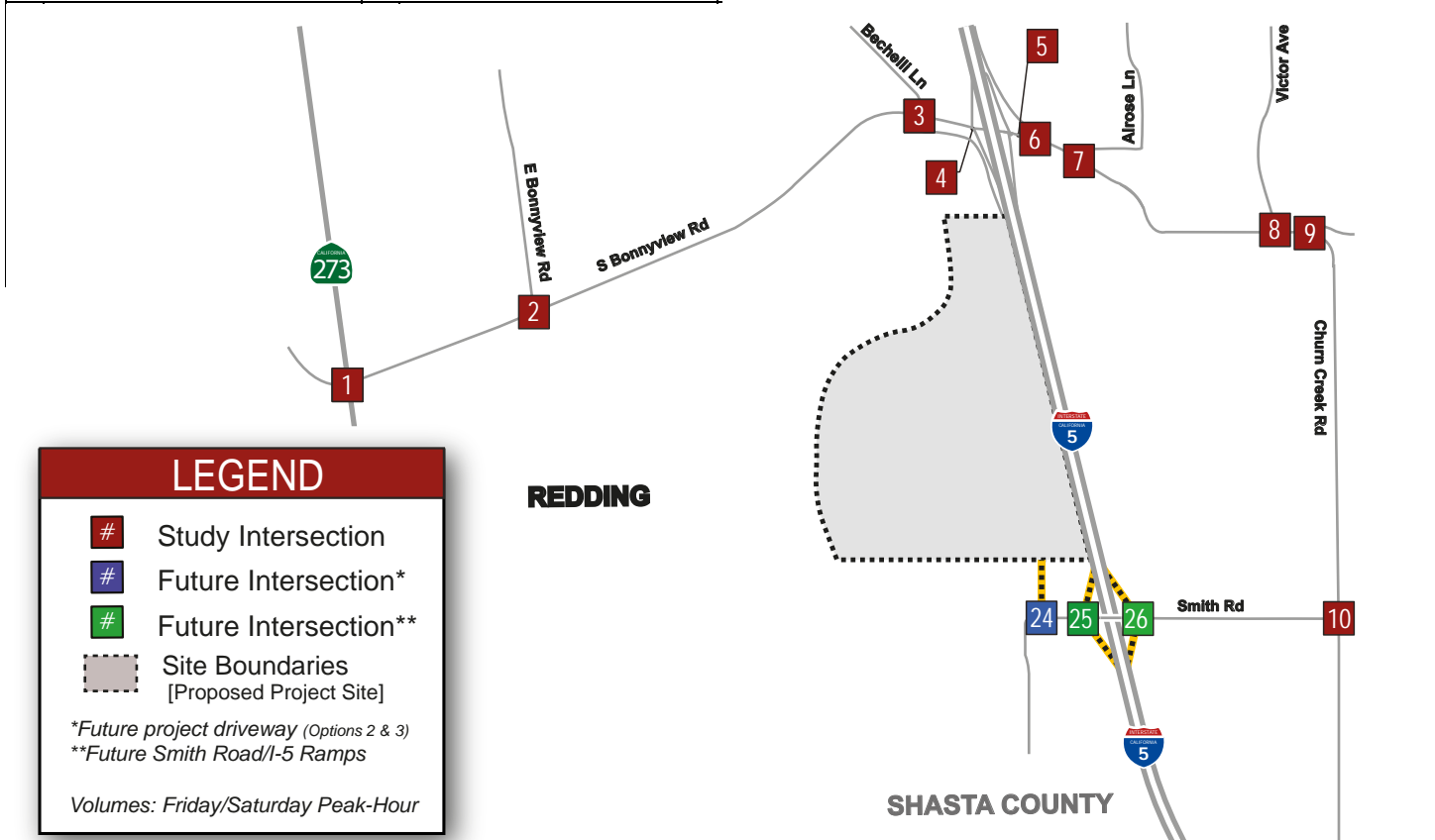
Redding Rancheria: Traffic Impact Study

<p>1</p> <p>9 / 5 677 / 368 432 / 358 S Market St (SR-273)</p> <p>288 / 212 80 / 57 472 / 300</p> <p>Cedars Rd</p> <p>10 / 0 83 / 46 68 / 54</p> <p>55 / 35 397 / 329 352 / 270</p>	<p>2</p> <p>39 / 25 5 / 0 341 / 121 E Bonnyview Rd</p> <p>216 / 118 1105 / 756 10 / 10</p> <p>S Bonnyview Rd</p> <p>45 / 19 1049 / 785 5 / 5</p> <p>10 / 10 15 / 15 10 / 10</p>	<p>3</p> <p>265 / 112 45 / 44 756 / 271 Bechelli Ln</p> <p>306 / 174 972 / 691 543 / 669</p> <p>S Bonnyview Rd</p> <p>208 / 113 983 / 603 163 / 201</p> <p>119 / 122 32 / 23 388 / 396</p>	<p>4</p> <p>855 / 732 1 / 1 280 / 173 I-5 SB Ramps</p> <p>1097 / 895 300 / 178</p> <p>S Bonnyview Rd</p> <p>1418 / 947 715 / 440</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>285 / 222 844 / 588</p> <p>S Bonnyview Rd</p> <p>815 / 592 889 / 531</p> <p>552 / 470 5 / 3 250 / 185</p>	<p>6</p> <p>483 / 303 15 / 0 145 / 129 Churn Creek Rd</p> <p>130 / 80 521 / 323 35 / 35</p> <p>S Bonnyview Rd</p> <p>418 / 333 646 / 349 80 / 104</p> <p>125 / 175 10 / 5 25 / 50</p>	<p>7</p> <p>95 / 74 25 / 10 Alrose Ln</p> <p>30 / 30 581 / 414 5 / 0</p> <p>Churn Creek Rd</p> <p>105 / 77 706 / 406 12 / 0</p> <p>10 / 0 5 / 5 5 / 0</p>	<p>8</p> <p>157 / 163 75 / 52 Victor Ave</p> <p>73 / 32 399 / 305</p> <p>Churn Creek Rd</p> <p>198 / 124 443 / 235</p>
<p>9</p> <p>311 / 223 40 / 22 Rancho Rd</p> <p>45 / 27 128 / 86</p> <p>Churn Creek Rd</p> <p>375 / 219 163 / 82</p>	<p>10</p> <p>31 / 20 140 / 84 Churn Creek Rd</p> <p>Smith Rd</p> <p>16 / 12 3 / 7</p> <p>8 / 3 115 / 68</p>		



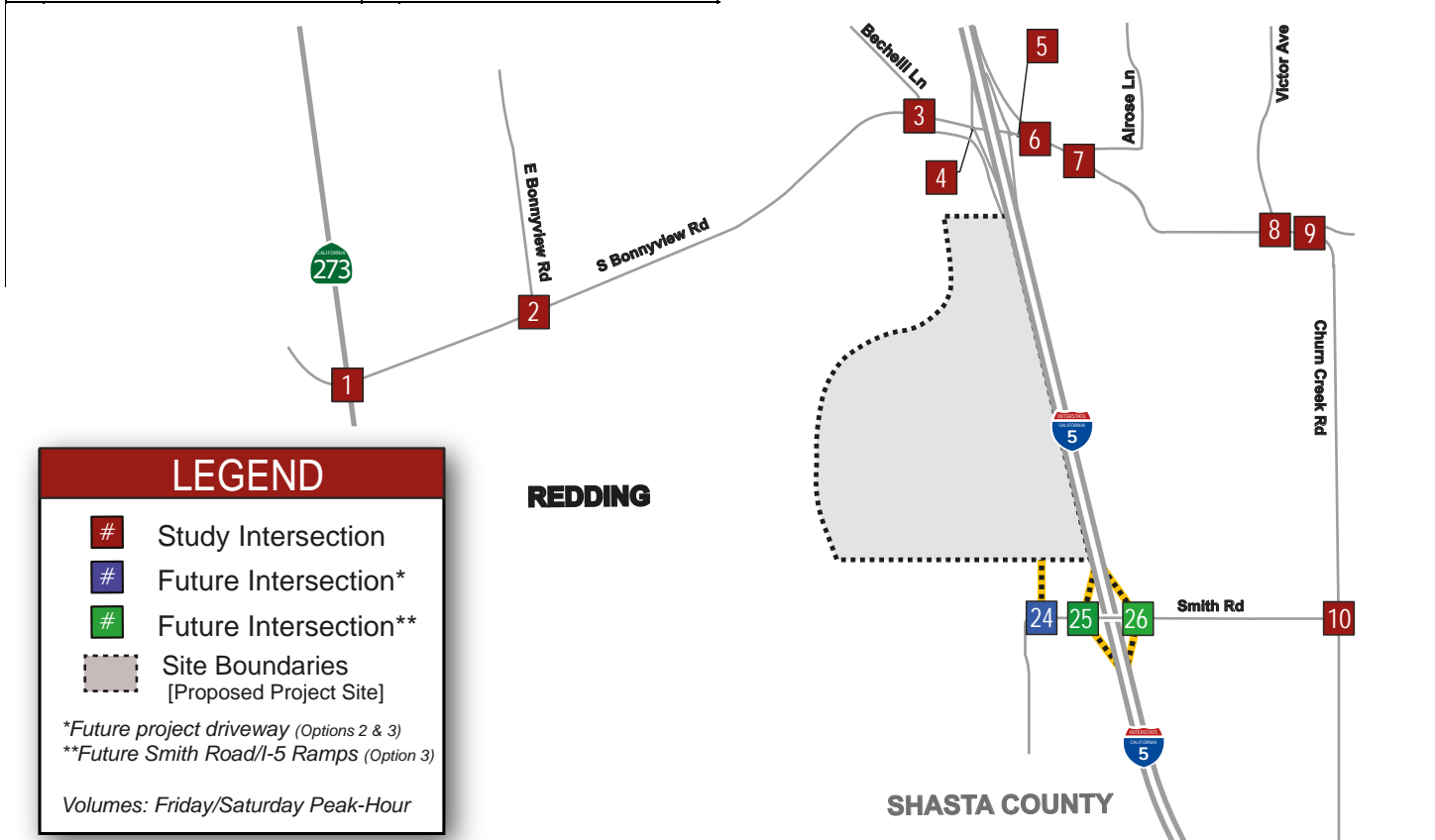
Redding Rancheria: Traffic Impact Study

<p>1</p> <p>9 / 5 677 / 368 417 / 324 S Market St (SR-273)</p> <p>271 / 179 80 / 57 464 / 284</p> <p>Cedars Rd</p> <p>10 / 0 83 / 46 68 / 54</p> <p>55 / 35 397 / 329 345 / 254</p>	<p>2</p> <p>39 / 25 5 / 0 341 / 121 E Bonnyview Rd</p> <p>216 / 118 1080 / 708 10 / 10</p> <p>S Bonnyview Rd</p> <p>45 / 19 1027 / 735 5 / 5</p> <p>10 / 10 15 / 15 10 / 10</p>	<p>3</p> <p>265 / 112 41 / 35 756 / 271 Bechelli Ln</p> <p>306 / 174 972 / 691 455 / 474</p> <p>S Bonnyview Rd</p> <p>208 / 113 983 / 603 141 / 151</p> <p>94 / 74 28 / 14 292 / 208</p>	<p>4</p> <p>808 / 627 1 / 1 280 / 173 I-5 SB Ramps</p> <p>1056 / 804 300 / 178</p> <p>S Bonnyview Rd</p> <p>1362 / 838 675 / 362</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>285 / 222 840 / 579</p> <p>S Bonnyview Rd</p> <p>764 / 492 885 / 522</p> <p>516 / 388 5 / 3 250 / 185</p>	<p>6</p> <p>483 / 303 15 / 0 145 / 129 Churn Creek Rd</p> <p>130 / 80 517 / 314 35 / 35</p> <p>S Bonnyview Rd</p> <p>418 / 333 642 / 340 80 / 104</p> <p>125 / 175 10 / 5 25 / 50</p>	<p>7</p> <p>95 / 74 25 / 10 Alrose Ln</p> <p>30 / 30 577 / 405 5 / 0</p> <p>Churn Creek Rd</p> <p>105 / 77 702 / 397 12 / 0</p> <p>10 / 0 5 / 5 5 / 0</p>	<p>8</p> <p>157 / 163 75 / 52 Victor Ave</p> <p>73 / 32 395 / 296</p> <p>Churn Creek Rd</p> <p>198 / 124 439 / 226</p>
<p>9</p> <p>307 / 214 40 / 22 Rancho Rd</p> <p>45 / 27 128 / 86</p> <p>Churn Creek Rd</p> <p>371 / 210 163 / 82</p>	<p>10</p> <p>31 / 20 140 / 84 Churn Creek Rd</p> <p>Smith Rd</p> <p>16 / 12 3 / 7</p> <p>8 / 3 115 / 68</p>		



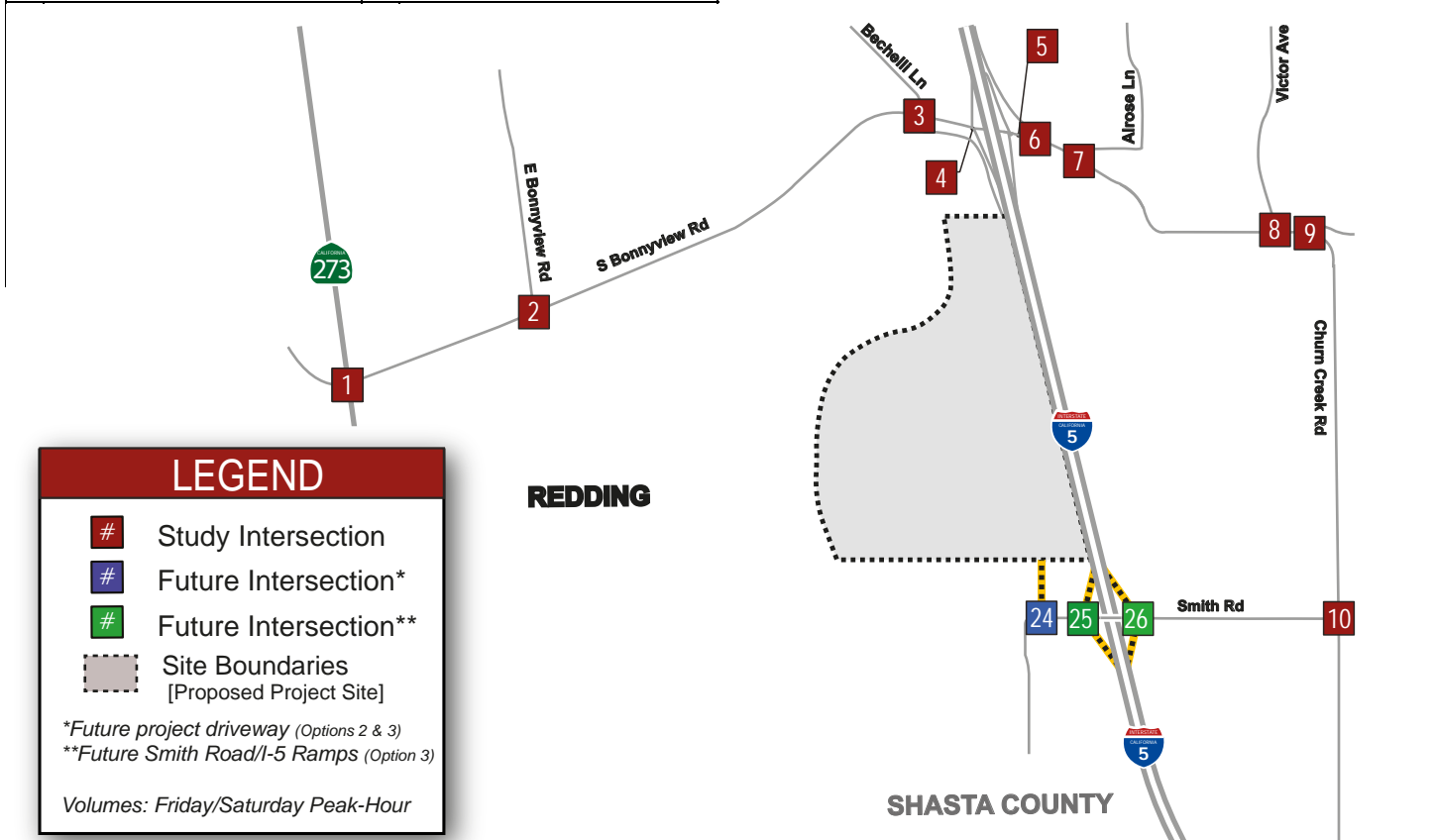
Redding Rancheria: Traffic Impact Study

<p>1</p> <p>9 / 5 677 / 368 422 / 346 S Market St (SR-273)</p> <p>278 / 205 80 / 57 467 / 297</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>10 / 0 83 / 46 68 / 54</p> <p>55 / 35 397 / 329 347 / 265</p>	<p>2</p> <p>39 / 25 5 / 0 341 / 121 E Bonnyview Rd</p> <p>216 / 118 1090 / 746 10 / 10</p> <p>S Bonnyview Rd</p> <p>45 / 19 1034 / 768 5 / 5</p> <p>10 / 10 15 / 15 10 / 10</p>	<p>3</p> <p>265 / 112 42 / 41 756 / 271 Bechelli Ln</p> <p>306 / 174 972 / 691 485 / 603</p> <p>S Bonnyview Rd</p> <p>208 / 113 983 / 603 148 / 184</p> <p>104 / 112 29 / 21 330 / 355</p>	<p>4</p> <p>824 / 696 1 / 1 280 / 173 I-5 SB Ramps</p> <p>1070 / 864 300 / 178</p> <p>S Bonnyview Rd</p> <p>1384 / 923 691 / 423</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>285 / 222 841 / 585</p> <p>S Bonnyview Rd</p> <p>784 / 570 886 / 529</p> <p>528 / 442 5 / 3 250 / 185</p>	<p>6</p> <p>483 / 303 15 / 0 145 / 129 Churn Creek Rd</p> <p>130 / 80 518 / 320 35 / 35</p> <p>S Bonnyview Rd</p> <p>418 / 333 643 / 347 80 / 104</p> <p>125 / 175 10 / 5 25 / 50</p>	<p>7</p> <p>95 / 74 25 / 10 Alrose Ln</p> <p>30 / 30 578 / 411 5 / 0</p> <p>Churn Creek Rd</p> <p>105 / 77 703 / 404 12 / 0</p> <p>10 / 0 5 / 5 5 / 0</p>	<p>8</p> <p>157 / 163 75 / 52 Victor Ave</p> <p>73 / 32 396 / 302</p> <p>Churn Creek Rd</p> <p>198 / 124 440 / 233</p>
<p>9</p> <p>308 / 220 40 / 22 Rancho Rd</p> <p>45 / 27 128 / 86</p> <p>Churn Creek Rd</p> <p>372 / 217 163 / 82</p>	<p>10</p> <p>31 / 20 140 / 84 Churn Creek Rd</p> <p>Smith Rd</p> <p>16 / 12 3 / 7</p> <p>8 / 3 115 / 68</p>		



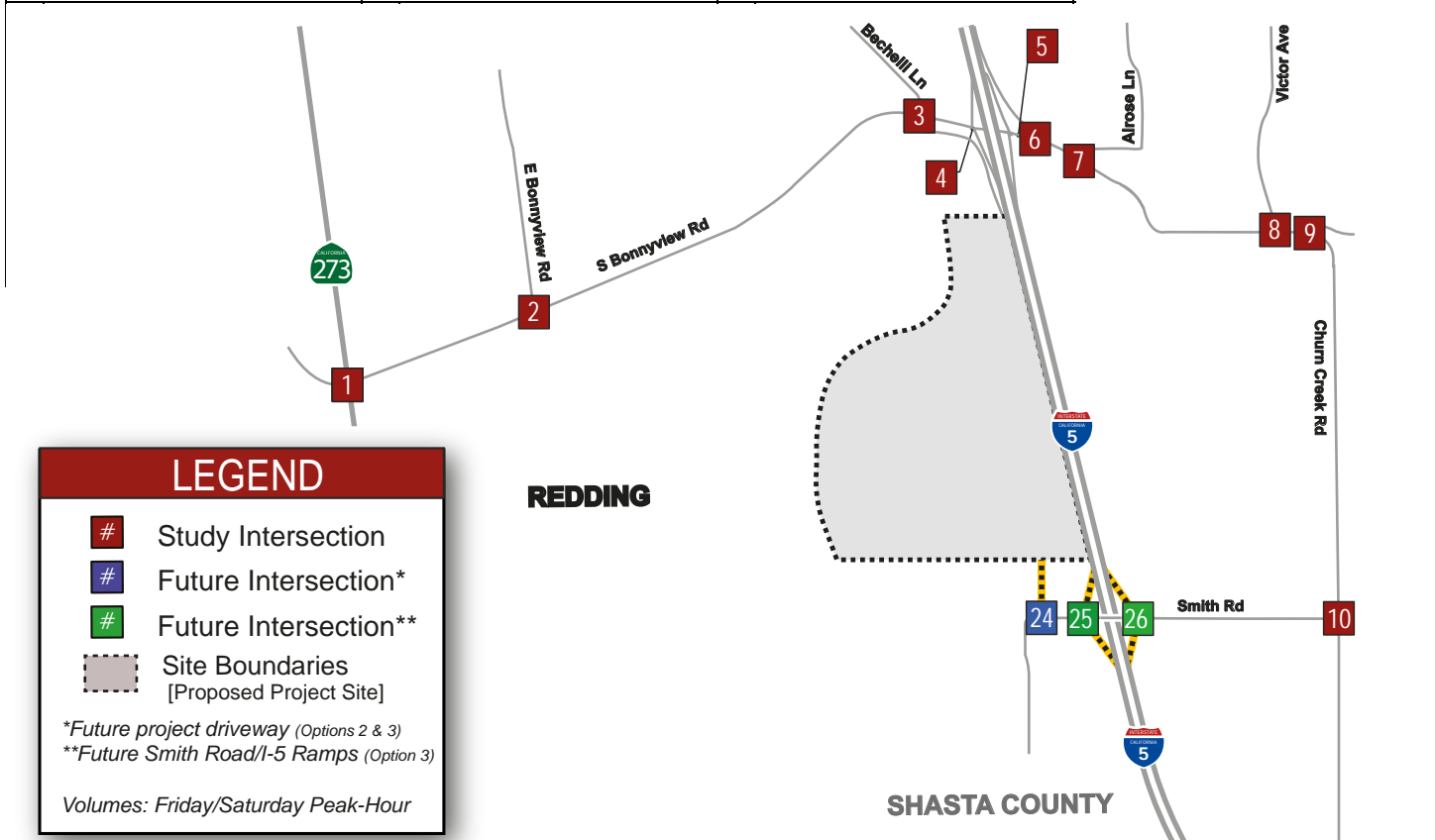
Redding Rancheria: Traffic Impact Study

<p>1</p> <p>9 / 5 ↔ 677 / 368 ↔ 361 / 280 ↔ S Market St (SR-273)</p> <p>Cedars Rd</p> <p>↔ 246 / 182 ↔ 80 / 57 ↔ 452 / 286</p> <p>10 / 0 ↔ 83 / 46 ↔ 68 / 54</p> <p>↔ 55 / 35 ↔ 397 / 329 ↔ 319 / 233</p>	<p>2</p> <p>↔ 39 / 25 ↔ 5 / 0 ↔ 341 / 121</p> <p>E Bonnyview Rd</p> <p>↔ 216 / 118 ↔ 1044 / 712 ↔ 10 / 10</p> <p>S Bonnyview Rd</p> <p>↔ 45 / 19 ↔ 945 / 670 ↔ 5 / 5</p> <p>↔ 10 / 10 ↔ 15 / 15 ↔ 10 / 10</p>	<p>3</p> <p>↔ 265 / 112 ↔ 26 / 23 ↔ 756 / 271</p> <p>Bechelli Ln</p> <p>↔ 306 / 174 ↔ 972 / 691 ↔ 176 / 271</p> <p>S Bonnyview Rd</p> <p>↔ 208 / 113 ↔ 983 / 603 ↔ 59 / 86</p> <p>↔ 58 / 78 ↔ 21 / 15 ↔ 167 / 247</p>	<p>4</p> <p>↔ 658 / 517 ↔ 1 / 1 ↔ 280 / 173</p> <p>I-5 SB Ramps</p> <p>↔ 927 / 711 ↔ 300 / 178</p> <p>S Bonnyview Rd</p> <p>1288 / 859 ↔ 624 / 380</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>↔ 285 / 222 ↔ 825 / 567</p> <p>S Bonnyview Rd</p> <p>↔ 696 / 511 ↔ 878 / 523</p> <p>↔ 402 / 307 ↔ 5 / 3 ↔ 250 / 185</p>	<p>6</p> <p>↔ 483 / 303 ↔ 15 / 0 ↔ 145 / 129</p> <p>Churn Creek Rd</p> <p>↔ 130 / 80 ↔ 502 / 302 ↔ 35 / 35</p> <p>S Bonnyview Rd</p> <p>↔ 418 / 333 ↔ 635 / 341 ↔ 80 / 104</p> <p>↔ 125 / 175 ↔ 10 / 5 ↔ 25 / 50</p>	<p>7</p> <p>↔ 95 / 74 ↔ 25 / 10</p> <p>Alrose Ln</p> <p>↔ 30 / 30 ↔ 562 / 393 ↔ 5 / 0</p> <p>Churn Creek Rd</p> <p>↔ 105 / 77 ↔ 695 / 398 ↔ 12 / 0</p> <p>↔ 10 / 0 ↔ 5 / 5 ↔ 5 / 0</p>	<p>8</p> <p>↔ 157 / 163 ↔ 75 / 52</p> <p>Victor Ave</p> <p>↔ 73 / 32 ↔ 380 / 284</p> <p>Churn Creek Rd</p> <p>↔ 198 / 124 ↔ 432 / 227</p>
<p>9</p> <p>↔ 292 / 202 ↔ 40 / 22</p> <p>Rancho Rd</p> <p>↔ 45 / 27 ↔ 128 / 86</p> <p>Churn Creek Rd</p> <p>↔ 364 / 211 ↔ 163 / 82</p>	<p>10</p> <p>↔ 31 / 20 ↔ 140 / 84</p> <p>Churn Creek Rd</p> <p>↔ 16 / 12 ↔ 3 / 7</p> <p>↔ 8 / 3 ↔ 115 / 68</p>		



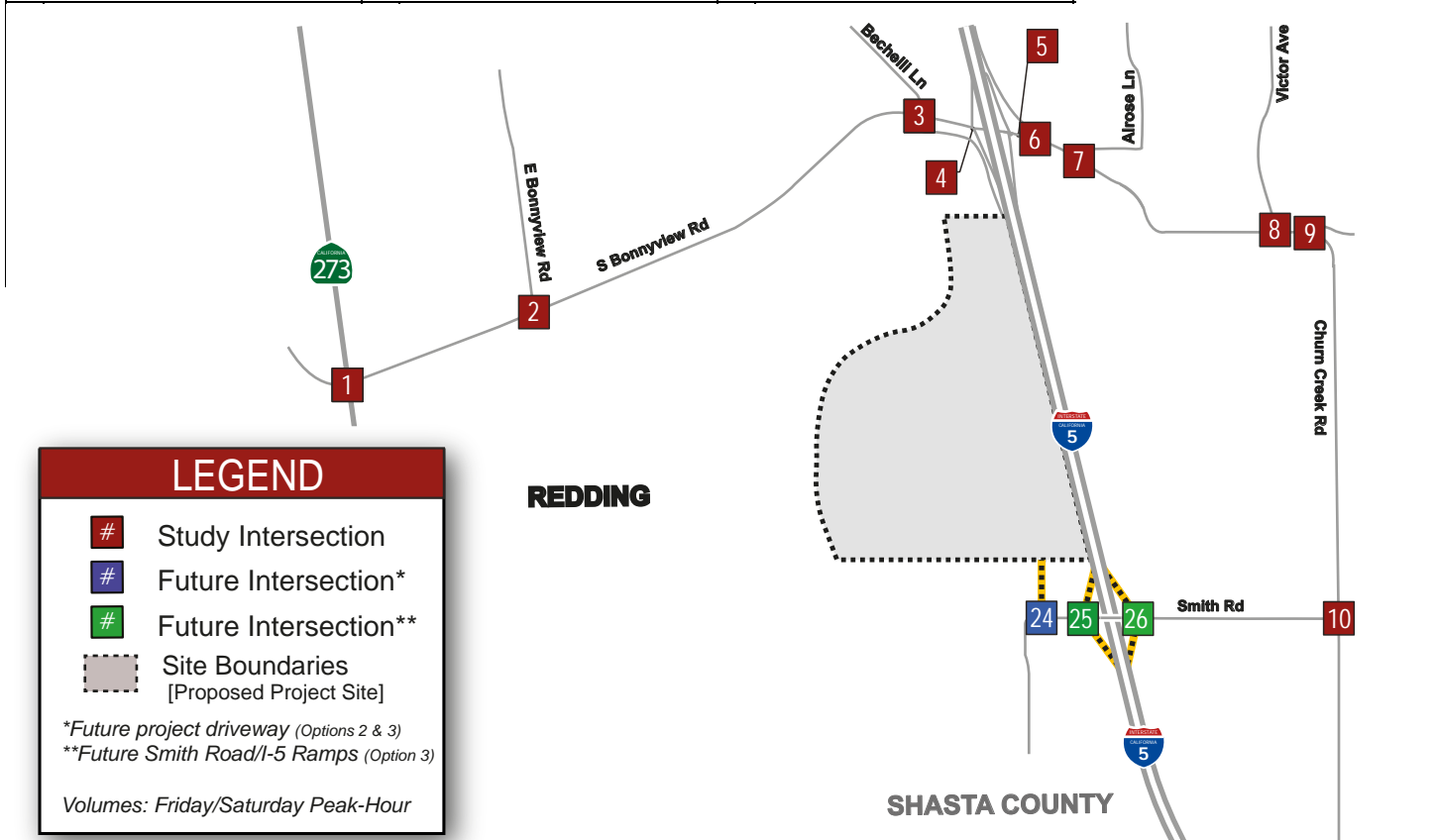
Redding Rancheria: Traffic Impact Study

<p>1</p> <p>9 / 5 ↔ 677 / 368 ↔ 432 / 358 ↔ S Market St (SR-273)</p> <p>↔ 288 / 212 ↔ 80 / 57 ↔ 472 / 300</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>10 / 0 83 / 46 68 / 54</p> <p>↔ 55 / 35 ↔ 397 / 329 ↔ 352 / 270</p>	<p>2</p> <p>↔ 39 / 25 ↔ 5 / 0 ↔ 341 / 121</p> <p>E Bonnyview Rd</p> <p>↔ 216 / 118 ↔ 1105 / 756 ↔ 10 / 10</p> <p>S Bonnyview Rd</p> <p>45 / 19 1049 / 785 5 / 5</p> <p>↔ 10 / 10 ↔ 15 / 15 ↔ 10 / 10</p>	<p>3</p> <p>↔ 265 / 112 ↔ 45 / 44 ↔ 756 / 271</p> <p>Bechelli Ln</p> <p>↔ 306 / 174 ↔ 972 / 691 ↔ 354 / 429</p> <p>S Bonnyview Rd</p> <p>208 / 113 983 / 603 163 / 201</p> <p>↔ 119 / 122 ↔ 32 / 23 ↔ 260 / 259</p>	<p>4</p> <p>↔ 855 / 732 ↔ 1 / 1 ↔ 280 / 173</p> <p>I-5 SB Ramps</p> <p>↔ 908 / 654 ↔ 300 / 178</p> <p>S Bonnyview Rd</p> <p>1418 / 947 587 / 304</p> <p>↔ 1418 / 947 ↔ 587 / 304</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>↔ 285 / 222 ↔ 844 / 588</p> <p>S Bonnyview Rd</p> <p>815 / 592 889 / 531</p> <p>↔ 364 / 229 ↔ 5 / 3 ↔ 250 / 185</p>	<p>6</p> <p>↔ 483 / 303 ↔ 15 / 0 ↔ 145 / 129</p> <p>Churn Creek Rd</p> <p>↔ 130 / 80 ↔ 521 / 323 ↔ 35 / 35</p> <p>S Bonnyview Rd</p> <p>418 / 333 646 / 349 80 / 104</p> <p>↔ 125 / 175 ↔ 10 / 5 ↔ 25 / 50</p>	<p>7</p> <p>↔ 95 / 74 ↔ 25 / 10</p> <p>Alrose Ln</p> <p>↔ 30 / 30 ↔ 581 / 414 ↔ 5 / 0</p> <p>Churn Creek Rd</p> <p>105 / 77 706 / 406 12 / 0</p> <p>↔ 10 / 0 ↔ 5 / 5 ↔ 5 / 0</p>	<p>8</p> <p>↔ 157 / 163 ↔ 75 / 52</p> <p>Victor Ave</p> <p>↔ 73 / 32 ↔ 399 / 305</p> <p>Churn Creek Rd</p> <p>198 / 124 443 / 235</p> <p>↔ 198 / 124 ↔ 443 / 235</p>
<p>9</p> <p>↔ 311 / 223 ↔ 40 / 22</p> <p>Rancho Rd</p> <p>↔ 45 / 27 ↔ 128 / 86</p> <p>Churn Creek Rd</p> <p>375 / 219 163 / 82</p> <p>↔ 375 / 219 ↔ 163 / 82</p>	<p>10</p> <p>↔ 31 / 20 ↔ 140 / 84</p> <p>Churn Creek Rd</p> <p>Smith Rd</p> <p>16 / 12 131 / 144</p> <p>↔ 197 / 243 ↔ 115 / 68</p>	<p>11</p> <p>↔ 421 / 257 ↔ 622 / 336</p> <p>S Market St (SR-273)</p> <p>Westwood Ave</p> <p>278 / 207 236 / 177</p> <p>↔ 152 / 130 ↔ 455 / 283</p>	



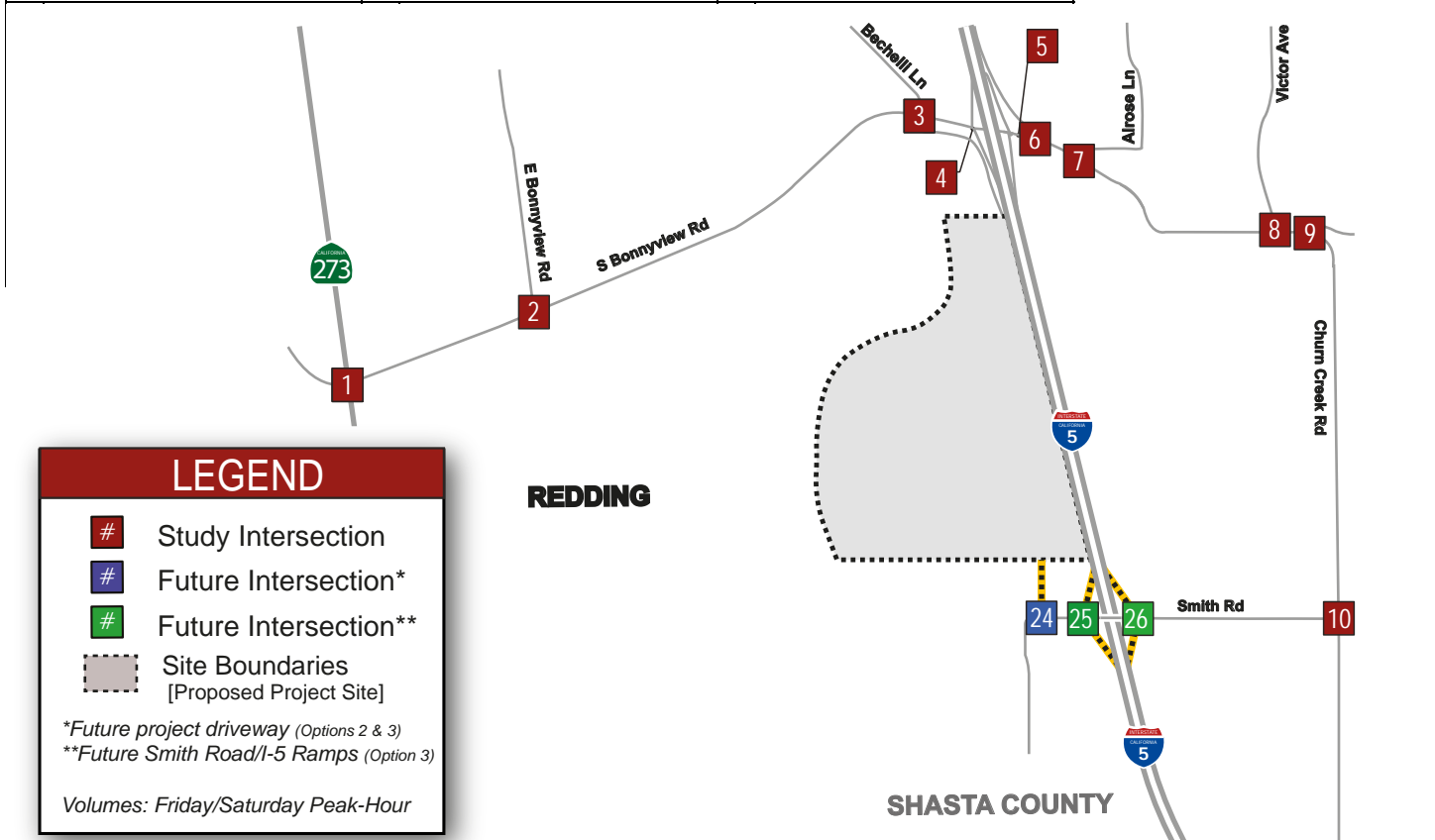
Redding Rancheria: Traffic Impact Study

<p>1</p> <p>9 / 5 677 / 368 417 / 324 S Market St (SR-273)</p> <p>271 / 179 80 / 57 464 / 284</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>10 / 0 83 / 46 68 / 54</p> <p>55 / 35 397 / 329 345 / 254</p>	<p>2</p> <p>39 / 25 5 / 0 341 / 121 E Bonnyview Rd</p> <p>216 / 118 1080 / 708 10 / 10</p> <p>S Bonnyview Rd</p> <p>45 / 19 1027 / 735 5 / 5</p> <p>10 / 10 15 / 15 10 / 10</p>	<p>3</p> <p>265 / 112 41 / 35 756 / 271 Bechelli Ln</p> <p>306 / 174 972 / 691 297 / 303</p> <p>S Bonnyview Rd</p> <p>208 / 113 983 / 603 141 / 151</p> <p>94 / 74 28 / 14 198 / 138</p>	<p>4</p> <p>808 / 627 1 / 1 280 / 173 I-5 SB Ramps</p> <p>898 / 632 300 / 178</p> <p>S Bonnyview Rd</p> <p>1362 / 838 581 / 292</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>285 / 222 840 / 579</p> <p>S Bonnyview Rd</p> <p>764 / 492 885 / 522</p> <p>358 / 216 5 / 3 250 / 185</p>	<p>6</p> <p>483 / 303 15 / 0 145 / 129 Churn Creek Rd</p> <p>130 / 80 517 / 314 35 / 35</p> <p>S Bonnyview Rd</p> <p>418 / 333 642 / 340 80 / 104</p> <p>125 / 175 10 / 5 25 / 50</p>	<p>7</p> <p>95 / 74 25 / 10 Alrose Ln</p> <p>30 / 30 577 / 405 5 / 0</p> <p>Churn Creek Rd</p> <p>105 / 77 702 / 397 12 / 0</p> <p>10 / 0 5 / 5 5 / 0</p>	<p>8</p> <p>157 / 163 75 / 52 Victor Ave</p> <p>73 / 32 395 / 296</p> <p>Churn Creek Rd</p> <p>198 / 124 439 / 226</p>
<p>9</p> <p>307 / 214 40 / 22 Rancho Rd</p> <p>45 / 27 128 / 86</p> <p>Churn Creek Rd</p> <p>371 / 210 163 / 82</p>	<p>10</p> <p>31 / 20 140 / 84 Churn Creek Rd</p> <p>Smith Rd</p> <p>16 / 12 97 / 78</p> <p>166 / 175 115 / 68</p>	<p>24</p> <p>94 / 71 Proposed Project South Access</p> <p>158 / 172</p> <p>Smith Rd</p>	



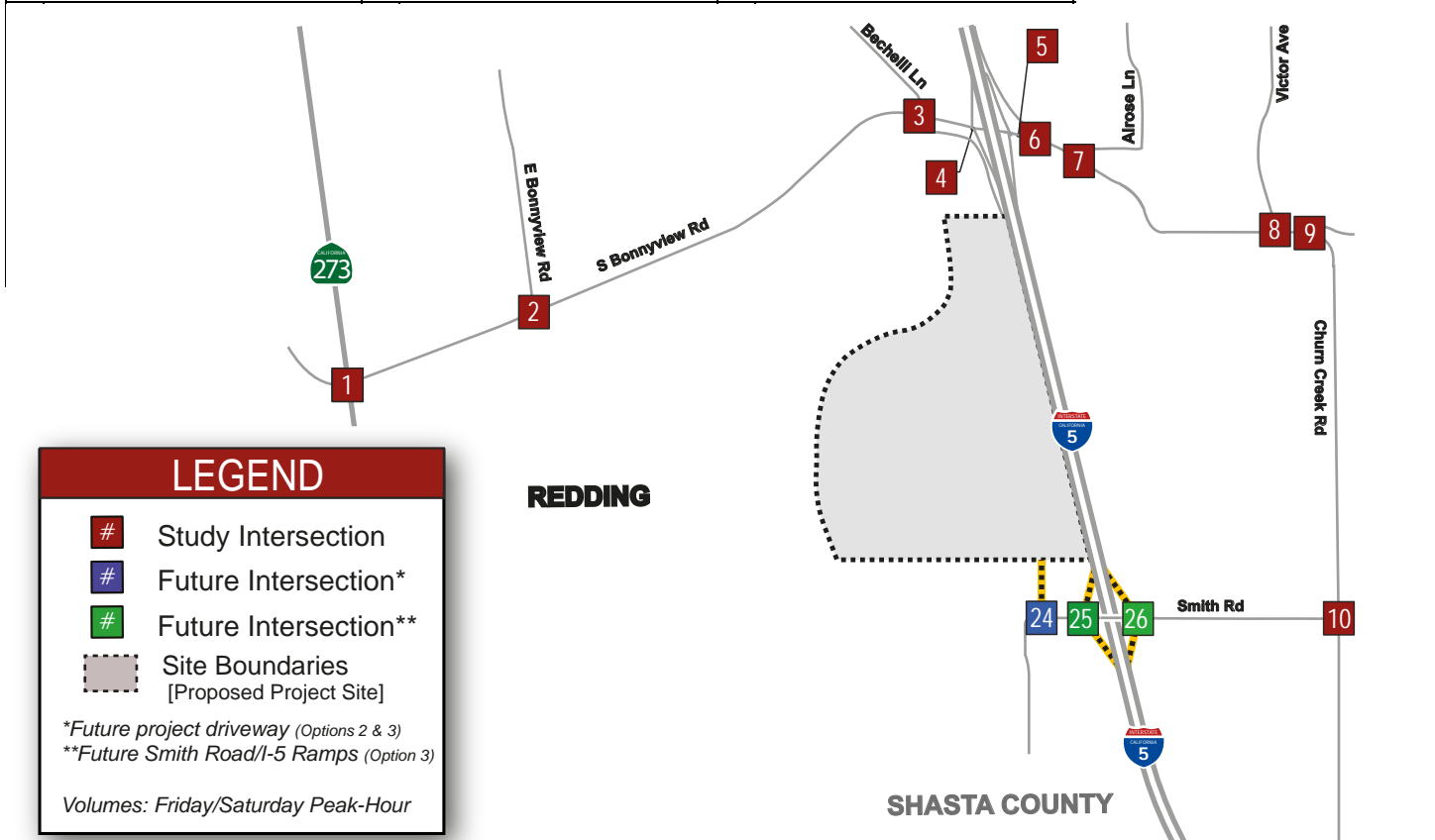
Redding Rancheria: Traffic Impact Study

<p>1</p> <p>9 / 5 677 / 368 422 / 346 S Market St (SR-273)</p> <p>Cedars Rd</p> <p>278 / 205 80 / 57 467 / 297</p> <p>10 / 0 83 / 46 68 / 54</p> <p>55 / 35 397 / 329 347 / 265</p>	<p>2</p> <p>39 / 25 5 / 0 341 / 121 E Bonnyview Rd</p> <p>216 / 118 1090 / 746 10 / 10</p> <p>S Bonnyview Rd</p> <p>45 / 19 1034 / 768 5 / 5</p> <p>10 / 10 15 / 15 10 / 10</p>	<p>3</p> <p>265 / 112 42 / 41 756 / 271 Bechelli Ln</p> <p>306 / 174 972 / 691 317 / 386</p> <p>S Bonnyview Rd</p> <p>208 / 113 983 / 603 148 / 184</p> <p>104 / 112 29 / 21 223 / 233</p>	<p>4</p> <p>824 / 696 1 / 1 280 / 173 I-5 SB Ramps</p> <p>902 / 647 300 / 178</p> <p>S Bonnyview Rd</p> <p>1384 / 923 584 / 301</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>285 / 222 841 / 585</p> <p>S Bonnyview Rd</p> <p>784 / 570 886 / 529</p> <p>360 / 225 5 / 3 250 / 185</p>	<p>6</p> <p>483 / 303 15 / 0 145 / 129 Churn Creek Rd</p> <p>130 / 80 518 / 320 35 / 35</p> <p>S Bonnyview Rd</p> <p>418 / 333 643 / 347 80 / 104</p> <p>125 / 175 10 / 5 25 / 50</p>	<p>7</p> <p>95 / 74 25 / 10 Alrose Ln</p> <p>30 / 30 578 / 411 5 / 0</p> <p>Churn Creek Rd</p> <p>105 / 77 703 / 404 12 / 0</p> <p>10 / 0 5 / 5 5 / 0</p>	<p>8</p> <p>157 / 163 75 / 52 Victor Ave</p> <p>73 / 32 396 / 302</p> <p>Churn Creek Rd</p> <p>198 / 124 440 / 233</p>
<p>9</p> <p>308 / 220 40 / 22 Rancho Rd</p> <p>45 / 27 128 / 86</p> <p>Churn Creek Rd</p> <p>372 / 217 163 / 82</p>	<p>10</p> <p>31 / 20 140 / 84 Churn Creek Rd</p> <p>Smith Rd</p> <p>16 / 12 110 / 129</p> <p>176 / 220 115 / 68</p>	<p>24</p> <p>107 / 122 Proposed Project South Access</p> <p>168 / 217</p> <p>Smith Rd</p>	



Redding Rancheria: Traffic Impact Study

<p>1</p> <p>9 / 5 ↔ 677 / 368 ↔ 361 / 280 ↔ S Market St (SR-273)</p> <p>Cedars Rd</p> <p>↔ 246 / 182 ↔ 80 / 57 ↔ 452 / 286</p> <p>10 / 0 ↔ 83 / 46 ↔ 68 / 54</p> <p>↔ 55 / 35 ↔ 397 / 329 ↔ 319 / 233</p>	<p>2</p> <p>↔ 39 / 25 ↔ 5 / 0 ↔ 341 / 121</p> <p>E Bonnyview Rd</p> <p>↔ 216 / 118 ↔ 1044 / 712 ↔ 10 / 10</p> <p>S Bonnyview Rd</p> <p>↔ 45 / 19 ↔ 945 / 670 ↔ 5 / 5</p> <p>↔ 10 / 10 ↔ 15 / 15 ↔ 10 / 10</p>	<p>3</p> <p>↔ 265 / 112 ↔ 26 / 23 ↔ 756 / 271</p> <p>Bechelli Ln</p> <p>↔ 306 / 174 ↔ 972 / 691 ↔ 130 / 187</p> <p>S Bonnyview Rd</p> <p>↔ 208 / 113 ↔ 983 / 603 ↔ 59 / 86</p> <p>↔ 58 / 78 ↔ 21 / 15 ↔ 122 / 170</p>	<p>4</p> <p>↔ 658 / 517 ↔ 1 / 1 ↔ 280 / 173</p> <p>I-5 SB Ramps</p> <p>↔ 882 / 628 ↔ 300 / 178</p> <p>S Bonnyview Rd</p> <p>↔ 1288 / 859 ↔ 579 / 303</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>↔ 285 / 222 ↔ 825 / 567</p> <p>S Bonnyview Rd</p> <p>↔ 696 / 511 ↔ 878 / 523</p> <p>↔ 356 / 224 ↔ 5 / 3 ↔ 250 / 185</p>	<p>6</p> <p>↔ 483 / 303 ↔ 15 / 0 ↔ 145 / 129</p> <p>Churn Creek Rd</p> <p>↔ 130 / 80 ↔ 502 / 302 ↔ 35 / 35</p> <p>S Bonnyview Rd</p> <p>↔ 418 / 333 ↔ 635 / 341 ↔ 80 / 104</p> <p>↔ 125 / 175 ↔ 10 / 5 ↔ 25 / 50</p>	<p>7</p> <p>↔ 95 / 74 ↔ 25 / 10</p> <p>Alrose Ln</p> <p>↔ 30 / 30 ↔ 562 / 393 ↔ 5 / 0</p> <p>Churn Creek Rd</p> <p>↔ 105 / 77 ↔ 695 / 398 ↔ 12 / 0</p> <p>↔ 10 / 0 ↔ 5 / 5 ↔ 5 / 0</p>	<p>8</p> <p>↔ 157 / 163 ↔ 75 / 52</p> <p>Victor Ave</p> <p>↔ 73 / 32 ↔ 380 / 284</p> <p>Churn Creek Rd</p> <p>↔ 198 / 124 ↔ 432 / 227</p>
<p>9</p> <p>↔ 292 / 202 ↔ 40 / 22</p> <p>Rancho Rd</p> <p>↔ 45 / 27 ↔ 128 / 86</p> <p>Churn Creek Rd</p> <p>↔ 364 / 211 ↔ 163 / 82</p>	<p>10</p> <p>↔ 31 / 20 ↔ 140 / 84</p> <p>Churn Creek Rd</p> <p>↔ 16 / 12 ↔ 48 / 83</p> <p>Smith Rd</p> <p>↔ 54 / 86 ↔ 115 / 68</p>	<p>24</p> <p>↔ 45 / 76</p> <p>Proposed Project South Access</p> <p>↔ 46 / 83</p> <p>Smith Rd</p>	



Redding Rancheria: Traffic Impact Study

<p>1</p> <p>8 / 5 675 / 367 438 / 362 S Market St (SR-273)</p> <p>321 / 233 73 / 52 464 / 295</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>8 / 0 88 / 49 60 / 47</p> <p>61 / 39 381 / 316 376 / 287</p>	<p>2</p> <p>41 / 27 3 / 0 313 / 111 E Bonnyview Rd</p> <p>222 / 121 1114 / 762 9 / 9</p> <p>S Bonnyview Rd</p> <p>44 / 18 1075 / 803 5 / 5</p> <p>10 / 10 15 / 15 13 / 13</p>	<p>3</p> <p>242 / 102 10 / 6 797 / 309 Bechelli Ln</p> <p>335 / 199 1090 / 809 42 / 18</p> <p>S Bonnyview Rd</p> <p>212 / 115 1141 / 792 15 / 15</p> <p>21 / 18 15 / 15 38 / 16</p>	<p>4</p> <p>620 / 407 1 / 1 256 / 158 I-5 SB Ramps</p> <p>856 / 588 291 / 172</p> <p>S Bonnyview Rd</p> <p>1236 / 740 741 / 495</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>261 / 203 789 / 536</p> <p>S Bonnyview Rd</p> <p>641 / 398 851 / 500</p> <p>472 / 328 5 / 3 241 / 178</p>	<p>6</p> <p>473 / 296 15 / 0 142 / 126 Churn Creek Rd</p> <p>112 / 69 460 / 269 35 / 35</p> <p>S Bonnyview Rd</p> <p>422 / 336 598 / 315 80 / 104</p> <p>125 / 175 10 / 5 25 / 50</p>	<p>7</p> <p>93 / 72 24 / 10 Alrose Ln</p> <p>26 / 26 515 / 354 5 / 0</p> <p>Churn Creek Rd</p> <p>106 / 78 655 / 369 12 / 0</p> <p>10 / 0 5 / 5 5 / 0</p>	<p>8</p> <p>137 / 142 73 / 51 Victor Ave</p> <p>77 / 34 343 / 250</p> <p>Churn Creek Rd</p> <p>180 / 113 400 / 204</p>
<p>9</p> <p>281 / 188 55 / 49 Rancho Rd</p> <p>59 / 43 109 / 73</p> <p>Churn Creek Rd</p> <p>354 / 199 131 / 66</p>	<p>10</p> <p>27 / 33 116 / 69 Churn Creek Rd</p> <p>Smith Rd</p> <p>17 / 18 14 / 32</p> <p>34 / 13 109 / 65</p>	<p>24</p> <p>468 / 501 Proposed Project South Access</p> <p>670 / 862 27 / 22</p> <p>Smith Rd</p> <p>14 / 18</p>	<p>25</p> <p>442 / 565 5 / 11 NEW I-5 SB Ramps</p> <p>2 / 2 256 / 319</p> <p>Smith Rd</p> <p>151 / 161 33* / 358</p>
<p>26</p> <p>NEW I-5 NB Ramps</p> <p>4 / 4 45 / 47</p> <p>Smith Rd</p> <p>306 / 327 30 / 40</p> <p>212 / 274 2 / 4</p>			

LEGEND

- Study Intersection
- Future Intersection*
- Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway (Options 2 & 3)
**Future Smith Road/I-5 Ramps (Option 3)

Volumes: Friday/Saturday Peak-Hour

Redding Rancheria: Traffic Impact Study

<p>1</p> <p>8 / 5 675 / 367 423 / 328</p> <p>S Market St (SR-273)</p> <p>304 / 200 73 / 52 456 / 279</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>8 / 0 88 / 49 60 / 47</p> <p>61 / 39 381 / 316 369 / 271</p>	<p>2</p> <p>41 / 27 3 / 0 313 / 111</p> <p>E Bonnyview Rd</p> <p>222 / 121 1089 / 714 9 / 9</p> <p>S Bonnyview Rd</p> <p>44 / 18 1053 / 753 5 / 5</p> <p>10 / 10 15 / 15 13 / 13</p>	<p>3</p> <p>242 / 102 10 / 6 793 / 300</p> <p>Bechelli Ln</p> <p>331 / 190 1065 / 761 42 / 18</p> <p>S Bonnyview Rd</p> <p>212 / 115 1119 / 742 15 / 15</p> <p>21 / 18 15 / 15 38 / 16</p>	<p>4</p> <p>620 / 407 1 / 1 256 / 158</p> <p>I-5 SB Ramps</p> <p>856 / 588 291 / 172</p> <p>S Bonnyview Rd</p> <p>1236 / 740 715 / 436</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>261 / 203 789 / 536</p> <p>S Bonnyview Rd</p> <p>641 / 398 851 / 500</p> <p>443 / 271 5 / 3 241 / 178</p>	<p>6</p> <p>473 / 296 15 / 0 142 / 126</p> <p>Churn Creek Rd</p> <p>112 / 69 460 / 269 35 / 35</p> <p>S Bonnyview Rd</p> <p>422 / 336 598 / 315 80 / 104</p> <p>125 / 175 10 / 5 25 / 50</p>	<p>7</p> <p>93 / 72 24 / 10</p> <p>Alrose Ln</p> <p>26 / 26 515 / 354 5 / 0</p> <p>Churn Creek Rd</p> <p>106 / 78 655 / 369 12 / 0</p> <p>10 / 0 5 / 5 5 / 0</p>	<p>8</p> <p>137 / 142 73 / 51</p> <p>Victor Ave</p> <p>77 / 34 343 / 250</p> <p>Churn Creek Rd</p> <p>180 / 113 400 / 204</p>
<p>9</p> <p>281 / 188 51 / 40</p> <p>Rancho Rd</p> <p>55 / 34 109 / 73</p> <p>Churn Creek Rd</p> <p>354 / 199 131 / 66</p>	<p>10</p> <p>23 / 24 116 / 69</p> <p>Churn Creek Rd</p> <p>Smith Rd</p> <p>13 / 9 14 / 32</p> <p>34 / 13 109 / 65</p>	<p>24</p> <p>344 / 256 Proposed Project South Access</p> <p>556 / 607 27 / 22</p> <p>Smith Rd</p> <p>14 / 18</p>	<p>25</p> <p>368 / 401 5 / 11 NEW I-5 SB Ramps</p> <p>2 / 2 215 / 228</p> <p>Smith Rd</p> <p>111 / 83 247 / 191</p>
<p>26</p> <p>NEW I-5 NB Ramps</p> <p>4 / 4 41 / 38</p> <p>Smith Rd</p> <p>226 / 170 26 / 31</p> <p>176 / 192 2 / 4</p>			

LEGEND

- Study Intersection
- Future Intersection*
- Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway (Options 2 & 3)

**Future Smith Road/I-5 Ramps (Option 3)

Volumes: Friday/Saturday Peak-Hour

REDDING

SHASTA COUNTY

Redding Rancheria: Traffic Impact Study

<p>1</p> <p>8 / 5 675 / 367 428 / 350</p> <p>S Market St (SR-273)</p> <p>311 / 226 73 / 52 459 / 292</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>8 / 0 88 / 49 60 / 47</p> <p>61 / 39 381 / 316 371 / 282</p>	<p>2</p> <p>41 / 27 3 / 0 313 / 111</p> <p>E Bonnyview Rd</p> <p>222 / 121 1099 / 752 9 / 9</p> <p>S Bonnyview Rd</p> <p>44 / 18 1060 / 786 5 / 5</p> <p>10 / 10 15 / 15 13 / 13</p>	<p>3</p> <p>242 / 102 10 / 6 794 / 306</p> <p>Bechelli Ln</p> <p>332 / 197 1075 / 799 42 / 18</p> <p>S Bonnyview Rd</p> <p>212 / 115 1126 / 775 15 / 15</p> <p>21 / 18 15 / 15 38 / 16</p>	<p>4</p> <p>620 / 407 1 / 1 256 / 158</p> <p>I-5 SB Ramps</p> <p>856 / 588 291 / 172</p> <p>S Bonnyview Rd</p> <p>1236 / 740 724 / 475</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>261 / 203 789 / 536</p> <p>S Bonnyview Rd</p> <p>641 / 398 851 / 500</p> <p>454 / 316 5 / 3 241 / 178</p>	<p>6</p> <p>473 / 296 15 / 0 142 / 126</p> <p>Churn Creek Rd</p> <p>112 / 69 460 / 269 35 / 35</p> <p>S Bonnyview Rd</p> <p>422 / 336 598 / 315 80 / 104</p> <p>125 / 175 10 / 5 25 / 50</p>	<p>7</p> <p>93 / 72 24 / 10</p> <p>Alrose Ln</p> <p>26 / 26 515 / 354 5 / 0</p> <p>Churn Creek Rd</p> <p>106 / 78 655 / 369 12 / 0</p> <p>10 / 0 5 / 5 5 / 0</p>	<p>8</p> <p>137 / 142 73 / 51</p> <p>Victor Ave</p> <p>77 / 34 343 / 250</p> <p>Churn Creek Rd</p> <p>180 / 113 400 / 204</p>
<p>9</p> <p>281 / 188 52 / 46</p> <p>Rancho Rd</p> <p>56 / 41 109 / 73</p> <p>Churn Creek Rd</p> <p>354 / 199 131 / 66</p>	<p>10</p> <p>24 / 30 116 / 69</p> <p>Churn Creek Rd</p> <p>Smith Rd</p> <p>14 / 16 14 / 32</p> <p>34 / 13 109 / 65</p>	<p>24</p> <p>393 / 448 Proposed Project South Access</p> <p>595 / 775 27 / 22</p> <p>Smith Rd</p> <p>14 / 18</p>	<p>25</p> <p>393 / 509 5 / 11 NEW I-5 SB Ramps</p> <p>2 / 2 229 / 288</p> <p>Smith Rd</p> <p>127 / 144 28^ / 321</p>
<p>26</p> <p>NEW I-5 NB Ramps</p> <p>4 / 4 42 / 44</p> <p>Smith Rd</p> <p>258 / 293 27 / 38</p> <p>188 / 246 2 / 4</p>			

LEGEND

- Study Intersection
- Future Intersection*
- Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway (Options 2 & 3)
**Future Smith Road/I-5 Ramps (Option 3)

Volumes: Friday/Saturday Peak-Hour

REDDING

SHASTA COUNTY

Redding Rancheria: Traffic Impact Study

<p>1</p> <p>8 / 5 675 / 367 367 / 284 S Market St (SR-273)</p> <p>279 / 203 73 / 52 444 / 281</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>8 / 0 88 / 49 60 / 47</p> <p>61 / 39 381 / 316 343 / 250</p>	<p>2</p> <p>41 / 27 3 / 0 313 / 111 E Bonnyview Rd</p> <p>222 / 121 1053 / 718 9 / 9</p> <p>S Bonnyview Rd</p> <p>44 / 18 971 / 688 5 / 5</p> <p>10 / 10 15 / 15 13 / 13</p>	<p>3</p> <p>242 / 102 10 / 6 778 / 288 Bechelli Ln</p> <p>324 / 191 1029 / 765 42 / 18</p> <p>S Bonnyview Rd</p> <p>212 / 115 1037 / 677 15 / 15</p> <p>21 / 18 15 / 15 38 / 16</p>	<p>4</p> <p>620 / 407 1 / 1 256 / 158 I-5 SB Ramps</p> <p>856 / 588 291 / 172</p> <p>S Bonnyview Rd</p> <p>1236 / 740 618 / 359</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>261 / 203 789 / 536</p> <p>S Bonnyview Rd</p> <p>641 / 398 851 / 500</p> <p>400 / 276 5 / 3 241 / 178</p>	<p>6</p> <p>473 / 296 15 / 0 142 / 126 Churn Creek Rd</p> <p>112 / 69 460 / 269 35 / 35</p> <p>S Bonnyview Rd</p> <p>422 / 336 598 / 315 80 / 104</p> <p>125 / 175 10 / 5 25 / 50</p>	<p>7</p> <p>93 / 72 24 / 10 Alrose Ln</p> <p>26 / 26 515 / 354 5 / 0</p> <p>Churn Creek Rd</p> <p>106 / 78 655 / 369 12 / 0</p> <p>10 / 0 5 / 5 5 / 0</p>	<p>8</p> <p>137 / 142 73 / 51 Victor Ave</p> <p>77 / 34 343 / 250</p> <p>Churn Creek Rd</p> <p>180 / 113 400 / 204</p>
<p>9</p> <p>281 / 188 36 / 28 Rancho Rd</p> <p>48 / 35 109 / 73</p> <p>Churn Creek Rd</p> <p>354 / 199 131 / 66</p>	<p>10</p> <p>8 / 12 116 / 69 Churn Creek Rd</p> <p>Smith Rd</p> <p>6 / 10 14 / 32</p> <p>34 / 13 109 / 65</p>	<p>24</p> <p>176 / 300 Proposed Project South Access</p> <p>180 / 327 27 / 22</p> <p>Smith Rd</p> <p>14 / 18</p>	<p>25</p> <p>120 / 214 5 / 11 NEW I-5 SB Ramps</p> <p>2 / 2 86 / 135</p> <p>Smith Rd</p> <p>60 / 101 13 / 217</p>
<p>26</p> <p>NEW I-5 NB Ramps</p> <p>4 / 4 26 / 26</p> <p>Smith Rd</p> <p>116 / 195 19 / 32</p> <p>62 / 111 2 / 4</p>			

LEGEND

- Study Intersection
- Future Intersection*
- Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway (Options 2 & 3)
**Future Smith Road/I-5 Ramps (Option 3)

Volumes: Friday/Saturday Peak-Hour

REDDING

SHASTA COUNTY

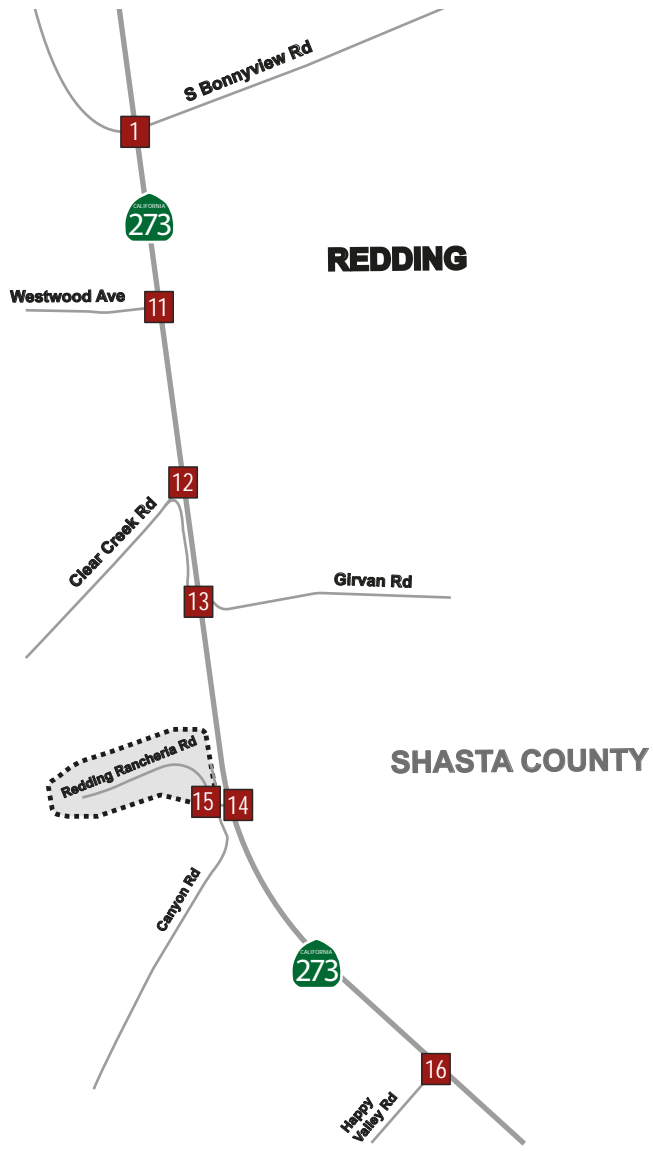
Redding Rancheria: Traffic Impact Study

<p>17</p> <p>17 / 9 ↔ ↔ 304 / 188 ↔ ↔ 223 / 232 ↔ ↔ S Market St (SR-273)</p> <p>↔ ↔ 174 / 165 ↔ ↔ 116 / 69 ↔ ↔ 154 / 93 ↔ ↔ North St</p> <p>14 / 5 ↔ ↔ 125 / 94 ↔ ↔ 48 / 16 ↔ ↔</p> <p>47 / 24 ↔ ↔ 182 / 134 ↔ ↔ 157 / 113 ↔ ↔</p>	<p>18</p> <p>114 / 119 ↔ ↔ 127 / 137 ↔ ↔ 274 / 293 ↔ ↔ Oak St</p> <p>↔ ↔ 379 / 459 ↔ ↔ 429 / 226 ↔ ↔ 12 / 9 ↔ ↔ North St</p> <p>176 / 207 ↔ ↔ 344 / 221 ↔ ↔ 4 / 2 ↔ ↔</p> <p>3 / 3 ↔ ↔ 176 / 220 ↔ ↔ 16 / 13 ↔ ↔</p>	<p>19</p> <p>515 / 527 ↔ ↔ 226 / 135 ↔ ↔ I-5 SB Ramps</p> <p>↔ ↔ 347 / 211 ↔ ↔ North St</p> <p>669 / 542 ↔ ↔</p>	<p>20</p> <p>I-5 NB Ramps</p> <p>↔ ↔ 32 / 35 ↔ ↔ 252 / 153 ↔ ↔ 151 / 114 ↔ ↔ North St</p> <p>350 / 304 ↔ ↔ 217 / 155 ↔ ↔ 296 / 198 ↔ ↔ McMurray Dr</p> <p>92 / 61 ↔ ↔ 210 / 127 ↔ ↔ 199 / 165 ↔ ↔</p>
<p>21</p> <p>143 / 134 ↔ ↔ Oak St</p> <p>↔ ↔ 169 / 207 ↔ ↔ 289 / 227 ↔ ↔ 22 / 37 ↔ ↔ Balls Ferry Rd</p> <p>1 / 1 ↔ ↔ 292 / 166 ↔ ↔ 11 / 4 ↔ ↔</p> <p>15 / 12 ↔ ↔ 3 / 4 ↔ ↔ 54 / 34 ↔ ↔</p>	<p>22</p> <p>7 / 21 ↔ ↔ 68 / 43 ↔ ↔ 18 / 12 ↔ ↔ Ventura St</p> <p>↔ ↔ 22 / 17 ↔ ↔ 475 / 460 ↔ ↔ 364 / 305 ↔ ↔ Balls Ferry Rd</p> <p>3 / 2 ↔ ↔ 330 / 184 ↔ ↔ 155 / 148 ↔ ↔ I-5 SB Ramp</p>	<p>23</p> <p>194 / 166 ↔ ↔ 231 / 161 ↔ ↔ McMurray Dr</p> <p>↔ ↔ 196 / 137 ↔ ↔ 503 / 409 ↔ ↔ Balls Ferry Rd</p> <p>80 / 43 ↔ ↔ 262 / 144 ↔ ↔ I-5 NB Ramp</p> <p>218 / 235 ↔ ↔ 129 / 96 ↔ ↔ 201 / 116 ↔ ↔</p>	



Redding Rancheria: Traffic Impact Study

<p>1</p> <p>9 / 5 720 / 424 338 / 238 S Market St (SR-273)</p> <p>224 / 144 80 / 57 554 / 409</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>10 / 0 83 / 46 68 / 54</p> <p>55 / 35 435 / 360 408 / 293</p>	<p>11</p> <p>421 / 257 777 / 531 S Market St (SR-273)</p> <p>Westwood Ave</p> <p>278 / 207</p> <p>236 / 177</p> <p>152 / 130 592 / 392</p>	<p>12</p> <p>77 / 56 931 / 648 S Market St (SR-273)</p> <p>Clear Creek Rd</p> <p>130 / 73</p> <p>37 / 19</p> <p>21 / 23 627 / 451</p>	<p>13</p> <p>32 / 29 814 / 561 94 / 69 S Market St (SR-273)</p> <p>61 / 51 18 / 6 160 / 103</p> <p>Girvan Rd</p> <p>8 / 15 20 / 12 57 / 40</p> <p>35 / 31 580 / 416 148 / 101</p>
<p>14</p> <p>496 / 402 547 / 306 S Market St (SR-273)</p> <p>Redding Rancheria Rd</p> <p>377 / 312</p> <p>83 / 57</p> <p>94 / 88 472 / 277</p>	<p>15</p> <p>15 / 10 229 / 185 Canyon Rd</p> <p>235 / 272</p> <p>350 / 196 Redding Rancheria Rd</p> <p>11 / 12 222 / 213</p> <p>Canyon Rd</p>	<p>16</p> <p>72 / 47 479 / 274 S Market St (SR-273)</p> <p>Happy Valley Rd</p> <p>65 / 41</p> <p>79 / 56</p> <p>77 / 58 382 / 278</p>	



LEGEND

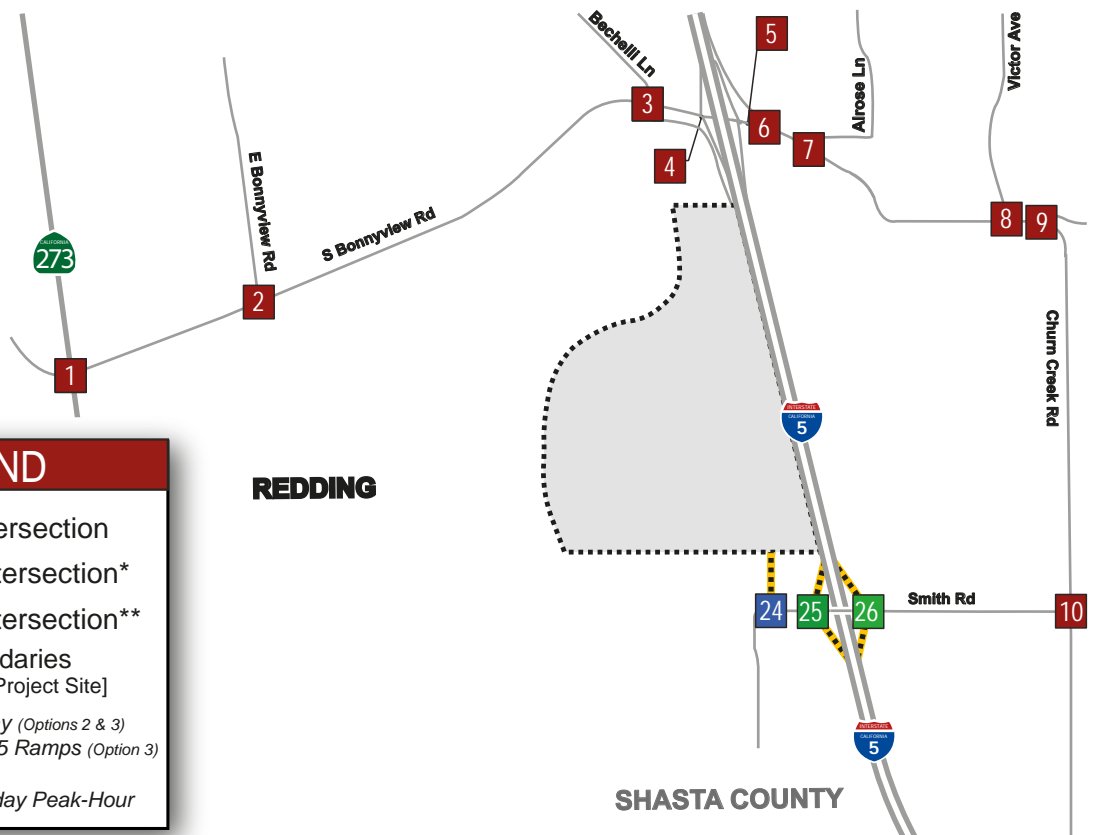
- # Study Intersection
- Site Boundaries
[Win River Casino Site]

Volumes: Friday/Saturday Peak-Hour



Redding Rancheria: Traffic Impact Study

<p>1</p> <p>20 / 10 ↔ 772 / 423 ↔ 472 / 386</p> <p>S Market St (SR-273)</p> <p>↔ 313 / 228 ↔ 88 / 63 ↔ 527 / 339</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>20 / 0 98 / 54 80 / 63</p> <p>↔ 55 / 35 ↔ 527 / 438 ↔ 402 / 306</p>	<p>2</p> <p>45 / 29 ↔ 10 / 0 ↔ 386 / 137</p> <p>E Bonnyview Rd</p> <p>↔ 241 / 132 ↔ 1215 / 833 ↔ 15 / 15</p> <p>S Bonnyview Rd</p> <p>55 / 23 1174 / 870 10 / 10</p> <p>↔ 15 / 15 ↔ 20 / 20 ↔ 15 / 15</p>	<p>3</p> <p>345 / 146 ↔ 45 / 44 ↔ 901 / 323</p> <p>Bechelli Ln</p> <p>↔ 431 / 246 ↔ 1077 / 770 ↔ 558 / 676</p> <p>S Bonnyview Rd</p> <p>258 / 140 1163 / 716 163 / 201</p> <p>↔ 124 / 126 ↔ 42 / 26 ↔ 398 / 401</p>	<p>4</p> <p>930 / 785 ↔ 1 / 1 ↔ 285 / 176</p> <p>I-5 SB Ramps</p> <p>↔ 1222 / 984 ↔ 340 / 202</p> <p>S Bonnyview Rd</p> <p>1623 / 1071 835 / 501</p> <p>↔</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>↔ 380 / 296 ↔ 934 / 649</p> <p>S Bonnyview Rd</p> <p>905 / 649 989 / 589</p> <p>↔ 637 / 524 ↔ 5 / 3 ↔ 295 / 218</p>	<p>6</p> <p>558 / 350 ↔ 15 / 0 ↔ 195 / 174</p> <p>Churn Creek Rd</p> <p>↔ 185 / 113 ↔ 641 / 394 ↔ 35 / 35</p> <p>S Bonnyview Rd</p> <p>498 / 397 731 / 393 80 / 104</p> <p>↔ 125 / 175 ↔ 10 / 5 ↔ 25 / 50</p>	<p>7</p> <p>95 / 74 ↔ 25 / 10</p> <p>Alrose Ln</p> <p>↔ 30 / 30 ↔ 766 / 542 ↔ 5 / 0</p> <p>Churn Creek Rd</p> <p>105 / 77 861 / 493 12 / 0</p> <p>↔ 10 / 0 ↔ 5 / 5 ↔ 5 / 0</p>	<p>8</p> <p>222 / 231 ↔ 105 / 73</p> <p>Victor Ave</p> <p>↔ 90 / 39 ↔ 504 / 383</p> <p>Churn Creek Rd</p> <p>213 / 133 573 / 301</p> <p>↔</p>
<p>9</p> <p>401 / 284 ↔ 40 / 22</p> <p>Rancho Rd</p> <p>↔ 50 / 30 ↔ 173 / 116</p> <p>Churn Creek Rd</p> <p>485 / 281 213 / 107</p> <p>↔</p>	<p>10</p> <p>40 / 26 ↔ 168 / 101</p> <p>Churn Creek Rd</p> <p>Smith Rd</p> <p>21 / 15 5 / 12</p> <p>↔ 13 / 6 ↔ 136 / 80</p>		



LEGEND

- Study Intersection
- Future Intersection*
- Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway (Options 2 & 3)
**Future Smith Road/I-5 Ramps (Option 3)

Volumes: Friday/Saturday Peak-Hour

Redding Rancheria: Traffic Impact Study

<p>1</p> <p>20 / 10 ↔ 772 / 423 ↔ 457 / 352 S Market St (SR-273)</p> <p>↔ 296 / 195 ↔ 88 / 63 ↔ 519 / 323</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>20 / 0 ↔ 98 / 54 ↔ 80 / 63</p> <p>↔ 55 / 35 ↔ 527 / 438 ↔ 395 / 290</p>	<p>2</p> <p>45 / 29 ↔ 10 / 0 ↔ 386 / 137 E Bonnyview Rd</p> <p>↔ 241 / 132 ↔ 1190 / 785 ↔ 15 / 15</p> <p>S Bonnyview Rd</p> <p>55 / 23 ↔ 1152 / 820 ↔ 10 / 10</p> <p>↔ 15 / 15 ↔ 20 / 20 ↔ 15 / 15</p>	<p>3</p> <p>345 / 146 ↔ 41 / 35 ↔ 901 / 323 Bechelli Ln</p> <p>↔ 431 / 246 ↔ 1077 / 770 ↔ 470 / 481</p> <p>S Bonnyview Rd</p> <p>258 / 140 ↔ 1163 / 716 ↔ 141 / 151</p> <p>↔ 99 / 78 ↔ 38 / 17 ↔ 302 / 213</p>	<p>4</p> <p>883 / 680 ↔ 1 / 1 ↔ 285 / 176 I-5 SB Ramps</p> <p>↔ 1181 / 893 ↔ 340 / 202</p> <p>S Bonnyview Rd</p> <p>1567 / 962 ↔ 795 / 423</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>↔ 380 / 296 ↔ 930 / 640</p> <p>S Bonnyview Rd</p> <p>854 / 549 ↔ 985 / 580</p> <p>↔ 601 / 442 ↔ 5 / 3 ↔ 295 / 218</p>	<p>6</p> <p>558 / 350 ↔ 15 / 0 ↔ 195 / 174 Churn Creek Rd</p> <p>↔ 185 / 113 ↔ 637 / 385 ↔ 35 / 35</p> <p>S Bonnyview Rd</p> <p>498 / 397 ↔ 727 / 384 ↔ 80 / 104</p> <p>↔ 125 / 175 ↔ 10 / 5 ↔ 25 / 50</p>	<p>7</p> <p>95 / 74 ↔ 25 / 10 Alrose Ln</p> <p>↔ 30 / 30 ↔ 762 / 533 ↔ 5 / 0</p> <p>Churn Creek Rd</p> <p>105 / 77 ↔ 857 / 484 ↔ 12 / 0</p> <p>↔ 10 / 0 ↔ 5 / 5 ↔ 5 / 0</p>	<p>8</p> <p>222 / 231 ↔ 105 / 73 Victor Ave</p> <p>↔ 90 / 39 ↔ 500 / 374</p> <p>Churn Creek Rd</p> <p>213 / 133 ↔ 569 / 292</p>
<p>9</p> <p>397 / 275 ↔ 40 / 22 Rancho Rd</p> <p>↔ 50 / 30 ↔ 173 / 116</p> <p>Churn Creek Rd</p> <p>481 / 272 ↔ 213 / 107</p>	<p>10</p> <p>40 / 26 ↔ 168 / 101 Churn Creek Rd</p> <p>↔ 21 / 15 ↔ 5 / 12</p> <p>Smith Rd</p> <p>↔ 13 / 6 ↔ 136 / 80</p>		



LEGEND

- Study Intersection
- Future Intersection*
- Future Intersection**
- Site Boundaries
[Proposed Project Site]

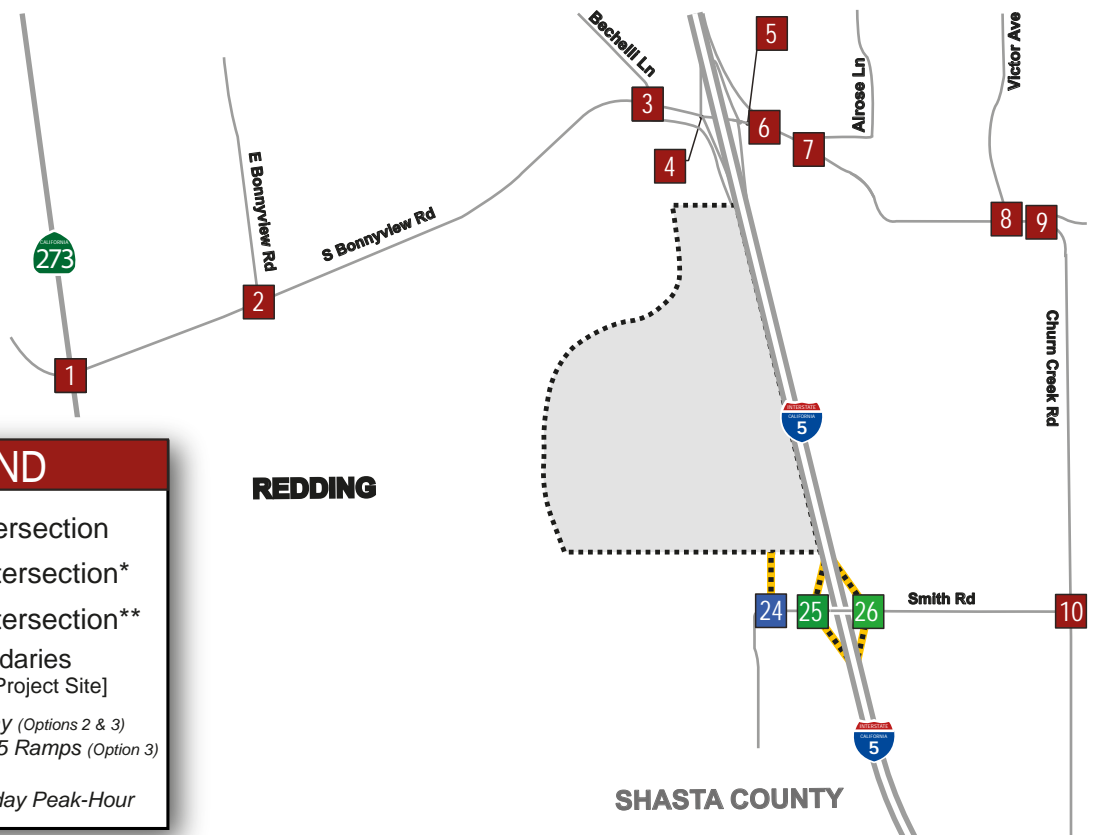
*Future project driveway (Options 2 & 3)

**Future Smith Road/I-5 Ramps (Option 3)

Volumes: Friday/Saturday Peak-Hour

Redding Rancheria: Traffic Impact Study

<p>1</p> <p>20 / 10 ↔ 772 / 423 ↔ 462 / 374</p> <p>S Market St (SR-273)</p> <p>↔ 303 / 221 ↔ 88 / 63 ↔ 522 / 336</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>20 / 0 ↔ 98 / 54 ↔ 80 / 63</p> <p>↔ 55 / 35 ↔ 527 / 438 ↔ 397 / 301</p>	<p>2</p> <p>45 / 29 ↔ 10 / 0 ↔ 386 / 137</p> <p>E Bonnyview Rd</p> <p>↔ 241 / 132 ↔ 1200 / 823 ↔ 15 / 15</p> <p>S Bonnyview Rd</p> <p>55 / 23 ↔ 1159 / 853 ↔ 10 / 10</p> <p>↔ 15 / 15 ↔ 20 / 20 ↔ 15 / 15</p>	<p>3</p> <p>345 / 146 ↔ 42 / 41 ↔ 901 / 323</p> <p>Bechelli Ln</p> <p>↔ 431 / 246 ↔ 1077 / 770 ↔ 500 / 610</p> <p>S Bonnyview Rd</p> <p>258 / 140 ↔ 1163 / 716 ↔ 148 / 184</p> <p>↔ 109 / 116 ↔ 39 / 24 ↔ 340 / 360</p>	<p>4</p> <p>899 / 749 ↔ 1 / 1 ↔ 285 / 176</p> <p>I-5 SB Ramps</p> <p>↔ 1195 / 953 ↔ 340 / 202</p> <p>S Bonnyview Rd</p> <p>1589 / 1047 ↔ 811 / 484</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>↔ 380 / 296 ↔ 931 / 646</p> <p>S Bonnyview Rd</p> <p>874 / 627 ↔ 986 / 587</p> <p>↔ 613 / 496 ↔ 5 / 3 ↔ 295 / 218</p>	<p>6</p> <p>558 / 350 ↔ 15 / 0 ↔ 195 / 174</p> <p>Churn Creek Rd</p> <p>↔ 185 / 113 ↔ 638 / 391 ↔ 35 / 35</p> <p>S Bonnyview Rd</p> <p>498 / 397 ↔ 728 / 391 ↔ 80 / 104</p> <p>↔ 125 / 175 ↔ 10 / 5 ↔ 25 / 50</p>	<p>7</p> <p>95 / 74 ↔ 25 / 10</p> <p>Alrose Ln</p> <p>↔ 30 / 30 ↔ 763 / 539 ↔ 5 / 0</p> <p>Churn Creek Rd</p> <p>105 / 77 ↔ 858 / 491 ↔ 12 / 0</p> <p>↔ 10 / 0 ↔ 5 / 5 ↔ 5 / 0</p>	<p>8</p> <p>222 / 231 ↔ 105 / 73</p> <p>Victor Ave</p> <p>↔ 90 / 39 ↔ 501 / 380</p> <p>Churn Creek Rd</p> <p>213 / 133 ↔ 570 / 299</p>
<p>9</p> <p>398 / 281 ↔ 40 / 22</p> <p>Rancho Rd</p> <p>↔ 50 / 30 ↔ 173 / 116</p> <p>Churn Creek Rd</p> <p>482 / 279 ↔ 213 / 107</p>	<p>10</p> <p>40 / 26 ↔ 168 / 101</p> <p>Churn Creek Rd</p> <p>Smith Rd</p> <p>↔ 21 / 15 ↔ 5 / 12</p> <p>↔ 13 / 6 ↔ 136 / 80</p>		



LEGEND

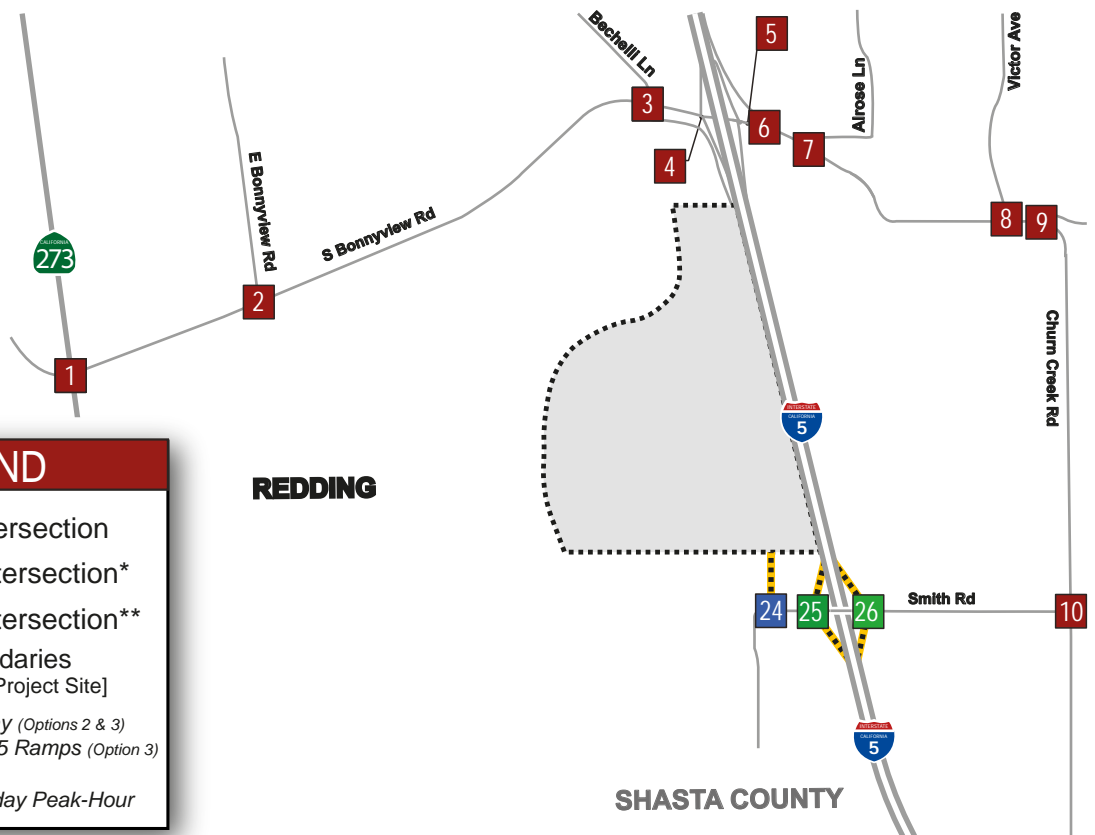
- # Study Intersection
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- # Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway (Options 2 & 3)
**Future Smith Road/I-5 Ramps (Option 3)

Volumes: Friday/Saturday Peak-Hour

Redding Rancheria: Traffic Impact Study

<p>1</p> <p>20 / 10 ↔ 772 / 423 ↔ 401 / 308 ↔ S Market St (SR-273)</p> <p>271 / 198 ↔ 88 / 63 ↔ 507 / 325</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>20 / 0 ↔ 98 / 54 ↔ 80 / 63</p> <p>55 / 35 ↔ 527 / 438 ↔ 369 / 269</p>	<p>2</p> <p>45 / 29 ↔ 10 / 0 ↔ 386 / 137 ↔ E Bonnyview Rd</p> <p>241 / 132 ↔ 1154 / 789 ↔ 15 / 15</p> <p>S Bonnyview Rd</p> <p>55 / 23 ↔ 1070 / 755 ↔ 10 / 10</p> <p>15 / 15 ↔ 20 / 20 ↔ 15 / 15</p>	<p>3</p> <p>345 / 146 ↔ 26 / 23 ↔ 901 / 323 ↔ Bechelli Ln</p> <p>431 / 246 ↔ 1077 / 770 ↔ 191 / 278</p> <p>S Bonnyview Rd</p> <p>258 / 140 ↔ 1163 / 716 ↔ 59 / 86</p> <p>63 / 82 ↔ 31 / 18 ↔ 177 / 252</p>	<p>4</p> <p>733 / 570 ↔ 1 / 1 ↔ 285 / 176 ↔ I-5 SB Ramps</p> <p>1052 / 800 ↔ 340 / 202</p> <p>S Bonnyview Rd</p> <p>1493 / 983 ↔ 744 / 441</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>380 / 296 ↔ 915 / 628</p> <p>S Bonnyview Rd</p> <p>786 / 568 ↔ 978 / 581</p> <p>487 / 361 ↔ 5 / 3 ↔ 295 / 218</p>	<p>6</p> <p>558 / 350 ↔ 15 / 0 ↔ 195 / 174 ↔ Churn Creek Rd</p> <p>185 / 113 ↔ 622 / 373 ↔ 35 / 35</p> <p>S Bonnyview Rd</p> <p>498 / 397 ↔ 720 / 385 ↔ 80 / 104</p> <p>125 / 175 ↔ 10 / 5 ↔ 25 / 50</p>	<p>7</p> <p>95 / 74 ↔ 25 / 10 ↔ Alrose Ln</p> <p>30 / 30 ↔ 747 / 521 ↔ 5 / 0</p> <p>Churn Creek Rd</p> <p>105 / 77 ↔ 850 / 485 ↔ 12 / 0</p> <p>10 / 0 ↔ 5 / 5 ↔ 5 / 0</p>	<p>8</p> <p>222 / 231 ↔ 105 / 73 ↔ Victor Ave</p> <p>90 / 39 ↔ 485 / 362</p> <p>Churn Creek Rd</p> <p>213 / 133 ↔ 562 / 293</p>
<p>9</p> <p>382 / 263 ↔ 40 / 22 ↔ Rancho Rd</p> <p>50 / 30 ↔ 173 / 116</p> <p>Churn Creek Rd</p> <p>474 / 273 ↔ 213 / 107</p>	<p>10</p> <p>40 / 26 ↔ 168 / 101 ↔ Churn Creek Rd</p> <p>Smith Rd</p> <p>21 / 15 ↔ 5 / 12</p> <p>13 / 6 ↔ 136 / 80</p>		



LEGEND

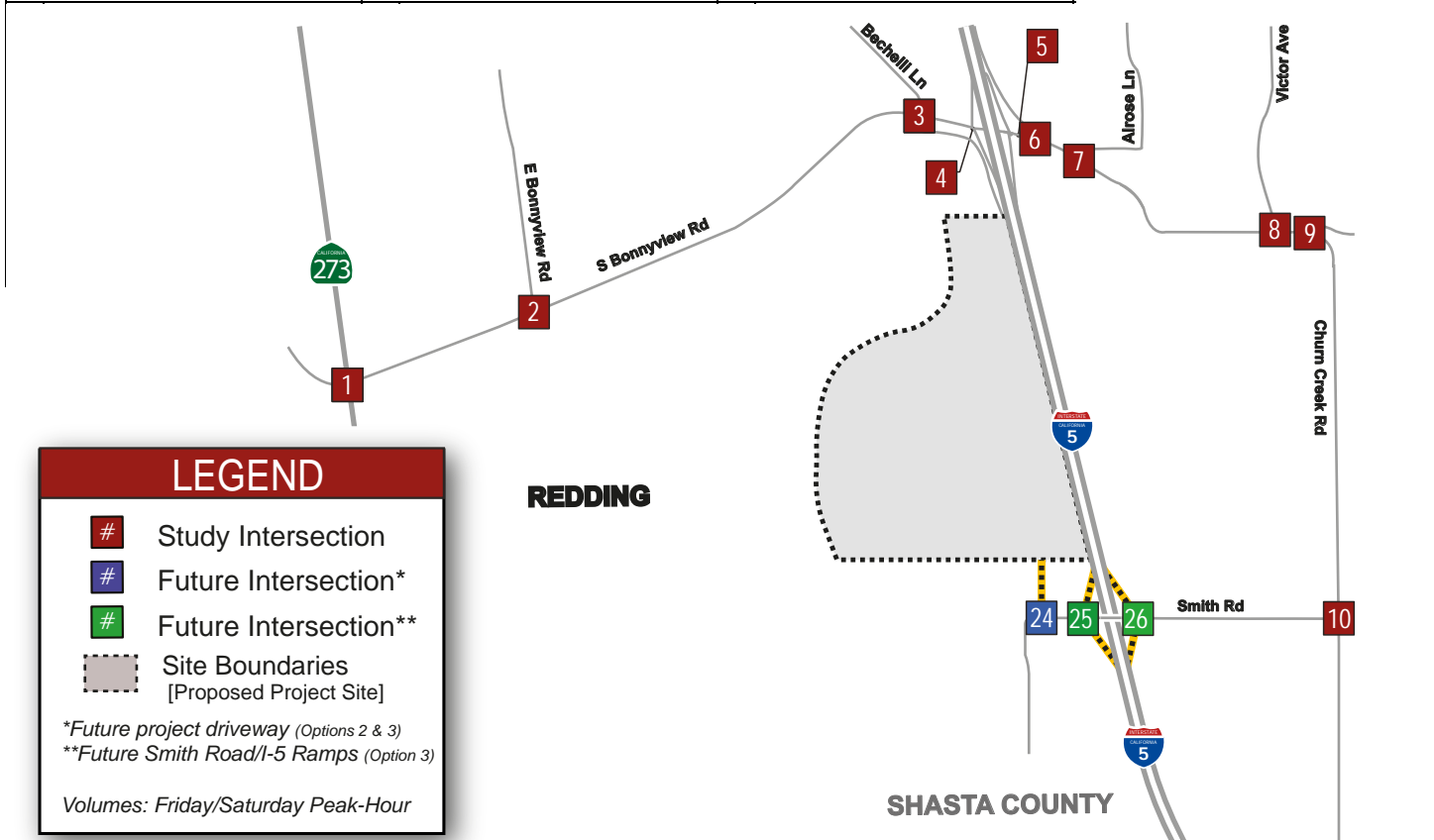
- # Study Intersection
- # Future Intersection*
- # Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway (Options 2 & 3)
**Future Smith Road/I-5 Ramps (Option 3)

Volumes: Friday/Saturday Peak-Hour

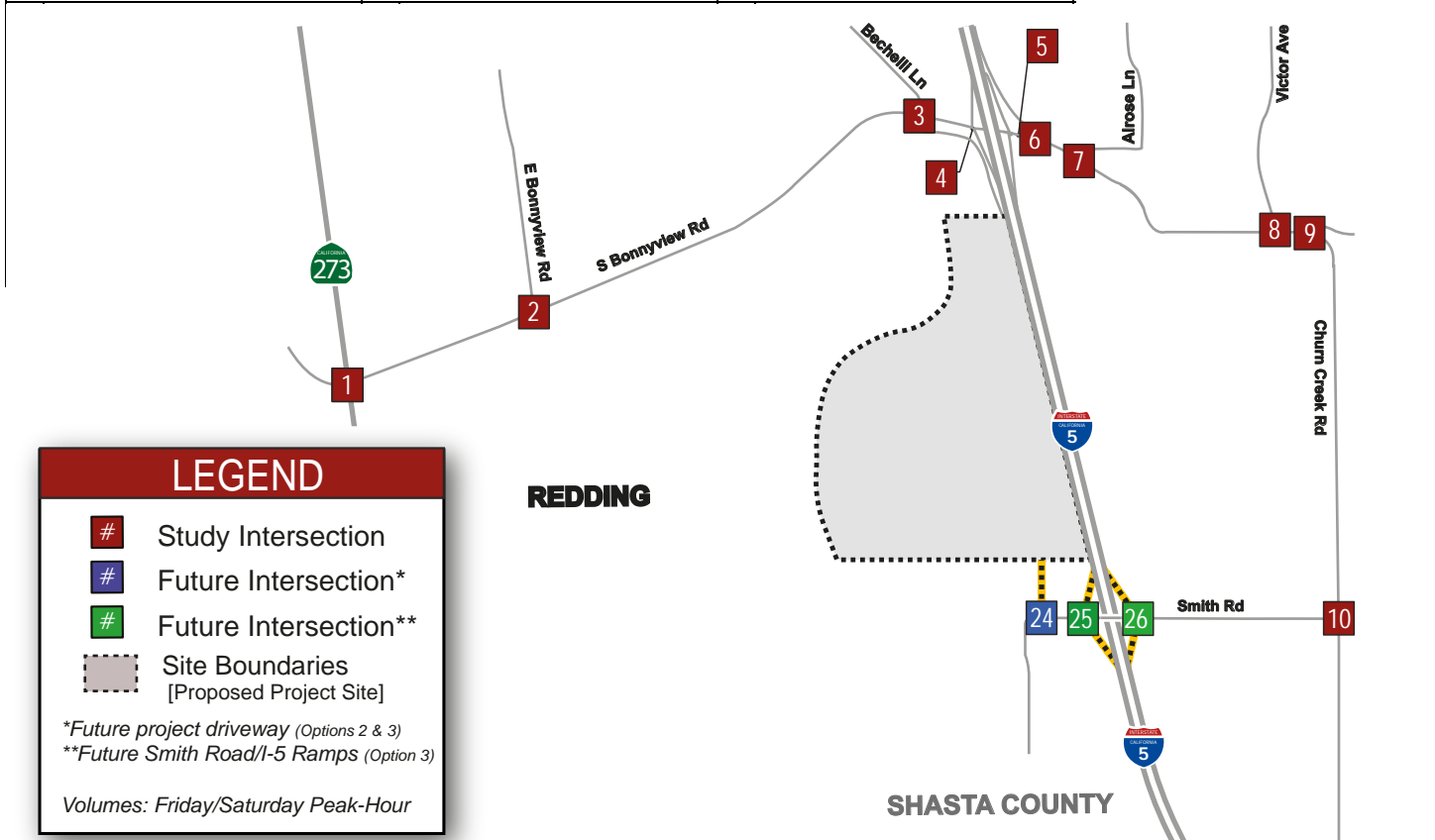
Redding Rancheria: Traffic Impact Study

<p>1</p> <p>20 / 10 ↔ ↔ 772 / 423 ↔ ↔ 472 / 386 ↔ ↔ S Market St (SR-273)</p> <p>313 / 228 ↔ ↔ 88 / 63 ↔ ↔ 527 / 339</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>20 / 0 ↔ ↔ 98 / 54 ↔ ↔ 80 / 63 ↔ ↔</p> <p>55 / 35 ↔ ↔ 527 / 438 ↔ ↔ 402 / 306</p>	<p>2</p> <p>45 / 29 ↔ ↔ 10 / 0 ↔ ↔ 386 / 137 ↔ ↔ E Bonnyview Rd</p> <p>241 / 132 ↔ ↔ 1215 / 833 ↔ ↔ 15 / 15</p> <p>S Bonnyview Rd</p> <p>55 / 23 ↔ ↔ 1174 / 870 ↔ ↔ 10 / 10 ↔ ↔</p> <p>15 / 15 ↔ ↔ 20 / 20 ↔ ↔ 15 / 15 ↔ ↔</p>	<p>3</p> <p>345 / 146 ↔ ↔ 45 / 44 ↔ ↔ 901 / 323 ↔ ↔ Bechelli Ln</p> <p>431 / 246 ↔ ↔ 1077 / 770 ↔ ↔ 369 / 436</p> <p>S Bonnyview Rd</p> <p>258 / 140 ↔ ↔ 1163 / 716 ↔ ↔ 163 / 201 ↔ ↔</p> <p>124 / 126 ↔ ↔ 42 / 26 ↔ ↔ 270 / 264</p>	<p>4</p> <p>930 / 785 ↔ ↔ 1 / 1 ↔ ↔ 285 / 176 ↔ ↔ I-5 SB Ramps</p> <p>1033 / 743 ↔ ↔ 340 / 202</p> <p>S Bonnyview Rd</p> <p>1623 / 1071 ↔ ↔ 707 / 365 ↔ ↔</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>380 / 296 ↔ ↔ 934 / 649</p> <p>S Bonnyview Rd</p> <p>905 / 649 ↔ ↔ 989 / 589 ↔ ↔</p> <p>449 / 283 ↔ ↔ 5 / 3 ↔ ↔ 295 / 218 ↔ ↔</p>	<p>6</p> <p>558 / 350 ↔ ↔ 15 / 0 ↔ ↔ 195 / 174 ↔ ↔ Churn Creek Rd</p> <p>185 / 113 ↔ ↔ 641 / 394 ↔ ↔ 35 / 35</p> <p>S Bonnyview Rd</p> <p>498 / 397 ↔ ↔ 731 / 393 ↔ ↔ 80 / 104 ↔ ↔</p> <p>125 / 175 ↔ ↔ 10 / 5 ↔ ↔ 25 / 50 ↔ ↔</p>	<p>7</p> <p>95 / 74 ↔ ↔ 25 / 10 ↔ ↔ Alrose Ln</p> <p>30 / 30 ↔ ↔ 766 / 542 ↔ ↔ 5 / 0</p> <p>Churn Creek Rd</p> <p>105 / 77 ↔ ↔ 861 / 493 ↔ ↔ 12 / 0 ↔ ↔</p> <p>10 / 0 ↔ ↔ 5 / 5 ↔ ↔ 5 / 0</p>	<p>8</p> <p>222 / 231 ↔ ↔ 105 / 73 ↔ ↔ Victor Ave</p> <p>90 / 39 ↔ ↔ 504 / 383</p> <p>Churn Creek Rd</p> <p>213 / 133 ↔ ↔ 573 / 301 ↔ ↔</p>
<p>9</p> <p>401 / 284 ↔ ↔ 40 / 22 ↔ ↔ Rancho Rd</p> <p>50 / 30 ↔ ↔ 173 / 116</p> <p>Churn Creek Rd</p> <p>485 / 281 ↔ ↔ 213 / 107 ↔ ↔</p>	<p>10</p> <p>40 / 26 ↔ ↔ 168 / 101 ↔ ↔ Churn Creek Rd</p> <p>Smith Rd</p> <p>21 / 15 ↔ ↔ 133 / 149 ↔ ↔</p> <p>202 / 246 ↔ ↔ 136 / 80 ↔ ↔</p>	<p>24</p> <p>128 / 137 ↔ ↔ Proposed Project South Access</p> <p>189 / 240</p> <p>Smith Rd</p>	



Redding Rancheria: Traffic Impact Study

1 20 / 10 772 / 423 457 / 352 S Market St (SR-273) 296 / 195 88 / 63 519 / 323 Cedars Rd S Bonnyview Rd 20 / 0 98 / 54 80 / 63 55 / 35 527 / 438 395 / 290	2 45 / 29 10 / 0 386 / 137 E Bonnyview Rd 241 / 132 1190 / 785 15 / 15 S Bonnyview Rd 55 / 23 1152 / 820 10 / 10 15 / 15 20 / 20 15 / 15	3 345 / 146 41 / 35 901 / 323 Bechelli Ln 431 / 246 1077 / 770 312 / 310 S Bonnyview Rd 258 / 140 1163 / 716 141 / 151 99 / 78 38 / 17 208 / 143	4 883 / 680 1 / 1 285 / 176 I-5 SB Ramps 1023 / 721 340 / 202 S Bonnyview Rd 1567 / 962 701 / 353
5 I-5 NB Ramps 380 / 296 930 / 640 S Bonnyview Rd 854 / 549 985 / 580 443 / 270 5 / 3 295 / 218	6 558 / 350 15 / 0 195 / 174 Churn Creek Rd 185 / 113 637 / 385 35 / 35 S Bonnyview Rd 498 / 397 727 / 384 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 762 / 533 5 / 0 Churn Creek Rd 105 / 77 857 / 484 12 / 0 10 / 0 5 / 5 5 / 0	8 222 / 231 105 / 73 Victor Ave 90 / 39 500 / 374 Churn Creek Rd 213 / 133 569 / 292
9 397 / 275 40 / 22 Rancho Rd 50 / 30 173 / 116 Churn Creek Rd 481 / 272 213 / 107	10 40 / 26 168 / 101 Churn Creek Rd 21 / 15 99 / 83 171 / 178 136 / 80	24 94 / 71 Proposed Project South Access 158 / 172 Smith Rd	



Redding Rancheria: Traffic Impact Study

1 20 / 10 772 / 423 462 / 374 S Market St (SR-273) 303 / 221 88 / 63 522 / 336 Cedars Rd S Bonnyview Rd 20 / 0 98 / 54 80 / 63 55 / 35 527 / 438 397 / 301	2 45 / 29 10 / 0 386 / 137 E Bonnyview Rd 241 / 132 1200 / 823 15 / 15 S Bonnyview Rd 55 / 23 1159 / 853 10 / 10 15 / 15 20 / 20 15 / 15	3 345 / 146 42 / 41 901 / 323 Bechelli Ln 431 / 246 1077 / 770 332 / 393 S Bonnyview Rd 258 / 140 1163 / 716 148 / 184 109 / 116 39 / 24 233 / 238	4 899 / 749 1 / 1 285 / 176 I-5 SB Ramps 1027 / 736 340 / 202 S Bonnyview Rd 1589 / 1047 704 / 362
5 I-5 NB Ramps 380 / 296 931 / 646 S Bonnyview Rd 874 / 627 986 / 587 445 / 279 5 / 3 295 / 218	6 558 / 350 15 / 0 195 / 174 Churn Creek Rd 185 / 113 638 / 391 35 / 35 S Bonnyview Rd 498 / 397 728 / 391 80 / 104 125 / 175 10 / 5 25 / 50	7 95 / 74 25 / 10 Alrose Ln 30 / 30 763 / 539 5 / 0 Churn Creek Rd 105 / 77 858 / 491 12 / 0 10 / 0 5 / 5 5 / 0	8 222 / 231 105 / 73 Victor Ave 90 / 39 501 / 380 Churn Creek Rd 213 / 133 570 / 299
9 398 / 281 40 / 22 Rancho Rd 50 / 30 173 / 116 Churn Creek Rd 482 / 279 213 / 107	10 40 / 26 168 / 101 Churn Creek Rd 21 / 15 112 / 134 181 / 223 136 / 80	24 107 / 122 Proposed Project South Access 168 / 217 Smith Rd	



LEGEND

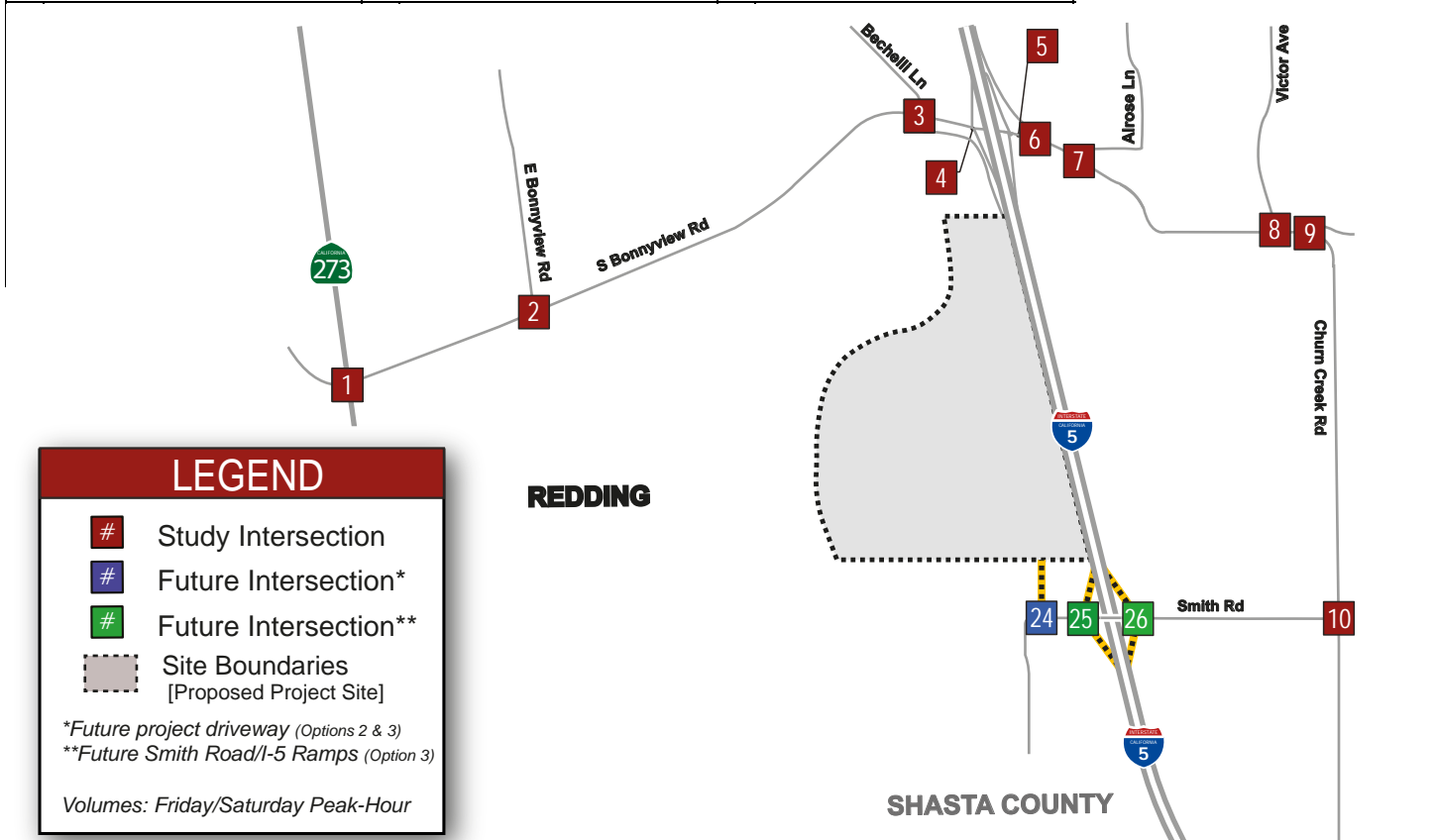
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<p>1</p> <p>20 / 10 ↔ 772 / 423 ↔ 401 / 308 ↔ S Market St (SR-273)</p> <p>271 / 198 ↔ 88 / 63 ↔ 507 / 325</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>55 / 35 ↔ 527 / 438 ↔ 369 / 269</p>	<p>2</p> <p>45 / 29 ↔ 10 / 0 ↔ 386 / 137 ↔ E Bonnyview Rd</p> <p>241 / 132 ↔ 1154 / 789 ↔ 15 / 15</p> <p>S Bonnyview Rd</p> <p>55 / 23 ↔ 1070 / 755 ↔ 10 / 10</p> <p>15 / 15 ↔ 20 / 20 ↔ 15 / 15</p>	<p>3</p> <p>345 / 146 ↔ 26 / 23 ↔ 901 / 323 ↔ Bechelli Ln</p> <p>431 / 246 ↔ 1077 / 770 ↔ 145 / 194</p> <p>S Bonnyview Rd</p> <p>258 / 140 ↔ 1163 / 716 ↔ 59 / 86</p> <p>63 / 82 ↔ 31 / 18 ↔ 132 / 175</p>	<p>4</p> <p>733 / 570 ↔ 1 / 1 ↔ 285 / 176 ↔ I-5 SB Ramps</p> <p>1007 / 717 ↔ 340 / 202</p> <p>S Bonnyview Rd</p> <p>1493 / 983 ↔ 699 / 364</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>380 / 296 ↔ 915 / 628</p> <p>S Bonnyview Rd</p> <p>786 / 568 ↔ 978 / 581</p> <p>441 / 278 ↔ 5 / 3 ↔ 295 / 218</p>	<p>6</p> <p>558 / 350 ↔ 15 / 0 ↔ 195 / 174 ↔ Churn Creek Rd</p> <p>185 / 113 ↔ 622 / 373 ↔ 35 / 35</p> <p>S Bonnyview Rd</p> <p>498 / 397 ↔ 720 / 385 ↔ 80 / 104</p> <p>125 / 175 ↔ 10 / 5 ↔ 25 / 50</p>	<p>7</p> <p>95 / 74 ↔ 25 / 10 ↔ Alrose Ln</p> <p>30 / 30 ↔ 747 / 521 ↔ 5 / 0</p> <p>Churn Creek Rd</p> <p>105 / 77 ↔ 850 / 485 ↔ 12 / 0</p> <p>10 / 0 ↔ 5 / 5 ↔ 5 / 0</p>	<p>8</p> <p>222 / 231 ↔ 105 / 73 ↔ Victor Ave</p> <p>90 / 39 ↔ 485 / 362</p> <p>Churn Creek Rd</p> <p>213 / 133 ↔ 562 / 293</p>
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Redding Rancheria: Traffic Impact Study

1 19 / 9 770 / 422 479 / 391 S Market St (SR-273) 349 / 251 80 / 58 519 / 333 Cedars Rd S Bonnyview Rd 16 / 0 104 / 57 70 / 55 61 / 39 506 / 420 429 / 325	2 48 / 31 7 / 0 354 / 126 E Bonnyview Rd 248 / 136 1225 / 840 13 / 13 S Bonnyview Rd 53 / 22 1204 / 890 10 / 10 15 / 15 20 / 20 19 / 19	3 316 / 134 10 / 6 945 / 362 Bechelli Ln 465 / 274 1197 / 890 59 / 27 S Bonnyview Rd 263 / 143 1325 / 907 15 / 15 25 / 22 25 / 8 50 / 23	4 700 / 464 1 / 1 260 / 161 I-5 SB Ramps 980 / 676 329 / 196 S Bonnyview Rd 1445 / 867 864 / 558				
5 I-5 NB Ramps 348 / 271 876 / 594 S Bonnyview Rd 733 / 457 948 / 557 561 / 385 5 / 3 284 / 210	6 546 / 342 15 / 0 191 / 170 Churn Creek Rd 160 / 98 571 / 335 35 / 35 S Bonnyview Rd 502 / 401 679 / 356 80 / 104 125 / 175 10 / 5 25 / 50	7 93 / 72 24 / 10 Alrose Ln 26 / 26 687 / 472 5 / 0 Churn Creek Rd 106 / 78 802 / 451 12 / 0 10 / 0 5 / 5 5 / 0	8 193 / 201 102 / 71 Victor Ave 95 / 41 440 / 322 Churn Creek Rd 194 / 121 522 / 265				
9 370 / 248 55 / 49 Rancho Rd 63 / 46 147 / 98 Churn Creek Rd 462 / 260 171 / 86 561 / 385 5 / 3 284 / 210	10 27 / 33 139 / 83 Churn Creek Rd 160 / 98 571 / 335 35 / 35 S Bonnyview Rd 502 / 401 679 / 356 80 / 104 125 / 175 10 / 5 25 / 50 17 / 18 23 / 54 55 / 25 129 / 76	24 468 / 501 Proposed Project South Access 670 / 862 46 / 49 Smith Rd 26 / 37	25 463 / 586 26 / 52 NEW I-5 SB Ramps 10 / 10 254 / 325 Smith Rd 159 / 169 33 ^c / 369				
26 NEW I-5 NB Ramps 21 / 21 38 / 48 Smith Rd 323 / 344 38 / 76 225 / 287 10 / 20							



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Volumes: Friday/Saturday Peak-Hour

Redding Rancheria: Traffic Impact Study

<p>1</p> <p>19 / 9 ↕ 770 / 422 ↕ 464 / 357 ↕ S Market St (SR-273)</p> <p>332 / 218 ↕ 80 / 58 ↕ 511 / 317</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>16 / 0 ↕ 104 / 57 ↕ 70 / 55</p> <p>61 / 39 ↕ 506 / 420 ↕ 422 / 309</p>	<p>2</p> <p>48 / 31 ↕ 7 / 0 ↕ 354 / 126 ↕ E Bonnyview Rd</p> <p>248 / 136 ↕ 1200 / 792 ↕ 13 / 13</p> <p>S Bonnyview Rd</p> <p>53 / 22 ↕ 1182 / 840 ↕ 10 / 10</p> <p>15 / 15 ↕ 20 / 20 ↕ 19 / 19</p>	<p>3</p> <p>316 / 134 ↕ 10 / 6 ↕ 941 / 353 ↕ Bechelli Ln</p> <p>461 / 265 ↕ 1172 / 842 ↕ 59 / 27</p> <p>S Bonnyview Rd</p> <p>263 / 143 ↕ 1303 / 857 ↕ 15 / 15</p> <p>25 / 22 ↕ 25 / 8 ↕ 50 / 23</p>	<p>4</p> <p>700 / 464 ↕ 1 / 1 ↕ 260 / 161 ↕ I-5 SB Ramps</p> <p>980 / 676 ↕ 329 / 196</p> <p>S Bonnyview Rd</p> <p>1445 / 867 ↕ 838 / 499</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>348 / 271 ↕ 876 / 594</p> <p>S Bonnyview Rd</p> <p>733 / 457 ↕ 948 / 557</p> <p>532 / 328 ↕ 5 / 3 ↕ 284 / 210</p>	<p>6</p> <p>546 / 342 ↕ 15 / 0 ↕ 191 / 170 ↕ Churn Creek Rd</p> <p>160 / 98 ↕ 571 / 335 ↕ 35 / 35</p> <p>S Bonnyview Rd</p> <p>502 / 401 ↕ 679 / 356 ↕ 80 / 104</p> <p>125 / 175 ↕ 10 / 5 ↕ 25 / 50</p>	<p>7</p> <p>93 / 72 ↕ 24 / 10 ↕ Alrose Ln</p> <p>26 / 26 ↕ 687 / 472 ↕ 5 / 0</p> <p>Churn Creek Rd</p> <p>106 / 78 ↕ 802 / 451 ↕ 12 / 0</p> <p>10 / 0 ↕ 5 / 5 ↕ 5 / 0</p>	<p>8</p> <p>193 / 201 ↕ 102 / 71 ↕ Victor Ave</p> <p>95 / 41 ↕ 440 / 322</p> <p>Churn Creek Rd</p> <p>194 / 121 ↕ 522 / 265</p>
<p>9</p> <p>370 / 248 ↕ 51 / 40 ↕ Rancho Rd</p> <p>59 / 37 ↕ 147 / 98</p> <p>Churn Creek Rd</p> <p>462 / 260 ↕ 171 / 86</p> <p>532 / 328 ↕ 5 / 3 ↕ 284 / 210</p>	<p>10</p> <p>23 / 24 ↕ 139 / 83 ↕ Churn Creek Rd</p> <p>Smith Rd</p> <p>13 / 9 ↕ 23 / 54</p> <p>55 / 25 ↕ 129 / 76</p>	<p>24</p> <p>344 / 256 ↕ Proposed Project South Access</p> <p>556 / 607 ↕ 46 / 49</p> <p>Smith Rd</p> <p>26 / 37</p>	<p>25</p> <p>389 / 422 ↕ 26 / 52 ↕ NEW I-5 SB Ramps</p> <p>10 / 10 ↕ 213 / 234</p> <p>Smith Rd</p> <p>119 / 91 ↕ 25* / 202</p>
<p>26</p> <p>NEW I-5 NB Ramps</p> <p>21 / 21 ↕ 34 / 39</p> <p>Smith Rd</p> <p>243 / 187 ↕ 34 / 67</p> <p>189 / 205 ↕ 10 / 20</p>			

LEGEND

- # Study Intersection
- # Future Intersection*
- # Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway (Options 2 & 3)
**Future Smith Road/I-5 Ramps (Option 3)

Volumes: Friday/Saturday Peak-Hour

REDDING

SHASTA COUNTY

Redding Rancheria: Traffic Impact Study

<p>1</p> <p>19 / 9 ↕ 770 / 422 ↕ 469 / 379 ↕ S Market St (SR-273)</p> <p>339 / 244 ↕ 80 / 58 ↕ 514 / 330</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>16 / 0 ↕ 104 / 57 ↕ 70 / 55</p> <p>61 / 39 ↕ 506 / 420 ↕ 424 / 320</p>	<p>2</p> <p>48 / 31 ↕ 7 / 0 ↕ 354 / 126 ↕ E Bonnyview Rd</p> <p>248 / 136 ↕ 1210 / 830 ↕ 13 / 13</p> <p>S Bonnyview Rd</p> <p>53 / 22 ↕ 1189 / 873 ↕ 10 / 10</p> <p>15 / 15 ↕ 20 / 20 ↕ 19 / 19</p>	<p>3</p> <p>316 / 134 ↕ 10 / 6 ↕ 942 / 359 ↕ Bechelli Ln</p> <p>462 / 272 ↕ 1182 / 880 ↕ 59 / 27</p> <p>S Bonnyview Rd</p> <p>263 / 143 ↕ 1310 / 890 ↕ 15 / 15</p> <p>25 / 22 ↕ 25 / 8 ↕ 50 / 23</p>	<p>4</p> <p>700 / 464 ↕ 1 / 1 ↕ 260 / 161 ↕ I-5 SB Ramps</p> <p>980 / 676 ↕ 329 / 196</p> <p>S Bonnyview Rd</p> <p>1445 / 867 ↕ 847 / 538</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>348 / 271 ↕ 876 / 594</p> <p>S Bonnyview Rd</p> <p>733 / 457 ↕ 948 / 557</p> <p>543 / 373 ↕ 5 / 3 ↕ 284 / 210</p>	<p>6</p> <p>546 / 342 ↕ 15 / 0 ↕ 191 / 170 ↕ Churn Creek Rd</p> <p>160 / 98 ↕ 571 / 335 ↕ 35 / 35</p> <p>S Bonnyview Rd</p> <p>502 / 401 ↕ 679 / 356 ↕ 80 / 104</p> <p>125 / 175 ↕ 10 / 5 ↕ 25 / 50</p>	<p>7</p> <p>93 / 72 ↕ 24 / 10 ↕ Alrose Ln</p> <p>26 / 26 ↕ 687 / 472 ↕ 5 / 0</p> <p>Churn Creek Rd</p> <p>106 / 78 ↕ 802 / 451 ↕ 12 / 0</p> <p>10 / 0 ↕ 5 / 5 ↕ 5 / 0</p>	<p>8</p> <p>193 / 201 ↕ 102 / 71 ↕ Victor Ave</p> <p>95 / 41 ↕ 440 / 322</p> <p>Churn Creek Rd</p> <p>194 / 121 ↕ 522 / 265</p>
<p>9</p> <p>370 / 248 ↕ 52 / 46 ↕ Rancho Rd</p> <p>60 / 44 ↕ 147 / 98</p> <p>Churn Creek Rd</p> <p>462 / 260 ↕ 171 / 86</p>	<p>10</p> <p>24 / 30 ↕ 139 / 83 ↕ Churn Creek Rd</p> <p>Smith Rd</p> <p>14 / 16 ↕ 23 / 54</p> <p>55 / 25 ↕ 129 / 76</p>	<p>24</p> <p>393 / 448 ↕ Proposed Project South Access</p> <p>595 / 775 ↕ 46 / 49</p> <p>Smith Rd</p> <p>26 / 37</p>	<p>25</p> <p>414 / 530 ↕ 26 / 52 ↕ NEW I-5 SB Ramps</p> <p>10 / 10 ↕ 227 / 294</p> <p>Smith Rd</p> <p>135 / 152 ↕ 28* / 332</p>
<p>26</p> <p>NEW I-5 NB Ramps</p> <p>21 / 21 ↕ 35 / 45</p> <p>Smith Rd</p> <p>275 / 310 ↕ 35 / 74</p> <p>201 / 259 ↕ 10 / 20</p>			

LEGEND

- Study Intersection
- Future Intersection*
- Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway (Options 2 & 3)

**Future Smith Road/I-5 Ramps (Option 3)

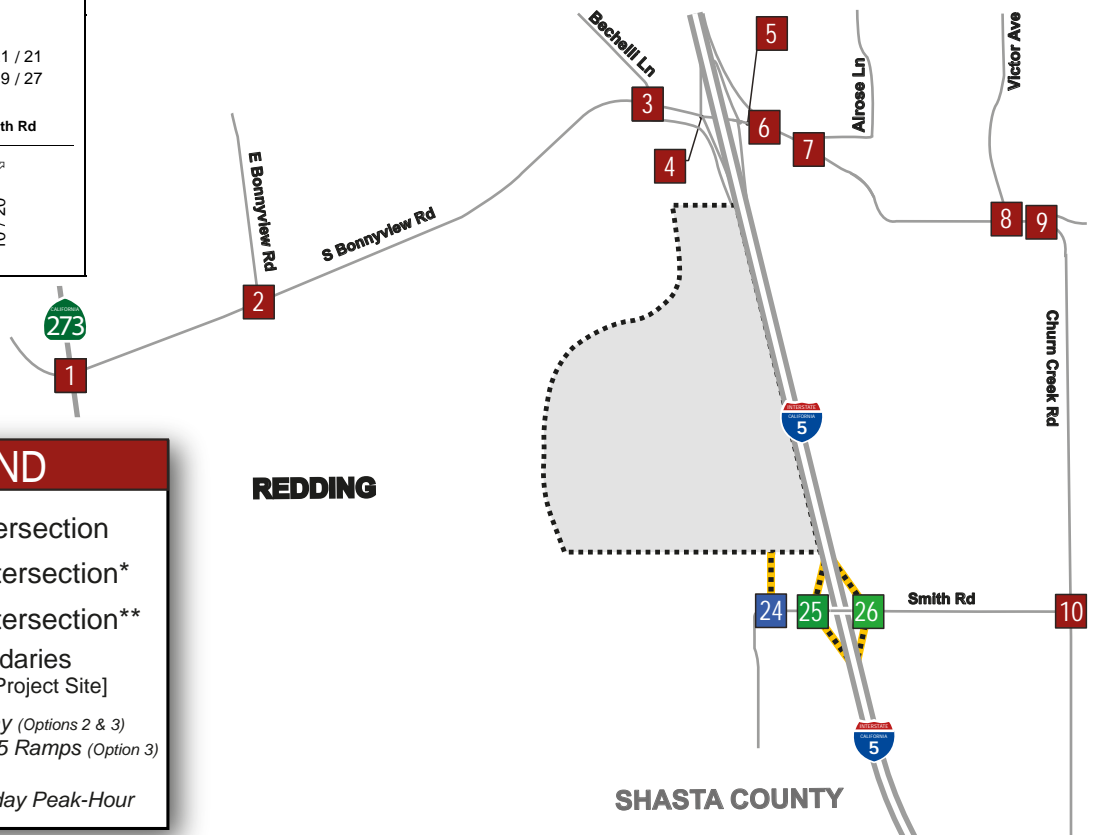
Volumes: Friday/Saturday Peak-Hour

REDDING

SHASTA COUNTY

Redding Rancheria: Traffic Impact Study

<p>1</p> <p>19 / 9 ↕ 770 / 422 ↕ 408 / 313 ↕ S Market St (SR-273)</p> <p>307 / 221 ↕ 80 / 58 ↕ 499 / 319</p> <p>Cedars Rd</p> <p>16 / 0 ↕ 104 / 57 ↕ 70 / 55</p> <p>61 / 39 ↕ 506 / 420 ↕ 396 / 288</p>	<p>2</p> <p>48 / 31 ↕ 7 / 0 ↕ 354 / 126 ↕ E Bonnyview Rd</p> <p>248 / 136 ↕ 1164 / 796 ↕ 13 / 13</p> <p>S Bonnyview Rd</p> <p>53 / 22 ↕ 1100 / 775 ↕ 10 / 10</p> <p>15 / 15 ↕ 20 / 20 ↕ 19 / 19</p>	<p>3</p> <p>316 / 134 ↕ 10 / 6 ↕ 926 / 341 ↕ Bechelli Ln</p> <p>454 / 266 ↕ 1136 / 846 ↕ 59 / 27</p> <p>S Bonnyview Rd</p> <p>263 / 143 ↕ 1221 / 792 ↕ 15 / 15</p> <p>25 / 22 ↕ 25 / 8 ↕ 50 / 23</p>	<p>4</p> <p>700 / 464 ↕ 1 / 1 ↕ 260 / 161 ↕ I-5 SB Ramps</p> <p>980 / 676 ↕ 329 / 196</p> <p>S Bonnyview Rd</p> <p>1445 / 867 ↕ 741 / 422</p>
<p>5</p> <p>I-5 NB Ramps</p> <p>348 / 271 ↕ 876 / 594</p> <p>S Bonnyview Rd</p> <p>733 / 457 ↕ 948 / 557</p> <p>489 / 333 ↕ 5 / 3 ↕ 284 / 210</p>	<p>6</p> <p>546 / 342 ↕ 15 / 0 ↕ 191 / 170 ↕ Churn Creek Rd</p> <p>160 / 98 ↕ 571 / 335 ↕ 35 / 35</p> <p>S Bonnyview Rd</p> <p>502 / 401 ↕ 679 / 356 ↕ 80 / 104</p> <p>125 / 175 ↕ 10 / 5 ↕ 25 / 50</p>	<p>7</p> <p>93 / 72 ↕ 24 / 10 ↕ Alrose Ln</p> <p>26 / 26 ↕ 687 / 472 ↕ 5 / 0</p> <p>Churn Creek Rd</p> <p>106 / 78 ↕ 802 / 451 ↕ 12 / 0</p> <p>10 / 0 ↕ 5 / 5 ↕ 5 / 0</p>	<p>8</p> <p>193 / 201 ↕ 102 / 71 ↕ Victor Ave</p> <p>95 / 41 ↕ 440 / 322</p> <p>Churn Creek Rd</p> <p>194 / 121 ↕ 522 / 265</p>
<p>9</p> <p>370 / 248 ↕ 36 / 28 ↕ Rancho Rd</p> <p>52 / 38 ↕ 147 / 98</p> <p>Churn Creek Rd</p> <p>462 / 260 ↕ 171 / 86</p> <p>NEW I-5 NB Ramps</p> <p>21 / 21 ↕ 19 / 27</p> <p>Smith Rd</p> <p>133 / 212 ↕ 27 / 68</p> <p>75 / 124 ↕ 10 / 20</p>	<p>10</p> <p>8 / 12 ↕ 139 / 83 ↕ Churn Creek Rd</p> <p>Smith Rd</p> <p>6 / 10 ↕ 23 / 54</p> <p>55 / 25 ↕ 129 / 76</p>	<p>24</p> <p>176 / 300 ↕ Proposed Project South Access</p> <p>180 / 327 ↕ 46 / 49</p> <p>Smith Rd</p> <p>26 / 37</p>	<p>25</p> <p>141 / 235 ↕ 26 / 52 ↕ NEW I-5 SB Ramps</p> <p>10 / 10 ↕ 84 / 141</p> <p>Smith Rd</p> <p>68 / 109 ↕ 13^a / 228</p>



LEGEND

- Study Intersection
- Future Intersection*
- Future Intersection**
- Site Boundaries
[Proposed Project Site]

*Future project driveway (Options 2 & 3)

**Future Smith Road/I-5 Ramps (Option 3)

Volumes: Friday/Saturday Peak-Hour

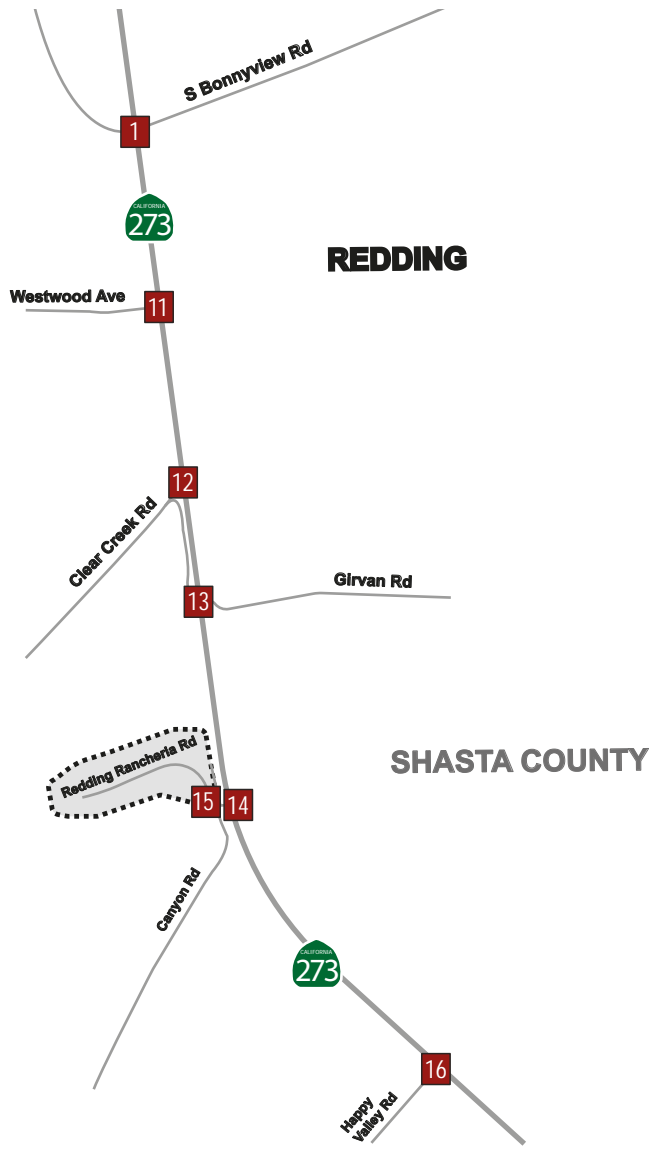
Redding Rancheria: Traffic Impact Study

<p>17</p> <p>18 / 9 ↔ 404 / 252 ↔ 224 / 232 S Market St (SR-273)</p> <p>↔ 175 / 166 ↔ 117 / 69 ↔ 256 / 155</p> <p>North St</p> <p>15 / 5 ↔ 126 / 95 ↔ 68 / 22</p> <p>↔ 66 / 33 ↔ 250 / 190 ↔ 253 / 182</p>	<p>18</p> <p>114 / 119 ↔ 128 / 139 ↔ 276 / 296</p> <p>Oak St</p> <p>↔ 380 / 460 ↔ 505 / 266 ↔ 13 / 10</p> <p>North St</p> <p>177 / 208 ↔ 407 / 261 ↔ 4 / 2</p> <p>↔ 4 / 4 ↔ 176 / 220 ↔ 16 / 13</p>	<p>19</p> <p>568 / 560 ↔ 227 / 136</p> <p>I-5 SB Ramps</p> <p>↔ 374 / 227</p> <p>North St</p> <p>742 / 592 ↔</p>	<p>20</p> <p>I-5 NB Ramps</p> <p>↔ 44 / 48 ↔ 279 / 168 ↔ 214 / 161</p> <p>North St</p> <p>↔ 351 / 305 ↔ 249 / 178 ↔ 317 / 212</p> <p>McMurray Dr</p> <p>↔ 93 / 62 ↔ 241 / 146 ↔ 262 / 218</p>
<p>21</p> <p>149 / 137</p> <p>Oak St</p> <p>↔ 171 / 208 ↔ 392 / 308 ↔ 23 / 39</p> <p>Balls Ferry Rd</p> <p>↔ 3 / 3 ↔ 400 / 227 ↔ 12 / 4</p> <p>↔ 16 / 13 ↔ 4 / 5 ↔ 56 / 35</p>	<p>22</p> <p>9 / 27 ↔ 83 / 52 ↔ 24 / 15</p> <p>Ventura St</p> <p>↔ 27 / 21 ↔ 570 / 537 ↔ 513 / 430</p> <p>Balls Ferry Rd</p> <p>↔ 4 / 3 ↔ 439 / 243 ↔ 168 / 157</p> <p>I-5 SB Ramp</p>	<p>23</p> <p>272 / 233 ↔ 232 / 162</p> <p>McMurray Dr</p> <p>↔ 197 / 137 ↔ 631 / 512</p> <p>Balls Ferry Rd</p> <p>↔ 115 / 61 ↔ 341 / 186</p> <p>I-5 NB Ramp</p> <p>↔ 279 / 276 ↔ 177 / 132 ↔ 256 / 148</p>	



Redding Rancheria: Traffic Impact Study

<p>1</p> <p>9 / 5 720 / 424 338 / 238 S Market St (SR-273)</p> <p>224 / 144 80 / 57 554 / 409</p> <p>Cedars Rd</p> <p>S Bonnyview Rd</p> <p>10 / 0 83 / 46 68 / 54</p> <p>55 / 35 435 / 360 408 / 293</p>	<p>11</p> <p>421 / 257 777 / 531 S Market St (SR-273)</p> <p>Westwood Ave</p> <p>278 / 207</p> <p>236 / 177</p> <p>152 / 130 592 / 392</p>	<p>12</p> <p>77 / 56 931 / 648 S Market St (SR-273)</p> <p>Clear Creek Rd</p> <p>130 / 73</p> <p>37 / 19</p> <p>21 / 23 627 / 451</p>	<p>13</p> <p>32 / 29 814 / 561 94 / 69 S Market St (SR-273)</p> <p>61 / 51 18 / 6 160 / 103</p> <p>Girvan Rd</p> <p>8 / 15 20 / 12 57 / 40</p> <p>35 / 31 580 / 416 148 / 101</p>
<p>14</p> <p>496 / 402 547 / 306 S Market St (SR-273)</p> <p>Redding Rancheria Rd</p> <p>377 / 312</p> <p>83 / 57</p> <p>94 / 88 472 / 277</p>	<p>15</p> <p>15 / 10 229 / 185 Canyon Rd</p> <p>235 / 272</p> <p>350 / 196 Redding Rancheria Rd</p> <p>11 / 12 222 / 213</p> <p>Canyon Rd</p>	<p>16</p> <p>72 / 47 479 / 274 S Market St (SR-273)</p> <p>Happy Valley Rd</p> <p>65 / 41</p> <p>79 / 56</p> <p>77 / 58 382 / 278</p>	



LEGEND

Study Intersection

Site Boundaries
[Win River Casino Site]

Volumes: Friday/Saturday Peak-Hour



Proposed Project LOS Conditions and Impacts at Intersections

Traffic operations were evaluated under Opening Year (2025) and Cumulative (2040) development conditions.

Opening Year (2025) plus Project

Results of the analysis under Opening Year (2025) plus Project Conditions are presented in **Tables 23-27**. Additional details are provided in **Appendix F**.

Table 23 – Opening Year (2025) plus Proposed Project Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with North Only Access Alternative (Option 1)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025)		Opening Year (2025) plus Proposed Project (1A)		Opening Year (2025) plus Proposed Project (1B)		Opening Year (2025) plus Proposed Project (1C)		Opening Year (2025) plus Proposed Project (1D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	23.2	C	24.2	C	23.4	C	22.8	C	21.4	C
				SAT PM	20.2	C	17.8	B	17.1	B	17.6	B	16.2	B
2	S Bonnyview Rd @ E Bonnyview Rd	Signal	D	FRI PM	17.8	B	18.3	B	17.9	B	18.1	B	17.3	B
				SAT PM	7.5	A	7.5	A	7.4	A	7.5	A	7.4	A
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	49.9	D	402.3	F	302.2	F	334.3	F	89.6	F
				SAT PM	15.1	B	531.5	F	253.2	F	438.9	F	92.5	F
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	103.1	F	179.4	F	157.3	F	165.5	F	115.8	F
				SAT PM	27.9	C	76.9	E	54.6	D	68.8	E	35.0	D
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	54.6	D	119.3	F	99.0	F	106.4	F	64.7	E
				SAT PM	19.7	B	63.3	E	30.8	C	52.9	D	27.2	C
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	96.2	F	95.8	F	95.9	F	95.9	F	96.1	F
				SAT PM	43.6	D	43.5	D	43.6	D	43.5	D	43.5	D
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	17.2	C	17.9	C	17.7	C	17.8	C	17.3	C
				SAT PM	11.2	B	11.4	B	11.4	B	11.4	B	11.3	B
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	68.0	F	80.8	F	78.9	F	78.9	F	70.3	F
				SAT PM	16.6	C	17.7	C	17.3	C	17.6	C	16.9	C
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	21.1	C	23.1	C	22.5	C	22.6	C	21.4	C
				SAT PM	11.2	B	11.5	B	11.3	B	11.4	B	11.3	B
10	Churn Creek Rd @ Smith Rd	SSSC*	C	FRI PM	10.3	B	10.3	B	10.3	B	10.3	B	10.3	B
				SAT PM	9.3	A	9.3	A	9.3	A	9.3	A	9.3	A

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

Table 24 – Opening Year (2025) plus Proposed Project Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with North and South Access Alternative (Option 2)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025)		Opening Year (2025) plus Proposed Project (2A)		Opening Year (2025) plus Proposed Project (2B)		Opening Year (2025) plus Proposed Project (2C)		Opening Year (2025) plus Proposed Project (2D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	23.2	C	23.3	C	22.6	C	22.8	C	20.7	C
				SAT PM	20.2	C	17.8	B	17.1	B	17.6	B	16.2	B
2	S Bonnyview Rd @ E Bonnyview Rd	Signal	D	FRI PM	17.8	B	18.3	B	17.9	B	18.1	B	17.3	B
				SAT PM	7.5	A	7.5	A	7.4	A	7.5	A	7.4	A
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	49.9	D	210.6	F	159.1	F	179.8	F	68.9	E
				SAT PM	15.1	B	224.1	F	97.0	F	177.8	F	42.9	D
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	103.1	F	165.5	F	147.6	F	154.2	F	109.7	F
				SAT PM	27.9	C	82.2	F	56.8	E	72.9	E	35.1	D
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	54.6	D	91.7	F	77.3	E	82.8	F	60.6	E
				SAT PM	19.7	B	41.7	D	22.3	C	36.9	D	25.6	C
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	96.2	F	95.8	F	95.9	F	95.9	F	96.1	F
				SAT PM	43.6	D	43.5	D	43.6	D	43.5	D	43.5	D
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	17.2	C	17.9	C	17.7	C	17.8	C	17.3	C
				SAT PM	11.2	B	11.4	B	11.4	B	11.4	B	11.3	B
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	68.0	F	80.8	F	78.9	F	78.9	F	70.3	F
				SAT PM	16.6	C	17.7	C	17.3	C	17.6	C	16.9	C
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	21.1	C	23.1	C	22.5	C	22.6	C	21.4	C
				SAT PM	11.2	B	11.5	B	11.3	B	11.4	B	11.3	B
10	Churn Creek Rd @ Smith Rd	SSSC*	C	FRI PM	10.3	B	11.2	B	10.9	B	11.0	B	10.1	B
				SAT PM	9.3	A	10.4	B	10.0	B	10.3	B	9.6	A
24	Smith Rd @ Proposed Project South Dwy	SSSC*	C	FRI PM	-	-	10.1	B	9.7	A	9.8	A	9.0	A
				SAT PM	-	-	10.3	B	9.5	A	10.1	B	9.3	A

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

Table 25 – Opening Year (2025) plus Proposed Project Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with South Only and New Interchange Access Alternative (Option 3)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025)		Opening Year (2025) plus Proposed Project (3A)		Opening Year (2025) plus Proposed Project (3B)		Opening Year (2025) plus Proposed Project (3C)		Opening Year (2025) plus Proposed Project (3D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	23.2	C	22.9	C	23.1	C	23.4	C	21.1	C
				SAT PM	20.2	C	17.4	B	17.2	B	17.8	B	16.4	B
2	S Bonnyview Rd @ E Bonnyview Rd	Signal	D	FRI PM	17.8	B	17.0	B	16.7	B	16.8	B	16.1	B
				SAT PM	7.5	A	7.3	A	7.2	A	7.3	A	7.2	A
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	49.9	D	53.5	D	52.7	D	53.0	D	51.5	D
				SAT PM	15.1	B	15.7	B	15.4	B	15.6	B	15.2	B
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	103.1	F	123.5	F	119.0	F	120.6	F	103.0	F
				SAT PM	27.9	C	27.3	C	26.5	C	26.9	C	26.0	C
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	54.6	D	64.4	E	59.3	E	61.0	E	53.1	D
				SAT PM	19.7	B	21.7	C	20.1	C	21.3	C	20.4	C
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	96.2	F	95.3	F	95.3	F	95.3	F	95.3	F
				SAT PM	43.6	D	44.3	D	44.3	D	44.3	D	44.3	D
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	17.2	C	15.6	C	15.6	C	15.6	C	15.6	C
				SAT PM	11.2	B	10.9	B	10.9	B	10.9	B	10.9	B
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	68.0	F	42.8	E	42.8	E	42.8	E	42.8	E
				SAT PM	16.6	C	15.0	C	15.0	C	15.0	C	15.0	C
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	21.1	C	24.4	C	22.6	C	23.0	C	17.8	C
				SAT PM	11.2	B	12.5	B	11.9	B	12.3	B	11.3	B
10	Churn Creek Rd @ Smith Rd	SSSC*	C	FRI PM	10.3	B	10.1	B	9.9	A	10.0	B	9.5	A
				SAT PM	9.3	A	9.3	A	9.1	A	9.2	A	9.1	A
24	Smith Rd @ Proposed Project South Dwy	SSSC*	C	FRI PM	-	-	12.9	B	11.1	B	11.7	B	9.7	A
				SAT PM	-	-	13.4	B	15.2	C	12.4	B	10.6	B
25	Smith Rd @ I-5 SB Ramps	Signal	D	FRI PM	-	-	6.6	A	6.9	A	6.9	A	7.0	A
				SAT PM	-	-	9.7	A	15.9	C	8.3	A	6.6	A
26	Smith Rd @ I-5 NB Ramps	AWSC	D	FRI PM	-	-	11.5	B	9.9	A	10.4	B	8.0	A
				SAT PM	-	-	13.1	B	17.2	C	11.8	B	9.0	A

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

Table 26 – Opening Year (2025) plus Proposed Project Intersection Level of Service Summary at Anderson Site (Alternative E)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025)		Opening Year (2025) plus Proposed Project (E)	
					Delay (sec)	LOS	Delay (sec)	LOS
17	SR-273 (Market St) @ North St	Signal	D	FRI PM	15.9	B	25.1	C
				SAT PM	12.7	B	19.6	B
18	North St @ Oak St	SSSC*	D	FRI PM	24.3	C	-	F
				SAT PM	14.6	B	-	F
19	North St @ I-5 SB Off Ramp	AWSC	D	FRI PM	12.2	B	36.1	E
				SAT PM	9.0	A	26.5	D
20	North Street @ McMurray Dr/I-5 NB On Ramp	AWSC	D	FRI PM	36.2	E	60.7	F
				SAT PM	13.7	B	18.5	C
21	Balls Ferry Rd @ Oak St	SSSC*	D	FRI PM	15.0	C	24.2	C
				SAT PM	12.8	B	19.2	C
22	Balls Ferry Rd @ Venutra St/I-5 SB On Ramp	Signal	D	FRI PM	26.5	C	26.8	C
				SAT PM	8.6	A	23.1	C
23	Balls Ferry Rd @ McMurray Dr/I-5 NB Off Ramp	Signal	D	FRI PM	23.3	C	25.1	C
				SAT PM	8.3	A	21.4	C

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

Table 27 – Opening Year (2025) plus Proposed Project Intersection Level of Service Summary at Win River Casino Site (Alternative F)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025)		Opening Year (2025) plus Proposed Project (F)	
					Delay (sec)	LOS	Delay (sec)	LOS
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	23.2	C	23.2	C
				SAT PM	20.2	C	17.2	B
11	SR-273 (Market St) @ Westwood Ave	Signal	D	FRI PM	12.7	B	12.7	B
				SAT PM	10.2	B	9.8	A
12	SR-273 (Market St) @ Clear Creek Rd	Signal	D	FRI PM	6.2	A	6.2	A
				SAT PM	5.4	A	5.4	A
13	SR-273 (Market St) @ Girvan Rd	Signal	D	FRI PM	14.7	B	15.0	B
				SAT PM	12.3	B	12.4	B
14	SR-273 (Market St) @ Redding Rancheria Rd	Signal	D	FRI PM	9.1	A	9.8	A
				SAT PM	8.1	A	8.6	A
15	Canyon Rd @ Redding Rancheria Rd	Signal	D	FRI PM	11.5	B	11.9	B
				SAT PM	10.0	A	10.2	B
16	SR-273 (Market St) @ Happy Valley Rd	Signal	D	FRI PM	7.4	A	7.4	A
				SAT PM	6.4	A	6.3	A

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

As shown in the **Tables 23 - 27**, the following intersections would fail to meet acceptable level of service thresholds in the Opening Year (2025) scenario. These intersections fail based on established significance criteria and with the addition of project-related traffic to create a potentially significant impact.

Opening Year (2025) Intersection Operating Deficiently

Strawberry Fields Site: North Only Access Alternative (Option 1)

- #3 – Bonnyview Road at Bechelli Lane (Alternatives A, B, C, D)
- #4 – Bonnyview Road at I-5 SB Ramps (Alternatives A, B, C, D)
- #5 – Bonnyview Road at I-5 NB Ramps (Alternative A, B, C, D)
- #6 – Bonnyview Road at Churn Creek Road (Alternative A, B, C, D)
- #8 – Churn Creek Road at Victor Avenue (Alternatives A, B, C, D)

Strawberry Fields Site: North and South Access Alternative (Option 2)

- #3 – Bonnyview Road at Bechelli Lane (Alternatives A, B, C, D)
- #4 – Bonnyview Road at I-5 SB Ramps (Alternatives A, B, C, D)
- #5 – Bonnyview Road at I-5 NB Ramps (Alternative A, B, C, D)
- #6 – Bonnyview Road at Churn Creek Road (Alternative A, B, C, D)
- #8 – Churn Creek Road at Victor Avenue (Alternatives A, B, C, D)

Strawberry Fields Site: South Only Access with New Interchange Alternative (Option 3)

- #4 – Bonnyview Road at I-5 SB Ramps (Alternatives A, B, C, D)
- #5 – Bonnyview Road at I-5 NB Ramps (Alternative A, B, C, D)

Anderson Site (Alternative E)

- #18 – North Street at Oak Street
- #19 – North Street at I-5 Southbound Off Ramp
- #20 – North Street at McMurray Drive and I-5 Northbound On-Ramp

Cumulative (2040) plus Project

Results of the analysis under Cumulative (2040) plus Project Conditions are presented in **Tables 28-32**. Additional details are provided in **Appendix G**.

Table 28 – Cumulative (2040) plus Proposed Project Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with North Only Access Alternative (Option 1)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040)		Cumulative (2040) plus Proposed Project (1A)		Cumulative (2040) plus Proposed Project (1B)		Cumulative (2040) Proposed Project (1C)		Cumulative (2040) plus Proposed Project (1D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	28.4	C	28.5	C	27.5	C	27.8	B	24.6	C
				SAT PM	18.7	B	19.4	B	18.6	B	19.1	B	17.6	B
2	S Bonnyview Rd @ E Bonnyview Rd	Signal	D	FRI PM	24.8	C	26.0	C	25.0	C	25.3	C	23.4	C
				SAT PM	8.3	A	8.4	A	8.3	A	8.4	A	8.3	A
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	116.9	F	301.7	F	281.3	F	297.2	F	206.9	F
				SAT PM	89.2	F	536.5	F	435.9	F	440.5	F	343.4	F
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	46.1	D	194.9	F	167.6	F	189.7	F	119.8	F
				SAT PM	38.1	D	338.4	F	308.7	F	252.1	F	223.0	F
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	32.3	C	167.2	F	144.6	F	153.8	F	68.3	E
				SAT PM	19.7	B	291.5	F	253.9	F	232.6	F	133.3	F
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	39.4	D	221.0	F	202.4	F	213.1	F	82.4	F
				SAT PM	20.5	C	361.8	F	313.8	F	357.2	F	109.9	F
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	10.8	B	234.3	F	222.3	F	257.1	F	77.6	F
				SAT PM	1.6	A	456.0	F	420.3	F	430.1	F	98.5	F
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	439.6	F	486.0	F	476.3	F	476.3	F	439.6	F
				SAT PM	31.7	D	36.6	E	34.6	D	35.9	E	33.2	D
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	72.2	F	91.3	F	87.6	F	88.3	F	76.7	F
				SAT PM	12.8	B	13.3	B	13.1	B	13.2	B	12.9	B
10	Churn Creek Rd @ Smith Rd	SSSC*	C	FRI PM	10.8	B	10.8	B	10.8	B	10.8	B	10.8	B
				SAT PM	9.5	A	9.5	A	9.5	A	9.5	A	9.5	A

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

(c) LOS calculations for intersections 3-7 were performed using VISSIM, all other intersections were performed using Synchro 9.0

Table 29 – Cumulative (2040) plus Proposed Project Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with North and South Access Alternative (Option 2)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040)		Cumulative (2040) plus Proposed Project (2A)		Cumulative (2040) plus Proposed Project (2B)		Cumulative (2040) Proposed Project (2C)		Cumulative (2040) plus Proposed Project (2D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	28.4	C	28.5	C	27.5	C	27.8	C	24.6	C
				SAT PM	18.7	B	19.4	B	18.6	B	19.1	B	17.6	B
2	S Bonnyview Rd @ E Bonnyview Rd	Signal	D	FRI PM	24.8	C	26.0	C	25.0	C	25.3	C	23.4	C
				SAT PM	8.3	A	8.4	A	8.3	A	8.4	A	8.3	A
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	116.9	F	291.5	F	256.8	F	244.9	F	185.3	F
				SAT PM	89.2	F	405.8	F	285.9	F	373.2	F	250.6	F
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	46.1	D	181.9	F	148.7	F	155.6	F	104.9	F
				SAT PM	38.1	D	325.7	F	240.8	F	298.5	F	181.7	F
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	32.3	C	130.8	F	99.7	F	117.6	F	56.5	E
				SAT PM	19.7	B	229.8	F	149.4	F	193.6	F	97.4	F
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	39.4	D	178.4	F	125.0	F	147.4	F	72.6	E
				SAT PM	20.5	C	273.6	F	147.4	F	188.7	F	97.7	F
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	10.8	B	201.1	F	127.9	F	171.2	F	64.2	F
				SAT PM	1.6	A	281.3	F	133.9	F	181.7	F	88.6	F
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	439.6	F	486.0	F	26.4	F	476.3	F	25.5	F
				SAT PM	31.7	D	36.6	E	34.6	D	35.9	E	33.2	D
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	72.2	F	91.3	F	87.6	F	88.3	F	76.7	F
				SAT PM	12.8	B	13.3	B	13.1	B	13.2	B	12.9	B
10	Churn Creek Rd @ Smith Rd	SSSC*	C	FRI PM	10.8	B	12.2	B	11.8	B	11.9	B	10.7	B
				SAT PM	9.5	A	11.0	B	10.4	B	10.7	B	9.9	A
24	Smith Rd @ Proposed Project South Dwy	SSSC*	C	FRI PM	-	-	10.2	B	9.8	A	9.9	A	9.1	A
				SAT PM	-	-	10.4	B	9.6	A	10.2	B	9.4	A

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

(c) LOS calculations for intersections 3-7 were performed using VISSIM, all other intersections were performed using Synchro 9.0

Table 30 – Cumulative (2040) plus Proposed Project Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with South Only and New Interchange Access Alternative (Option 3)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040)		Cumulative (2040) plus Proposed Project (3A)		Cumulative (2040) plus Proposed Project (3B)		Cumulative (2040) Proposed Project (3C)		Cumulative (2040) plus Proposed Project (3D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	28.4	C	28.4	C	28.3	C	28.6	C	25.2	C
				SAT PM	18.7	B	20.3	C	18.8	B	19.4	B	17.9	B
2	S Bonnyview Rd @ E Bonnyview Rd	Signal	D	FRI PM	24.8	C	23.3	C	22.6	C	22.8	C	21.2	C
				SAT PM	8.3	A	8.2	A	8.1	A	8.1	A	8.0	A
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	116.9	F	114.2	F	120.6	F	116.4	F	119.4	F
				SAT PM	89.2	F	94.5	F	87.8	F	94.7	F	88.4	F
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	46.1	D	45.9	D	47.3	D	46.3	D	46.9	D
				SAT PM	38.1	D	38.3	D	37.2	D	38.3	D	37.8	D
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	32.3	C	33.6	C	33.6	C	33.7	C	33.2	C
				SAT PM	19.7	B	22.3	C	21.1	C	22.3	C	21.0	C
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	39.4	D	35.9	D	37.3	D	37.1	D	36.6	D
				SAT PM	20.5	C	19.6	B	20.1	C	19.3	B	20.2	C
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	10.8	B	7.6	A	7.3	A	8.2	A	7.6	A
				SAT PM	1.6	A	1.5	A	1.5	A	1.5	A	1.6	A
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	439.6	F	270.3	F	270.3	F	270.3	F	270.3	F
				SAT PM	31.7	D	23.8	C	23.8	C	23.8	C	23.8	C
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	72.2	F	97.6	F	81.0	F	83.9	F	41.2	E
				SAT PM	12.8	B	15.2	C	14.1	B	14.8	B	12.9	B
10	Churn Creek Rd @ Smith Rd	SSSC*	C	FRI PM	10.8	B	10.4	B	10.2	B	10.3	B	9.7	A
				SAT PM	9.5	A	9.5	A	9.3	A	9.4	A	9.2	A
24	Smith Rd @ Proposed Project South Dwy	SSSC*	C	FRI PM	-	-	13.1	B	11.2	B	11.9	B	9.7	A
				SAT PM	-	-	13.4	B	10.2	B	12.4	B	10.6	B
25	Smith Rd @ I-5 SB Ramps	Signal	D	FRI PM	-	-	17.8	B	12.3	B	13.5	B	7.7	A
				SAT PM	-	-	35.4	D	12.5	B	22.9	C	9.0	A
26	Smith Rd @ I-5 NB Ramps	AWSC	D	FRI PM	-	-	11.5	B	9.9	A	11.0	B	8.1	A
				SAT PM	-	-	13.1	B	9.4	A	11.8	B	9.0	A

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

(c) LOS calculations for intersections 3-7 were performed using VISSIM, all other intersections were performed using Synchro 9.0

Table 31 – Cumulative (2040) plus Proposed Project Intersection Level of Service Summary at Anderson Site (Alternative E)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040)		Cumulative (2040) plus Proposed Project (E)	
					Delay (sec)	LOS	Delay (sec)	LOS
17	SR-273 (Market St) @ North St	Signal	D	FRI PM	20.0	B	42.2	D
				SAT PM	13.8	B	28.2	C
18	North St @ Oak St	SSSC*	D	FRI PM	33.1	D	-	F
				SAT PM	16.6	C	-	F
19	North St @ I-5 SB Off Ramp	AWSC	D	FRI PM	13.7	B	52.3	F
				SAT PM	9.4	A	35.7	E
20	North Street @ McMurray Dr/I-5 NB On Ramp	AWSC	D	FRI PM	72.3	F	95.7	F
				SAT PM	18.8	C	26.5	D
21	Balls Ferry Rd @ Oak St	SSSC*	D	FRI PM	19.6	C	43.6	E
				SAT PM	15.0	C	26.0	D
22	Balls Ferry Rd @ Venutra St/I-5 SB On Ramp	Signal	D	FRI PM	28.3	C	33.0	C
				SAT PM	23.0	D	23.8	C
23	Balls Ferry Rd @ McMurray Dr/I-5 NB Off Ramp	Signal	D	FRI PM	41.7	D	43.0	D
				SAT PM	42.2	D	40.8	D

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

Table 32 – Cumulative (2040) plus Proposed Project Intersection Level of Service Summary at Win River Casino Site (Alternative F)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040)		Cumulative (2040) plus Proposed Project (F)	
					Delay (sec)	LOS	Delay (sec)	LOS
1	S Bonnyview Rd @ SR-273 (Market St)	Signal	D	FRI PM	28.4	C	31.8	C
				SAT PM	18.7	B	19.5	B
11	SR-273 (Market St) @ Westwood Ave	Signal	D	FRI PM	13.8	B	13.8	B
				SAT PM	10.3	B	10.3	B
12	SR-273 (Market St) @ Clear Creek Rd	Signal	D	FRI PM	6.6	A	6.7	A
				SAT PM	5.6	A	5.6	A
13	SR-273 (Market St) @ Girvan Rd	Signal	D	FRI PM	18.4	B	18.7	B
				SAT PM	14.2	B	14.2	B
14	SR-273 (Market St) @ Redding Rancheria Rd	Signal	D	FRI PM	10.4	B	11.3	B
				SAT PM	8.5	A	9.0	A
15	Canyon Rd @ Redding Rancheria Rd	Signal	D	FRI PM	11.6	B	12.0	B
				SAT PM	10.0	B	10.3	B
16	SR-273 (Market St) @ Happy Valley Rd	Signal	D	FRI PM	7.6	A	7.6	A
				SAT PM	6.4	A	6.4	A

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

As shown in the **Tables 28 - 32**, the following intersections would fail to meet acceptable level of service thresholds in the Cumulative (2040) scenario. These intersections fail based on established significance criteria and with the addition of project-related traffic to create a potentially significant impact.

Cumulative (2040) Intersection Operating Deficiently

Strawberry Fields Site: North Only Access Alternative (Option 1)

- #3 – Bonnyview Road at Bechelli Lane (Alternatives A, B, C, D)
- #4 – Bonnyview Road at I-5 SB Ramps (Alternatives A, B, C, D)
- #5 – Bonnyview Road at I-5 NB Ramps (Alternative A, B, C, D)
- #6 – Bonnyview Road at Churn Creek Road (Alternative A, B, C, D)
- #7 – Churn Creek Rd at Alrose Lane (Alternative A, B, C, D)
- #8 – Churn Creek Road at Victor Avenue (Alternatives A, B, C, D)
- #9 – Churn Creek Road at Rancho Road (Alternatives A, B, C, D)

Strawberry Fields Site: North and South Access Alternative (Option 2)

- #3 – Bonnyview Road at Bechelli Lane (Alternatives A, B, C, D)
- #4 – Bonnyview Road at I-5 SB Ramps (Alternatives A, B, C, D)
- #5 – Bonnyview Road at I-5 NB Ramps (Alternative A, B, C, D)
- #6 – Bonnyview Road at Churn Creek Road (Alternative A, B, C, D)
- #7 – Churn Creek Rd at Alrose Lane (Alternative A, B, C, D)
- #8 – Churn Creek Road at Victor Avenue (Alternatives A, B, C, D)
- #9 – Churn Creek Road at Rancho Road (Alternatives A, B, C, D)

Strawberry Fields Site: South Only Access with New Interchange Alternative (Option 3)

- #3 – Bonnyview Rd at Bechelli Lane (Alternatives A, B, C, D)
- #9 – Churn Creek Road at Rancho Road (Alternatives A, B, C, D)

Anderson Site (Alternative E)

- #18 – North Street at Oak Street
- #19 – North Street at I-5 Southbound Off-Ramp
- #20 – North Street at McMurray Drive and I-5 Northbound On-Ramp
- #21 – Balls Ferry Road at Oak Street

Proposed Project Traffic Signal Warrant Analysis

Opening Year (2025) Plus Project and Cumulative (2040) Plus Project traffic volumes at unsignalized study intersections were compared against the peak-hour warrant in the *2014 California Manual on Uniform Traffic Control Devices (MUTCD)*.

Results of the analysis showed that the following intersections would satisfy Traffic Signal Warrant #3 by year 2025 and 2040.

Strawberry Fields Site (Alternatives A, B, C, and D)

- #7 – Churn Creek Road at Alrose Lane
- #8 – Churn Creek Road at Victor Ave
- #9 – Churn Creek Road at Rancho Road
- #19 – North Street at I-5 Off-Ramp
- #20 – North Street at McMurry Drive and I-5 Northbound On-Ramp

Alternative Site Alternative (Alternative E)

- #18 – North Street at Oak Street
- #19 – North Street at I-5 Southbound Off-Ramp
- #20 – North Street at McMurray Drive and I-5 Northbound On-Ramp

It should be noted that intersections #8, #9, and #20 meet the Traffic Signal Warrant in the Baseline scenarios as well. Other warrants such as for minimum vehicle volumes, interruption of continuous traffic, and traffic progression were not evaluated because they generally require higher traffic volumes to be satisfied. A copy of the analysis summary for Traffic Signal Warrant #3 is included in **Appendix C**.

Proposed Project LOS Conditions and Impacts on Roadway Segments

Project trips generated by the proposed Project were added to the Opening Year (2025) and Cumulative (2040) forecast roadway segment volumes.

Traffic analyses were completed to evaluate the operation of the study roadway segments in the Opening Year (2025) and Cumulative (2040), with the addition of the project.

Opening Year (2025) plus Project

Results of the Opening Year (2025) Plus Project analysis are presented in **Tables 33-34**. For the proposed project site, only Development Alternative A (Proposed Project) was evaluated. Development Alternative A has the highest trip generation and therefore represents a worst-case scenario. Additional details of the analysis are provided in **Appendix F**.

As shown in **Tables 33-34**, the roadway segments are expected to operate at acceptable levels of service based on established significance criteria under Opening Year (2025) plus Project Conditions.

Table 33 – Opening Year (2025) plus Proposed Project Roadway Segment Level of Service Summary (Two-Lane)

Location	Peak-Hour	Analysis Direction	Opening Year 2025			Opening Year 2025 + Project (1A)			Opening Year 2025 + Project (2A)			Opening Year 2025 + Project (3A)			Opening Year 2025 + Project (E)			Opening Year 2025 + Project (F)			
			LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	
Study Area 1																					
Bechelli Ln south of Bonnyview Rd	FRI	NB	A	92.7	0.05	C	77.7	0.35	C	81.6	0.27	A	92.9	0.05	-	-	-	-	-	-	
		SB	A	92.7	0.05	C	76.6	0.48	C	80.3	0.36	A	93.0	0.04	-	-	-	-	-	-	
	SAT	NB	A	93.6	0.03	C	75.6	0.35	C	80.5	0.26	A	93.8	0.03	-	-	-	-	-	-	
		SB	A	93.6	0.03	C	74.1	0.58	C	78.6	0.43	A	93.8	0.03	-	-	-	-	-	-	
Churn Creek Rd east of Alrose Ln	FRI	EB	C	77.9	0.46	C	77.5	0.47	C	77.5	0.47	C	78.9	0.44	-	-	-	-	-	-	
		WB	C	78.6	0.38	C	78.2	0.4	C	78.2	0.4	C	79.6	0.35	-	-	-	-	-		
	SAT	EB	C	82.8	0.26	C	82.6	0.27	C	82.6	0.27	C	83.1	0.24	-	-	-	-	-	-	
		WB	C	82.8	0.27	C	82.2	0.29	C	82.2	0.29	C	83.1	0.25	-	-	-	-	-	-	
Smith Rd west of Churn Creek Rd	FRI	EB	A	98.1	0.01	A	98.1	0.01	B	90.9	0.1	A	97.6	0.02	-	-	-	-	-	-	
		WB	A	98.1	0.03	A	98.1	0.03	A	92.2	0.15	A	97.6	0.04	-	-	-	-	-	-	
	SAT	EB	A	94.5	0.01	A	94.5	0.01	B	87.2	0.1	A	93.7	0.03	-	-	-	-	-	-	
		WB	A	94.5	0.02	A	94.5	0.02	B	87.4	0.17	A	93.7	0.03	-	-	-	-	-	-	
Study Area 2																					
Canyon Rd south of Redding Rancheria Rd	FRI	NB	B	85.0	0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	B	85.0	0.15
		SB	B	84.6	0.24	-	-	-	-	-	-	-	-	-	-	-	-	-	B	84.6	0.24
	SAT	NB	B	86.9	0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	B	86.8	0.15
		SB	B	86.9	0.13	-	-	-	-	-	-	-	-	-	-	-	-	-	B	86.9	0.14
Study Area 3																					
North St east of Oak St	FRI	EB	C	82.6	0.31	-	-	-	-	-	-	-	-	-	D	73.9	0.52	-	-	-	
		WB	C	82.9	0.28	-	-	-	-	-	-	-	-	-	D	74.1	0.43	-	-	-	
	SAT	EB	B	88.1	0.17	-	-	-	-	-	-	-	-	-	C	77.8	0.45	-	-	-	
		WB	B	88.1	0.19	-	-	-	-	-	-	-	-	-	C	78.2	0.35	-	-	-	
North St west of Oak St	FRI	EB	B	84.4	0.24	-	-	-	-	-	-	-	-	-	C	80.7	0.34	-	-	-	
		WB	B	84.0	0.26	-	-	-	-	-	-	-	-	-	C	80.6	0.35	-	-	-	
	SAT	EB	B	89.6	0.15	-	-	-	-	-	-	-	-	-	B	84.6	0.28	-	-	-	
		WB	B	89.6	0.15	-	-	-	-	-	-	-	-	-	B	84.9	0.22	-	-	-	
Oak St north of North St	FRI	NB	A	97.4	0.05	-	-	-	-	-	-	-	-	-	C	77.5	0.47	-	-	-	
		SB	A	97.4	0.04	-	-	-	-	-	-	-	-	-	C	78.1	0.33	-	-	-	
	SAT	NB	A	97.7	0.03	-	-	-	-	-	-	-	-	-	D	74.6	0.57	-	-	-	
		SB	A	97.7	0.04	-	-	-	-	-	-	-	-	-	D	75.0	0.35	-	-	-	
Oak St south of North St	FRI	NB	A	98.1	0.02	-	-	-	-	-	-	-	-	-	A	92.8	0.13	-	-	-	
		SB	A	98.1	0.02	-	-	-	-	-	-	-	-	-	A	92.0	0.09	-	-	-	
	SAT	NB	A	98.4	0.01	-	-	-	-	-	-	-	-	-	A	92.5	0.15	-	-	-	
		SB	A	98.4	0.01	-	-	-	-	-	-	-	-	-	A	91.7	0.09	-	-	-	

Notes:
PFFS = Percent Free-Flow Speed, v/c = Volume to Capacity

Table 34 – Opening Year (2025) plus Proposed Project Roadway Segment Level of Service Summary (Multilane)

Location	Peak-Hour	Analysis Direction	Opening Year 2025		Opening Year 2025 + Project (1A)		Opening Year 2025 + Project (2A)		Opening Year 2025 + Project (3A)		Opening Year 2025 + Project (E)		Opening Year 2025 + Project (F)	
			LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)
Study Area 1														
Bonnyview Rd west of Bechelli Ln	FRI	EB	B	17	B	17.3	B	17.3	B	17.8	-	-	-	-
		WB	B	17.7	C	23.1	C	20.7	C	18.6	-	-	-	-
	SAT	EB	A	10.1	A	10.6	A	10.6	B	11.6	-	-	-	-
		WB	B	12.5	C	19.5	B	16.4	B	13	-	-	-	-
Study Area 2														
Market St (SR 273) north of Canyon Rd	FRI	NB	A	7.1	-	-	-	-	-	-	-	-	A	7.5
		SB	A	8.8	-	-	-	-	-	-	-	-	A	9.2
	SAT	NB	A	4.9	-	-	-	-	-	-	-	-	A	5.2
		SB	A	5.8	-	-	-	-	-	-	-	-	A	6.3
Market St (SR 273) south of Canyon Rd	FRI	NB	A	4.9	-	-	-	-	-	-	-	-	A	5
		SB	A	5.5	-	-	-	-	-	-	-	-	A	5.6
	SAT	NB	A	3.1	-	-	-	-	-	-	-	-	A	3.2
		SB	A	3.1	-	-	-	-	-	-	-	-	A	3.2

Cumulative (2040) plus Project

Results of the Cumulative (2040) Plus Project analysis are presented in **Tables 35-36**. For the proposed project site, only Development Alternative A (Proposed Project) was evaluated. Development Alternative A has the highest trip generation and therefore represents a worst-case scenario. Additional details of the analysis are provided in **Appendix G**.

As shown in **Tables 35-36**, the roadway segments are expected to operate at acceptable levels of service based on established significance criteria under Cumulative (2040) plus Project Conditions.

Table 35 – Cumulative (2040) plus Proposed Project Roadway Segment Level of Service Summary (Two-Lane)

Location	Peak-Hour	Analysis Direction	Cumulative 2040			Cumulative 2040 + Project (1A)			Cumulative 2040 + Project (2A)			Cumulative 2040 + Project (3A)			Cumulative 2040+ Project (E)			Cumulative 2040 + Project F			
			LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	LOS	PFFS (%)	v/c	
Study Area 1																					
Bechelli Ln south of Bonnyview Rd	FRI	NB	A	91.9	0.06	C	77.1	0.36	C	81.1	0.28	A	92.2	0.07	-	-	-	-	-	-	
		SB	A	91.9	0.06	C	76.2	0.49	C	79.9	0.37	A	91.9	0.06	-	-	-	-	-	-	
	SAT	NB	A	93.3	0.03	C	75.4	0.35	C	80.3	0.27	A	93.5	0.03	-	-	-	-	-	-	
		SB	A	93.3	0.04	D	73.9	0.59	C	78.5	0.44	A	93.5	0.03	-	-	-	-	-	-	
Churn Creek Rd east of Alrose Ln	FRI	EB	D	73.9	0.56	D	73.5	0.57	D	73.5	0.57	C	75.3	0.53	-	-	-	-	-	-	
		WB	D	71.4	0.5	D	73.6	0.51	D	73.6	0.51	C	75.5	0.46	-	-	-	-	-	-	
	SAT	EB	C	81.7	0.31	C	81.2	0.32	C	81.2	0.32	C	82	0.3	-	-	-	-	-	-	
		WB	C	80.8	0.35	C	80.4	0.37	C	80.4	0.37	C	81.4	0.32	-	-	-	-	-	-	
Smith Rd west of Churn Creek Rd	FRI	EB	A	97.8	0.02	A	97.8	0.02	B	91.4	0.1	A	97.1	0.03	-	-	-	-	-	-	
		WB	A	97.8	0.03	A	97.8	0.03	A	91.7	0.16	A	97.1	0.05	-	-	-	-	-	-	
	SAT	EB	A	94.3	0.02	A	94.3	0.02	B	87.0	0.11	A	93.2	0.05	-	-	-	-	-	-	
		WB	A	94.3	0.02	A	94.3	0.02	B	86.9	0.18	A	93.2	0.04	-	-	-	-	-	-	
Study Area 2																					
Canyon Rd south of Redding Rancheria Rd	FRI	NB	B	84.9	0.16	-	-	-	-	-	-	-	-	-	-	-	-	-	B	84.9	0.16
		SB	B	84.5	0.24	-	-	-	-	-	-	-	-	-	-	-	-	-	B	84.5	0.24
	SAT	NB	B	86.8	0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	B	86.7	0.15
		SB	B	86.8	0.14	-	-	-	-	-	-	-	-	-	-	-	-	-	B	86.8	0.14
Study Area 3																					
North St east of Oak St	FRI	EB	C	80.5	0.36	-	-	-	-	-	-	-	-	-	D	71.5	0.57	-	-	-	
		WB	C	80.7	0.33	-	-	-	-	-	-	-	-	-	D	71.5	0.48	-	-	-	
	SAT	EB	B	86.6	0.2	-	-	-	-	-	-	-	-	-	C	76.4	0.47	-	-	-	
		WB	B	86.6	0.22	-	-	-	-	-	-	-	-	-	C	76.7	0.38	-	-	-	
North St west of Oak St	FRI	EB	C	82.5	0.28	-	-	-	-	-	-	-	-	-	C	78.5	0.38	-	-	-	
		WB	C	82.0	0.33	-	-	-	-	-	-	-	-	-	C	78.4	0.4	-	-	-	
	SAT	EB	C	88.2	0.18	-	-	-	-	-	-	-	-	-	B	83.3	0.3	-	-	-	
		WB	B	88.2	0.18	-	-	-	-	-	-	-	-	-	B	83.8	0.25	-	-	-	
Oak St north of North St	FRI	NB	A	97.3	0.05	-	-	-	-	-	-	-	-	-	C	77.5	0.47	-	-	-	
		SB	A	97.3	0.04	-	-	-	-	-	-	-	-	-	C	78.0	0.33	-	-	-	
	SAT	NB	A	97.6	0.03	-	-	-	-	-	-	-	-	-	D	74.5	0.57	-	-	-	
		SB	A	97.6	0.05	-	-	-	-	-	-	-	-	-	D	74.8	0.36	-	-	-	
Oak St south of North St	FRI	NB	A	98.0	0.02	-	-	-	-	-	-	-	-	-	A	92.6	0.13	-	-	-	
		SB	A	98.0	0.02	-	-	-	-	-	-	-	-	-	A	92.0	0.1	-	-	-	
	SAT	NB	A	98.4	0.01	-	-	-	-	-	-	-	-	-	A	92.4	0.15	-	-	-	
		SB	A	98.4	0.01	-	-	-	-	-	-	-	-	-	B	91.7	0.09	-	-	-	

Notes:
PFFS = Percent Free-Flow Speed, v/c = Volume to Capacity

Table 36 – Cumulative (2040) plus Proposed Project Roadway Segment Level of Service Summary (Multilane)

Location	Peak-Hour	Analysis Direction	Cumulative 2040		Cumulative 2040 + Project (1A)		Cumulative 2040 + Project (2A)		Cumulative 2040 + Project (3A)		Cumulative 2040 + Project (E)		Cumulative 2040 + Project (F)	
			LOS	D (pc/mi/ln)	LOS	D (pc/mi/ln)	LOS	D (pc/mi/ln)	LOS	D (pc/mi/ln)	LOS	D (pc/mi/ln)	LOS	D (pc/mi/ln)
Study Area 1														
Bonnyview Rd west of Bechelli Ln	FRI	EB	A	2.1	C	20.7	C	20.7	C	21.1	-	-	-	-
		WB	C	20.8	D	26.2	C	23.8	C	21.9	-	-	-	-
	SAT	EB	B	12	B	12.5	B	12.5	B	13.5	-	-	-	-
		WB	B	14.5	C	21.5	C	18.4	B	15.1	-	-	-	-
Study Area 2														
Market St (SR 273) north of Canyon Rd	FRI	NB	A	7.8	-	-	-	-	-	-	-	-	A	8.3
		SB	A	9.7	-	-	-	-	-	-	-	-	A	10.1
	SAT	NB	A	5.4	-	-	-	-	-	-	-	-	A	5.7
		SB	A	6.3	-	-	-	-	-	-	-	-	A	6.8
Market St (SR 273) south of Canyon Rd	FRI	NB	A	5.9	-	-	-	-	-	-	-	-	A	6
		SB	A	6.5	-	-	-	-	-	-	-	-	A	6.6
	SAT	NB	A	3.7	-	-	-	-	-	-	-	-	A	3.9
		SB	A	3.7	-	-	-	-	-	-	-	-	A	3.8

Notes:
D = Density

Proposed Project LOS Conditions and Impacts on Freeway Segments

Project trips generated by the proposed project were added to the Opening Year (2025) and Cumulative (2040) forecast freeway segment volumes.

Traffic analyses were completed to evaluate the operation of the study freeway segments in the Opening Year (2025) and Cumulative (2040), with the addition of the project.

Opening Year (2025) plus Project

Results of the Opening Year (2025) Plus Project analysis are presented in **Tables 37-39**. For the proposed project site, only Development Alternative A (Proposed Project) was evaluated. Development Alternative A has the highest trip generation and therefore represents a worst-case scenario. Additional details of the analysis are provided in **Appendix F**.

As shown in **Tables 37-39**, the freeway segments, except for the diverge segment of I-5 at the North Street southbound off-ramp, are expected to operate at acceptable levels of service based on established significance criteria under Opening Year (2025) plus Project Conditions.

Table 37 – Opening Year (2025) plus Proposed Project Freeway Segment Level of Service Summary (Strawberry Fields Site)

I-5				Opening Year 2025 + Project (1A)		Opening Year 2025 + Project (2A)	
Direction	Segment	Type	Peak Hour	Density ^a	LOS	Density ^a	LOS
Northbound	South of Bonnyview Rd Off-Ramp	Basic	FRI PM	19.0	C	17.4	B
			SAT PM	14.6	B	12.8	B
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	14.1	B	13.0	B
			SAT PM	11.6	B	10.3	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	8.5	A	8.5	A
			SAT PM	6.7	A	6.7	A
	Bonnyview Rd On-Ramp	Merge	FRI PM	26.2	C	26.2	C
			SAT PM	20.4	C	20.4	C
	North of Bonnyview Rd On-Ramp	Basic	FRI PM	13.9	B	13.9	B
			SAT PM	10.6	A	10.6	A
Southbound	North of Bonnyview Rd Off-Ramp	Basic	FRI PM	17.5	B	17.5	B
			SAT PM	13.5	B	13.5	B
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	20.9	C	20.9	C
			SAT PM	17.1	B	17.1	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	11.7	B	11.7	B
			SAT PM	9.1	A	9.1	A
	Bonnyview Rd On-Ramp	Merge	FRI PM	28.7	D	27.0	C
			SAT PM	20.6	C	18.8	B
	South of Bonnyview Rd On-Ramp	Basic	FRI PM	28.3	D	26.7	D
			SAT PM	18.4	C	17.3	B

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)

b- Bold represents unacceptable operations

c- Weave segment LOS calculated using Leisch Method

Table 38 – Opening Year (2025) plus Proposed Project Freeway Segment Level of Service Summary (Strawberry Fields Site) (Continued)

I-5				Opening Year 2025 + Project (3A)	
Direction	Segment	Type	Peak Hour	Density ^a	LOS
Northbound	South of Smith Rd Off-Ramp	Basic	FRI PM	20.1	C
			SAT PM	21.6	C
	Smith Rd Off-Ramp	Diverge	FRI PM	28.1	D
			SAT PM	29.6	D
	Smith Rd Off-Ramp to On-Ramp	Basic	FRI PM	18.2	C
			SAT PM	19.0	C
	Smith Rd On-Ramp	Merge	FRI PM	28.1	D
			SAT PM	2.8	A
	Smith Rd On-Ramp to Bonnyview Rd Off-Ramp	Basic	FRI PM	21.0	C
			SAT PM	22.2	C
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	15.2	B
			SAT PM	15.5	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	10.0	A
			SAT PM	11.5	B
Bonnyview Rd On-Ramp	Merge	FRI PM	24.2	C	
		SAT PM	22.8	C	
North of Bonnyview Rd On-Ramp	Basic	FRI PM	14.4	B	
		SAT PM	14.5	B	
Southbound	North of Bonnyview Rd Off-Ramp	Basic	FRI PM	18.5	C
			SAT PM	19.2	C
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	23.0	C
			SAT PM	24.7	C
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	13.8	B
			SAT PM	16.0	B
	Bonnyview Rd On-Ramp	Merge	FRI PM	30.3	D
			SAT PM	28.4	D
	Bonnyview Rd On-Ramp to Smith Rd On-Ramp	Basic	FRI PM	34.9	D
			SAT PM	36.1	E
	Smith Rd On-Ramp	Diverge	FRI PM	15.2	B
			SAT PM	15.5	B
	Smith Rd On-Ramp to Smith Rd Off-Ramp	Basic	FRI PM	10.0	A
			SAT PM	11.5	B
Smith Rd Off-Ramp	Merge	FRI PM	24.2	C	
		SAT PM	22.8	C	
South of Smith Rd Off-Ramp	Basic	FRI PM	14.4	B	
		SAT PM	14.5	B	

Notes:

- a- Density measured in passenger cars/lane/mile (pc/ln/mi)
- b- Bold represents unacceptable operations
- c- Weave segment LOS calculated using Leisch Method

Table 39 – Opening Year (2025) plus Proposed Project Freeway Segment Level of Service Summary (Anderson Site)

I-5				Opening Year 2025 + Project (E)	
Direction	Segment	Type	Peak Hour	Density ^a	LOS
Northbound	South of Balls Ferry Rd Off-Ramp	Basic	FRI PM	21.8	C
			SAT PM	17.4	B
	Balls Ferry Rd Off-Ramp	Diverge	FRI PM	25.9	C
			SAT PM	20.7	C
	Balls Ferry Rd Off-Ramp to North St On-Ramp	Basic	FRI PM	17.3	B
			SAT PM	14.7	B
	North St On-Ramp	Merge	FRI PM	25.6	C
			SAT PM	21.5	C
	North St On-Ramp to Riverside Ave Off-Ramp	Basic	FRI PM	22.1	C
			SAT PM	18.1	C
Southbound	Riverside Ave On-Ramp to North St Off-Ramp	Basic	FRI PM	32.7	D
			SAT PM	24.1	C
	North St Off-Ramp	Diverge	FRI PM	36.9	E
			SAT PM	29.7	D
	North St Off-Ramp to Balls Ferry On-Ramp	Basic	FRI PM	24.1	C
			SAT PM	18.4	C
	Balls Ferry On-Ramp	Merge	FRI PM	32.8	D
			SAT PM	26.2	C
	South of Balls Ferry Rd On-Ramp	Basic	FRI PM	30.7	D
			SAT PM	22.5	C

- Notes:
- a- Density measured in passenger cars/lane/mile (pc/ln/mi)
 - b- Bold represents unacceptable operations
 - c- Weave segment LOS calculated using Leisch Method

Cumulative (2040) plus Project

Results of the Cumulative (2040) plus Project analysis are presented in **Tables 40-42**. For the proposed project site, only Development Alternative A (Proposed Project) was evaluated. Development Alternative A has the highest trip generation and therefore represents a worst-case scenario. Additional details of the analysis are provided in **Appendix G**.

As shown in **Tables 40-42**, the freeway segments are expected to operate at acceptable levels of service based on established significance criteria under Cumulative (2040) plus Project Conditions.

Table 40 – Cumulative (2040) plus Proposed Project Freeway Segment Level of Service Summary (Strawberry Fields Site)

I-5				Cumulative 2040 + Project (1A)		Cumulative 2040 + Project (2A)	
Direction	Segment	Type	Peak Hour	Density ^a	LOS	Density ^a	LOS
Northbound	South of Bonnyview Rd Off-Ramp	Basic	FRI PM	14.7	B	13.7	B
			SAT PM	12.1	B	10.9	A
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	20.1	C	18.3	B
			SAT PM	16.9	B	14.5	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	10.1	A	10.1	A
			SAT PM	8.5	A	8.5	A
	Bonnyview Rd On-Ramp	Merge	FRI PM	28.6	D	27.6	C
			SAT PM	23.1	C	21.8	C
	North of Bonnyview Rd On-Ramp	Basic	FRI PM	16.6	B	16.6	B
			SAT PM	13.1	B	13.1	B
Southbound	North of Bonnyview Rd Off-Ramp	Basic	FRI PM	21.5	C	21.5	C
			SAT PM	16.9	B	16.9	B
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	30.6	D	30.6	D
			SAT PM	26.1	C	26.1	C
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	14.5	B	14.5	B
			SAT PM	12.0	B	12.0	B
	Bonnyview Rd On-Ramp	Merge	FRI PM	33.9	D	32.9	D
			SAT PM	26.1	C	25.0	C
	South of Bonnyview Rd On-Ramp	Basic	FRI PM	21.2	C	20.4	C
			SAT PM	15.5	B	14.8	B

Notes:

- a- Density measured in passenger cars/lane/mile (pc/ln/mi)
- b- Bold represents unacceptable operations
- c- Weave segment LOS calculated using Leisch Method

Table 41 – Cumulative (2040) plus Proposed Project Freeway Segment Level of Service Summary (Strawberry Fields Site) (Continued)

I-5				Cumulative 2040 + Project (3A)	
Direction	Segment	Type	Peak Hour	Density ^a	LOS
Northbound	South of Smith Rd Off-Ramp	Basic	FRI PM	15.4	B
			SAT PM	16.3	B
	Smith Rd Off-Ramp	Diverge	FRI PM	15.6	B
			SAT PM	16.4	B
	Smith Rd Off-Ramp to On-Ramp	Basic	FRI PM	14.3	B
			SAT PM	14.8	B
	Smith Rd On-Ramp	Merge	FRI PM	21.2	C
			SAT PM	2.8	A
	Smith Rd On-Ramp to Bonnyview Rd Off-Ramp	Basic	FRI PM	15.9	B
			SAT PM	16.5	B
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	15.2	B
			SAT PM	15.5	B
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	11.6	B
			SAT PM	13.4	B
Bonnyview Rd On-Ramp	Merge	FRI PM	28.0	D	
		SAT PM	22.8	C	
North of Bonnyview Rd On-Ramp	Basic	FRI PM	17.2	B	
		SAT PM	17.3	B	
Southbound	North of Bonnyview Rd Off-Ramp	Basic	FRI PM	22.5	C
			SAT PM	23.4	C
	Bonnyview Rd Off-Ramp	Diverge	FRI PM	23.0	C
			SAT PM	24.7	C
	Bonnyview Rd Off-Ramp to On-Ramp	Basic	FRI PM	16.7	B
			SAT PM	19.3	C
	Bonnyview Rd On-Ramp	Merge	FRI PM	34.9	D
			SAT PM	28.4	D
	Bonnyview Rd On-Ramp to Smith Rd On-Ramp	Basic	FRI PM	24.2	C
			SAT PM	24.3	C
	Smith Rd On-Ramp	Diverge	FRI PM	15.2	B
			SAT PM	15.5	B
	Smith Rd On-Ramp to Smith Rd Off-Ramp	Basic	FRI PM	11.6	B
			SAT PM	13.4	B
Smith Rd Off-Ramp	Merge	FRI PM	28.0	D	
		SAT PM	22.8	C	
South of Smith Rd Off-Ramp	Basic	FRI PM	17.2	B	
		SAT PM	17.3	B	

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)

b- Bold represents unacceptable operations

c- Weave segment LOS calculated using Leisch Method

Table 42 – Cumulative (2040) plus Proposed Project Freeway Segment Level of Service Summary (Anderson Site)

I-5				Cumulative 2040 + Project (E)	
Direction	Segment	Type	Peak Hour	Density ^a	LOS
Northbound	South of Balls Ferry Rd Off-Ramp	Basic	FRI PM	17.6	B
			SAT PM	14.9	B
	Balls Ferry Rd Off-Ramp	Diverge	FRI PM	17.8	B
			SAT PM	14.3	B
	Balls Ferry Rd Off-Ramp to North St On-Ramp	Basic	FRI PM	14.3	B
			SAT PM	12.8	B
	North St On-Ramp	Merge	FRI PM	20.8	C
			SAT PM	18.1	B
	North St On-Ramp to Riverside Ave Off-Ramp	Basic	FRI PM	17.5	B
			SAT PM	15.2	B
Southbound	Riverside Ave On-Ramp to North St Off-Ramp	Basic	FRI PM	24.3	C
			SAT PM	19.9	C
	North St Off-Ramp	Diverge	FRI PM	2.9	A
			SAT PM	2.9	A
	North St Off-Ramp to Balls Ferry On-Ramp	Basic	FRI PM	19.6	C
			SAT PM	16.4	B
	Balls Ferry On-Ramp	Merge	FRI PM	27.3	C
			SAT PM	23.0	C
	South of Balls Ferry Rd On-Ramp	Basic	FRI PM	24.1	C
			SAT PM	19.6	C

Notes:

- a- Density measured in passenger cars/lane/mile (pc/ln/mi)
- b- Bold represents unacceptable operations
- c- Weave segment LOS calculated using Leisch Method

Proposed Project Mitigations

The evaluation revealed that several intersection improvements, and one freeway improvement, are needed for the Opening Year (2025) and Cumulative (2040) conditions to mitigate project impacts. The improvements required to mitigate project impacts are described below. The project applicant would be responsible for mitigating its cumulatively considerable impact by providing a fair share contribution towards the implementation of mitigation measures needed to improve the intersection or roadway segment to an acceptable LOS or to a level that is equal to better than pre-project operations. A fair share contribution is based on the projects proportionate traffic contribution to the overall future traffic volumes at locations which exceed the significance criteria. The City of Redding requires that improvements be constructed by the project proponent when the fair share is 25% or more. Based on the Caltrans *Guide for the Preparation of Traffic Impact Studies* (2002), the fair share calculation for cumulative impacts at an intersection is shown in the following equation:

$$P = T / (T_B - T_E)$$

Where:

P = The equitable share for the proposed project's traffic impact.

T = The vehicle trips generated by the project during the peak hour of adjacent State highway facility in vehicles per hour, vph.

T_B = The forecasted traffic volume on an impacted State highway facility at the time of general plan build-out (e.g., 20 year model or the furthest future model data feasible), vph.

T_E = The traffic volume existing on the impacted State highway facility plus other approved projects that will generate traffic that has yet to be constructed/opened, vph.

Opening Year (2025) Intersections Operating Deficiently

Intersections with LOS below established thresholds were investigated to determine the role of the proposed project traffic in under Opening Year (2025) Conditions.

Strawberry Fields Site: North Only Access Alternative (1)

Impact #1 – Bonnyview Road at Bechelli Lane – Intersection #3

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #1 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Construct a second westbound left turn lane and corresponding receiving lane; Restripe the southbound approach to include two left turn lanes and a thru/right lane; Restripe the northbound approach to include a left turn lane, a thru/right lane, and a right turn pocket; add a northbound right turn

permitted overlap signal phase. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 56% for Alternative A, 43% for Alternative B, 53% for Alternative C, and 31% for Alternative D.

Impact #2 – Bonnyview Road at I-5 SB Ramps – Intersection #4

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #2 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Construct a southbound right turn channelized lane with yield control. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 44% for Alternative A, 30% for Alternative B, 40% for Alternative C, and 22% for Alternative D.

Impact #3 – Bonnyview Road at I-5 NB Ramps – Intersection #5

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #3 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Construct a northbound left turn lane. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 30% for Alternative A, 19% for Alternative B, 27% for Alternative C, and 14% for Alternative D.

Impact #4 – Bonnyview Road at Churn Creek Road – Intersection #6

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #4.1 – Alternative A

The significant impact at this intersection can be mitigated with the following improvements: Construct a southbound right turn lane. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 4% for Alternative A.

Mitigation #4.2 – Alternatives B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Add a southbound right turn permitted overlap signal phase. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 2% for Alternative B, 3% for Alternative C, and 1% for Alternative D.

Impact #5 – Churn Creek Road at Victor Avenue – Intersection #8

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #5 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 5% for Alternative A, 4% for Alternative B, 7.5% for Alternative C, and 1% for Alternative D.

Strawberry Fields Site: North and South Access Alternative (2)**Impact #6 – Bonnyview Road at Bechelli Lane – Intersection #3**

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #6.1 – Alternative A

The significant impact at this intersection can be mitigated with the following improvements: Construct a second westbound left turn lane and corresponding

receiving lane; Restripe the southbound approach to include two left turn lanes and a thru/right lane; Restripe the northbound approach to include a left turn lane, a thru/right lane, and a right turn pocket; add a northbound right turn permitted overlap signal phase. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 47% for Alternative A.

Mitigation #6.2 – Alternatives B and C

The significant impact at this intersection can be mitigated with the following improvements: Restripe the southbound approach to include two left turn lanes and a thru/right lane; Restripe the northbound approach to include a left turn lane, a thru/right lane; add a northbound right turn permitted overlap signal phase. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 33% for Alternative B, and 43% for Alternative C.

Mitigation #6.3 – Alternative D

The significant impact at this intersection can be mitigated with the following improvements: Restripe the southbound approach to include two left turn lanes and a thru/right lane; Restripe the northbound approach to include a left turn lane, a thru/right lane. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 24% for Alternative D.

Impact #7 – Bonnyview Road at I-5 SB Ramps – Intersection #4

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #7 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Construct a southbound right turn channelized lane with yield control. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 30% for Alternative A, 18% for Alternative B, 27% for Alternative C, and 13% for Alternative D.

Impact #8 – Bonnyview Road at I-5 NB Ramps – Intersection #5

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #8 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Construct a northbound left turn lane. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 17% for Alternative A, 7% for Alternative B, 14% for Alternative C, and 8% for Alternative D.

Impact #9 – Bonnyview Road at Churn Creek Road – Intersection #6

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #9 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Add a southbound right turn permitted overlap signal phase. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 4% for Alternative A, 2% for Alternative B, 3% for Alternative C, and 1% for Alternative D.

Impact #10 – Churn Creek Road at Victor Avenue – Intersection #8

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #10 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 5% for Alternative A, 4% for Alternative B, 8% for Alternative C, and 1% for Alternative D.

Strawberry Fields Site: South Only Access with New Interchange Alternative (3)**Impact #11 – Bonnyview Road at I-5 SB Ramps – Intersection #4**

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D.

Mitigation #11 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Construct a southbound right turn channelized lane with yield control. This is not a cumulative impact. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 1% for Alternative A. Fair share percentages for Alternatives B, C, and D are 0%.

Impact #12 – Bonnyview Road at I-5 NB Ramps – Intersection #5

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D.

Mitigation #12 – Alternatives A, B, and C

The significant impact at this intersection can be mitigated with the following improvements: Optimize signal timings. This is not a cumulative impact. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 2% for Alternative A, 10 for Alternative B, and 1% for Alternative C.

Anderson Site**Impact #13 – North Street at Oak Street – Intersection #18**

This intersection is expected to exceed significance thresholds for unacceptable operations under Development Alternative E. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #13 – Alternative E

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal or roundabout. The intersection satisfies Traffic Signal Warrant #3 under Opening Year (2025) plus project conditions. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 90%.

Impact #14 – North Street at I-5 Southbound Ramp – Intersection #19

This intersection is expected to exceed significance thresholds for unacceptable operations under Development Alternative E. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #14 – Alternative E

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal or roundabout. The intersection satisfies Traffic Signal Warrant #3 under Opening Year (2025) and Cumulative (2040) plus project conditions. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 81%.

Impact #15 – North Street at McMurray Drive and I-5 Northbound On-Ramp – Intersection #20

This intersection is expected to exceed significance thresholds for unacceptable operations under Development Alternative E. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #15 – Alternative E

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal or roundabout. The intersection satisfies Traffic Signal Warrant #3 under Existing (2016) conditions without the addition of the proposed project. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 39%.

Freeway Impact #16 – I-5 Southbound Off Ramp at North Street Diverge Segment

In addition to the impacts at the study intersections, the project Alternative E (Anderson Site) results in an impact to the diverge freeway segment at the I-5 southbound off-ramp at North Street.

Mitigation #16 – This impact can be mitigated by increasing the length of the deceleration lane to 360-feet, or by adding a third lane to I-5 in the southbound direction. The freeway is anticipated to be improved to three lanes in the southbound and northbound directions by 2040. The project fair share is 24% based on freeway volume.

With the implementation of all mitigation measures listed above, the proposed project would have no significant traffic impacts. **Tables 43-46** summarize the expected intersection levels of service with the identified mitigations under the Opening Year (2025) plus Project conditions. Additional details of the analysis are provided in **Appendix H**.

Table 43 – Opening Year (2025) plus Proposed Project Mitigated Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with North Access Alternative (Option 1)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025) plus Proposed Project (1A)		After Mitigation (1A)		Opening Year (2025) plus Proposed Project (1B)		After Mitigation (1B)		Opening Year (2025) plus Proposed Project (1C)		After Mitigation (1C)		Opening Year (2025) plus Proposed Project (1D)		After Mitigation (1D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	402.3	F	51.0	D	302.2	F	53.4	D	334.3	F	54.9	D	89.6	F	41.5	D
				SAT PM	531.5	F	33.9	C	253.2	F	23.0	C	438.9	F	29.0	C	92.5	F	21.0	C
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	179.4	F	36.7	D	157.3	F	32.4	C	165.5	F	26.4	C	115.8	F	26.8	C
				SAT PM	76.9	E	16.3	B	54.6	D	16.2	B	68.8	E	12.4	B	35.0	D	12.9	B
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	119.3	F	54.9	D	99.0	F	47.8	D	106.4	F	49.2	D	64.7	E	40.5	D
				SAT PM	63.3	E	40.3	D	30.8	C	22.4	C	52.9	D	30.9	C	27.2	C	29.2	C
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	95.8	F	52.1	D	95.9	F	47.0	D	95.9	F	47.0	D	96.1	F	47.0	D
				SAT PM	43.5	D	40.1	D	43.6	D	38.9	D	43.5	D	40.8	D	43.5	D	40.7	D
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	80.8	F	7.6	A	78.9	F	7.4	A	78.9	F	6.1	A	70.3	F	6.1	A
				SAT PM	17.7	C	6.5	A	17.3	C	6.5	A	17.6	C	5.8	A	16.9	C	10.3	B

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

Table 44 – Opening Year (2025) plus Proposed Project Mitigated Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with North and South Access Alternative (Option 2)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025) plus Proposed Project (2A)		After Mitigation (2A)		Opening Year (2025) plus Proposed Project (2B)		After Mitigation (2B)		Opening Year (2025) plus Proposed Project (2C)		After Mitigation (2C)		Opening Year (2025) plus Proposed Project (2D)		After Mitigation (2D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	210.6	F	49.2	D	159.1	F	49.8	D	179.8	F	53.0	D	68.9	E	41.2	D
				SAT PM	224.1	F	23.9	C	97.0	F	24.9	C	177.8	F	31.5	C	42.9	D	29.2	C
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	165.5	F	26.5	C	147.6	F	22.8	C	154.2	F	22.9	C	109.7	F	25.7	C
				SAT PM	82.2	F	13.1	B	56.8	E	16.0	B	72.9	E	13.0	B	35.1	D	13.1	B
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	91.7	F	48.9	D	77.3	E	49.6	D	82.8	F	52.2	D	60.6	E	47.0	D
				SAT PM	41.7	D	31.2	C	22.3	C	22.4	C	36.9	D	31.2	C	25.6	C	29.2	C
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	95.8	F	47.0	D	95.9	F	47.0	D	95.9	F	41.0	D	96.1	F	41.0	D
				SAT PM	43.5	D	40.8	D	43.6	D	38.9	D	43.5	D	40.8	D	43.5	D	38.9	D
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	80.8	F	7.6	A	78.9	F	7.4	A	78.9	F	6.1	A	70.3	F	6.1	A
				SAT PM	17.7	C	6.5	A	17.3	C	6.5	A	17.6	C	5.8	A	16.9	C	10.3	B

Notes:
 Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.
 (a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.
 (b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

Table 45 – Opening Year (2025) plus Proposed Project Mitigated Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with South Only and Interchange Access Alternative (Option 3)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (3025) plus Proposed Project (3A)		After Mitigation (3A)		Opening Year (3025) plus Proposed Project (3B)		After Mitigation (3B)		Opening Year (3025) plus Proposed Project (3C)		After Mitigation (3C)		Opening Year (3025) plus Proposed Project (3D)		After Mitigation (3D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	123.5	F	27.0	C	119.0	F	28.0	C	120.6	F	27.6	C	103.0	F	26.4	C
				SAT PM	27.3	C	21.6	C	26.5	C	12.5	B	26.9	C	12.5	B	26.0	C	12.4	B
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	64.4	E	46.4	D	59.3	E	48.0	D	61.0	E	49.1	D	53.1	D	-	-
				SAT PM	21.7	C	23.6	C	20.1	C	27.3	C	21.3	C	28.2	C	20.4	C	-	-

Notes:
 Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection (SSSC*), delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

Table 46 – Opening Year (2025) plus Proposed Project Mitigated Intersection Level of Service Summary at Anderson Site (Alternative E)

ID	Intersection	Control	Target LOS	Peak Hour	Opening Year (2025) plus Proposed Project (E)		After Mitigation (E)	
					Delay (sec)	LOS	Delay (sec)	LOS
18	North St @ Oak St	SSSC*	D	FRI PM	-	F	15.8	B
				SAT PM	-	F	21.6	C
19	North St @I-5 SB Off Ramp	AWSC	D	FRI PM	36.1	E	10.3	B
				SAT PM	26.5	D	9.9	A
20	North Street @ McMurray Dr/I-5 NB On Ramp	AWSC	D	FRI PM	60.7	F	14.4	B
				SAT PM	18.5	C	12.2	B

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2010 Highway Capacity Manual* and performed using Synchro 9.0

Cumulative (2040) Intersection Operating Deficiently

Intersections with LOS below established thresholds were investigated to determine the role of the proposed project traffic in under Cumulative (2040) Conditions.

Strawberry Fields Site: North Only Access Alternative (1)

Impact #17 – Bonnyview Road at Bechelli Lane – Intersection #3

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #17 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal with a third eastbound through lane and a right turn pocket, and additional westbound left turn lane, and an additional southbound left turn lane. This improvement is consistent with the Alternative 1B concept proposed by Omni-Means⁶. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 56% for Alternative A, 43% for Alternative B, 53% for Alternative C, and 31% for Alternative D.

Impact #18 – Bonnyview Road at I-5 SB Ramps – Intersection #4

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #18 – Alternative A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a diverging diamond interchange at the I-5 northbound and southbound ramps. This improvement is consistent with the Alternative 4B concept proposed by Omni-Means⁶. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 44% for Alternative A, 30% for Alternative B, 40% for Alternative C, and 22% for Alternative D.

⁶ Technical Memorandum 15, Omni-Means to City of Redding – Engineering, April 28, 2017.

Impact #19 – Bonnyview Road at I-5 NB Ramps – Intersection #5

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #19 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the improvements described in Mitigation #18. Mitigation #18 would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 30% for Alternative A, 19% for Alternative B, 27% for Alternative C, and 14% for Alternative D.

Impact #20 – Bonnyview Road at Churn Creek Road – Intersection #6

This intersection is expected to exceed significance thresholds for unacceptable operations under Development Alternative A. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #20 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a roundabout. This improvement is consistent with the Alternative 4B concept proposed by Omni-Means⁶. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 4% for Alternative A, 2% for Alternative B, 3% for Alternative C, and 1% for Alternative D.

Impact #21 – Churn Creek Road at Alrose Lane – Intersection #7

This intersection is expected to exceed significance thresholds for unacceptable operations under Development Alternative A. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #21 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the improvements described in Mitigations #18 and #20. Mitigations #18 and #20 would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Under Cumulative (2040) conditions, Intersection #7 meets traffic signal warrants. Fair share calculations are 8% for Alternative A, 5% for Alternative B, 8% for Alternative C, and 3% for Alternative D.

Impact #22 – Churn Creek Road at Victor Avenue – Intersection #8

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to

occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #22 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal. The intersection satisfies Traffic Signal Warrant #3 under Cumulative (2040) without project conditions. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 5% for Alternative A, 4% for Alternative B, 7.5% for Alternative C, and 1% for Alternative D.

Impact #23 – Churn Creek Road at Rancho Road – Intersection #9

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #23 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Add a southbound left turn pocket. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Under Cumulative (2040) conditions, Intersection #7 meets traffic signal warrants. Fair share calculations are 6% for Alternative A, 5% for Alternative B, 5% for Alternative C, and 1% for Alternative D.

Strawberry Fields Site: North and South Access Alternative (2)

Impact #24 – Bonnyview Road at Bechelli Lane – Intersection #3

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #24 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Add a southbound left turn lane; add a westbound left turn lane; add an eastbound right turn pocket. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs.

Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 47% for Alternative A, 33% for Alternative B, 43% for Alternative C, and 24% for Alternative D.

Impact #25 – Bonnyview Road at I-5 SB Ramps – Intersection #4

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #25 – Alternative A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a diverging diamond interchange at the I-5 northbound and southbound ramps. This improvement is consistent with the Alternative 4B concept proposed by Omni-Means⁶. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 30% for Alternative A, 18% for Alternative B, 27% for Alternative C, and 13% for Alternative D.

Impact #26 – Bonnyview Road at I-5 NB Ramps – Intersection #5

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #26 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the improvements described in Mitigation #25. Mitigation #25 would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 17% for Alternative A, 7% for Alternative B, 14% for Alternative C, and 8% for Alternative D.

Impact #27 – Bonnyview Road at Churn Creek Road – Intersection #6

This intersection is expected to exceed significance thresholds for unacceptable operations under Development Alternative A. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #27 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a roundabout. This improvement is consistent with the Alternative 4B concept proposed by Omni-Means⁶. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation

would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 4% for Alternative A, 2% for Alternative B, 3% for Alternative C, and 1% for Alternative D.

Impact #28 – Churn Creek Road at Alrose Lane – Intersection #7

This intersection is expected to exceed significance thresholds for unacceptable operations under Development Alternative A. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #28 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the improvements described in Mitigations #25 and #27. Mitigations #25 and #27 would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Under Cumulative (2040) conditions, Intersection #7 meets traffic signal warrants. Fair share calculations are 8% for Alternative A, 5% for Alternative B, 8% for Alternative C, and 3% for Alternative D.

Impact #29 – Churn Creek Road at Victor Avenue – Intersection #8

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #29 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal. The intersection satisfies Traffic Signal Warrant #3 under Cumulative (2040) without project conditions. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 5% for Alternative A, 4% for Alternative B, 8% for Alternative C, and 1% for Alternative D.

Impact #30 – Churn Creek Road at Rancho Road – Intersection #9

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #30 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Add a southbound left turn pocket. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Under Cumulative (2040) conditions, Intersection #7 meets traffic signal warrants. Fair share calculations are 3% for Alternative A, 5% for Alternative B, 5% for Alternative C, and 1% for Alternative D.

Strawberry Fields Site: South Only Access with New Interchange Alternative (3)**Impact #31 – Bonnyview Road at Bechelli Lane – Intersection #3**

This intersection is expected to operate at unacceptable under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #31 – Alternatives A, B, C, and D

The significant impact at this intersection can be mitigated with the following improvements: Add a southbound left turn lane; add a westbound left turn lane; add an eastbound right turn pocket. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 14% for Alternative A, 5% for Alternative B, and 12% for Alternative C. Fair share percentages for Alternative D are 0%.

Impact #32 – Churn Creek Road at Rancho Road – Intersection #9

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. The intersection is expected to operate unacceptably under development alternatives A, B, C, and D. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #32 – Alternatives A, B, C, D

The significant impact at this intersection can be mitigated with the following improvements: Construct a southbound right turn lane. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Under Cumulative (2040) conditions, Intersection #7 meets traffic signal warrants. Fair share calculations are 8% for Alternative A, 6% for Alternative B, 6% for Alternative C, and 2% for Alternative D.

Anderson Site**Impact #33 – North Street at Oak Street – Intersection #18**

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternative E. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #33 – Alternative E

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal. The intersection satisfies Traffic Signal Warrant #3 under Opening Year (2025) and Cumulative (2040) plus project conditions. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 90%.

Impact #34 – North Street at I-5 Southbound Off Ramp – Intersection #19

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternative E. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #34 – Alternative E

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal or roundabout. The intersection satisfies Traffic Signal Warrant #3 under Opening Year (2025) and Cumulative (2040) plus project conditions. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 81%.

Impact #35 – North Street at McMurray Drive and I-5 Northbound On-Ramp – Intersection #20

This intersection is expected to exceed significance thresholds for unacceptable operations under baseline conditions and is expected to experience an increase in delay due to the proposed project. This intersection is expected to exceed significance thresholds for unacceptable operations under development alternative E. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #35 – Alternative E

The significant impact at this intersection can be mitigated with the following improvements: Install a traffic signal or roundabout. The intersection satisfies Traffic Signal Warrant #3 under Existing conditions without the addition of the proposed project. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the

intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 39%.

Impact #36 – Balls Ferry Road at Oak Street – Intersection #21

This intersection is expected to exceed significance thresholds for unacceptable operations under development alternative E. Because this impact is projected to occur when project traffic is added to future traffic, this is a significant cumulative impact.

Mitigation #36 – Alternative E

The significant impact at this intersection can be mitigated with the following improvements: Install all way stop control. Because the impact is a cumulative impact, the project would be responsible for a proportionate share of the mitigation costs. Modifying the intersection as proposed in this mitigation would reduce the impact to less than significant and improve the intersection to an acceptable LOS. Fair share calculations are 43%.

With the implementation of all mitigation measures listed above, the proposed project would have no significant traffic impacts. **Tables 47-50** summarize the expected intersection levels of service with the identified mitigations under the Cumulative (2040) plus Proposed Project conditions. Additional details of the analysis are provided in **Appendix I**.

Table 47 – Cumulative (2040) plus Proposed Project Mitigated Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with North Access Alternative (Option 1)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040) plus Proposed Project (1A)		After Mitigation (1A)		Cumulative (2040) plus Proposed Project (1B)		After Mitigation (1B)		Cumulative (2040) plus Proposed Project (1C)		After Mitigation (1C)		Cumulative (2040) plus Proposed Project (1D)		After Mitigation (1D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	301.7	F	40.8	D	281.3	F	39.5	D	297.2	F	39.9	D	206.9	F	37.2	D
				SAT PM	536.5	F	39.7	D	435.9	F	29.5	C	440.5	F	32.8	C	343.4	F	27.9	C
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	194.9	F	26.9	C	167.6	F	25.3	C	189.7	F	25.5	C	119.8	F	22.7	C
				SAT PM	338.4	F	21.9	C	308.7	F	16.0	B	252.1	F	19.4	B	223.0	F	14.3	B
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	167.2	F	19.5	B	144.6	F	15.6	B	153.8	F	16.9	B	68.3	E	12.4	B
				SAT PM	291.5	F	10.1	B	253.9	F	9.8	A	232.6	F	9.8	A	133.3	F	9.6	A
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	221.0	F	20.7	C	202.4	F	12.3	B	213.1	F	14.8	B	82.4	F	8.0	A
				SAT PM	361.8	F	5.0	A	313.8	F	5.0	A	357.2	F	4.9	A	109.9	F	5.1	A
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	234.3	F	11.1	B	222.3	F	9.5	A	257.1	F	9.5	A	77.6	F	9.1	A
				SAT PM	456.0	F	7.6	A	420.3	F	7.6	A	430.1	F	7.6	A	98.5	F	7.8	A
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	486.0	F	25.2	C	476.3	F	26.6	C	476.3	F	26.8	C	439.6	F	25.8	C
				SAT PM	36.6	E	13.8	B	34.6	D	13.6	B	35.9	E	13.7	B	33.2	D	13.4	
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	91.3	F	14.8	B	87.6	F	14.6	B	88.3	F	14.7	B	76.7	F	14.4	
				SAT PM	13.3	B	15.8	B	13.1	B	15.6	B	13.2	B	15.7	B	12.9	B	15.4	

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

(c) LOS calculations for intersections 3-7 were performed using VISSIM, all other intersections were performed using Synchro 9.0

Table 48 – Cumulative (2040) plus Proposed Project Mitigated Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with North and South Access Alternative (Option 2)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040) plus Proposed Project (2A)		After Mitigation (2A)		Cumulative (2040) plus Proposed Project (2B)		After Mitigation (2B)		Cumulative (2040) plus Proposed Project (2C)		After Mitigation (2C)		Cumulative (2040) plus Proposed Project (2D)		After Mitigation (2D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	291.5	F	41.9	D	256.8	F	41.5	D	244.9	F	42.0	D	185.3	F	40.6	D
				SAT PM	405.8	F	30.4	C	285.9	F	28.0	C	373.2	F	29.0	C	250.6	F	26.9	C
4	S Bonnyview Rd @ I-5 SB Ramps	Signal	D	FRI PM	181.9	F	22.7	C	148.7	F	22.1	C	155.6	F	22.1	C	104.9	F	21.8	C
				SAT PM	325.7	F	20.0	C	240.8	F	15.6	B	298.5	F	18.1	B	181.7	F	14.5	B
5	S Bonnyview Rd @ I-5 NB Ramps	Signal	D	FRI PM	130.8	F	11.9	B	99.7	F	11.8	B	117.6	F	11.7	B	56.5	E	11.8	B
				SAT PM	229.8	F	9.7	A	149.4	F	9.7	A	193.6	F	9.4	A	97.4	F	9.4	A
6	S Bonnyview Rd @ Churn Creek Rd	Signal	D	FRI PM	178.4	F	7.9	A	125.0	F	8.2	A	147.4	F	8.7	A	72.6	E	8.3	A
				SAT PM	273.6	F	5.1	A	147.4	F	5.0	A	188.7	F	5.3	A	97.7	F	5.2	A
7	Churn Creek Rd @ Alrose Ln	SSSC*	C	FRI PM	201.1	F	9.2	A	127.9	F	9.3	A	171.2	F	9.1	A	64.2	F	9.5	A
				SAT PM	281.3	F	7.7	A	133.9	F	7.7	A	181.7	F	7.6	A	88.6	F	7.7	A
8	Churn Creek Rd @ Victor Ave	SSSC*	C	FRI PM	486.0	F	25.2	C	26.4	F	26.6	C	476.3	F	26.8	C	25.5	F	25.8	C
				SAT PM	36.6	E	13.8	B	34.6	D	13.6	B	35.9	E	13.7	B	33.2	D	13.4	0
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	91.3	F	14.8	B	87.6	F	14.6	B	88.3	F	14.7	B	76.7	F	14.4	0
				SAT PM	13.3	B	15.8	B	13.1	B	15.6	B	13.2	B	15.7	B	12.9	B	15.4	0

Notes:
 Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0

(c) LOS calculations for intersections 3-7 were performed using VISSIM, all other intersections were performed using Synchro 9.0

Table 49 – Cumulative (2040) plus Proposed Project Mitigated Intersection Level of Service Summary at Strawberry Fields Site (Alternatives A-D) with South Only and Interchange Access Alternative (Option 3)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040) plus Proposed Project (3A)		After Mitigation (3A)		Cumulative (2040) plus Proposed Project (3B)		After Mitigation (3B)		Cumulative (2040) plus Proposed Project (3C)		After Mitigation (3C)		Cumulative (2040) plus Proposed Project (3D)		After Mitigation (3D)	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
3	S Bonnyview Rd @ Bechlli Ln	Signal	D	FRI PM	114.2	F	39.8	D	120.6	F	39.6	D	116.4	F	39.5	D	119.4	F	38.6	D
				SAT PM	94.5	F	15.4	B	87.8	F	22.8	C	94.7	F	23.1	C	88.4	F	22.9	C
9	Churn Chreek Rd @ Rancho Rd	SSSC*	C	FRI PM	97.6	F	22.4	C	81.0	F	21.0	C	83.9	F	21.3	C	41.2	E	17.2	C
				SAT PM	15.2	C	12.2	B	14.1	B	11.8	B	14.8	B	12.0	B	12.9	B	11.4	B

Notes:
 Bold represents unacceptable operations. Shading indicates a significant impact at the intersection resulting from the project alternative.
 (a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.
 (b) LOS calculations are based on the methodology outlined in the 2010 Highway Capacity Manual and performed using Synchro 9.0
 (c) LOS calculations for intersections 3-7 were performed using VISSIM, all other intersections were performed using Synchro 9.0

Table 50 – Cumulative (2040) plus Proposed Project Mitigated Intersection Level of Service Summary at Anderson Site (Alternative E)

ID	Intersection	Control	Target LOS	Peak Hour	Cumulative (2040) plus Proposed Project (E)		After Mitigation (E)	
					Delay (sec)	LOS	Delay (sec)	LOS
18	North St @ Oak St	SSSC*	D	FRI PM	-	F	23.1	C
				SAT PM	-	F	34.4	C
19	North St @I-5 SB Off Ramp	AWSC	D	FRI PM	52.3	F	13.1	B
				SAT PM	35.7	E	11.6	B
20	North Street @ McMurray Dr/I-5 NB On Ramp	AWSC	D	FRI PM	95.7	F	17.9	B
				SAT PM	26.5	D	13.3	B
21	Balls Ferry Rd @ Oak St	SSSC*	D	FRI PM	43.6	E	13.6	B
				SAT PM	26.0	D	11.5	B

Notes:

Bold represents unacceptable operations. Shading indicates a significant impact at the intersection.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2010 Highway Capacity Manual* and performed using Synchro 9.0

ADDITIONAL CONSIDERATIONS

Future Bicycle and Pedestrian Facilities

According to the City of Redding *Bikeway Action Plan: 2010-2015*⁹, bicycle facilities are planned along the Sacramento River adjacent to the Strawberry Fields Site. It is recommended that the project implement strategies to avoid impacts to these planned bicycle facilities. Furthermore, there are no impacts to existing or planned bicycle or pedestrian travel at the alternative project sites (Anderson Site and Win River Casino Site).

As a result, the proposed project would not result in the elimination of existing or planned bicycle or pedestrian facilities, interfere with the implementation of a planned bikeway, or result in unsafe conditions for bicyclists or pedestrians. Nevertheless, it is recommended that the project provide safe, continuous, and accessible bicycle and pedestrian facilities within the project vicinity. As presented in the *Redding Rancheria Draft Access Alternative Concepts* memorandum (January 5, 2017), improvements to Bechelli Lane and new access roadways would include sidewalks and shoulders with adequate width to accommodate bicyclists. In addition, it is recommended that the project consider access to transit services, and consider travel demand management programs for employees.

⁹ City of Redding, *Bikeway Action Plan: 2010-2015*, 2010.

APPENDIX

APPENDIX

- A. Existing Traffic Counts
- B. Existing Analysis
 - a. Intersection LOS Worksheets
 - b. Roadway Segment LOS Worksheets
 - c. Freeway Segment LOS Results
- C. Traffic Signal Warrants
- D. Baseline Analysis (Opening Year 2025 and Cumulative 2040)
 - a. Intersection LOS Worksheets
 - b. Roadway Segment LOS Worksheets
 - c. Freeway Segment LOS Results
- E. Origin Destination Results
- F. Opening Year (2025) plus Project Analysis
 - a. Intersection LOS Worksheets
 - b. Roadway Segment LOS Worksheets
 - c. Freeway Segment LOS Results
- G. Cumulative (2040) plus Project Analysis
 - a. Intersection LOS Worksheets
 - b. Roadway Segment LOS Worksheets
 - c. Freeway Segment LOS Results
- H. Opening Year (2025) plus Project Mitigated Analysis
 - a. Intersection LOS Worksheets
- I. Cumulative (2040) plus Project Mitigated Analysis
 - a. Intersection LOS Worksheets

EXISTING TRAFFIC COUNTS

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-016 Oak Street & North Street
 Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	Oak Street Southbound					North Street Westbound					Oak Street Northbound					North Street Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	6	1	4	0	11	2	97	17	0	116	0	4	6	0	10	8	64	2	0	74	211	0
17:15	12	0	1	0	13	3	76	12	0	91	2	1	2	0	5	2	53	0	0	55	164	0
17:30	11	1	1	0	13	0	82	8	0	90	1	0	4	0	5	4	77	2	0	83	191	0
17:45	5	4	3	0	12	7	77	5	0	89	0	2	2	0	4	7	70	0	0	77	182	0
Total	34	6	9	0	49	12	332	42	0	386	3	7	14	0	24	21	264	4	0	289	748	0
18:00	9	0	3	0	12	1	66	13	0	80	1	4	3	0	8	1	60	1	0	62	162	0
18:15	5	1	5	0	11	3	49	13	0	65	0	0	3	0	3	5	58	0	0	63	142	0
18:30	5	1	2	0	8	4	46	8	0	58	1	1	2	0	4	5	55	0	0	60	130	0
18:45	11	1	4	0	16	2	48	7	0	57	0	1	0	0	1	0	42	1	0	43	117	0
Total	30	3	14	0	47	10	209	41	0	260	2	6	8	0	16	11	215	2	0	228	551	0
Grand Total	64	9	23	0	96	22	541	83	0	646	5	13	22	0	40	32	479	6	0	517	1299	0
Apprch %	66.7%	9.4%	24.0%	0.0%		3.4%	83.7%	12.8%	0.0%		12.5%	32.5%	55.0%	0.0%		6.2%	92.6%	1.2%	0.0%			
Total %	4.9%	0.7%	1.8%	0.0%	7.4%	1.7%	41.6%	6.4%	0.0%	49.7%	0.4%	1.0%	1.7%	0.0%	3.1%	2.5%	36.9%	0.5%	0.0%	39.8%	100.0%	

PM PEAK HOUR	Oak Street Southbound					North Street Westbound					Oak Street Northbound					North Street Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 17:00 to 18:00																						
Peak Hour For Entire Intersection Begins at 17:00																						
17:00	6	1	4	0	11	2	97	17	0	116	0	4	6	0	10	8	64	2	0	74	211	
17:15	12	0	1	0	13	3	76	12	0	91	2	1	2	0	5	2	53	0	0	55	164	
17:30	11	1	1	0	13	0	82	8	0	90	1	0	4	0	5	4	77	2	0	83	191	
17:45	5	4	3	0	12	7	77	5	0	89	0	2	2	0	4	7	70	0	0	77	182	
Total Volume	34	6	9	0	49	12	332	42	0	386	3	7	14	0	24	21	264	4	0	289	748	
% App Total	69.4%	12.2%	18.4%	0.0%		3.1%	86.0%	10.9%	0.0%		12.5%	29.2%	58.3%	0.0%		7.3%	91.3%	1.4%	0.0%			
PHF	.708	.375	.563	.000	.942	.429	.856	.618	.000	.832	.375	.438	.583	.000	.600	.656	.857	.500	.000	.870	.886	

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Utturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-015 SR-273 & North Street
 Date : 7/16/2016

Unshifted Count = All Vehicles & Utturns

START TIME	SR-273 Southbound					North Street Westbound					SR-273 Northbound					North Street Eastbound					Total	Utturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	13	51	4	0	68	23	14	8	0	45	2	42	19	0	63	1	11	3	0	15	191	0
17:15	13	44	3	0	60	25	14	11	0	50	4	40	18	0	62	3	9	0	0	12	184	0
17:30	14	39	1	0	54	18	10	13	0	41	5	29	20	0	54	0	15	3	0	18	167	0
17:45	11	41	1	0	53	21	13	18	0	52	2	27	14	0	43	0	12	5	0	17	165	0
Total	51	175	9	0	235	87	51	50	0	188	13	138	71	0	222	4	47	11	0	62	707	0
18:00	11	44	2	0	57	16	15	11	0	42	1	46	18	0	65	1	7	6	0	14	178	0
18:15	13	36	0	0	49	11	9	13	0	33	3	30	8	0	41	3	4	5	0	12	135	0
18:30	16	36	1	0	53	16	10	12	0	38	7	34	18	0	59	0	6	0	0	6	156	0
18:45	10	36	1	0	47	12	14	11	0	37	7	39	18	0	64	2	9	3	0	14	162	0
Total	50	152	4	0	206	55	48	47	0	150	18	149	62	0	229	6	26	14	0	46	631	0
Grand Total	101	327	13	0	441	142	99	97	0	338	31	287	133	0	451	10	73	25	0	108	1338	0
Apprch %	22.9%	74.1%	2.9%	0.0%		42.0%	29.3%	28.7%	0.0%		6.9%	63.6%	29.5%	0.0%		9.3%	67.6%	23.1%	0.0%			
Total %	7.5%	24.4%	1.0%	0.0%	33.0%	10.6%	7.4%	7.2%	0.0%	25.3%	2.3%	21.4%	9.9%	0.0%	33.7%	0.7%	5.5%	1.9%	0.0%	8.1%	100.0%	

PM PEAK HOUR	SR-273 Southbound					North Street Westbound					SR-273 Northbound					North Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	13	51	4	0	68	23	14	8	0	45	2	42	19	0	63	1	11	3	0	15	191
17:15	13	44	3	0	60	25	14	11	0	50	4	40	18	0	62	3	9	0	0	12	184
17:30	14	39	1	0	54	18	10	13	0	41	5	29	20	0	54	0	15	3	0	18	167
17:45	11	41	1	0	53	21	13	18	0	52	2	27	14	0	43	0	12	5	0	17	165
Total Volume	51	175	9	0	235	87	51	50	0	188	13	138	71	0	222	4	47	11	0	62	707
% App Total	21.7%	74.5%	3.8%	0.0%		46.3%	27.1%	26.6%	0.0%		5.9%	62.2%	32.0%	0.0%		6.5%	75.8%	17.7%	0.0%		
PHF	.911	.858	.563	.000	.864	.870	.911	.694	.000	.904	.650	.821	.888	.000	.881	.333	.783	.550	.000	.861	.925

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 16-7487-015 SR-273 & North Street

Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	SR-273 Southbound					North Street Westbound					SR-273 Northbound					North Street Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	18	72	6	0	96	44	31	16	0	91	8	45	20	0	73	4	16	9	0	29	289	0
17:15	17	73	6	0	96	36	25	13	0	74	4	37	20	0	61	3	15	12	0	30	261	0
17:30	23	71	2	0	96	33	22	17	0	72	5	41	25	0	71	2	20	9	0	31	270	0
17:45	16	56	4	0	76	32	17	14	0	63	9	43	34	0	86	4	20	3	0	27	252	0
Total	74	272	18	0	364	145	95	60	0	300	26	166	99	0	291	13	71	33	0	117	1072	0
18:00	12	42	3	0	57	33	21	20	0	74	7	36	18	0	61	0	15	12	0	27	219	0
18:15	16	47	1	0	64	31	14	17	0	62	6	37	27	0	70	0	11	2	0	13	209	0
18:30	18	55	2	0	75	21	15	9	0	45	7	36	24	0	67	0	19	7	0	26	213	0
18:45	16	34	2	0	52	20	14	15	0	49	6	32	17	0	55	2	10	3	0	15	171	0
Total	62	178	8	0	248	105	64	61	0	230	26	141	86	0	253	2	55	24	0	81	812	0
Grand Total	136	450	26	0	612	250	159	121	0	530	52	307	185	0	544	15	126	57	0	198	1884	0
Apprch %	22.2%	73.5%	4.2%	0.0%		47.2%	30.0%	22.8%	0.0%		9.6%	56.4%	34.0%	0.0%		7.6%	63.6%	28.8%	0.0%			
Total %	7.2%	23.9%	1.4%	0.0%	32.5%	13.3%	8.4%	6.4%	0.0%	28.1%	2.8%	16.3%	9.8%	0.0%	28.9%	0.8%	6.7%	3.0%	0.0%	10.5%	100.0%	

PM PEAK HOUR	SR-273 Southbound					North Street Westbound					SR-273 Northbound					North Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	18	72	6	0	96	44	31	16	0	91	8	45	20	0	73	4	16	9	0	29	289
17:15	17	73	6	0	96	36	25	13	0	74	4	37	20	0	61	3	15	12	0	30	261
17:30	23	71	2	0	96	33	22	17	0	72	5	41	25	0	71	2	20	9	0	31	270
17:45	16	56	4	0	76	32	17	14	0	63	9	43	34	0	86	4	20	3	0	27	252
Total Volume	74	272	18	0	364	145	95	60	0	300	26	166	99	0	291	13	71	33	0	117	1072
% App Total	20.3%	74.7%	4.9%	0.0%		48.3%	31.7%	20.0%	0.0%		8.9%	57.0%	34.0%	0.0%		11.1%	60.7%	28.2%	0.0%		
PHF	.804	.932	.750	.000	.948	.824	.766	.882	.000	.824	.722	.922	.728	.000	.846	.813	.888	.688	.000	.944	.927

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-014 SR-273 & Happy Valley Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	SR-273 Southbound					Happy Valley Road Westbound					SR-273 Northbound					Happy Valley Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	62	10	0	72	0	0	0	0	0	12	51	0	0	63	9	0	10	0	19	154	0
17:15	0	54	14	0	68	0	0	0	0	0	18	66	0	0	84	6	0	12	0	18	170	0
17:30	0	49	14	0	63	0	0	0	0	0	14	59	0	0	73	10	0	14	0	24	160	0
17:45	0	51	7	0	58	0	0	0	0	0	12	39	0	0	51	12	0	13	0	25	134	0
Total	0	216	45	0	261	0	0	0	0	0	56	215	0	0	271	37	0	49	0	86	618	0
18:00	0	45	9	0	54	0	0	0	0	0	10	59	0	0	69	4	0	12	0	16	139	0
18:15	0	68	8	0	76	0	0	0	0	0	18	43	0	0	61	4	0	9	0	13	150	0
18:30	0	48	8	0	56	0	0	0	0	0	12	51	0	0	63	7	0	14	0	21	140	0
18:45	0	45	5	0	50	0	0	0	0	0	13	52	0	0	65	10	0	9	0	19	134	0
Total	0	206	30	0	236	0	0	0	0	0	53	205	0	0	258	25	0	44	0	69	563	0
Grand Total	0	422	75	0	497	0	0	0	0	0	109	420	0	0	529	62	0	93	0	155	1181	0
Apprch %	0.0%	84.9%	15.1%	0.0%		0.0%	0.0%	0.0%	0.0%		20.6%	79.4%	0.0%	0.0%		40.0%	0.0%	60.0%	0.0%			
Total %	0.0%	35.7%	6.4%	0.0%	42.1%	0.0%	0.0%	0.0%	0.0%	0.0%	9.2%	35.6%	0.0%	0.0%	44.8%	5.2%	0.0%	7.9%	0.0%	13.1%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Happy Valley Road Westbound					SR-273 Northbound					Happy Valley Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	62	10	0	72	0	0	0	0	0	12	51	0	0	63	9	0	10	0	19	154
17:15	0	54	14	0	68	0	0	0	0	0	18	66	0	0	84	6	0	12	0	18	170
17:30	0	49	14	0	63	0	0	0	0	0	14	59	0	0	73	10	0	14	0	24	160
17:45	0	51	7	0	58	0	0	0	0	0	12	39	0	0	51	12	0	13	0	25	134
Total Volume	0	216	45	0	261	0	0	0	0	0	56	215	0	0	271	37	0	49	0	86	618
% App Total	0.0%	82.8%	17.2%	0.0%		0.0%	0.0%	0.0%	0.0%		20.7%	79.3%	0.0%	0.0%		43.0%	0.0%	57.0%	0.0%		
PHF	.000	.871	.804	.000	.906	.000	.000	.000	.000	.000	.778	.814	.000	.000	.807	.771	.000	.875	.000	.860	.909

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-014 SR-273 & Happy Valley Road
 Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	SR-273 Southbound					Happy Valley Road Westbound					SR-273 Northbound					Happy Valley Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	115	15	0	130	0	0	0	0	0	15	69	0	0	84	10	0	17	0	27	241	0
17:15	0	117	19	0	136	0	0	0	0	0	21	88	0	0	109	11	0	19	0	30	275	0
17:30	0	84	22	0	106	0	0	0	0	0	23	62	0	0	85	15	0	16	0	31	222	0
17:45	0	65	13	0	78	0	0	0	0	0	15	82	0	0	97	22	0	17	0	39	214	0
Total	0	381	69	0	450	0	0	0	0	0	74	301	0	0	375	58	0	69	0	127	952	0
18:00	0	49	8	0	57	0	0	0	0	0	21	48	0	0	69	5	0	22	0	27	153	0
18:15	0	61	19	0	80	0	0	0	0	0	22	40	0	0	62	3	0	10	0	13	155	0
18:30	0	47	11	0	58	0	0	0	0	0	14	58	0	0	72	10	0	17	0	27	157	0
18:45	0	51	17	0	68	0	0	0	0	0	12	43	0	0	55	7	0	8	0	15	138	0
Total	0	208	55	0	263	0	0	0	0	0	69	189	0	0	258	25	0	57	0	82	603	0
Grand Total	0	589	124	0	713	0	0	0	0	0	143	490	0	0	633	83	0	126	0	209	1555	0
Apprch %	0.0%	82.6%	17.4%	0.0%		0.0%	0.0%	0.0%	0.0%		22.6%	77.4%	0.0%	0.0%		39.7%	0.0%	60.3%	0.0%			
Total %	0.0%	37.9%	8.0%	0.0%	45.9%	0.0%	0.0%	0.0%	0.0%	0.0%	9.2%	31.5%	0.0%	0.0%	40.7%	5.3%	0.0%	8.1%	0.0%	13.4%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Happy Valley Road Westbound					SR-273 Northbound					Happy Valley Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	115	15	0	130	0	0	0	0	0	15	69	0	0	84	10	0	17	0	27	241
17:15	0	117	19	0	136	0	0	0	0	0	21	88	0	0	109	11	0	19	0	30	275
17:30	0	84	22	0	106	0	0	0	0	0	23	62	0	0	85	15	0	16	0	31	222
17:45	0	65	13	0	78	0	0	0	0	0	15	82	0	0	97	22	0	17	0	39	214
Total Volume	0	381	69	0	450	0	0	0	0	0	74	301	0	0	375	58	0	69	0	127	952
% App Total	0.0%	84.7%	15.3%	0.0%		0.0%	0.0%	0.0%	0.0%		19.7%	80.3%	0.0%	0.0%		45.7%	0.0%	54.3%	0.0%		
PHF	.000	.814	.784	.000	.827	.000	.000	.000	.000	.000	.804	.855	.000	.000	.860	.659	.000	.908	.000	.814	.865

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-013 SR-273 & Redding Rancheria Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	SR-273 Southbound					Redding Rancheria Road Westbound					SR-273 Northbound					Redding Rancheria Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	79	57	0	136	0	0	0	0	0	10	59	0	0	69	51	0	10	0	61	266	0
17:15	0	71	88	1	160	0	0	0	0	0	14	59	0	0	73	55	0	11	0	66	299	1
17:30	0	62	98	0	160	0	0	0	0	0	18	68	0	0	86	84	0	11	0	95	341	0
17:45	0	56	88	0	144	0	0	0	0	0	13	49	0	0	62	53	0	10	0	63	269	0
Total	0	268	331	1	600	0	0	0	0	0	55	235	0	0	290	243	0	42	0	285	1175	1
18:00	0	51	87	0	138	0	0	0	0	0	18	51	0	0	69	59	0	9	0	68	275	0
18:15	0	70	90	0	160	0	0	0	0	0	16	36	0	0	52	55	0	14	0	69	281	0
18:30	0	62	99	0	161	0	0	0	0	0	16	50	0	0	66	48	0	2	0	50	277	0
18:45	0	48	83	0	131	0	0	0	0	0	25	41	0	0	66	46	0	6	0	52	249	0
Total	0	231	359	0	590	0	0	0	0	0	75	178	0	0	253	208	0	31	0	239	1082	0
Grand Total	0	499	690	1	1190	0	0	0	0	0	130	413	0	0	543	451	0	73	0	524	2257	1
Apprch %	0.0%	41.9%	58.0%	0.1%		0.0%	0.0%	0.0%	0.0%		23.9%	76.1%	0.0%	0.0%		86.1%	0.0%	13.9%	0.0%			
Total %	0.0%	22.1%	30.6%	0.0%	52.7%	0.0%	0.0%	0.0%	0.0%	0.0%	5.8%	18.3%	0.0%	0.0%	24.1%	20.0%	0.0%	3.2%	0.0%	23.2%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Redding Rancheria Road Westbound					SR-273 Northbound					Redding Rancheria Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	0	71	88	1	160	0	0	0	0	0	14	59	0	0	73	55	0	11	0	66	299
17:30	0	62	98	0	160	0	0	0	0	0	18	68	0	0	86	84	0	11	0	95	341
17:45	0	56	88	0	144	0	0	0	0	0	13	49	0	0	62	53	0	10	0	63	269
18:00	0	51	87	0	138	0	0	0	0	0	18	51	0	0	69	59	0	9	0	68	275
Total Volume	0	240	361	1	602	0	0	0	0	0	63	227	0	0	290	251	0	41	0	292	1184
% App Total	0.0%	39.9%	60.0%	0.2%		0.0%	0.0%	0.0%	0.0%		21.7%	78.3%	0.0%	0.0%		86.0%	0.0%	14.0%	0.0%		
PHF	.000	.845	.921	.250	.941	.000	.000	.000	.000	.000	.875	.835	.000	.000	.843	.747	.000	.932	.000	.768	.868

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-013 SR-273 & Redding Rancheria Road
 Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	SR-273 Southbound					Redding Rancheria Road Westbound					SR-273 Northbound					Redding Rancheria Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	140	135	0	275	0	0	0	0	0	12	87	0	0	99	80	0	18	0	98	472	0
17:15	0	138	121	0	259	0	0	0	0	0	20	119	0	0	139	68	0	11	0	79	477	0
17:30	0	94	123	0	217	0	0	0	0	0	18	82	0	0	100	73	0	18	0	91	408	0
17:45	0	80	111	0	191	0	0	0	0	0	20	99	0	0	119	76	0	14	0	90	400	0
Total	0	452	490	0	942	0	0	0	0	0	70	387	0	0	457	297	0	61	0	358	1757	0
18:00	0	60	84	0	144	0	0	0	0	0	17	52	0	0	69	62	0	11	0	73	286	0
18:15	0	67	94	0	161	0	0	0	0	0	6	56	0	0	62	72	0	11	0	83	306	0
18:30	0	64	99	0	163	0	0	0	0	0	16	47	0	0	63	70	0	10	0	80	306	0
18:45	0	65	78	0	143	0	0	0	0	0	17	51	0	0	68	73	0	14	0	87	298	0
Total	0	256	355	0	611	0	0	0	0	0	56	206	0	0	262	277	0	46	0	323	1196	0
Grand Total	0	708	845	0	1553	0	0	0	0	0	126	593	0	0	719	574	0	107	0	681	2953	0
Apprch %	0.0%	45.6%	54.4%	0.0%		0.0%	0.0%	0.0%	0.0%		17.5%	82.5%	0.0%	0.0%		84.3%	0.0%	15.7%	0.0%			
Total %	0.0%	24.0%	28.6%	0.0%	52.6%	0.0%	0.0%	0.0%	0.0%	0.0%	4.3%	20.1%	0.0%	0.0%	24.3%	19.4%	0.0%	3.6%	0.0%	23.1%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Redding Rancheria Road Westbound					SR-273 Northbound					Redding Rancheria Road Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 17:00 to 18:00																						
Peak Hour For Entire Intersection Begins at 17:00																						
17:00	0	140	135	0	275	0	0	0	0	0	12	87	0	0	99	80	0	18	0	98	472	
17:15	0	138	121	0	259	0	0	0	0	0	20	119	0	0	139	68	0	11	0	79	477	
17:30	0	94	123	0	217	0	0	0	0	0	18	82	0	0	100	73	0	18	0	91	408	
17:45	0	80	111	0	191	0	0	0	0	0	20	99	0	0	119	76	0	14	0	90	400	
Total Volume	0	452	490	0	942	0	0	0	0	0	70	387	0	0	457	297	0	61	0	358	1757	
% App Total	0.0%	48.0%	52.0%	0.0%		0.0%	0.0%	0.0%	0.0%		15.3%	84.7%	0.0%	0.0%		83.0%	0.0%	17.0%	0.0%			
PHF	.000	.807	.907	.000	.856	.000	.000	.000	.000	.000	.875	.813	.000	.000	.822	.928	.000	.847	.000	.913	.921	

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-012 SR-273 & Westside Road/Girvan Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	SR-273 Southbound					Westside Road/Girvan Road Westbound					SR-273 Northbound					Westside Road/Girvan Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	17	102	3	0	122	28	1	20	0	49	5	75	30	0	110	2	3	1	0	6	287	0
17:15	14	123	3	0	140	31	0	10	0	41	5	89	22	0	116	1	0	3	0	4	301	0
17:30	8	116	4	0	128	24	1	17	0	42	7	114	28	1	150	4	2	14	0	20	340	1
17:45	22	114	5	0	141	18	1	14	0	33	6	72	27	0	105	3	2	8	0	13	292	0
Total	61	455	15	0	531	101	3	61	0	165	23	350	107	1	481	10	7	26	0	43	1220	1
18:00	16	119	8	0	143	28	3	10	0	41	5	81	23	0	109	3	5	5	0	13	306	0
18:15	16	132	4	0	152	18	2	13	0	33	5	73	19	0	97	2	4	5	0	11	293	0
18:30	14	123	4	1	142	24	1	12	0	37	6	67	24	0	97	3	0	9	0	12	288	1
18:45	13	101	4	0	118	27	1	11	0	39	5	67	17	0	89	4	1	6	0	11	257	0
Total	59	475	20	1	555	97	7	46	0	150	21	288	83	0	392	12	10	25	0	47	1144	1
Grand Total	120	930	35	1	1086	198	10	107	0	315	44	638	190	1	873	22	17	51	0	90	2364	2
Apprch %	11.0%	85.6%	3.2%	0.1%		62.9%	3.2%	34.0%	0.0%		5.0%	73.1%	21.8%	0.1%		24.4%	18.9%	56.7%	0.0%			
Total %	5.1%	39.3%	1.5%	0.0%	45.9%	8.4%	0.4%	4.5%	0.0%	13.3%	1.9%	27.0%	8.0%	0.0%	36.9%	0.9%	0.7%	2.2%	0.0%	3.8%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Westside Road/Girvan Road Westbound					SR-273 Northbound					Westside Road/Girvan Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	14	123	3	0	140	31	0	10	0	41	5	89	22	0	116	1	0	3	0	4	301
17:30	8	116	4	0	128	24	1	17	0	42	7	114	28	1	150	4	2	14	0	20	340
17:45	22	114	5	0	141	18	1	14	0	33	6	72	27	0	105	3	2	8	0	13	292
18:00	16	119	8	0	143	28	3	10	0	41	5	81	23	0	109	3	5	5	0	13	306
Total Volume	60	472	20	0	552	101	5	51	0	157	23	356	100	1	480	11	9	30	0	50	1239
% App Total	10.9%	85.5%	3.6%	0.0%		64.3%	3.2%	32.5%	0.0%		4.8%	74.2%	20.8%	0.2%		22.0%	18.0%	60.0%	0.0%		
PHF	.682	.959	.625	.000	.965	.815	.417	.750	.000	.935	.821	.781	.893	.250	.800	.688	.450	.536	.000	.625	.911

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-012 SR-273 & Westside Road/Girvan Road
 Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	SR-273 Southbound					Westside Road/Girvan Road Westbound					SR-273 Northbound					Westside Road/Girvan Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	28	210	6	0	244	51	3	18	0	72	6	124	29	0	159	2	1	10	0	13	488	0
17:15	13	219	5	0	237	34	3	12	0	49	6	129	40	1	176	3	11	9	0	23	485	1
17:30	27	152	5	0	184	38	4	16	0	58	6	115	30	1	152	0	1	13	0	14	408	1
17:45	14	134	6	0	154	34	4	15	0	53	8	128	47	0	183	1	2	11	0	14	404	0
Total	82	715	22	0	819	157	14	61	0	232	26	496	146	2	670	6	15	43	0	64	1785	2
18:00	21	123	3	0	147	24	1	11	0	36	2	89	26	0	117	3	1	4	0	8	308	0
18:15	13	137	8	0	158	29	2	13	0	44	6	90	24	0	120	2	2	12	0	16	338	0
18:30	13	121	7	0	141	24	3	11	0	38	5	97	19	0	121	0	3	10	0	13	313	0
18:45	14	115	5	0	134	20	0	9	0	29	3	95	32	0	130	2	2	6	0	10	303	0
Total	61	496	23	0	580	97	6	44	0	147	16	371	101	0	488	7	8	32	0	47	1262	0
Grand Total	143	1211	45	0	1399	254	20	105	0	379	42	867	247	2	1158	13	23	75	0	111	3047	2
Apprch %	10.2%	86.6%	3.2%	0.0%		67.0%	5.3%	27.7%	0.0%		3.6%	74.9%	21.3%	0.2%		11.7%	20.7%	67.6%	0.0%			
Total %	4.7%	39.7%	1.5%	0.0%	45.9%	8.3%	0.7%	3.4%	0.0%	12.4%	1.4%	28.5%	8.1%	0.1%	38.0%	0.4%	0.8%	2.5%	0.0%	3.6%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Westside Road/Girvan Road Westbound					SR-273 Northbound					Westside Road/Girvan Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	28	210	6	0	244	51	3	18	0	72	6	124	29	0	159	2	1	10	0	13	488
17:15	13	219	5	0	237	34	3	12	0	49	6	129	40	1	176	3	11	9	0	23	485
17:30	27	152	5	0	184	38	4	16	0	58	6	115	30	1	152	0	1	13	0	14	408
17:45	14	134	6	0	154	34	4	15	0	53	8	128	47	0	183	1	2	11	0	14	404
Total Volume	82	715	22	0	819	157	14	61	0	232	26	496	146	2	670	6	15	43	0	64	1785
% App Total	10.0%	87.3%	2.7%	0.0%		67.7%	6.0%	26.3%	0.0%		3.9%	74.0%	21.8%	0.3%		9.4%	23.4%	67.2%	0.0%		
PHF	.732	.816	.917	.000	.839	.770	.875	.847	.000	.806	.813	.961	.777	.500	.915	.500	.341	.827	.000	.696	.914

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Utturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-011 SR-273 & Clear Creek Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Utturns

START TIME	SR-273 Southbound					Clear Creek Road Westbound					SR-273 Northbound					Clear Creek Road Eastbound					Total	Utturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	119	9	0	128	0	0	0	0	0	7	88	0	0	95	14	0	1	0	15	238	0
17:15	0	143	12	0	155	0	0	0	0	0	3	94	0	0	97	16	0	2	0	18	270	0
17:30	0	122	15	0	137	0	0	0	0	0	5	120	0	0	125	15	0	5	0	20	282	0
17:45	0	142	13	0	155	0	0	0	0	0	4	89	0	1	94	18	0	1	0	19	268	1
Total	0	526	49	0	575	0	0	0	0	0	19	391	0	1	411	63	0	9	0	72	1058	1
18:00	0	142	12	0	154	0	0	0	0	0	7	84	0	0	91	14	0	7	0	21	266	0
18:15	0	145	10	0	155	0	0	0	0	0	1	82	0	2	85	8	0	5	0	13	253	2
18:30	0	137	13	0	150	0	0	0	0	0	3	85	0	0	88	10	0	5	0	15	253	0
18:45	0	117	7	0	124	0	0	0	0	0	0	82	0	0	82	8	0	2	0	10	216	0
Total	0	541	42	0	583	0	0	0	0	0	11	333	0	2	346	40	0	19	0	59	988	2
Grand Total	0	1067	91	0	1158	0	0	0	0	0	30	724	0	3	757	103	0	28	0	131	2046	3
Apprch %	0.0%	92.1%	7.9%	0.0%		0.0%	0.0%	0.0%	0.0%		4.0%	95.6%	0.0%	0.4%		78.6%	0.0%	21.4%	0.0%			
Total %	0.0%	52.2%	4.4%	0.0%	56.6%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	35.4%	0.0%	0.1%	37.0%	5.0%	0.0%	1.4%	0.0%	6.4%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Clear Creek Road Westbound					SR-273 Northbound					Clear Creek Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	0	143	12	0	155	0	0	0	0	0	3	94	0	0	97	16	0	2	0	18	270
17:30	0	122	15	0	137	0	0	0	0	0	5	120	0	0	125	15	0	5	0	20	282
17:45	0	142	13	0	155	0	0	0	0	0	4	89	0	1	94	18	0	1	0	19	268
18:00	0	142	12	0	154	0	0	0	0	0	7	84	0	0	91	14	0	7	0	21	266
Total Volume	0	549	52	0	601	0	0	0	0	0	19	387	0	1	407	63	0	15	0	78	1086
% App Total	0.0%	91.3%	8.7%	0.0%		0.0%	0.0%	0.0%	0.0%		4.7%	95.1%	0.0%	0.2%		80.8%	0.0%	19.2%	0.0%		
PHF	.000	.960	.867	.000	.969	.000	.000	.000	.000	.000	.679	.806	.000	.250	.814	.875	.000	.536	.000	.929	.963

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-011 SR-273 & Clear Creek Road
 Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	SR-273 Southbound					Clear Creek Road Westbound					SR-273 Northbound					Clear Creek Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	248	19	0	267	0	0	0	0	0	2	144	0	0	146	45	0	9	0	54	467	0
17:15	0	246	24	0	270	0	0	0	0	0	5	134	0	0	139	22	0	8	0	30	439	0
17:30	0	165	15	0	180	0	0	0	0	0	5	127	0	0	132	18	0	9	0	27	339	0
17:45	0	157	14	0	171	0	0	0	0	0	5	133	0	0	138	28	0	4	0	32	341	0
Total	0	816	72	0	888	0	0	0	0	0	17	538	0	0	555	113	0	30	0	143	1586	0
18:00	0	135	12	0	147	0	0	0	0	0	3	109	0	0	112	12	0	5	0	17	276	0
18:15	0	145	19	0	164	0	0	0	0	0	3	101	0	0	104	12	0	4	0	16	284	0
18:30	0	138	12	0	150	0	0	0	0	0	5	103	0	0	108	18	0	6	0	24	282	0
18:45	0	123	11	0	134	0	0	0	0	0	2	101	0	0	103	9	0	5	0	14	251	0
Total	0	541	54	0	595	0	0	0	0	0	13	414	0	0	427	51	0	20	0	71	1093	0
Grand Total	0	1357	126	0	1483	0	0	0	0	0	30	952	0	0	982	164	0	50	0	214	2679	0
Apprch %	0.0%	91.5%	8.5%	0.0%		0.0%	0.0%	0.0%	0.0%		3.1%	96.9%	0.0%	0.0%		76.6%	0.0%	23.4%	0.0%			
Total %	0.0%	50.7%	4.7%	0.0%	55.4%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	35.5%	0.0%	0.0%	36.7%	6.1%	0.0%	1.9%	0.0%	8.0%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Clear Creek Road Westbound					SR-273 Northbound					Clear Creek Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	248	19	0	267	0	0	0	0	0	2	144	0	0	146	45	0	9	0	54	467
17:15	0	246	24	0	270	0	0	0	0	0	5	134	0	0	139	22	0	8	0	30	439
17:30	0	165	15	0	180	0	0	0	0	0	5	127	0	0	132	18	0	9	0	27	339
17:45	0	157	14	0	171	0	0	0	0	0	5	133	0	0	138	28	0	4	0	32	341
Total Volume	0	816	72	0	888	0	0	0	0	0	17	538	0	0	555	113	0	30	0	143	1586
% App Total	0.0%	91.9%	8.1%	0.0%		0.0%	0.0%	0.0%	0.0%		3.1%	96.9%	0.0%	0.0%		79.0%	0.0%	21.0%	0.0%		
PHF	.000	.823	.750	.000	.822	.000	.000	.000	.000	.000	.850	.934	.000	.000	.950	.628	.000	.833	.000	.662	.849

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-010 SR-273 & Westwood Avenue
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	SR-273 Southbound					Westwood Avenue Westbound					SR-273 Northbound					Westwood Avenue Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	85	51	0	136	0	0	0	0	0	38	73	0	0	111	50	0	41	0	91	338	0
17:15	0	102	65	0	167	0	0	0	0	0	28	82	0	1	111	52	0	49	0	101	379	1
17:30	0	107	46	0	153	0	0	0	0	0	35	99	0	0	134	42	0	36	0	78	365	0
17:45	0	108	56	0	164	0	0	0	0	0	31	84	0	0	115	42	0	38	0	80	359	0
Total	0	402	218	0	620	0	0	0	0	0	132	338	0	1	471	186	0	164	0	350	1441	1
18:00	0	124	52	0	176	0	0	0	0	0	30	66	0	0	96	54	0	37	0	91	363	0
18:15	0	126	39	0	165	0	0	0	0	0	23	68	0	0	91	38	0	25	0	63	319	0
18:30	0	121	48	0	169	0	0	0	0	0	24	70	0	1	95	31	0	36	0	67	331	1
18:45	0	96	41	0	137	0	0	0	0	0	16	68	0	0	84	28	0	28	0	56	277	0
Total	0	467	180	0	647	0	0	0	0	0	93	272	0	1	366	151	0	126	0	277	1290	1
Grand Total	0	869	398	0	1267	0	0	0	0	0	225	610	0	2	837	337	0	290	0	627	2731	2
Apprch %	0.0%	68.6%	31.4%	0.0%		0.0%	0.0%	0.0%	0.0%		26.9%	72.9%	0.0%	0.2%		53.7%	0.0%	46.3%	0.0%			
Total %	0.0%	31.8%	14.6%	0.0%	46.4%	0.0%	0.0%	0.0%	0.0%	0.0%	8.2%	22.3%	0.0%	0.1%	30.6%	12.3%	0.0%	10.6%	0.0%	23.0%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Westwood Avenue Westbound					SR-273 Northbound					Westwood Avenue Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	0	102	65	0	167	0	0	0	0	0	28	82	0	1	111	52	0	49	0	101	379
17:30	0	107	46	0	153	0	0	0	0	0	35	99	0	0	134	42	0	36	0	78	365
17:45	0	108	56	0	164	0	0	0	0	0	31	84	0	0	115	42	0	38	0	80	359
18:00	0	124	52	0	176	0	0	0	0	0	30	66	0	0	96	54	0	37	0	91	363
Total Volume	0	441	219	0	660	0	0	0	0	0	124	331	0	1	456	190	0	160	0	350	1466
% App Total	0.0%	66.8%	33.2%	0.0%		0.0%	0.0%	0.0%	0.0%		27.2%	72.6%	0.0%	0.2%		54.3%	0.0%	45.7%	0.0%		
PHF	.000	.889	.842	.000	.938	.000	.000	.000	.000	.000	.886	.836	.000	.250	.851	.880	.000	.816	.000	.866	.967

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-010 SR-273 & Westwood Avenue
 Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	SR-273 Southbound					Westwood Avenue Westbound					SR-273 Northbound					Westwood Avenue Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	213	82	0	295	0	0	0	0	0	49	148	0	0	197	69	0	63	0	132	624	0
17:15	0	209	110	0	319	0	0	0	0	0	23	127	0	0	150	74	0	58	0	132	601	0
17:30	0	123	86	0	209	0	0	0	0	0	38	105	0	0	143	54	0	55	0	109	461	0
17:45	0	129	81	0	210	0	0	0	0	0	35	124	0	0	159	58	0	38	0	96	465	0
Total	0	674	359	0	1033	0	0	0	0	0	145	504	0	0	649	255	0	214	0	469	2151	0
18:00	0	109	54	0	163	0	0	0	0	0	32	104	0	0	136	62	0	42	0	104	403	0
18:15	0	123	57	0	180	0	0	0	0	0	28	83	0	0	111	43	0	47	0	90	381	0
18:30	0	121	64	0	185	0	0	0	0	0	24	100	0	0	124	52	0	25	0	77	386	0
18:45	0	105	49	0	154	0	0	0	0	0	19	93	0	0	112	32	0	27	0	59	325	0
Total	0	458	224	0	682	0	0	0	0	0	103	380	0	0	483	189	0	141	0	330	1495	0
Grand Total	0	1132	583	0	1715	0	0	0	0	0	248	884	0	0	1132	444	0	355	0	799	3646	0
Apprch %	0.0%	66.0%	34.0%	0.0%		0.0%	0.0%	0.0%	0.0%		21.9%	78.1%	0.0%	0.0%		55.6%	0.0%	44.4%	0.0%			
Total %	0.0%	31.0%	16.0%	0.0%	47.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.8%	24.2%	0.0%	0.0%	31.0%	12.2%	0.0%	9.7%	0.0%	21.9%	100.0%	

PM PEAK HOUR	SR-273 Southbound					Westwood Avenue Westbound					SR-273 Northbound					Westwood Avenue Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	213	82	0	295	0	0	0	0	0	49	148	0	0	197	69	0	63	0	132	624
17:15	0	209	110	0	319	0	0	0	0	0	23	127	0	0	150	74	0	58	0	132	601
17:30	0	123	86	0	209	0	0	0	0	0	38	105	0	0	143	54	0	55	0	109	461
17:45	0	129	81	0	210	0	0	0	0	0	35	124	0	0	159	58	0	38	0	96	465
Total Volume	0	674	359	0	1033	0	0	0	0	0	145	504	0	0	649	255	0	214	0	469	2151
% App Total	0.0%	65.2%	34.8%	0.0%		0.0%	0.0%	0.0%	0.0%		22.3%	77.7%	0.0%	0.0%		54.4%	0.0%	45.6%	0.0%		
PHF	.000	.791	.816	.000	.810	.000	.000	.000	.000	.000	.740	.851	.000	.000	.824	.861	.000	.849	.000	.888	.862

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-009 Churn Creek Road & Smith Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	Churn Creek Road Southbound					Smith Road Westbound					Churn Creek Road Northbound					Smith Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	18	5	0	23	0	0	0	0	0	0	17	0	0	17	1	0	0	0	1	41	0
17:15	0	14	2	0	16	0	0	0	0	0	0	15	0	0	15	4	0	0	0	4	35	0
17:30	0	16	6	0	22	0	0	0	0	0	1	17	0	0	18	2	0	2	0	4	44	0
17:45	0	20	6	0	26	0	0	0	0	0	0	16	0	0	16	5	0	1	0	6	48	0
Total	0	68	19	0	87	0	0	0	0	0	1	65	0	0	66	12	0	3	0	15	168	0
18:00	0	19	4	0	23	0	0	0	0	0	0	15	0	0	15	0	0	3	0	3	41	0
18:15	0	20	3	0	23	0	0	0	0	0	2	12	0	0	14	3	0	1	0	4	41	0
18:30	0	16	1	0	17	0	0	0	0	0	1	10	0	0	11	1	0	0	0	1	29	0
18:45	0	10	5	0	15	0	0	0	0	0	3	9	0	0	12	6	0	2	0	8	35	0
Total	0	65	13	0	78	0	0	0	0	0	6	46	0	0	52	10	0	6	0	16	146	0
Grand Total	0	133	32	0	165	0	0	0	0	0	7	111	0	0	118	22	0	9	0	31	314	0
Apprch %	0.0%	80.6%	19.4%	0.0%		0.0%	0.0%	0.0%	0.0%		5.9%	94.1%	0.0%	0.0%		71.0%	0.0%	29.0%	0.0%			
Total %	0.0%	42.4%	10.2%	0.0%	52.5%	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%	35.4%	0.0%	0.0%	37.6%	7.0%	0.0%	2.9%	0.0%	9.9%	100.0%	

PM PEAK HOUR	Churn Creek Road Southbound					Smith Road Westbound					Churn Creek Road Northbound					Smith Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:30 to 18:30																					
Peak Hour For Entire Intersection Begins at 17:30																					
17:30	0	16	6	0	22	0	0	0	0	0	1	17	0	0	18	2	0	2	0	4	44
17:45	0	20	6	0	26	0	0	0	0	0	0	16	0	0	16	5	0	1	0	6	48
18:00	0	19	4	0	23	0	0	0	0	0	0	15	0	0	15	0	0	3	0	3	41
18:15	0	20	3	0	23	0	0	0	0	0	2	12	0	0	14	3	0	1	0	4	41
Total Volume	0	75	19	0	94	0	0	0	0	0	3	60	0	0	63	10	0	7	0	17	174
% App Total	0.0%	79.8%	20.2%	0.0%		0.0%	0.0%	0.0%	0.0%		4.8%	95.2%	0.0%	0.0%		58.8%	0.0%	41.2%	0.0%		
PHF	.000	.938	.792	.000	.904	.000	.000	.000	.000	.000	.375	.882	.000	.000	.875	.500	.000	.583	.000	.708	.906

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Utturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-009 Churn Creek Road & Smith Road
 Date : 7/15/2016

Unshifted Count = All Vehicles & Utturns

START TIME	Churn Creek Road Southbound					Smith Road Westbound					Churn Creek Road Northbound					Smith Road Eastbound					Total	Utturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	30	13	0	43	0	0	0	0	0	1	20	0	0	21	1	0	1	0	2	66	0
17:15	0	44	7	0	51	0	0	0	0	0	1	31	0	0	32	4	0	1	0	5	88	0
17:30	0	26	5	0	31	0	0	0	0	0	2	29	0	0	31	4	0	1	0	5	67	0
17:45	0	24	4	0	28	0	0	0	0	0	3	22	0	0	25	5	0	0	0	5	58	0
Total	0	124	29	0	153	0	0	0	0	0	7	102	0	0	109	14	0	3	0	17	279	0
18:00	0	28	4	0	32	0	0	0	0	0	3	21	0	0	24	6	0	1	0	7	63	0
18:15	0	19	1	0	20	0	0	0	0	0	2	16	0	0	18	5	0	0	0	5	43	0
18:30	0	18	4	0	22	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	38	0
18:45	0	15	4	0	19	0	0	0	0	0	1	17	0	0	18	3	0	3	0	6	43	0
Total	0	80	13	0	93	0	0	0	0	0	6	70	0	0	76	14	0	4	0	18	187	0
Grand Total	0	204	42	0	246	0	0	0	0	0	13	172	0	0	185	28	0	7	0	35	466	0
Apprch %	0.0%	82.9%	17.1%	0.0%		0.0%	0.0%	0.0%	0.0%		7.0%	93.0%	0.0%	0.0%		80.0%	0.0%	20.0%	0.0%			
Total %	0.0%	43.8%	9.0%	0.0%	52.8%	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	36.9%	0.0%	0.0%	39.7%	6.0%	0.0%	1.5%	0.0%	7.5%	100.0%	

PM PEAK HOUR	Churn Creek Road Southbound					Smith Road Westbound					Churn Creek Road Northbound					Smith Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	30	13	0	43	0	0	0	0	0	1	20	0	0	21	1	0	1	0	2	66
17:15	0	44	7	0	51	0	0	0	0	0	1	31	0	0	32	4	0	1	0	5	88
17:30	0	26	5	0	31	0	0	0	0	0	2	29	0	0	31	4	0	1	0	5	67
17:45	0	24	4	0	28	0	0	0	0	0	3	22	0	0	25	5	0	0	0	5	58
Total Volume	0	124	29	0	153	0	0	0	0	0	7	102	0	0	109	14	0	3	0	17	279
% App Total	0.0%	81.0%	19.0%	0.0%		0.0%	0.0%	0.0%	0.0%		6.4%	93.6%	0.0%	0.0%		82.4%	0.0%	17.6%	0.0%		
PHF	.000	.705	.558	.000	.750	.000	.000	.000	.000	.000	.583	.823	.000	.000	.852	.700	.000	.750	.000	.850	.793

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-008 Victor Avenue & Churn Creek Road
 Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	Victor Avenue Southbound					Churn Creek Road Westbound					Victor Avenue Northbound					Churn Creek Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	15	0	22	0	37	0	68	13	0	81	0	0	0	0	0	36	98	0	0	134	252	0
17:15	19	0	27	0	46	0	66	21	0	87	0	0	0	0	0	41	99	0	0	140	273	0
17:30	10	0	28	0	38	0	60	19	0	79	0	0	0	0	0	37	67	0	0	104	221	0
17:45	14	0	18	0	32	0	50	14	0	64	0	0	0	0	0	30	59	0	0	89	185	0
Total	58	0	95	0	153	0	244	67	0	311	0	0	0	0	0	144	323	0	0	467	931	0
18:00	18	0	29	0	47	0	42	16	0	58	0	0	0	0	0	23	54	0	0	77	182	0
18:15	7	0	21	0	28	0	44	14	0	58	0	0	0	0	0	23	51	0	0	74	160	0
18:30	10	0	28	0	38	0	42	10	0	52	0	0	0	0	0	23	44	0	0	67	157	0
18:45	11	0	19	0	30	0	43	7	0	50	0	0	0	0	0	19	45	0	0	64	144	0
Total	46	0	97	0	143	0	171	47	0	218	0	0	0	0	0	88	194	0	0	282	643	0
Grand Total	104	0	192	0	296	0	415	114	0	529	0	0	0	0	0	232	517	0	0	749	1574	0
Apprch %	35.1%	0.0%	64.9%	0.0%		0.0%	78.4%	21.6%	0.0%		0.0%	0.0%	0.0%	0.0%		31.0%	69.0%	0.0%	0.0%			
Total %	6.6%	0.0%	12.2%	0.0%	18.8%	0.0%	26.4%	7.2%	0.0%	33.6%	0.0%	0.0%	0.0%	0.0%	0.0%	14.7%	32.8%	0.0%	0.0%	47.6%	100.0%	

PM PEAK HOUR	Victor Avenue Southbound					Churn Creek Road Westbound					Victor Avenue Northbound					Churn Creek Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	15	0	22	0	37	0	68	13	0	81	0	0	0	0	0	36	98	0	0	134	252
17:15	19	0	27	0	46	0	66	21	0	87	0	0	0	0	0	41	99	0	0	140	273
17:30	10	0	28	0	38	0	60	19	0	79	0	0	0	0	0	37	67	0	0	104	221
17:45	14	0	18	0	32	0	50	14	0	64	0	0	0	0	0	30	59	0	0	89	185
Total Volume	58	0	95	0	153	0	244	67	0	311	0	0	0	0	0	144	323	0	0	467	931
% App Total	37.9%	0.0%	62.1%	0.0%		0.0%	78.5%	21.5%	0.0%		0.0%	0.0%	0.0%	0.0%		30.8%	69.2%	0.0%	0.0%		
PHF	.763	.000	.848	.000	.832	.000	.897	.798	.000	.894	.000	.000	.000	.000	.000	.878	.816	.000	.000	.834	.853

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-008 Victor Avenue & Churn Creek Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	Victor Avenue Southbound					Churn Creek Road Westbound					Victor Avenue Northbound					Churn Creek Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	13	0	31	0	44	0	27	9	0	36	0	0	0	0	0	26	33	0	0	59	139	0
17:15	6	0	17	0	23	0	44	6	0	50	0	0	0	0	0	18	46	0	0	64	137	0
17:30	9	0	27	0	36	0	40	8	0	48	0	0	0	0	0	27	36	0	0	63	147	0
17:45	12	0	25	0	37	0	57	7	0	64	0	0	0	0	0	22	40	0	0	62	163	0
Total	40	0	100	0	140	0	168	30	0	198	0	0	0	0	0	93	155	0	0	248	586	0
18:00	13	0	30	0	43	0	38	8	0	46	0	0	0	0	0	23	43	0	0	66	155	0
18:15	12	0	18	0	30	0	29	5	0	34	0	0	0	0	0	27	33	0	0	60	124	0
18:30	9	0	22	0	31	0	31	2	0	33	0	0	0	0	0	32	42	0	0	74	138	0
18:45	4	0	20	0	24	0	35	8	0	43	0	0	0	0	0	21	28	0	0	49	116	0
Total	38	0	90	0	128	0	133	23	0	156	0	0	0	0	0	103	146	0	0	249	533	0
Grand Total	78	0	190	0	268	0	301	53	0	354	0	0	0	0	0	196	301	0	0	497	1119	0
Apprch %	29.1%	0.0%	70.9%	0.0%		0.0%	85.0%	15.0%	0.0%		0.0%	0.0%	0.0%	0.0%		39.4%	60.6%	0.0%	0.0%			
Total %	7.0%	0.0%	17.0%	0.0%	23.9%	0.0%	26.9%	4.7%	0.0%	31.6%	0.0%	0.0%	0.0%	0.0%	0.0%	17.5%	26.9%	0.0%	0.0%	44.4%	100.0%	

PM PEAK HOUR	Victor Avenue Southbound					Churn Creek Road Westbound					Victor Avenue Northbound					Churn Creek Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	6	0	17	0	23	0	44	6	0	50	0	0	0	0	0	18	46	0	0	64	137
17:30	9	0	27	0	36	0	40	8	0	48	0	0	0	0	0	27	36	0	0	63	147
17:45	12	0	25	0	37	0	57	7	0	64	0	0	0	0	0	22	40	0	0	62	163
18:00	13	0	30	0	43	0	38	8	0	46	0	0	0	0	0	23	43	0	0	66	155
Total Volume	40	0	99	0	139	0	179	29	0	208	0	0	0	0	0	90	165	0	0	255	602
% App Total	28.8%	0.0%	71.2%	0.0%		0.0%	86.1%	13.9%	0.0%		0.0%	0.0%	0.0%	0.0%		35.3%	64.7%	0.0%	0.0%		
PHF	.769	.000	.825	.000	.808	.000	.785	.906	.000	.813	.000	.000	.000	.000	.000	.833	.897	.000	.000	.966	.923

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-007 Alrose Lane & Churn Creek Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	Alrose Lane Southbound					Churn Creek Road Westbound					Alrose Lane Northbound					Churn Creek Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	3	0	26	0	29	0	51	5	0	56	0	0	0	0	0	18	54	0	0	72	157	0
17:15	6	0	12	0	18	0	59	3	0	62	0	0	0	0	0	12	61	0	0	73	153	0
17:30	2	0	10	0	12	0	65	3	0	68	0	0	0	0	0	6	60	0	0	66	146	0
17:45	1	0	16	0	17	0	77	2	0	79	0	0	0	0	0	19	71	0	0	90	186	0
Total	12	0	64	0	76	0	252	13	0	265	0	0	0	0	0	55	246	0	0	301	642	0
18:00	3	0	14	0	17	0	68	6	0	74	0	0	0	0	0	11	56	0	0	67	158	0
18:15	3	0	16	0	19	0	47	2	0	49	0	0	0	0	0	23	63	0	0	86	154	0
18:30	2	0	21	0	23	0	52	6	0	58	0	0	0	0	0	19	68	0	0	87	168	0
18:45	3	0	16	0	19	0	50	3	0	53	0	0	0	0	0	14	48	0	1	63	135	1
Total	11	0	67	0	78	0	217	17	0	234	0	0	0	0	0	67	235	0	1	303	615	1
Grand Total	23	0	131	0	154	0	469	30	0	499	0	0	0	0	0	122	481	0	1	604	1257	1
Apprch %	14.9%	0.0%	85.1%	0.0%		0.0%	94.0%	6.0%	0.0%		0.0%	0.0%	0.0%	0.0%		20.2%	79.6%	0.0%	0.2%			
Total %	1.8%	0.0%	10.4%	0.0%	12.3%	0.0%	37.3%	2.4%	0.0%	39.7%	0.0%	0.0%	0.0%	0.0%	0.0%	9.7%	38.3%	0.0%	0.1%	48.1%	100.0%	

PM PEAK HOUR	Alrose Lane Southbound					Churn Creek Road Westbound					Alrose Lane Northbound					Churn Creek Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:45 to 18:45																					
Peak Hour For Entire Intersection Begins at 17:45																					
17:45	1	0	16	0	17	0	77	2	0	79	0	0	0	0	0	19	71	0	0	90	186
18:00	3	0	14	0	17	0	68	6	0	74	0	0	0	0	0	11	56	0	0	67	158
18:15	3	0	16	0	19	0	47	2	0	49	0	0	0	0	0	23	63	0	0	86	154
18:30	2	0	21	0	23	0	52	6	0	58	0	0	0	0	0	19	68	0	0	87	168
Total Volume	9	0	67	0	76	0	244	16	0	260	0	0	0	0	0	72	258	0	0	330	666
% App Total	11.8%	0.0%	88.2%	0.0%		0.0%	93.8%	6.2%	0.0%		0.0%	0.0%	0.0%	0.0%		21.8%	78.2%	0.0%	0.0%		
PHF	.750	.000	.798	.000	.826	.000	.792	.667	.000	.823	.000	.000	.000	.000	.000	.783	.908	.000	.000	.917	.895

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-007 Alrose Lane & Churn Creek Road
 Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	Alrose Lane Southbound					Churn Creek Road Westbound					Alrose Lane Northbound					Churn Creek Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	7	0	24	0	31	1	96	7	0	104	4	0	0	0	4	28	142	6	0	176	315	0
17:15	4	0	25	0	29	0	98	3	0	101	2	0	1	0	3	18	128	0	0	146	279	0
17:30	9	0	18	0	27	0	89	4	0	93	1	0	1	0	2	25	102	2	0	129	251	0
17:45	3	0	19	0	22	0	70	2	0	72	0	0	0	0	0	27	85	6	0	118	212	0
Total	23	0	86	0	109	1	353	16	0	370	7	0	2	0	9	98	457	14	0	569	1057	0
18:00	1	0	14	0	15	0	70	5	0	75	3	0	0	0	3	22	84	1	0	107	200	0
18:15	5	0	19	0	24	0	67	7	0	74	1	0	0	0	1	27	73	1	0	101	200	0
18:30	6	0	20	0	26	0	69	5	0	74	3	0	1	0	4	16	73	2	0	91	195	0
18:45	3	0	11	0	14	1	66	3	0	70	1	0	1	0	2	15	64	0	0	79	165	0
Total	15	0	64	0	79	1	272	20	0	293	8	0	2	0	10	80	294	4	0	378	760	0
Grand Total	38	0	150	0	188	2	625	36	0	663	15	0	4	0	19	178	751	18	0	947	1817	0
Apprch %	20.2%	0.0%	79.8%	0.0%		0.3%	94.3%	5.4%	0.0%		78.9%	0.0%	21.1%	0.0%		18.8%	79.3%	1.9%	0.0%			
Total %	2.1%	0.0%	8.3%	0.0%	10.3%	0.1%	34.4%	2.0%	0.0%	36.5%	0.8%	0.0%	0.2%	0.0%	1.0%	9.8%	41.3%	1.0%	0.0%	52.1%	100.0%	

PM PEAK HOUR	Alrose Lane Southbound					Churn Creek Road Westbound					Alrose Lane Northbound					Churn Creek Road Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 17:00 to 18:00																						
Peak Hour For Entire Intersection Begins at 17:00																						
17:00	7	0	24	0	31	1	96	7	0	104	4	0	0	0	4	28	142	6	0	176	315	
17:15	4	0	25	0	29	0	98	3	0	101	2	0	1	0	3	18	128	0	0	146	279	
17:30	9	0	18	0	27	0	89	4	0	93	1	0	1	0	2	25	102	2	0	129	251	
17:45	3	0	19	0	22	0	70	2	0	72	0	0	0	0	0	27	85	6	0	118	212	
Total Volume	23	0	86	0	109	1	353	16	0	370	7	0	2	0	9	98	457	14	0	569	1057	
% App Total	21.1%	0.0%	78.9%	0.0%		0.3%	95.4%	4.3%	0.0%		77.8%	0.0%	22.2%	0.0%		17.2%	80.3%	2.5%	0.0%			
PHF	.639	.000	.860	.000	.879	.250	.901	.571	.000	.889	.438	.000	.500	.000	.563	.875	.805	.583	.000	.808	.839	

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-006 Churn Creek Road & South Bonnyview Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	Churn Creek Road Southbound					South Bonnyview Road Westbound					Churn Creek Road Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	10	0	49	0	59	0	62	19	0	81	1	2	0	0	3	33	67	0	0	100	243	0
17:15	12	2	43	0	57	0	63	10	0	73	3	3	1	0	7	28	61	2	0	91	228	0
17:30	8	0	48	0	56	1	72	4	0	77	2	2	0	0	4	46	55	3	0	104	241	0
17:45	14	0	51	0	65	1	79	12	0	92	3	0	1	0	4	51	75	1	0	127	288	0
Total	44	2	191	0	237	2	276	45	0	323	9	7	2	0	18	158	258	6	0	422	1000	0
18:00	16	0	40	0	56	0	78	10	0	88	3	1	0	0	4	46	52	6	0	104	252	0
18:15	31	0	53	0	84	0	55	8	0	63	0	0	1	0	1	42	56	6	0	104	252	0
18:30	24	0	41	0	65	1	65	11	0	77	1	0	0	0	1	37	67	0	0	104	247	0
18:45	9	2	42	0	53	0	51	11	0	62	1	2	0	0	3	29	54	2	0	85	203	0
Total	80	2	176	0	258	1	249	40	0	290	5	3	1	0	9	154	229	14	0	397	954	0
Grand Total	124	4	367	0	495	3	525	85	0	613	14	10	3	0	27	312	487	20	0	819	1954	0
Apprch %	25.1%	0.8%	74.1%	0.0%		0.5%	85.6%	13.9%	0.0%		51.9%	37.0%	11.1%	0.0%		38.1%	59.5%	2.4%	0.0%			
Total %	6.3%	0.2%	18.8%	0.0%	25.3%	0.2%	26.9%	4.4%	0.0%	31.4%	0.7%	0.5%	0.2%	0.0%	1.4%	16.0%	24.9%	1.0%	0.0%	41.9%	100.0%	

PM PEAK HOUR	Churn Creek Road Southbound					South Bonnyview Road Westbound					Churn Creek Road Northbound					South Bonnyview Road Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 17:45 to 18:45																						
Peak Hour For Entire Intersection Begins at 17:45																						
17:45	14	0	51	0	65	1	79	12	0	92	3	0	1	0	4	51	75	1	0	127	288	
18:00	16	0	40	0	56	0	78	10	0	88	3	1	0	0	4	46	52	6	0	104	252	
18:15	31	0	53	0	84	0	55	8	0	63	0	0	1	0	1	42	56	6	0	104	252	
18:30	24	0	41	0	65	1	65	11	0	77	1	0	0	0	1	37	67	0	0	104	247	
Total Volume	85	0	185	0	270	2	277	41	0	320	7	1	2	0	10	176	250	13	0	439	1039	
% App Total	31.5%	0.0%	68.5%	0.0%		0.6%	86.6%	12.8%	0.0%		70.0%	10.0%	20.0%	0.0%		40.1%	56.9%	3.0%	0.0%			
PHF	.685	.000	.873	.000	.804	.500	.877	.854	.000	.870	.583	.250	.500	.000	.625	.863	.833	.542	.000	.864	.902	

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-006 Churn Creek Road & South Bonnyview Road
 Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	Churn Creek Road Southbound					South Bonnyview Road Westbound					Churn Creek Road Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	33	1	95	0	129	0	104	20	0	124	0	0	0	0	0	52	142	3	0	197	450	0
17:15	20	1	81	0	102	0	108	14	0	122	1	1	0	0	2	64	133	2	0	199	425	0
17:30	26	1	68	0	95	0	95	18	0	113	2	1	0	0	3	53	102	2	0	157	368	0
17:45	16	0	51	0	67	0	77	15	0	92	2	0	1	0	3	42	98	3	1	144	306	1
Total	95	3	295	0	393	0	384	67	0	451	5	2	1	0	8	211	475	10	1	697	1549	1
18:00	24	1	65	0	90	0	78	11	0	89	1	0	0	0	1	48	86	1	0	135	315	0
18:15	21	2	77	0	100	0	71	15	0	86	1	1	0	0	2	44	78	1	0	123	311	0
18:30	19	2	47	0	68	0	81	12	0	93	1	0	0	0	1	54	73	1	0	128	290	0
18:45	20	0	39	0	59	0	71	8	0	79	2	0	0	0	2	42	64	4	0	110	250	0
Total	84	5	228	0	317	0	301	46	0	347	5	1	0	0	6	188	301	7	0	496	1166	0
Grand Total	179	8	523	0	710	0	685	113	0	798	10	3	1	0	14	399	776	17	1	1193	2715	1
Apprch %	25.2%	1.1%	73.7%	0.0%		0.0%	85.8%	14.2%	0.0%		71.4%	21.4%	7.1%	0.0%		33.4%	65.0%	1.4%	0.1%			
Total %	6.6%	0.3%	19.3%	0.0%	26.2%	0.0%	25.2%	4.2%	0.0%	29.4%	0.4%	0.1%	0.0%	0.0%	0.5%	14.7%	28.6%	0.6%	0.0%	43.9%	100.0%	

PM PEAK HOUR	Churn Creek Road Southbound					South Bonnyview Road Westbound					Churn Creek Road Northbound					South Bonnyview Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	33	1	95	0	129	0	104	20	0	124	0	0	0	0	0	52	142	3	0	197	450
17:15	20	1	81	0	102	0	108	14	0	122	1	1	0	0	2	64	133	2	0	199	425
17:30	26	1	68	0	95	0	95	18	0	113	2	1	0	0	3	53	102	2	0	157	368
17:45	16	0	51	0	67	0	77	15	0	92	2	0	1	0	3	42	98	3	1	144	306
Total Volume	95	3	295	0	393	0	384	67	0	451	5	2	1	0	8	211	475	10	1	697	1549
% App Total	24.2%	0.8%	75.1%	0.0%		0.0%	85.1%	14.9%	0.0%		62.5%	25.0%	12.5%	0.0%		30.3%	68.1%	1.4%	0.1%		
PHF	.720	.750	.776	.000	.762	.000	.889	.838	.000	.909	.625	.500	.250	.000	.667	.824	.836	.833	.250	.876	.861

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-005 I-5 NB Ramps & South Bonnyview Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	I-5 NB Ramps Southbound					South Bonnyview Road Westbound					I-5 NB Ramps Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	0	0	0	0	0	81	29	0	110	40	1	23	0	64	69	77	0	0	146	320	0
17:15	0	0	0	0	0	0	89	22	0	111	36	1	18	0	55	81	72	0	0	153	319	0
17:30	0	0	0	0	0	0	100	25	0	125	32	1	25	0	58	77	83	0	0	160	343	0
17:45	0	0	0	0	0	0	101	27	0	128	41	0	42	0	83	76	84	0	0	160	371	0
Total	0	0	0	0	0	0	371	103	0	474	149	3	108	0	260	303	316	0	0	619	1353	0
18:00	0	0	0	0	0	0	84	36	0	120	34	0	34	0	68	67	74	0	0	141	329	0
18:15	0	0	0	0	0	0	80	28	0	108	38	0	35	0	73	58	68	0	0	126	307	0
18:30	0	0	0	0	0	0	69	36	0	105	30	1	26	0	57	55	76	0	0	131	293	0
18:45	0	0	0	0	0	0	77	17	0	94	24	0	21	0	45	67	67	0	0	134	273	0
Total	0	0	0	0	0	0	310	117	0	427	126	1	116	0	243	247	285	0	0	532	1202	0
Grand Total	0	0	0	0	0	0	681	220	0	901	275	4	224	0	503	550	601	0	0	1151	2555	0
Apprch %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	75.6%	24.4%	0.0%	0.0%	54.7%	0.8%	44.5%	0.0%	0.0%	47.8%	52.2%	0.0%	0.0%	0.0%		
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	26.7%	8.6%	0.0%	35.3%	10.8%	0.2%	8.8%	0.0%	19.7%	21.5%	23.5%	0.0%	0.0%	45.0%	100.0%	

PM PEAK HOUR	I-5 NB Ramps Southbound					South Bonnyview Road Westbound					I-5 NB Ramps Northbound					South Bonnyview Road Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 17:15 to 18:15																						
Peak Hour For Entire Intersection Begins at 17:15																						
17:15	0	0	0	0	0	0	89	22	0	111	36	1	18	0	55	81	72	0	0	153	319	
17:30	0	0	0	0	0	0	100	25	0	125	32	1	25	0	58	77	83	0	0	160	343	
17:45	0	0	0	0	0	0	101	27	0	128	41	0	42	0	83	76	84	0	0	160	371	
18:00	0	0	0	0	0	0	84	36	0	120	34	0	34	0	68	67	74	0	0	141	329	
Total Volume	0	0	0	0	0	0	374	110	0	484	143	2	119	0	264	301	313	0	0	614	1362	
% App Total	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	77.3%	22.7%	0.0%	0.0%	54.2%	0.8%	45.1%	0.0%	0.0%	49.0%	51.0%	0.0%	0.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.926	.764	.000	.945	.872	.500	.708	.000	.795	.929	.932	.000	.000	.959	.918	

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 16-7487-005 I-5 NB Ramps & South Bonnyview Road

Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	I-5 NB Ramps Southbound					South Bonnyview Road Westbound					I-5 NB Ramps Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	0	0	0	0	0	178	30	0	208	53	2	38	0	93	131	161	0	0	292	593	0
17:15	0	0	0	0	0	0	153	39	0	192	65	0	46	0	111	120	151	0	0	271	574	0
17:30	0	0	0	0	0	0	115	42	0	157	52	0	37	0	89	115	116	0	0	231	477	0
17:45	0	0	0	0	0	0	103	30	0	133	55	1	40	0	96	109	104	0	0	213	442	0
Total	0	0	0	0	0	0	549	141	0	690	225	3	161	0	389	475	532	0	0	1007	2086	0
18:00	0	0	0	0	0	0	103	31	0	134	54	0	23	0	77	113	116	0	0	229	440	0
18:15	0	0	0	0	0	0	117	37	0	154	48	0	27	0	75	85	92	0	0	177	406	0
18:30	0	0	0	0	0	0	94	29	0	123	49	0	33	0	82	95	94	0	0	189	394	0
18:45	0	0	0	0	0	0	93	24	0	117	24	0	37	0	61	74	73	0	0	147	325	0
Total	0	0	0	0	0	0	407	121	0	528	175	0	120	0	295	367	375	0	0	742	1565	0
Grand Total	0	0	0	0	0	0	956	262	0	1218	400	3	281	0	684	842	907	0	0	1749	3651	0
Apprch %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	78.5%	21.5%	0.0%	0.0%	58.5%	0.4%	41.1%	0.0%	0.0%	48.1%	51.9%	0.0%	0.0%	0.0%		
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	26.2%	7.2%	0.0%	33.4%	11.0%	0.1%	7.7%	0.0%	18.7%	23.1%	24.8%	0.0%	0.0%	47.9%	100.0%	

PM PEAK HOUR	I-5 NB Ramps Southbound					South Bonnyview Road Westbound					I-5 NB Ramps Northbound					South Bonnyview Road Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 17:00 to 18:00																						
Peak Hour For Entire Intersection Begins at 17:00																						
17:00	0	0	0	0	0	0	178	30	0	208	53	2	38	0	93	131	161	0	0	292	593	
17:15	0	0	0	0	0	0	153	39	0	192	65	0	46	0	111	120	151	0	0	271	574	
17:30	0	0	0	0	0	0	115	42	0	157	52	0	37	0	89	115	116	0	0	231	477	
17:45	0	0	0	0	0	0	103	30	0	133	55	1	40	0	96	109	104	0	0	213	442	
Total Volume	0	0	0	0	0	0	549	141	0	690	225	3	161	0	389	475	532	0	0	1007	2086	
% App Total	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	79.6%	20.4%	0.0%	0.0%	57.8%	0.8%	41.4%	0.0%	0.0%	47.2%	52.8%	0.0%	0.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.771	.839	.000	.829	.865	.375	.875	.000	.876	.906	.826	.000	.000	.862	.879	

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 16-7487-004 I-5 SB Ramps & South Bonnyview Road

Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	I-5 SB Ramps Southbound					South Bonnyview Road Westbound					I-5 SB Ramps Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	44	0	136	0	180	64	166	0	0	230	0	0	0	0	0	0	249	92	0	341	751	0
17:15	45	0	124	0	169	72	148	0	0	220	0	0	0	0	0	0	232	88	0	320	709	0
17:30	30	0	129	0	159	41	125	0	0	166	0	0	0	0	0	0	197	75	0	272	597	0
17:45	33	1	92	0	126	37	123	0	0	160	0	0	0	0	0	0	185	63	0	248	534	0
Total	152	1	481	0	634	214	562	0	0	776	0	0	0	0	0	0	863	318	0	1181	2591	0
18:00	45	0	106	0	151	39	113	0	0	152	0	0	0	0	0	0	178	48	0	226	529	0
18:15	21	0	92	0	113	42	112	0	0	154	0	0	0	0	0	0	160	47	0	207	474	0
18:30	28	0	103	0	131	42	116	0	0	158	0	0	0	0	0	0	162	52	0	214	503	0
18:45	29	0	94	0	123	34	84	0	0	118	0	0	0	0	0	0	114	35	0	149	390	0
Total	123	0	395	0	518	157	425	0	0	582	0	0	0	0	0	0	614	182	0	796	1896	0
Grand Total	275	1	876	0	1152	371	987	0	0	1358	0	0	0	0	0	0	1477	500	0	1977	4487	0
Apprch %	23.9%	0.1%	76.0%	0.0%		27.3%	72.7%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	74.7%	25.3%	0.0%			
Total %	6.1%	0.0%	19.5%	0.0%	25.7%	8.3%	22.0%	0.0%	0.0%	30.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	32.9%	11.1%	0.0%	44.1%	100.0%	

PM PEAK HOUR	I-5 SB Ramps Southbound					South Bonnyview Road Westbound					I-5 SB Ramps Northbound					South Bonnyview Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	44	0	136	0	180	64	166	0	0	230	0	0	0	0	0	0	249	92	0	341	751
17:15	45	0	124	0	169	72	148	0	0	220	0	0	0	0	0	0	232	88	0	320	709
17:30	30	0	129	0	159	41	125	0	0	166	0	0	0	0	0	0	197	75	0	272	597
17:45	33	1	92	0	126	37	123	0	0	160	0	0	0	0	0	0	185	63	0	248	534
Total Volume	152	1	481	0	634	214	562	0	0	776	0	0	0	0	0	0	863	318	0	1181	2591
% App Total	24.0%	0.2%	75.9%	0.0%		27.6%	72.4%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	73.1%	26.9%	0.0%		
PHF	.844	.250	.884	.000	.881	.743	.846	.000	.000	.843	.000	.000	.000	.000	.000	.000	.866	.864	.000	.866	.863

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-004 I-5 SB Ramps & South Bonnyview Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	I-5 SB Ramps Southbound					South Bonnyview Road Westbound					I-5 SB Ramps Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	33	0	96	0	129	30	92	0	0	122	0	0	0	0	0	0	118	40	0	158	409	0
17:15	21	0	79	0	100	28	95	0	0	123	0	0	0	0	0	0	127	43	0	170	393	0
17:30	24	0	81	0	105	38	91	0	0	129	0	0	0	0	0	0	133	44	0	177	411	0
17:45	16	1	83	0	100	31	120	0	0	151	0	0	0	0	0	0	145	35	0	180	431	0
Total	94	1	339	0	434	127	398	0	0	525	0	0	0	0	0	0	523	162	0	685	1644	0
18:00	30	0	83	0	113	25	88	0	0	113	0	0	0	0	0	0	108	36	0	144	370	0
18:15	26	0	89	0	115	34	91	0	0	125	0	0	0	0	0	0	101	33	0	134	374	0
18:30	24	1	81	0	106	30	70	0	0	100	0	0	0	0	0	0	106	28	0	134	340	0
18:45	24	2	85	0	111	24	67	0	0	91	0	0	0	0	0	0	108	23	0	131	333	0
Total	104	3	338	0	445	113	316	0	0	429	0	0	0	0	0	0	423	120	0	543	1417	0
Grand Total	198	4	677	0	879	240	714	0	0	954	0	0	0	0	0	0	946	282	0	1228	3061	0
Apprch %	22.5%	0.5%	77.0%	0.0%		25.2%	74.8%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	77.0%	23.0%	0.0%			
Total %	6.5%	0.1%	22.1%	0.0%	28.7%	7.8%	23.3%	0.0%	0.0%	31.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.9%	9.2%	0.0%	40.1%	100.0%	

PM PEAK HOUR	I-5 SB Ramps Southbound					South Bonnyview Road Westbound					I-5 SB Ramps Northbound					South Bonnyview Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	33	0	96	0	129	30	92	0	0	122	0	0	0	0	0	0	118	40	0	158	409
17:15	21	0	79	0	100	28	95	0	0	123	0	0	0	0	0	0	127	43	0	170	393
17:30	24	0	81	0	105	38	91	0	0	129	0	0	0	0	0	0	133	44	0	177	411
17:45	16	1	83	0	100	31	120	0	0	151	0	0	0	0	0	0	145	35	0	180	431
Total Volume	94	1	339	0	434	127	398	0	0	525	0	0	0	0	0	0	523	162	0	685	1644
% App Total	21.7%	0.2%	78.1%	0.0%		24.2%	75.8%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	76.4%	23.6%	0.0%		
PHF	.712	.250	.883	.000	.841	.836	.829	.000	.000	.869	.000	.000	.000	.000	.000	.000	.902	.920	.000	.951	.954

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-003 Bechelli Lane & South Bonnyview Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	Bechelli Lane Southbound					South Bonnyview Road Westbound					Bechelli Lane Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	21	1	35	0	57	1	169	15	0	185	6	0	3	0	9	14	131	2	0	147	398	0
17:15	15	1	21	0	37	2	151	15	1	169	0	2	3	0	5	21	146	3	0	170	381	1
17:30	20	1	20	0	41	2	149	13	0	164	5	2	3	0	10	13	141	3	0	157	372	0
17:45	20	0	14	0	34	0	181	22	0	203	3	0	3	0	6	21	159	2	0	182	425	0
Total	76	3	90	0	169	5	650	65	1	721	14	4	12	0	30	69	577	10	0	656	1576	1
18:00	25	0	37	0	62	0	139	21	1	161	1	1	1	0	3	13	108	1	0	122	348	1
18:15	13	3	35	0	51	6	155	14	0	175	3	3	3	0	9	22	117	4	0	143	378	0
18:30	14	1	37	0	52	2	121	17	2	142	1	1	0	0	2	17	111	2	0	130	326	2
18:45	8	0	26	0	34	3	142	6	0	151	1	1	3	0	5	10	114	3	0	127	317	0
Total	60	4	135	0	199	11	557	58	3	629	6	6	7	0	19	62	450	10	0	522	1369	3
Grand Total	136	7	225	0	368	16	1207	123	4	1350	20	10	19	0	49	131	1027	20	0	1178	2945	4
Apprch %	37.0%	1.9%	61.1%	0.0%		1.2%	89.4%	9.1%	0.3%		40.8%	20.4%	38.8%	0.0%		11.1%	87.2%	1.7%	0.0%			
Total %	4.6%	0.2%	7.6%	0.0%	12.5%	0.5%	41.0%	4.2%	0.1%	45.8%	0.7%	0.3%	0.6%	0.0%	1.7%	4.4%	34.9%	0.7%	0.0%	40.0%	100.0%	

PM PEAK HOUR	Bechelli Lane Southbound					South Bonnyview Road Westbound					Bechelli Lane Northbound					South Bonnyview Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	21	1	35	0	57	1	169	15	0	185	6	0	3	0	9	14	131	2	0	147	398
17:15	15	1	21	0	37	2	151	15	1	169	0	2	3	0	5	21	146	3	0	170	381
17:30	20	1	20	0	41	2	149	13	0	164	5	2	3	0	10	13	141	3	0	157	372
17:45	20	0	14	0	34	0	181	22	0	203	3	0	3	0	6	21	159	2	0	182	425
Total Volume	76	3	90	0	169	5	650	65	1	721	14	4	12	0	30	69	577	10	0	656	1576
% App Total	45.0%	1.8%	53.3%	0.0%		0.7%	90.2%	9.0%	0.1%		46.7%	13.3%	40.0%	0.0%		10.5%	88.0%	1.5%	0.0%		
PHF	.905	.750	.643	.000	.741	.625	.898	.739	.250	.888	.583	.500	1.000	.000	.750	.821	.907	.833	.000	.901	.927

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-003 Bechelli Lane & South Bonnyview Road
 Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	Bechelli Lane Southbound					South Bonnyview Road Westbound					Bechelli Lane Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	66	1	66	0	133	6	244	34	0	284	5	6	10	0	21	42	270	3	0	315	753	0
17:15	57	0	59	0	116	2	220	36	0	258	5	1	5	0	11	40	242	4	0	286	671	0
17:30	50	2	53	0	105	0	220	22	0	242	3	4	6	0	13	20	210	2	0	232	592	0
17:45	38	2	34	0	74	3	177	22	0	202	3	2	6	0	11	25	198	1	0	224	511	0
Total	211	5	212	0	428	11	861	114	0	986	16	13	27	0	56	127	920	10	0	1057	2527	0
18:00	39	1	36	0	76	1	181	21	0	203	7	2	2	0	11	17	176	0	0	193	483	0
18:15	35	4	43	0	82	2	174	19	1	196	2	0	2	0	4	20	163	1	0	184	466	1
18:30	22	0	30	0	52	3	193	18	2	216	4	1	3	0	8	17	173	3	0	193	469	2
18:45	15	1	32	0	48	2	145	16	0	163	5	1	2	0	8	22	121	1	0	144	363	0
Total	111	6	141	0	258	8	693	74	3	778	18	4	9	0	31	76	633	5	0	714	1781	3
Grand Total	322	11	353	0	686	19	1554	188	3	1764	34	17	36	0	87	203	1553	15	0	1771	4308	3
Apprch %	46.9%	1.6%	51.5%	0.0%		1.1%	88.1%	10.7%	0.2%		39.1%	19.5%	41.4%	0.0%		11.5%	87.7%	0.8%	0.0%			
Total %	7.5%	0.3%	8.2%	0.0%	15.9%	0.4%	36.1%	4.4%	0.1%	40.9%	0.8%	0.4%	0.8%	0.0%	2.0%	4.7%	36.0%	0.3%	0.0%	41.1%	100.0%	

PM PEAK HOUR	Bechelli Lane Southbound					South Bonnyview Road Westbound					Bechelli Lane Northbound					South Bonnyview Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	66	1	66	0	133	6	244	34	0	284	5	6	10	0	21	42	270	3	0	315	753
17:15	57	0	59	0	116	2	220	36	0	258	5	1	5	0	11	40	242	4	0	286	671
17:30	50	2	53	0	105	0	220	22	0	242	3	4	6	0	13	20	210	2	0	232	592
17:45	38	2	34	0	74	3	177	22	0	202	3	2	6	0	11	25	198	1	0	224	511
Total Volume	211	5	212	0	428	11	861	114	0	986	16	13	27	0	56	127	920	10	0	1057	2527
% App Total	49.3%	1.2%	49.5%	0.0%		1.1%	87.3%	11.6%	0.0%		28.6%	23.2%	48.2%	0.0%		12.0%	87.0%	0.9%	0.0%		
PHF	.799	.625	.803	.000	.805	.458	.882	.792	.000	.868	.800	.542	.675	.000	.667	.756	.852	.625	.000	.839	.839

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-002 East Bonnyview Road & South Bonnyview Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	East Bonnyview Road Southbound					South Bonnyview Road Westbound					East Bonnyview Road Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	22	0	6	0	28	0	164	33	1	198	0	0	0	0	0	4	121	0	2	127	353	3
17:15	19	0	6	0	25	0	150	25	0	175	0	0	0	0	0	5	137	0	0	142	342	0
17:30	23	0	5	0	28	0	138	23	0	161	0	0	0	0	0	3	136	0	0	139	328	0
17:45	22	0	6	0	28	0	173	20	0	193	0	0	0	0	0	5	143	0	0	148	369	0
Total	86	0	23	0	109	0	625	101	1	727	0	0	0	0	0	17	537	0	2	556	1392	3
18:00	22	0	9	0	31	0	157	14	0	171	0	0	0	0	0	2	103	0	0	105	307	0
18:15	25	0	5	0	30	0	174	26	0	200	0	0	0	0	0	5	104	0	0	109	339	0
18:30	25	0	7	0	32	0	133	16	0	149	0	0	0	0	0	8	102	0	1	111	292	1
18:45	13	0	8	0	21	0	134	18	0	152	0	0	0	0	0	7	115	0	1	123	296	1
Total	85	0	29	0	114	0	598	74	0	672	0	0	0	0	0	22	424	0	2	448	1234	2
Grand Total	171	0	52	0	223	0	1223	175	1	1399	0	0	0	0	0	39	961	0	4	1004	2626	5
Apprch %	76.7%	0.0%	23.3%	0.0%		0.0%	87.4%	12.5%	0.1%		0.0%	0.0%	0.0%	0.0%		3.9%	95.7%	0.0%	0.4%			
Total %	6.5%	0.0%	2.0%	0.0%	8.5%	0.0%	46.6%	6.7%	0.0%	53.3%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	36.6%	0.0%	0.2%	38.2%	100.0%	

PM PEAK HOUR	East Bonnyview Road Southbound					South Bonnyview Road Westbound					East Bonnyview Road Northbound					South Bonnyview Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	22	0	6	0	28	0	164	33	1	198	0	0	0	0	0	4	121	0	2	127	353
17:15	19	0	6	0	25	0	150	25	0	175	0	0	0	0	0	5	137	0	0	142	342
17:30	23	0	5	0	28	0	138	23	0	161	0	0	0	0	0	3	136	0	0	139	328
17:45	22	0	6	0	28	0	173	20	0	193	0	0	0	0	0	5	143	0	0	148	369
Total Volume	86	0	23	0	109	0	625	101	1	727	0	0	0	0	0	17	537	0	2	556	1392
% App Total	78.9%	0.0%	21.1%	0.0%		0.0%	86.0%	13.9%	0.1%		0.0%	0.0%	0.0%	0.0%		3.1%	96.6%	0.0%	0.4%		
PHF	.935	.000	.958	.000	.973	.000	.903	.765	.250	.918	.000	.000	.000	.000	.000	.850	.939	.000	.250	.939	.943

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-002 East Bonnyview Road & South Bonnyview Road
 Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	East Bonnyview Road Southbound					South Bonnyview Road Westbound					East Bonnyview Road Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	104	0	12	0	116	0	257	52	1	310	0	0	0	0	0	16	207	0	0	223	649	1
17:15	49	0	11	0	60	0	230	50	0	280	0	0	0	0	0	9	218	0	1	228	568	1
17:30	53	0	7	0	60	0	216	53	3	272	0	0	0	0	0	11	165	0	0	176	508	3
17:45	37	1	6	0	44	0	194	30	0	224	0	0	0	0	0	5	201	0	1	207	475	1
Total	243	1	36	0	280	0	897	185	4	1086	0	0	0	0	0	41	791	0	2	834	2200	6
18:00	25	0	8	0	33	0	156	37	2	195	0	0	0	0	0	8	157	0	1	166	394	3
18:15	36	0	8	0	44	2	191	34	0	227	0	1	0	0	1	4	151	0	1	156	428	1
18:30	27	0	7	0	34	0	169	34	2	205	0	0	0	0	0	5	160	1	1	167	406	3
18:45	21	0	8	0	29	2	149	31	1	183	0	0	0	0	0	7	111	0	0	118	330	1
Total	109	0	31	0	140	4	665	136	5	810	0	1	0	0	1	24	579	1	3	607	1558	8
Grand Total	352	1	67	0	420	4	1562	321	9	1896	0	1	0	0	1	65	1370	1	5	1441	3758	14
Apprch %	83.8%	0.2%	16.0%	0.0%		0.2%	82.4%	16.9%	0.5%		0.0%	100.0%	0.0%	0.0%		4.5%	95.1%	0.1%	0.3%			
Total %	9.4%	0.0%	1.8%	0.0%	11.2%	0.1%	41.6%	8.5%	0.2%	50.5%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	36.5%	0.0%	0.1%	38.3%	100.0%	

PM PEAK HOUR	East Bonnyview Road Southbound					South Bonnyview Road Westbound					East Bonnyview Road Northbound					South Bonnyview Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	104	0	12	0	116	0	257	52	1	310	0	0	0	0	0	16	207	0	0	223	649
17:15	49	0	11	0	60	0	230	50	0	280	0	0	0	0	0	9	218	0	1	228	568
17:30	53	0	7	0	60	0	216	53	3	272	0	0	0	0	0	11	165	0	0	176	508
17:45	37	1	6	0	44	0	194	30	0	224	0	0	0	0	0	5	201	0	1	207	475
Total Volume	243	1	36	0	280	0	897	185	4	1086	0	0	0	0	0	41	791	0	2	834	2200
% App Total	86.8%	0.4%	12.9%	0.0%		0.0%	82.6%	17.0%	0.4%		0.0%	0.0%	0.0%	0.0%		4.9%	94.8%	0.0%	0.2%		
PHF	.584	.250	.750	.000	.603	.000	.873	.873	.333	.876	.000	.000	.000	.000	.000	.641	.907	.000	.500	.914	.847

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-001 SR-273 & South Bonnyview Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	SR-273 Southbound					South Bonnyview Road Westbound					SR-273 Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	41	73	0	0	114	75	15	28	0	118	7	68	51	0	126	0	7	5	0	12	370	0
17:15	46	59	1	0	106	85	8	16	1	110	8	61	61	0	130	0	7	15	0	22	368	1
17:30	34	81	1	0	116	64	9	40	0	113	7	68	64	0	139	0	15	11	0	26	394	0
17:45	29	69	0	0	98	79	16	29	0	124	6	64	59	0	129	0	3	6	0	9	360	0
Total	150	282	2	0	434	303	48	113	1	465	28	261	235	0	524	0	32	37	0	69	1492	1
18:00	34	96	0	0	130	88	10	30	0	128	3	58	52	0	113	0	5	6	0	11	382	0
18:15	33	72	0	0	105	72	10	27	0	109	5	65	47	0	117	0	5	7	0	12	343	0
18:30	27	71	0	0	98	94	6	28	0	128	6	59	43	0	108	2	6	6	0	14	348	0
18:45	29	58	1	0	88	73	3	18	0	94	5	50	43	0	98	0	4	11	0	15	295	0
Total	123	297	1	0	421	327	29	103	0	459	19	232	185	0	436	2	20	30	0	52	1368	0
Grand Total	273	579	3	0	855	630	77	216	1	924	47	493	420	0	960	2	52	67	0	121	2860	1
Apprch %	31.9%	67.7%	0.4%	0.0%		68.2%	8.3%	23.4%	0.1%		4.9%	51.4%	43.8%	0.0%		1.7%	43.0%	55.4%	0.0%			
Total %	9.5%	20.2%	0.1%	0.0%	29.9%	22.0%	2.7%	7.6%	0.0%	32.3%	1.6%	17.2%	14.7%	0.0%	33.6%	0.1%	1.8%	2.3%	0.0%	4.2%	100.0%	

PM PEAK HOUR	SR-273 Southbound					South Bonnyview Road Westbound					SR-273 Northbound					South Bonnyview Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	46	59	1	0	106	85	8	16	1	110	8	61	61	0	130	0	7	15	0	22	368
17:30	34	81	1	0	116	64	9	40	0	113	7	68	64	0	139	0	15	11	0	26	394
17:45	29	69	0	0	98	79	16	29	0	124	6	64	59	0	129	0	3	6	0	9	360
18:00	34	96	0	0	130	88	10	30	0	128	3	58	52	0	113	0	5	6	0	11	382
Total Volume	143	305	2	0	450	316	43	115	1	475	24	251	236	0	511	0	30	38	0	68	1504
% App Total	31.8%	67.8%	0.4%	0.0%		66.5%	9.1%	24.2%	0.2%		4.7%	49.1%	46.2%	0.0%		0.0%	44.1%	55.9%	0.0%		
PHF	.777	.794	.500	.000	.865	.898	.672	.719	.250	.928	.750	.923	.922	.000	.919	.000	.500	.633	.000	.654	.954

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-001 SR-273 & South Bonnyview Road
 Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	SR-273 Southbound					South Bonnyview Road Westbound					SR-273 Northbound					South Bonnyview Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	73	173	0	0	246	97	15	43	0	155	19	105	96	0	220	1	16	14	0	31	652	0
17:15	51	161	1	0	213	141	10	57	0	208	6	80	98	0	184	0	8	8	0	16	621	0
17:30	36	92	1	0	129	104	15	28	0	147	9	74	84	0	167	1	16	16	0	33	476	0
17:45	43	104	2	0	149	101	20	50	0	171	10	85	97	0	192	0	15	10	0	25	537	0
Total	203	530	4	0	737	443	60	178	0	681	44	344	375	0	763	2	55	48	0	105	2286	0
18:00	41	81	2	0	124	61	9	24	0	94	10	80	72	0	162	0	15	13	0	28	408	0
18:15	57	91	1	0	149	84	18	46	0	148	9	76	53	0	138	0	7	9	0	16	451	0
18:30	37	89	2	0	128	85	12	45	0	142	5	62	81	0	148	2	10	15	0	27	445	0
18:45	27	62	1	0	90	78	11	18	0	107	6	72	54	0	132	0	9	8	0	17	346	0
Total	162	323	6	0	491	308	50	133	0	491	30	290	260	0	580	2	41	45	0	88	1650	0
Grand Total	365	853	10	0	1228	751	110	311	0	1172	74	634	635	0	1343	4	96	93	0	193	3936	0
Apprch %	29.7%	69.5%	0.8%	0.0%		64.1%	9.4%	26.5%	0.0%		5.5%	47.2%	47.3%	0.0%		2.1%	49.7%	48.2%	0.0%			
Total %	9.3%	21.7%	0.3%	0.0%	31.2%	19.1%	2.8%	7.9%	0.0%	29.8%	1.9%	16.1%	16.1%	0.0%	34.1%	0.1%	2.4%	2.4%	0.0%	4.9%	100.0%	

PM PEAK HOUR	SR-273 Southbound					South Bonnyview Road Westbound					SR-273 Northbound					South Bonnyview Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	73	173	0	0	246	97	15	43	0	155	19	105	96	0	220	1	16	14	0	31	652
17:15	51	161	1	0	213	141	10	57	0	208	6	80	98	0	184	0	8	8	0	16	621
17:30	36	92	1	0	129	104	15	28	0	147	9	74	84	0	167	1	16	16	0	33	476
17:45	43	104	2	0	149	101	20	50	0	171	10	85	97	0	192	0	15	10	0	25	537
Total Volume	203	530	4	0	737	443	60	178	0	681	44	344	375	0	763	2	55	48	0	105	2286
% App Total	27.5%	71.9%	0.5%	0.0%		65.1%	8.8%	26.1%	0.0%		5.8%	45.1%	49.1%	0.0%		1.9%	52.4%	45.7%	0.0%		
PHF	.695	.766	.500	.000	.749	.785	.750	.781	.000	.819	.579	.819	.957	.000	.867	.500	.859	.750	.000	.795	.877

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-113 Canyon Road & Redding Rancheria Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	Canyon Road Southbound					Redding Rancheria Road Westbound					Canyon Road Northbound					Redding Rancheria Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	24	6	0	0	30	38	0	27	0	65	0	4	37	0	41	0	0	0	0	0	136	0
17:15	31	3	0	0	34	47	0	51	0	98	0	1	31	0	32	0	0	0	0	0	164	0
17:30	36	2	0	0	38	58	0	63	0	121	0	2	52	0	54	0	0	0	0	0	213	0
17:45	33	2	0	0	35	52	0	45	0	97	0	1	33	0	34	0	0	0	0	0	166	0
Total	124	13	0	0	137	195	0	186	0	381	0	8	153	0	161	0	0	0	0	0	679	0
18:00	30	5	0	0	35	50	0	57	0	107	0	6	38	0	44	0	0	0	0	0	186	0
18:15	37	3	0	0	40	44	0	61	0	105	0	8	36	0	44	0	0	0	0	0	189	0
18:30	22	1	0	0	23	48	0	73	0	121	0	2	30	0	32	0	0	0	0	0	176	0
18:45	25	4	0	0	29	41	0	65	0	106	0	6	29	0	35	0	0	0	0	0	170	0
Total	114	13	0	0	127	183	0	256	0	439	0	22	133	0	155	0	0	0	0	0	721	0
Grand Total	238	26	0	0	264	378	0	442	0	820	0	30	286	0	316	0	0	0	0	0	1400	0
Apprch %	90.2%	9.8%	0.0%	0.0%		46.1%	0.0%	53.9%	0.0%		0.0%	9.5%	90.5%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	17.0%	1.9%	0.0%	0.0%	18.9%	27.0%	0.0%	31.6%	0.0%	58.6%	0.0%	2.1%	20.4%	0.0%	22.6%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

PM PEAK HOUR	Canyon Road Southbound					Redding Rancheria Road Westbound					Canyon Road Northbound					Redding Rancheria Road Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 17:30 to 18:30																						
Peak Hour For Entire Intersection Begins at 17:30																						
17:30	36	2	0	0	38	58	0	63	0	121	0	2	52	0	54	0	0	0	0	0	213	
17:45	33	2	0	0	35	52	0	45	0	97	0	1	33	0	34	0	0	0	0	0	166	
18:00	30	5	0	0	35	50	0	57	0	107	0	6	38	0	44	0	0	0	0	0	186	
18:15	37	3	0	0	40	44	0	61	0	105	0	8	36	0	44	0	0	0	0	0	189	
Total Volume	136	12	0	0	148	204	0	226	0	430	0	17	159	0	176	0	0	0	0	0	754	
% App Total	91.9%	8.1%	0.0%	0.0%		47.4%	0.0%	52.6%	0.0%		0.0%	9.7%	90.3%	0.0%		0.0%	0.0%	0.0%	0.0%			
PHF	.919	.600	.000	.000	.925	.879	.000	.897	.000	.888	.000	.531	.764	.000	.815	.000	.000	.000	.000	.000	.885	

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Utturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-113 Canyon Road & Redding Rancheria Road
 Date : 7/15/2016

Unshifted Count = All Vehicles & Utturns

START TIME	Canyon Road Southbound					Redding Rancheria Road Westbound					Canyon Road Northbound					Redding Rancheria Road Eastbound					Total	Utturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	57	6	0	0	63	99	0	54	0	153	0	4	40	0	44	0	0	0	0	0	260	0
17:15	40	6	0	0	46	87	0	51	0	138	0	4	40	0	44	0	0	0	0	0	228	0
17:30	52	3	0	0	55	98	0	45	0	143	0	3	39	0	42	0	0	0	0	0	240	0
17:45	43	4	0	0	47	80	0	45	0	125	0	4	47	0	51	0	0	0	0	0	223	0
Total	192	19	0	0	211	364	0	195	0	559	0	15	166	0	181	0	0	0	0	0	951	0
18:00	31	3	0	0	34	71	0	32	0	103	0	1	42	0	43	0	0	0	0	0	180	0
18:15	33	3	0	0	36	67	0	32	0	99	0	2	46	0	48	0	0	0	0	0	183	0
18:30	38	4	0	0	42	75	0	35	0	110	0	2	45	0	47	0	0	0	0	0	199	0
18:45	46	9	0	0	55	57	0	45	0	102	0	1	41	0	42	0	0	0	0	0	199	0
Total	148	19	0	0	167	270	0	144	0	414	0	6	174	0	180	0	0	0	0	0	761	0
Grand Total	340	38	0	0	378	634	0	339	0	973	0	21	340	0	361	0	0	0	0	0	1712	0
Apprch %	89.9%	10.1%	0.0%	0.0%		65.2%	0.0%	34.8%	0.0%		0.0%	5.8%	94.2%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	19.9%	2.2%	0.0%	0.0%	22.1%	37.0%	0.0%	19.8%	0.0%	56.8%	0.0%	1.2%	19.9%	0.0%	21.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

PM PEAK HOUR	Canyon Road Southbound					Redding Rancheria Road Westbound					Canyon Road Northbound					Redding Rancheria Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	57	6	0	0	63	99	0	54	0	153	0	4	40	0	44	0	0	0	0	0	260
17:15	40	6	0	0	46	87	0	51	0	138	0	4	40	0	44	0	0	0	0	0	228
17:30	52	3	0	0	55	98	0	45	0	143	0	3	39	0	42	0	0	0	0	0	240
17:45	43	4	0	0	47	80	0	45	0	125	0	4	47	0	51	0	0	0	0	0	223
Total Volume	192	19	0	0	211	364	0	195	0	559	0	15	166	0	181	0	0	0	0	0	951
% App Total	91.0%	9.0%	0.0%	0.0%		65.1%	0.0%	34.9%	0.0%		0.0%	8.3%	91.7%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.842	.792	.000	.000	.837	.919	.000	.903	.000	.913	.000	.938	.883	.000	.887	.000	.000	.000	.000	.000	.914

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Utturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-108 Rancho Road & Churn Creek Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Utturns

START TIME	Rancho Road Southbound					Churn Creek Road Westbound					Rancho Road Northbound					Churn Creek Road Eastbound					Total	Utturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	5	0	23	0	28	0	14	4	0	18	0	0	0	0	0	23	23	0	0	46	92	0
17:15	2	0	33	0	35	0	16	4	0	20	0	0	0	0	0	38	14	0	0	52	107	0
17:30	4	0	31	0	35	0	18	4	0	22	0	0	0	0	0	28	17	0	0	45	102	0
17:45	6	0	42	0	48	0	20	6	0	26	0	0	0	0	0	30	22	0	0	52	126	0
Total	17	0	129	0	146	0	68	18	0	86	0	0	0	0	0	119	76	0	0	195	427	0
18:00	4	0	36	0	40	0	10	3	0	13	0	0	0	0	0	36	21	0	0	57	110	0
18:15	2	0	25	0	27	0	10	5	0	15	0	0	0	0	0	27	18	0	0	45	87	0
18:30	6	0	23	0	29	0	9	2	0	11	0	0	0	0	0	36	14	0	0	50	90	0
18:45	1	0	28	0	29	0	15	2	0	17	0	0	0	0	0	20	13	0	0	33	79	0
Total	13	0	112	0	125	0	44	12	0	56	0	0	0	0	0	119	66	0	0	185	366	0
Grand Total	30	0	241	0	271	0	112	30	0	142	0	0	0	0	0	238	142	0	0	380	793	0
Apprch %	11.1%	0.0%	88.9%	0.0%		0.0%	78.9%	21.1%	0.0%		0.0%	0.0%	0.0%	0.0%		62.6%	37.4%	0.0%	0.0%			
Total %	3.8%	0.0%	30.4%	0.0%	34.2%	0.0%	14.1%	3.8%	0.0%	17.9%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	17.9%	0.0%	0.0%	47.9%	100.0%	

PM PEAK HOUR	Rancho Road Southbound					Churn Creek Road Westbound					Rancho Road Northbound					Churn Creek Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:15 to 18:15																					
Peak Hour For Entire Intersection Begins at 17:15																					
17:15	2	0	33	0	35	0	16	4	0	20	0	0	0	0	0	38	14	0	0	52	107
17:30	4	0	31	0	35	0	18	4	0	22	0	0	0	0	0	28	17	0	0	45	102
17:45	6	0	42	0	48	0	20	6	0	26	0	0	0	0	0	30	22	0	0	52	126
18:00	4	0	36	0	40	0	10	3	0	13	0	0	0	0	0	36	21	0	0	57	110
Total Volume	16	0	142	0	158	0	64	17	0	81	0	0	0	0	0	132	74	0	0	206	445
% App Total	10.1%	0.0%	89.9%	0.0%		0.0%	79.0%	21.0%	0.0%		0.0%	0.0%	0.0%	0.0%		64.1%	35.9%	0.0%	0.0%		
PHF	.667	.000	.845	.000	.823	.000	.800	.708	.000	.779	.000	.000	.000	.000	.000	.868	.841	.000	.000	.904	.883

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-108 Rancho Road & Churn Creek Road
 Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	Rancho Road Southbound					Churn Creek Road Westbound					Rancho Road Northbound					Churn Creek Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	7	0	63	0	70	0	13	6	0	19	0	0	0	0	0	70	42	0	0	112	201	0
17:15	9	0	59	0	68	0	28	9	0	37	0	0	0	0	0	72	50	0	0	122	227	0
17:30	6	0	51	0	57	0	27	10	0	37	0	0	0	0	0	47	28	0	0	75	169	0
17:45	7	0	37	0	44	0	26	3	0	29	0	0	0	0	0	45	27	0	0	72	145	0
Total	29	0	210	0	239	0	94	28	0	122	0	0	0	0	0	234	147	0	0	381	742	0
18:00	4	0	41	0	45	0	19	10	0	29	0	0	0	0	0	36	35	0	0	71	145	0
18:15	2	0	41	0	43	0	16	4	0	20	0	0	0	0	0	38	22	0	0	60	123	0
18:30	4	0	34	0	38	0	17	7	0	24	0	0	0	0	0	32	21	0	0	53	115	0
18:45	5	0	33	0	38	0	20	4	0	24	0	0	0	0	0	35	23	0	0	58	120	0
Total	15	0	149	0	164	0	72	25	0	97	0	0	0	0	0	141	101	0	0	242	503	0
Grand Total	44	0	359	0	403	0	166	53	0	219	0	0	0	0	0	375	248	0	0	623	1245	0
Apprch %	10.9%	0.0%	89.1%	0.0%		0.0%	75.8%	24.2%	0.0%		0.0%	0.0%	0.0%	0.0%		60.2%	39.8%	0.0%	0.0%			
Total %	3.5%	0.0%	28.8%	0.0%	32.4%	0.0%	13.3%	4.3%	0.0%	17.6%	0.0%	0.0%	0.0%	0.0%	0.0%	30.1%	19.9%	0.0%	0.0%	50.0%	100.0%	

PM PEAK HOUR	Rancho Road Southbound					Churn Creek Road Westbound					Rancho Road Northbound					Churn Creek Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	7	0	63	0	70	0	13	6	0	19	0	0	0	0	0	70	42	0	0	112	201
17:15	9	0	59	0	68	0	28	9	0	37	0	0	0	0	0	72	50	0	0	122	227
17:30	6	0	51	0	57	0	27	10	0	37	0	0	0	0	0	47	28	0	0	75	169
17:45	7	0	37	0	44	0	26	3	0	29	0	0	0	0	0	45	27	0	0	72	145
Total Volume	29	0	210	0	239	0	94	28	0	122	0	0	0	0	0	234	147	0	0	381	742
% App Total	12.1%	0.0%	87.9%	0.0%		0.0%	77.0%	23.0%	0.0%		0.0%	0.0%	0.0%	0.0%		61.4%	38.6%	0.0%	0.0%		
PHF	.806	.000	.833	.000	.854	.000	.839	.700	.000	.824	.000	.000	.000	.000	.000	.813	.735	.000	.000	.781	.817

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-021 I-5 NB Off Ramp/McMurray Drive & Balls Ferry Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	I-5 NB Off Ramp/McMurray Drive Southbound					Balls Ferry Road Westbound					I-5 NB Off Ramp/McMurray Drive Northbound					Balls Ferry Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	37	0	38	0	75	0	67	34	0	101	11	18	19	0	48	13	29	0	0	42	266	0
17:15	45	0	27	0	72	0	90	36	0	126	12	25	32	0	69	4	26	0	0	30	297	0
17:30	30	0	21	0	51	0	72	28	0	100	3	17	26	0	46	8	15	0	0	23	220	0
17:45	29	0	27	0	56	0	51	40	0	91	7	16	18	0	41	8	25	0	0	33	221	0
Total	141	0	113	0	254	0	280	138	0	418	33	76	95	0	204	33	95	0	0	128	1004	0
18:00	34	0	27	0	61	0	50	27	0	77	6	15	26	0	47	7	29	0	0	36	221	0
18:15	29	0	25	0	54	0	52	29	0	81	8	26	26	0	60	2	22	0	0	24	219	0
18:30	36	0	16	0	52	0	54	32	0	86	7	25	24	0	56	8	23	0	0	31	225	0
18:45	23	0	19	0	42	0	53	29	0	82	3	11	25	0	39	11	24	0	0	35	198	0
Total	122	0	87	0	209	0	209	117	0	326	24	77	101	0	202	28	98	0	0	126	863	0
Grand Total	263	0	200	0	463	0	489	255	0	744	57	153	196	0	406	61	193	0	0	254	1867	0
Apprch %	56.8%	0.0%	43.2%	0.0%		0.0%	65.7%	34.3%	0.0%		14.0%	37.7%	48.3%	0.0%		24.0%	76.0%	0.0%	0.0%			
Total %	14.1%	0.0%	10.7%	0.0%	24.8%	0.0%	26.2%	13.7%	0.0%	39.9%	3.1%	8.2%	10.5%	0.0%	21.7%	3.3%	10.3%	0.0%	0.0%	13.6%	100.0%	

PM PEAK HOUR	I-5 NB Off Ramp/McMurray Drive Southbound					Balls Ferry Road Westbound					I-5 NB Off Ramp/McMurray Drive Northbound					Balls Ferry Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	37	0	38	0	75	0	67	34	0	101	11	18	19	0	48	13	29	0	0	42	266
17:15	45	0	27	0	72	0	90	36	0	126	12	25	32	0	69	4	26	0	0	30	297
17:30	30	0	21	0	51	0	72	28	0	100	3	17	26	0	46	8	15	0	0	23	220
17:45	29	0	27	0	56	0	51	40	0	91	7	16	18	0	41	8	25	0	0	33	221
Total Volume	141	0	113	0	254	0	280	138	0	418	33	76	95	0	204	33	95	0	0	128	1004
% App Total	55.5%	0.0%	44.5%	0.0%		0.0%	67.0%	33.0%	0.0%		16.2%	37.3%	46.6%	0.0%		25.8%	74.2%	0.0%	0.0%		
PHF	.783	.000	.743	.000	.847	.000	.778	.863	.000	.829	.688	.760	.742	.000	.739	.635	.819	.000	.000	.762	.845

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-021 I-5 NB Off Ramp/McMurray Drive & Balls Ferry Road
 Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	I-5 NB Off Ramp/McMurray Drive Southbound					Balls Ferry Road Westbound					I-5 NB Off Ramp/McMurray Drive Northbound					Balls Ferry Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	55	0	32	0	87	0	86	59	0	145	15	18	52	0	85	21	51	0	0	72	389	0
17:15	64	0	34	0	98	0	89	45	0	134	12	34	45	0	91	16	44	0	0	60	383	0
17:30	46	0	39	0	85	0	94	48	0	142	12	29	37	0	78	16	45	0	0	61	366	0
17:45	37	0	27	0	64	0	81	46	0	127	10	21	30	0	61	9	38	0	0	47	299	0
Total	202	0	132	0	334	0	350	198	0	548	49	102	164	0	315	62	178	0	0	240	1437	0
18:00	35	0	27	0	62	0	78	31	0	109	12	25	42	0	79	9	29	0	0	38	288	0
18:15	44	0	29	0	73	0	57	31	0	88	5	33	46	0	84	3	33	0	0	36	281	0
18:30	37	0	39	0	76	0	62	43	0	105	6	23	38	0	67	9	37	0	0	46	294	0
18:45	38	0	31	0	69	0	60	33	0	93	8	20	30	0	58	11	34	0	0	45	265	0
Total	154	0	126	0	280	0	257	138	0	395	31	101	156	0	288	32	133	0	0	165	1128	0
Grand Total	356	0	258	0	614	0	607	336	0	943	80	203	320	0	603	94	311	0	0	405	2565	0
Apprch %	58.0%	0.0%	42.0%	0.0%		0.0%	64.4%	35.6%	0.0%		13.3%	33.7%	53.1%	0.0%		23.2%	76.8%	0.0%	0.0%			
Total %	13.9%	0.0%	10.1%	0.0%	23.9%	0.0%	23.7%	13.1%	0.0%	36.8%	3.1%	7.9%	12.5%	0.0%	23.5%	3.7%	12.1%	0.0%	0.0%	15.8%	100.0%	

PM PEAK HOUR	I-5 NB Off Ramp/McMurray Drive Southbound					Balls Ferry Road Westbound					I-5 NB Off Ramp/McMurray Drive Northbound					Balls Ferry Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	55	0	32	0	87	0	86	59	0	145	15	18	52	0	85	21	51	0	0	72	389
17:15	64	0	34	0	98	0	89	45	0	134	12	34	45	0	91	16	44	0	0	60	383
17:30	46	0	39	0	85	0	94	48	0	142	12	29	37	0	78	16	45	0	0	61	366
17:45	37	0	27	0	64	0	81	46	0	127	10	21	30	0	61	9	38	0	0	47	299
Total Volume	202	0	132	0	334	0	350	198	0	548	49	102	164	0	315	62	178	0	0	240	1437
% App Total	60.5%	0.0%	39.5%	0.0%		0.0%	63.9%	36.1%	0.0%		15.6%	32.4%	52.1%	0.0%		25.8%	74.2%	0.0%	0.0%		
PHF	.789	.000	.846	.000	.852	.000	.931	.839	.000	.945	.817	.750	.788	.000	.865	.738	.873	.000	.000	.833	.924

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 16-7487-020 I-5 SB On Ramp/Ventura Street & Balls Ferry Road

Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	I-5 SB On Ramp/Ventura Street Southbound					Balls Ferry Road Westbound					I-5 SB On Ramp/Ventura Street Northbound					Balls Ferry Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	2	14	1	0	17	64	59	3	0	126	0	0	0	0	0	1	69	18	0	88	231	0
17:15	3	14	2	0	19	80	52	5	0	137	0	0	0	0	0	1	55	7	0	63	219	0
17:30	5	16	1	0	22	76	64	6	0	146	0	0	0	0	0	0	56	7	0	63	231	0
17:45	2	15	1	0	18	65	49	5	0	119	0	0	0	0	0	1	44	10	0	55	192	0
Total	12	59	5	0	76	285	224	19	0	528	0	0	0	0	0	3	224	42	0	269	873	0
18:00	5	16	6	0	27	58	47	6	0	111	0	0	0	0	0	0	33	10	0	43	181	0
18:15	3	11	4	0	18	46	45	2	0	93	0	0	0	0	0	0	35	3	0	38	149	0
18:30	3	8	2	0	13	69	41	1	0	111	0	0	0	0	0	2	46	10	0	58	182	0
18:45	2	14	2	0	18	56	38	2	0	96	0	0	0	0	0	0	42	6	0	48	162	0
Total	13	49	14	0	76	229	171	11	0	411	0	0	0	0	0	2	156	29	0	187	674	0
Grand Total	25	108	19	0	152	514	395	30	0	939	0	0	0	0	0	5	380	71	0	456	1547	0
Apprch %	16.4%	71.1%	12.5%	0.0%		54.7%	42.1%	3.2%	0.0%		0.0%	0.0%	0.0%	0.0%		1.1%	83.3%	15.6%	0.0%			
Total %	1.6%	7.0%	1.2%	0.0%	9.8%	33.2%	25.5%	1.9%	0.0%	60.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	24.6%	4.6%	0.0%	29.5%	100.0%	

PM PEAK HOUR	I-5 SB On Ramp/Ventura Street Southbound					Balls Ferry Road Westbound					I-5 SB On Ramp/Ventura Street Northbound					Balls Ferry Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	2	14	1	0	17	64	59	3	0	126	0	0	0	0	0	1	69	18	0	88	231
17:15	3	14	2	0	19	80	52	5	0	137	0	0	0	0	0	1	55	7	0	63	219
17:30	5	16	1	0	22	76	64	6	0	146	0	0	0	0	0	0	56	7	0	63	231
17:45	2	15	1	0	18	65	49	5	0	119	0	0	0	0	0	1	44	10	0	55	192
Total Volume	12	59	5	0	76	285	224	19	0	528	0	0	0	0	0	3	224	42	0	269	873
% App Total	15.8%	77.6%	6.6%	0.0%		54.0%	42.4%	3.6%	0.0%		0.0%	0.0%	0.0%	0.0%		1.1%	83.3%	15.6%	0.0%		
PHF	.600	.922	.625	.000	.864	.891	.875	.792	.000	.904	.000	.000	.000	.000	.000	.750	.812	.583	.000	.764	.945

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-020 I-5 SB On Ramp/Ventura Street & Balls Ferry Road
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	I-5 SB On Ramp/Ventura Street Southbound					Balls Ferry Road Westbound					I-5 SB On Ramp/Ventura Street Northbound					Balls Ferry Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	1	8	4	0	13	67	45	5	0	117	0	0	0	0	0	0	41	9	0	50	180	0
17:15	2	9	3	0	14	70	55	6	0	131	0	0	0	0	0	0	27	6	0	33	178	0
17:30	2	8	4	0	14	57	42	1	0	100	0	0	0	0	0	1	21	7	0	29	143	0
17:45	3	12	5	0	20	45	40	3	0	88	0	0	0	0	0	1	33	9	0	43	151	0
Total	8	37	16	0	61	239	182	15	0	436	0	0	0	0	0	2	122	31	0	155	652	0
18:00	0	9	2	0	11	37	40	4	0	81	0	0	0	0	0	1	35	5	0	41	133	0
18:15	2	6	3	0	11	40	42	3	0	85	0	0	0	0	0	0	25	3	0	28	124	0
18:30	1	10	0	0	11	49	32	4	0	85	0	0	0	0	0	4	33	5	0	42	138	0
18:45	1	14	1	0	16	37	28	5	0	70	0	0	0	0	0	0	37	4	0	41	127	0
Total	4	39	6	0	49	163	142	16	0	321	0	0	0	0	0	5	130	17	0	152	522	0
Grand Total	12	76	22	0	110	402	324	31	0	757	0	0	0	0	0	7	252	48	0	307	1174	0
Apprch %	10.9%	69.1%	20.0%	0.0%		53.1%	42.8%	4.1%	0.0%		0.0%	0.0%	0.0%	0.0%		2.3%	82.1%	15.6%	0.0%			
Total %	1.0%	6.5%	1.9%	0.0%	9.4%	34.2%	27.6%	2.6%	0.0%	64.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	21.5%	4.1%	0.0%	26.1%	100.0%	

PM PEAK HOUR	I-5 SB On Ramp/Ventura Street Southbound					Balls Ferry Road Westbound					I-5 SB On Ramp/Ventura Street Northbound					Balls Ferry Road Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 17:00 to 18:00																						
Peak Hour For Entire Intersection Begins at 17:00																						
17:00	1	8	4	0	13	67	45	5	0	117	0	0	0	0	0	0	41	9	0	50	180	
17:15	2	9	3	0	14	70	55	6	0	131	0	0	0	0	0	0	27	6	0	33	178	
17:30	2	8	4	0	14	57	42	1	0	100	0	0	0	0	0	1	21	7	0	29	143	
17:45	3	12	5	0	20	45	40	3	0	88	0	0	0	0	0	1	33	9	0	43	151	
Total Volume	8	37	16	0	61	239	182	15	0	436	0	0	0	0	0	2	122	31	0	155	652	
% App Total	13.1%	60.7%	26.2%	0.0%		54.8%	41.7%	3.4%	0.0%		0.0%	0.0%	0.0%	0.0%		1.3%	78.7%	20.0%	0.0%			
PHF	.667	.771	.800	.000	.763	.854	.827	.625	.000	.832	.000	.000	.000	.000	.000	.500	.744	.861	.000	.775	.906	

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 16-7487-019 Oak Street & Balls Ferry Road

Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	Oak Street Southbound					Balls Ferry Road Westbound					Oak Street Northbound					Balls Ferry Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	3	0	1	0	4	11	36	1	0	48	2	2	9	0	13	0	39	0	0	39	104	0
17:15	3	1	1	0	5	7	52	2	0	61	3	2	3	0	8	1	27	1	0	29	103	0
17:30	4	3	0	0	7	13	30	1	0	44	1	0	8	0	9	0	17	3	0	20	80	0
17:45	2	1	0	0	3	6	39	1	0	46	4	0	9	0	13	0	31	0	0	31	93	0
Total	12	5	2	0	19	37	157	5	0	199	10	4	29	0	43	1	114	4	0	119	380	0
18:00	4	1	0	0	5	2	39	1	0	42	3	0	4	0	7	0	32	3	0	35	89	0
18:15	3	0	0	0	3	10	35	0	0	45	3	0	2	0	5	0	23	1	0	24	77	0
18:30	4	1	0	0	5	4	24	2	0	30	5	1	6	0	12	0	35	0	0	35	82	0
18:45	0	0	0	0	0	1	27	2	0	30	1	0	9	0	10	0	29	0	0	29	69	0
Total	11	2	0	0	13	17	125	5	0	147	12	1	21	0	34	0	119	4	0	123	317	0
Grand Total	23	7	2	0	32	54	282	10	0	346	22	5	50	0	77	1	233	8	0	242	697	0
Apprch %	71.9%	21.9%	6.3%	0.0%		15.6%	81.5%	2.9%	0.0%		28.6%	6.5%	64.9%	0.0%		0.4%	96.3%	3.3%	0.0%			
Total %	3.3%	1.0%	0.3%	0.0%	4.6%	7.7%	40.5%	1.4%	0.0%	49.6%	3.2%	0.7%	7.2%	0.0%	11.0%	0.1%	33.4%	1.1%	0.0%	34.7%	100.0%	

PM PEAK HOUR	Oak Street Southbound					Balls Ferry Road Westbound					Oak Street Northbound					Balls Ferry Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	3	0	1	0	4	11	36	1	0	48	2	2	9	0	13	0	39	0	0	39	104
17:15	3	1	1	0	5	7	52	2	0	61	3	2	3	0	8	1	27	1	0	29	103
17:30	4	3	0	0	7	13	30	1	0	44	1	0	8	0	9	0	17	3	0	20	80
17:45	2	1	0	0	3	6	39	1	0	46	4	0	9	0	13	0	31	0	0	31	93
Total Volume	12	5	2	0	19	37	157	5	0	199	10	4	29	0	43	1	114	4	0	119	380
% App Total	63.2%	26.3%	10.5%	0.0%		18.6%	78.9%	2.5%	0.0%		23.3%	9.3%	67.4%	0.0%		0.8%	95.8%	3.4%	0.0%		
PHF	.750	.417	.500	.000	.679	.712	.755	.625	.000	.816	.625	.500	.806	.000	.827	.250	.731	.333	.000	.763	.913

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 16-7487-019 Oak Street & Balls Ferry Road

Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	Oak Street Southbound					Balls Ferry Road Westbound					Oak Street Northbound					Balls Ferry Road Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	9	0	0	0	9	6	53	2	0	61	2	3	21	0	26	0	56	2	0	58	154	0
17:15	5	0	0	0	5	7	46	4	0	57	0	0	11	0	11	0	49	4	0	53	126	0
17:30	4	0	0	0	4	6	54	3	0	63	3	0	5	0	8	1	53	2	0	56	131	0
17:45	5	0	0	0	5	3	47	2	0	52	8	0	9	0	17	0	43	3	0	46	120	0
Total	23	0	0	0	23	22	200	11	0	233	13	3	46	0	62	1	201	11	0	213	531	0
18:00	0	1	0	0	1	9	42	3	0	54	2	2	6	0	10	0	39	3	0	42	107	0
18:15	1	1	0	0	2	9	38	1	0	48	3	4	2	0	9	0	33	1	0	34	93	0
18:30	1	1	1	0	3	5	34	2	0	41	4	0	10	0	14	0	51	3	0	54	112	0
18:45	2	1	0	0	3	2	40	0	0	42	0	0	6	0	6	0	37	2	0	39	90	0
Total	4	4	1	0	9	25	154	6	0	185	9	6	24	0	39	0	160	9	0	169	402	0
Grand Total	27	4	1	0	32	47	354	17	0	418	22	9	70	0	101	1	361	20	0	382	933	0
Apprch %	84.4%	12.5%	3.1%	0.0%		11.2%	84.7%	4.1%	0.0%		21.8%	8.9%	69.3%	0.0%		0.3%	94.5%	5.2%	0.0%			
Total %	2.9%	0.4%	0.1%	0.0%	3.4%	5.0%	37.9%	1.8%	0.0%	44.8%	2.4%	1.0%	7.5%	0.0%	10.8%	0.1%	38.7%	2.1%	0.0%	40.9%	100.0%	

PM PEAK HOUR	Oak Street Southbound					Balls Ferry Road Westbound					Oak Street Northbound					Balls Ferry Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	9	0	0	0	9	6	53	2	0	61	2	3	21	0	26	0	56	2	0	58	154
17:15	5	0	0	0	5	7	46	4	0	57	0	0	11	0	11	0	49	4	0	53	126
17:30	4	0	0	0	4	6	54	3	0	63	3	0	5	0	8	1	53	2	0	56	131
17:45	5	0	0	0	5	3	47	2	0	52	8	0	9	0	17	0	43	3	0	46	120
Total Volume	23	0	0	0	23	22	200	11	0	233	13	3	46	0	62	1	201	11	0	213	531
% App Total	100.0%	0.0%	0.0%	0.0%		9.4%	85.8%	4.7%	0.0%		21.0%	4.8%	74.2%	0.0%		0.5%	94.4%	5.2%	0.0%		
PHF	.639	.000	.000	.000	.639	.786	.926	.688	.000	.925	.406	.250	.548	.000	.596	.250	.897	.688	.000	.918	.862

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-018 I-5 NB On Ramp/McMurray Drive & North Street
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	I-5 NB On Ramp/McMurray Drive Southbound					North Street Westbound					I-5 NB On Ramp/McMurray Drive Northbound					North Street Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	0	0	0	0	24	27	7	0	58	14	40	26	0	80	18	28	55	0	101	239	0
17:15	0	0	0	0	0	28	27	2	0	57	16	23	29	0	68	20	27	41	0	88	213	0
17:30	0	0	0	0	0	24	27	11	0	62	9	31	26	0	66	18	30	45	0	93	221	0
17:45	0	0	0	0	0	13	23	7	0	43	14	22	35	0	71	17	27	48	0	92	206	0
Total	0	0	0	0	0	89	104	27	0	220	53	116	116	0	285	73	112	189	0	374	879	0
18:00	0	0	0	0	0	16	21	4	0	41	21	25	11	0	57	14	21	45	0	80	178	0
18:15	0	0	0	0	0	17	22	6	0	45	9	29	31	0	69	15	15	38	0	68	182	0
18:30	0	0	0	0	0	23	30	9	0	62	12	26	22	0	60	16	31	44	0	91	213	0
18:45	0	0	0	0	0	14	24	3	0	41	11	18	27	0	56	12	27	31	0	70	167	0
Total	0	0	0	0	0	70	97	22	0	189	53	98	91	0	242	57	94	158	0	309	740	0
Grand Total	0	0	0	0	0	159	201	49	0	409	106	214	207	0	527	130	206	347	0	683	1619	0
Apprch %	0.0%	0.0%	0.0%	0.0%	0.0%	38.9%	49.1%	12.0%	0.0%	25.3%	20.1%	40.6%	39.3%	0.0%	32.6%	19.0%	30.2%	50.8%	0.0%	42.2%	100.0%	
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	9.8%	12.4%	3.0%	0.0%	25.3%	6.5%	13.2%	12.8%	0.0%	32.6%	8.0%	12.7%	21.4%	0.0%	42.2%	100.0%	

PM PEAK HOUR	I-5 NB On Ramp/McMurray Drive Southbound					North Street Westbound					I-5 NB On Ramp/McMurray Drive Northbound					North Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	24	27	7	0	58	14	40	26	0	80	18	28	55	0	101	239
17:15	0	0	0	0	0	28	27	2	0	57	16	23	29	0	68	20	27	41	0	88	213
17:30	0	0	0	0	0	24	27	11	0	62	9	31	26	0	66	18	30	45	0	93	221
17:45	0	0	0	0	0	13	23	7	0	43	14	22	35	0	71	17	27	48	0	92	206
Total Volume	0	0	0	0	0	89	104	27	0	220	53	116	116	0	285	73	112	189	0	374	879
% App Total	0.0%	0.0%	0.0%	0.0%	0.0%	40.5%	47.3%	12.3%	0.0%	25.3%	18.6%	40.7%	40.7%	0.0%	32.6%	19.5%	29.9%	50.5%	0.0%	42.2%	100.0%
PHF	.000	.000	.000	.000	.000	.795	.963	.614	.000	.887	.828	.725	.829	.000	.891	.913	.933	.859	.000	.926	.919

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 16-7487-018 I-5 NB On Ramp/McMurray Drive & North Street

Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	I-5 NB On Ramp/McMurray Drive Southbound					North Street Westbound					I-5 NB On Ramp/McMurray Drive Northbound					North Street Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	0	0	0	0	0	33	53	6	0	92	32	55	29	0	116	40	44	75	0	159	367	0
17:15	0	0	0	0	0	38	40	7	0	85	16	48	44	0	108	24	28	97	0	149	342	0
17:30	0	0	0	0	0	20	46	5	0	71	22	48	33	0	103	28	49	52	0	129	303	0
17:45	0	0	0	0	0	27	50	7	0	84	10	41	33	0	84	38	40	59	0	137	305	0
Total	0	0	0	0	0	118	189	25	0	332	80	192	139	0	411	130	161	283	0	574	1317	0
18:00	0	0	0	0	0	33	39	5	0	77	25	34	35	0	94	24	40	49	0	113	284	0
18:15	0	0	0	0	0	17	35	5	0	57	18	34	24	0	76	24	27	60	0	111	244	0
18:30	0	0	0	0	0	21	28	4	0	53	17	32	39	0	88	31	32	51	0	114	255	0
18:45	0	0	0	0	0	29	26	10	0	65	16	23	24	0	63	25	23	41	0	89	217	0
Total	0	0	0	0	0	100	128	24	0	252	76	123	122	0	321	104	122	201	0	427	1000	0
Grand Total	0	0	0	0	0	218	317	49	0	584	156	315	261	0	732	234	283	484	0	1001	2317	0
Apprch %	0.0%	0.0%	0.0%	0.0%	0.0%	37.3%	54.3%	8.4%	0.0%	21.3%	43.0%	35.7%	0.0%	0.0%	31.6%	23.4%	28.3%	48.4%	0.0%	43.2%	100.0%	
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	9.4%	13.7%	2.1%	0.0%	25.2%	6.7%	13.6%	11.3%	0.0%	31.6%	10.1%	12.2%	20.9%	0.0%	43.2%	100.0%	

PM PEAK HOUR	I-5 NB On Ramp/McMurray Drive Southbound					North Street Westbound					I-5 NB On Ramp/McMurray Drive Northbound					North Street Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 17:00 to 18:00																						
Peak Hour For Entire Intersection Begins at 17:00																						
17:00	0	0	0	0	0	33	53	6	0	92	32	55	29	0	116	40	44	75	0	159	367	
17:15	0	0	0	0	0	38	40	7	0	85	16	48	44	0	108	24	28	97	0	149	342	
17:30	0	0	0	0	0	20	46	5	0	71	22	48	33	0	103	28	49	52	0	129	303	
17:45	0	0	0	0	0	27	50	7	0	84	10	41	33	0	84	38	40	59	0	137	305	
Total Volume	0	0	0	0	0	118	189	25	0	332	80	192	139	0	411	130	161	283	0	574	1317	
% App Total	0.0%	0.0%	0.0%	0.0%	0.0%	35.5%	56.9%	7.5%	0.0%	19.5%	46.7%	33.8%	0.0%	0.0%	22.6%	28.0%	49.3%	0.0%	0.0%	9.0%	100.0%	
PHF	.000	.000	.000	.000	.000	.776	.892	.893	.000	.902	.625	.873	.790	.000	.886	.813	.821	.729	.000	.903	.897	

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-017 I-5 SB Off Ramp & North Street
 Date : 7/15/2016

Unshifted Count = All Vehicles & Uturns

START TIME	I-5 SB Off Ramp Southbound					North Street Westbound					I-5 SB Off Ramp Northbound					North Street Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	64	0	41	0	105	0	85	0	0	85	0	0	0	0	0	0	89	0	0	89	279	0
17:15	79	0	47	0	126	0	56	0	0	56	0	0	0	0	0	0	72	0	0	72	254	0
17:30	40	0	29	0	69	0	69	0	0	69	0	0	0	0	0	0	85	0	0	85	223	0
17:45	49	0	44	0	93	0	61	0	0	61	0	0	0	0	0	0	94	0	0	94	248	0
Total	232	0	161	0	393	0	271	0	0	271	0	0	0	0	0	0	340	0	0	340	1004	0
18:00	40	0	33	0	73	0	64	0	0	64	0	0	0	0	0	0	72	0	0	72	209	0
18:15	46	0	22	0	68	0	52	0	0	52	0	0	0	0	0	0	66	0	0	66	186	0
18:30	49	0	24	0	73	0	45	0	0	45	0	0	0	0	0	0	63	0	0	63	181	0
18:45	35	0	29	0	64	0	39	0	0	39	0	0	0	0	0	0	54	0	0	54	157	0
Total	170	0	108	0	278	0	200	0	0	200	0	0	0	0	0	0	255	0	0	255	733	0
Grand Total	402	0	269	0	671	0	471	0	0	471	0	0	0	0	0	0	595	0	0	595	1737	0
Apprch %	59.9%	0.0%	40.1%	0.0%		0.0%	100.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%			
Total %	23.1%	0.0%	15.5%	0.0%	38.6%	0.0%	27.1%	0.0%	0.0%	27.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	34.3%	0.0%	0.0%	34.3%	100.0%	

PM PEAK HOUR	I-5 SB Off Ramp Southbound					North Street Westbound					I-5 SB Off Ramp Northbound					North Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	64	0	41	0	105	0	85	0	0	85	0	0	0	0	0	0	89	0	0	89	279
17:15	79	0	47	0	126	0	56	0	0	56	0	0	0	0	0	0	72	0	0	72	254
17:30	40	0	29	0	69	0	69	0	0	69	0	0	0	0	0	0	85	0	0	85	223
17:45	49	0	44	0	93	0	61	0	0	61	0	0	0	0	0	0	94	0	0	94	248
Total Volume	232	0	161	0	393	0	271	0	0	271	0	0	0	0	0	0	340	0	0	340	1004
% App Total	59.0%	0.0%	41.0%	0.0%		0.0%	100.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		
PHF	.734	.000	.856	.000	.780	.000	.797	.000	.000	.797	.000	.000	.000	.000	.000	.000	.904	.000	.000	.904	.900

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-017 I-5 SB Off Ramp & North Street
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	I-5 SB Off Ramp Southbound					North Street Westbound					I-5 SB Off Ramp Northbound					North Street Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	40	0	24	0	64	0	40	0	0	40	0	0	0	0	0	0	60	0	0	60	164	0
17:15	35	0	24	0	59	0	43	0	0	43	0	0	0	0	0	0	53	0	0	53	155	0
17:30	32	0	24	0	56	0	34	0	0	34	0	0	0	0	0	0	64	0	0	64	154	0
17:45	32	0	28	0	60	0	38	0	0	38	0	0	0	0	0	0	55	0	0	55	153	0
Total	139	0	100	0	239	0	155	0	0	155	0	0	0	0	0	0	232	0	0	232	626	0
18:00	29	0	20	0	49	0	43	0	0	43	0	0	0	0	0	0	53	0	0	53	145	0
18:15	28	0	18	0	46	0	29	0	0	29	0	0	0	0	0	0	40	0	0	40	115	0
18:30	42	0	17	0	59	0	43	0	0	43	0	0	0	0	0	0	47	0	0	47	149	0
18:45	22	0	13	0	35	0	34	0	0	34	0	0	0	0	0	0	48	0	0	48	117	0
Total	121	0	68	0	189	0	149	0	0	149	0	0	0	0	0	0	188	0	0	188	526	0
Grand Total	260	0	168	0	428	0	304	0	0	304	0	0	0	0	0	0	420	0	0	420	1152	0
Apprch %	60.7%	0.0%	39.3%	0.0%		0.0%	100.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%			
Total %	22.6%	0.0%	14.6%	0.0%	37.2%	0.0%	26.4%	0.0%	0.0%	26.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	36.5%	0.0%	0.0%	36.5%	100.0%	

PM PEAK HOUR	I-5 SB Off Ramp Southbound					North Street Westbound					I-5 SB Off Ramp Northbound					North Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	40	0	24	0	64	0	40	0	0	40	0	0	0	0	0	0	60	0	0	60	164
17:15	35	0	24	0	59	0	43	0	0	43	0	0	0	0	0	0	53	0	0	53	155
17:30	32	0	24	0	56	0	34	0	0	34	0	0	0	0	0	0	64	0	0	64	154
17:45	32	0	28	0	60	0	38	0	0	38	0	0	0	0	0	0	55	0	0	55	153
Total Volume	139	0	100	0	239	0	155	0	0	155	0	0	0	0	0	0	232	0	0	232	626
% App Total	58.2%	0.0%	41.8%	0.0%		0.0%	100.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		
PHF	.869	.000	.893	.000	.934	.000	.901	.000	.000	.901	.000	.000	.000	.000	.000	.000	.906	.000	.000	.906	.954

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7487-016 Oak Street & North Street
 Date : 7/16/2016

Unshifted Count = All Vehicles & Uturns

START TIME	Oak Street Southbound					North Street Westbound					Oak Street Northbound					North Street Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
17:00	12	3	2	0	17	3	41	8	0	52	0	1	4	0	5	1	45	0	0	46	120	0
17:15	10	0	1	0	11	3	45	13	0	61	2	1	1	0	4	1	44	2	0	47	123	0
17:30	12	5	5	0	22	2	40	6	0	48	1	0	1	0	2	7	42	0	0	49	121	0
17:45	7	2	0	0	9	1	49	3	0	53	0	1	5	0	6	2	39	0	0	41	109	0
Total	41	10	8	0	59	9	175	30	0	214	3	3	11	0	17	11	170	2	0	183	473	0
18:00	6	4	3	0	13	2	40	10	0	52	0	1	2	0	3	3	43	0	0	46	114	0
18:15	9	0	3	0	12	1	37	4	0	42	0	0	2	0	2	3	30	1	0	34	90	0
18:30	7	2	0	0	9	1	42	5	0	48	0	2	1	0	3	6	32	0	0	38	98	0
18:45	1	0	2	0	3	1	33	5	0	39	0	0	2	0	2	2	44	1	0	47	91	0
Total	23	6	8	0	37	5	152	24	0	181	0	3	7	0	10	14	149	2	0	165	393	0
Grand Total	64	16	16	0	96	14	327	54	0	395	3	6	18	0	27	25	319	4	0	348	866	0
Apprch %	66.7%	16.7%	16.7%	0.0%		3.5%	82.8%	13.7%	0.0%		11.1%	22.2%	66.7%	0.0%		7.2%	91.7%	1.1%	0.0%			
Total %	7.4%	1.8%	1.8%	0.0%	11.1%	1.6%	37.8%	6.2%	0.0%	45.6%	0.3%	0.7%	2.1%	0.0%	3.1%	2.9%	36.8%	0.5%	0.0%	40.2%	100.0%	

PM PEAK HOUR	Oak Street Southbound					North Street Westbound					Oak Street Northbound					North Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	12	3	2	0	17	3	41	8	0	52	0	1	4	0	5	1	45	0	0	46	120
17:15	10	0	1	0	11	3	45	13	0	61	2	1	1	0	4	1	44	2	0	47	123
17:30	12	5	5	0	22	2	40	6	0	48	1	0	1	0	2	7	42	0	0	49	121
17:45	7	2	0	0	9	1	49	3	0	53	0	1	5	0	6	2	39	0	0	41	109
Total Volume	41	10	8	0	59	9	175	30	0	214	3	3	11	0	17	11	170	2	0	183	473
% App Total	69.5%	16.9%	13.6%	0.0%		4.2%	81.8%	14.0%	0.0%		17.6%	17.6%	64.7%	0.0%		6.0%	92.9%	1.1%	0.0%		
PHF	.854	.500	.400	.000	.670	.750	.893	.577	.000	.877	.375	.750	.550	.000	.708	.393	.944	.250	.000	.934	.961

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7605-003 SR 273 & North St
 Date : 9/9/2016

Unshifted Count = All Vehicles & Uturns

START TIME	SR 273 Southbound					North St Westbound					SR 273 Northbound					North St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	28	50	4	0	82	24	28	21	0	73	11	47	41	0	99	3	39	9	0	51	305	0
16:15	29	62	6	0	97	34	24	23	0	81	7	43	26	0	76	2	20	7	0	29	283	0
16:30	22	88	6	0	116	28	25	22	0	75	7	49	24	0	80	4	27	9	0	40	311	0
16:45	12	66	3	0	81	25	32	21	0	78	11	34	23	0	68	6	26	12	0	44	271	0
Total	91	266	19	0	376	111	109	87	0	307	36	173	114	0	323	15	112	37	0	164	1170	0
17:00	22	78	4	0	104	32	27	24	0	83	9	39	26	0	74	2	17	5	0	24	285	0
17:15	21	62	2	0	85	39	31	12	0	82	6	44	21	0	71	1	21	6	0	28	266	0
17:30	24	58	4	0	86	32	26	13	0	71	4	44	23	0	71	2	22	8	0	32	260	0
17:45	12	53	2	0	67	30	16	12	0	58	9	34	15	0	58	0	19	8	0	27	210	0
Total	79	251	12	0	342	133	100	61	0	294	28	161	85	0	274	5	79	27	0	111	1021	0
Grand Total	170	517	31	0	718	244	209	148	0	601	64	334	199	0	597	20	191	64	0	275	2191	0
Apprch %	23.7%	72.0%	4.3%	0.0%		40.6%	34.8%	24.6%	0.0%		10.7%	55.9%	33.3%	0.0%		7.3%	69.5%	23.3%	0.0%			
Total %	7.8%	23.6%	1.4%	0.0%	32.8%	11.1%	9.5%	6.8%	0.0%	27.4%	2.9%	15.2%	9.1%	0.0%	27.2%	0.9%	8.7%	2.9%	0.0%	12.6%	100.0%	

PM PEAK HOUR	SR 273 Southbound					North St Westbound					SR 273 Northbound					North St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	28	50	4	0	82	24	28	21	0	73	11	47	41	0	99	3	39	9	0	51	305
16:15	29	62	6	0	97	34	24	23	0	81	7	43	26	0	76	2	20	7	0	29	283
16:30	22	88	6	0	116	28	25	22	0	75	7	49	24	0	80	4	27	9	0	40	311
16:45	12	66	3	0	81	25	32	21	0	78	11	34	23	0	68	6	26	12	0	44	271
Total Volume	91	266	19	0	376	111	109	87	0	307	36	173	114	0	323	15	112	37	0	164	1170
% App Total	24.2%	70.7%	5.1%	0.0%		36.2%	35.5%	28.3%	0.0%		11.1%	53.6%	35.3%	0.0%		9.1%	68.3%	22.6%	0.0%		
PHF	.784	.756	.792	.000	.810	.816	.852	.946	.000	.948	.818	.883	.695	.000	.816	.625	.718	.771	.000	.804	.941

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7605-002 SR 273/Canyon Rd & Redding Rancheria Rd
 Date : 9/9/2016

Unshifted Count = All Vehicles & Uturns

START TIME	SR 273/Canyon Rd Southbound					Redding Rancheria Rd Westbound					SR 273/Canyon Rd Northbound					Redding Rancheria Rd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	0	130	112	0	242	0	0	0	0	0	18	100	0	0	118	106	0	12	0	118	478	0
16:15	0	121	122	0	243	0	0	0	0	0	18	117	0	0	135	83	0	11	0	94	472	0
16:30	0	116	120	0	236	0	0	0	0	0	12	102	0	0	114	67	0	16	0	83	433	0
16:45	0	120	103	0	223	0	0	0	0	0	17	103	0	0	120	83	0	22	0	105	448	0
Total	0	487	457	0	944	0	0	0	0	0	65	422	0	0	487	339	0	61	0	400	1831	0
17:00	0	115	119	0	234	0	0	0	0	0	18	109	0	0	127	67	0	8	0	75	436	0
17:15	0	163	144	0	307	0	0	0	0	0	12	90	0	0	102	55	0	8	0	63	472	0
17:30	0	102	132	0	234	0	0	0	0	0	15	76	0	0	91	76	0	24	0	100	425	0
17:45	0	65	106	0	171	0	0	0	0	0	12	78	0	0	90	59	0	17	0	76	337	0
Total	0	445	501	0	946	0	0	0	0	0	57	353	0	0	410	257	0	57	0	314	1670	0
Grand Total	0	932	958	0	1890	0	0	0	0	0	122	775	0	0	897	596	0	118	0	714	3501	0
Apprch %	0.0%	49.3%	50.7%	0.0%		0.0%	0.0%	0.0%	0.0%		13.6%	86.4%	0.0%	0.0%		83.5%	0.0%	16.5%	0.0%			
Total %	0.0%	26.6%	27.4%	0.0%	54.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.5%	22.1%	0.0%	0.0%	25.6%	17.0%	0.0%	3.4%	0.0%	20.4%	100.0%	

PM PEAK HOUR	SR 273/Canyon Rd Southbound					Redding Rancheria Rd Westbound					SR 273/Canyon Rd Northbound					Redding Rancheria Rd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	0	130	112	0	242	0	0	0	0	0	18	100	0	0	118	106	0	12	0	118	478
16:15	0	121	122	0	243	0	0	0	0	0	18	117	0	0	135	83	0	11	0	94	472
16:30	0	116	120	0	236	0	0	0	0	0	12	102	0	0	114	67	0	16	0	83	433
16:45	0	120	103	0	223	0	0	0	0	0	17	103	0	0	120	83	0	22	0	105	448
Total Volume	0	487	457	0	944	0	0	0	0	0	65	422	0	0	487	339	0	61	0	400	1831
% App Total	0.0%	51.6%	48.4%	0.0%		0.0%	0.0%	0.0%	0.0%		13.3%	86.7%	0.0%	0.0%		84.8%	0.0%	15.3%	0.0%		
PHF	.000	.937	.936	.000	.971	.000	.000	.000	.000	.000	.903	.902	.000	.000	.902	.800	.000	.693	.000	.847	.958

ALL TRAFFIC DATA

City of Redding
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 16-7605-001 SR 273 & S Bonnyview Rd
 Date : 9/9/2016

Unshifted Count = All Vehicles & Uturns

START TIME	SR 273 Southbound					S Bonnyview Rd Westbound					SR 273 Northbound					S Bonnyview Rd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	63	154	3	0	220	102	10	48	0	160	15	100	93	0	208	1	9	12	0	22	610	0
16:15	62	111	3	0	176	112	13	65	0	190	10	108	93	1	212	2	19	15	0	36	614	1
16:30	72	130	1	0	203	106	18	47	1	172	12	88	64	0	164	0	14	20	0	34	573	1
16:45	60	135	1	0	196	119	19	57	0	195	16	109	68	0	193	0	15	17	0	32	616	0
Total	257	530	8	0	795	439	60	217	1	717	53	405	318	1	777	3	57	64	0	124	2413	2
17:00	80	152	2	0	234	124	16	34	0	174	8	90	94	0	192	2	16	12	0	30	630	0
17:15	61	175	0	0	236	143	25	53	0	221	18	88	83	2	191	0	11	17	0	28	676	2
17:30	71	145	2	0	218	96	10	39	0	145	6	105	69	0	180	2	11	11	0	24	567	0
17:45	42	96	1	0	139	88	14	41	0	143	6	80	83	0	169	1	11	6	0	18	469	0
Total	254	568	5	0	827	451	65	167	0	683	38	363	329	2	732	5	49	46	0	100	2342	2
Grand Total	511	1098	13	0	1622	890	125	384	1	1400	91	768	647	3	1509	8	106	110	0	224	4755	4
Apprch %	31.5%	67.7%	0.8%	0.0%		63.6%	8.9%	27.4%	0.1%		6.0%	50.9%	42.9%	0.2%		3.6%	47.3%	49.1%	0.0%			
Total %	10.7%	23.1%	0.3%	0.0%	34.1%	18.7%	2.6%	8.1%	0.0%	29.4%	1.9%	16.2%	13.6%	0.1%	31.7%	0.2%	2.2%	2.3%	0.0%	4.7%	100.0%	

PM PEAK HOUR	SR 273 Southbound					S Bonnyview Rd Westbound					SR 273 Northbound					S Bonnyview Rd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	72	130	1	0	203	106	18	47	1	172	12	88	64	0	164	0	14	20	0	34	573
16:45	60	135	1	0	196	119	19	57	0	195	16	109	68	0	193	0	15	17	0	32	616
17:00	80	152	2	0	234	124	16	34	0	174	8	90	94	0	192	2	16	12	0	30	630
17:15	61	175	0	0	236	143	25	53	0	221	18	88	83	2	191	0	11	17	0	28	676
Total Volume	273	592	4	0	869	492	78	191	1	762	54	375	309	2	740	2	56	66	0	124	2495
% App Total	31.4%	68.1%	0.5%	0.0%		64.6%	10.2%	25.1%	0.1%		7.3%	50.7%	41.8%	0.3%		1.6%	45.2%	53.2%	0.0%		
PHF	.853	.846	.500	.000	.921	.860	.780	.838	.250	.862	.750	.860	.822	.250	.959	.250	.875	.825	.000	.912	.923

VOLUME

Oak St Bet. Project Site Dwy & North St

Day: Friday
 Date: 7/15/2016

City: Redding
 Project #: CA16-7488-012

DAILY TOTALS						NB	SB	EB	WB	Total	
						582	604	0	0	1,186	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	2	0	0	0	2	12:00	7	12	0	0	19
0:15	3	5	0	0	8	12:15	8	19	0	0	27
0:30	3	0	0	0	3	12:30	15	9	0	0	24
0:45	1	9	0	5	14	12:45	8	38	6	46	84
1:00	1	0	0	0	1	13:00	7	13	0	0	20
1:15	2	1	0	0	3	13:15	4	11	0	0	15
1:30	1	1	0	0	2	13:30	12	11	0	0	23
1:45	1	5	1	3	8	13:45	11	34	9	44	78
2:00	2	3	0	0	5	14:00	9	7	0	0	16
2:15	0	0	0	0	0	14:15	5	11	0	0	16
2:30	0	0	0	0	0	14:30	8	4	0	0	12
2:45	0	2	0	3	5	14:45	16	38	10	32	70
3:00	0	0	0	0	0	15:00	15	11	0	0	26
3:15	0	2	0	0	2	15:15	9	8	0	0	17
3:30	0	1	0	0	1	15:30	10	11	0	0	21
3:45	2	2	0	3	5	15:45	10	44	9	39	83
4:00	1	1	0	0	2	16:00	9	8	0	0	17
4:15	1	1	0	0	2	16:15	12	7	0	0	19
4:30	0	1	0	0	1	16:30	9	13	0	0	22
4:45	1	3	2	5	8	16:45	12	42	12	40	82
5:00	0	0	0	0	0	17:00	24	9	0	0	33
5:15	0	2	0	0	2	17:15	17	15	0	0	32
5:30	0	3	0	0	3	17:30	13	12	0	0	25
5:45	3	3	3	8	11	17:45	14	68	11	47	115
6:00	1	4	0	0	5	18:00	17	13	0	0	30
6:15	2	5	0	0	7	18:15	15	13	0	0	28
6:30	1	7	0	0	8	18:30	14	11	0	0	25
6:45	4	8	8	24	32	18:45	11	57	17	54	111
7:00	4	5	0	0	9	19:00	6	9	0	0	15
7:15	4	4	0	0	8	19:15	15	14	0	0	29
7:30	2	12	0	0	14	19:30	9	6	0	0	15
7:45	3	13	11	32	45	19:45	4	34	2	31	65
8:00	3	4	0	0	7	20:00	9	10	0	0	19
8:15	4	13	0	0	17	20:15	8	6	0	0	14
8:30	5	6	0	0	11	20:30	10	4	0	0	14
8:45	6	18	7	30	48	20:45	9	36	3	23	59
9:00	7	9	0	0	16	21:00	9	10	0	0	19
9:15	6	7	0	0	13	21:15	4	2	0	0	6
9:30	6	8	0	0	14	21:30	6	5	0	0	11
9:45	5	24	10	34	58	21:45	7	26	7	24	50
10:00	10	7	0	0	17	22:00	7	6	0	0	13
10:15	9	9	0	0	18	22:15	3	3	0	0	6
10:30	4	10	0	0	14	22:30	3	5	0	0	8
10:45	7	30	8	34	64	22:45	1	14	2	16	30
11:00	10	5	0	0	15	23:00	2	2	0	0	4
11:15	7	8	0	0	15	23:15	1	2	0	0	3
11:30	3	2	0	0	5	23:30	1	1	0	0	2
11:45	5	25	5	20	45	23:45	5	9	2	7	16
TOTALS	142	201			343	TOTALS	440	403			843
SPLIT %	41.4%	58.6%			28.9%	SPLIT %	52.2%	47.8%			71.1%

DAILY TOTALS						NB	SB	EB	WB	Total
						582	604	0	0	1,186

AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	17:00	18:00			17:00
AM Pk Volume	35	45			80	PM Pk Volume	68	54			115
Pk Hr Factor	0.429	0.354			0.382	Pk Hr Factor	0.868	0.750			0.871
7 - 9 Volume	31	62	0	0	93	4 - 6 Volume	110	87	0	0	197
7 - 9 Peak Hour	8:00	7:30			7:30	4 - 6 Peak Hour	17:00	16:30			17:00
7 - 9 Pk Volume	18	40	0	0	52	4 - 6 Pk Volume	68	49	0	0	115
Pk Hr Factor	0.750	0.769	0.000	0.000	0.765	Pk Hr Factor	0.708	0.817	0.000	0.000	0.871

VOLUME

Oak St Bet. Project Site Dwy & North St

Day: Saturday
 Date: 7/16/2016

City: Redding
 Project #: CA16-7488-012

DAILY TOTALS						NB	SB	EB	WB	Total	
						568	596	0	0	1,164	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	2	0	0	0	2	12:00	9	9	0	0	18
0:15	1	1	0	0	2	12:15	8	13	0	0	21
0:30	0	1	0	0	1	12:30	11	14	0	0	25
0:45	1	4	0	2	7	12:45	10	38	10	46	104
1:00	2	1	0	0	3	13:00	12	8	0	0	20
1:15	2	2	0	0	4	13:15	14	10	0	0	24
1:30	3	0	0	0	3	13:30	8	8	0	0	16
1:45	1	8	1	4	14	13:45	8	42	9	35	94
2:00	3	1	0	0	4	14:00	13	6	0	0	19
2:15	0	1	0	0	1	14:15	5	4	0	0	9
2:30	0	0	0	0	0	14:30	9	8	0	0	17
2:45	1	4	0	2	7	14:45	18	45	10	28	101
3:00	2	0	0	0	2	15:00	18	16	0	0	34
3:15	0	0	0	0	0	15:15	8	8	0	0	16
3:30	0	0	0	0	0	15:30	5	9	0	0	14
3:45	0	2	0	0	2	15:45	10	41	10	43	104
4:00	0	0	0	0	0	16:00	7	8	0	0	15
4:15	0	1	0	0	1	16:15	13	10	0	0	23
4:30	0	0	0	0	0	16:30	12	7	0	0	19
4:45	0	0	1	0	1	16:45	9	41	14	39	103
5:00	0	1	0	0	1	17:00	8	14	0	0	22
5:15	0	0	0	0	0	17:15	12	11	0	0	23
5:30	0	0	0	0	0	17:30	11	21	0	0	32
5:45	0	2	3	0	5	17:45	8	39	10	56	113
6:00	2	1	0	0	3	18:00	13	12	0	0	25
6:15	1	1	0	0	2	18:15	7	10	0	0	17
6:30	1	3	0	0	4	18:30	9	10	0	0	19
6:45	0	4	3	8	15	18:45	7	36	2	34	79
7:00	1	9	0	0	10	19:00	7	7	0	0	14
7:15	7	1	0	0	8	19:15	5	6	0	0	11
7:30	1	13	0	0	14	19:30	7	2	0	0	9
7:45	7	16	4	27	54	19:45	9	28	9	24	68
8:00	4	4	0	0	8	20:00	6	7	0	0	13
8:15	0	6	0	0	6	20:15	3	3	0	0	6
8:30	5	8	0	0	13	20:30	6	9	0	0	15
8:45	8	17	7	25	57	20:45	10	25	8	27	70
9:00	8	8	0	0	16	21:00	14	8	0	0	22
9:15	10	10	0	0	20	21:15	7	11	0	0	18
9:30	5	10	0	0	15	21:30	4	6	0	0	10
9:45	6	29	14	42	91	21:45	4	29	5	30	68
10:00	16	10	0	0	26	22:00	8	8	0	0	16
10:15	8	9	0	0	17	22:15	7	4	0	0	11
10:30	6	9	0	0	15	22:30	4	7	0	0	11
10:45	12	42	13	41	118	22:45	4	23	3	22	52
11:00	7	10	0	0	17	23:00	6	0	0	0	6
11:15	8	19	0	0	27	23:15	7	0	0	0	7
11:30	11	10	0	0	21	23:30	2	3	0	0	5
11:45	13	39	14	53	119	23:45	1	16	1	4	22
TOTALS	165	208	0	0	373	TOTALS	403	388	0	0	791
SPLIT %	44.2%	55.8%	0.0%	0.0%	32.0%	SPLIT %	50.9%	49.1%	0.0%	0.0%	68.0%

DAILY TOTALS						NB	SB	EB	WB	Total
						568	596	0	0	1,164
AM Peak Hour	10:00	11:00			11:15	PM Peak Hour	14:30	16:45		16:45
AM Pk Volume	42	53			93	PM Pk Volume	53	60		100
Pk Hr Factor	0.656	0.697			0.861	Pk Hr Factor	0.569	0.643		0.781
7 - 9 Volume	33	52	0	0	85	4 - 6 Volume	80	95	0	175
7 - 9 Peak Hour	7:15	7:00			7:00	4 - 6 Peak Hour	16:15	16:45		16:45
7 - 9 Pk Volume	19	27	0	0	43	4 - 6 Pk Volume	42	60	0	100
Pk Hr Factor	0.679	0.519	0.000	0.000	0.768	Pk Hr Factor	0.808	0.714	0.000	0.781

VOLUME

North St Bet. Oak St & I-5 SB Off Ramp

Day: Friday
 Date: 7/15/2016

City: Redding
 Project #: CA16-7488-011

DAILY TOTALS					NB	SB						Total			
					0	0						9,710			
							5,043			4,667					
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
0:00	0	0	7	10	17		12:00	0	0	121	83	204			
0:15	0	0	6	8	14		12:15	0	0	111	81	192			
0:30	0	0	6	11	17		12:30	0	0	104	111	215			
0:45	0	0	4	23	3	32	12:45	0	0	110	446	365	200	811	
1:00	0	0	2	6	8		13:00	0	0	96	88	184			
1:15	0	0	8	7	15		13:15	0	0	105	73	178			
1:30	0	0	3	3	6		13:30	0	0	91	95	186			
1:45	0	0	3	16	7	23	13:45	0	0	99	391	88	344	187	735
2:00	0	0	3	6	9		14:00	0	0	102	82	184			
2:15	0	0	2	0	2		14:15	0	0	88	87	175			
2:30	0	0	2	3	5		14:30	0	0	100	99	199			
2:45	0	0	2	9	4	13	14:45	0	0	97	387	88	356	185	743
3:00	0	0	3	5	8		15:00	0	0	101	75	176			
3:15	0	0	3	1	4		15:15	0	0	84	87	171			
3:30	0	0	3	4	7		15:30	0	0	79	85	164			
3:45	0	0	5	14	5	15	15:45	0	0	94	358	87	334	181	692
4:00	0	0	5	3	8		16:00	0	0	94	95	189			
4:15	0	0	6	4	10		16:15	0	0	79	110	189			
4:30	0	0	10	6	16		16:30	0	0	85	82	167			
4:45	0	0	15	36	4	17	16:45	0	0	93	351	96	383	189	734
5:00	0	0	8	4	12		17:00	0	0	87	114	201			
5:15	0	0	13	12	25		17:15	0	0	68	86	154			
5:30	0	0	19	10	29		17:30	0	0	88	87	175			
5:45	0	0	20	60	19	45	17:45	0	0	84	327	87	374	171	701
6:00	0	0	27	17	44		18:00	0	0	80	80	160			
6:15	0	0	28	16	44		18:15	0	0	66	66	132			
6:30	0	0	43	21	64		18:30	0	0	65	57	122			
6:45	0	0	47	145	30	84	18:45	0	0	54	265	56	259	110	524
7:00	0	0	44	32	76		19:00	0	0	62	43	105			
7:15	0	0	65	46	111		19:15	0	0	59	53	112			
7:30	0	0	72	47	119		19:30	0	0	50	36	86			
7:45	0	0	61	242	69	194	19:45	0	0	42	213	42	174	84	387
8:00	0	0	62	61	123		20:00	0	0	45	44	89			
8:15	0	0	73	55	128		20:15	0	0	43	38	81			
8:30	0	0	70	58	128		20:30	0	0	34	50	84			
8:45	0	0	78	283	61	235	20:45	0	0	43	165	37	169	80	334
9:00	0	0	66	60	126		21:00	0	0	39	54	93			
9:15	0	0	71	56	127		21:15	0	0	44	45	89			
9:30	0	0	78	85	163		21:30	0	0	39	28	67			
9:45	0	0	105	320	72	273	21:45	0	0	25	147	40	167	65	314
10:00	0	0	60	96	156		22:00	0	0	32	38	70			
10:15	0	0	82	74	156		22:15	0	0	36	25	61			
10:30	0	0	96	74	170		22:30	0	0	30	28	58			
10:45	0	0	86	324	81	325	22:45	0	0	18	116	15	106	33	222
11:00	0	0	62	70	132		23:00	0	0	15	14	29			
11:15	0	0	94	93	187		23:15	0	0	16	18	34			
11:30	0	0	102	82	184		23:30	0	0	16	15	31			
11:45	0	0	90	348	76	321	23:45	0	0	10	57	12	59	22	116
TOTALS			1820	1577	3397		TOTALS			3223	3090	6313			
SPLIT %			53.6%	46.4%	35.0%		SPLIT %			51.1%	48.9%	65.0%			

DAILY TOTALS					NB	SB						Total
					0	0						9,710
							5,043			4,667		
AM Peak Hour			11:45	11:45	11:45	PM Peak Hour			12:00	16:15	12:00	
AM Pk Volume			426	351	777	PM Pk Volume			446	402	811	
Pk Hr Factor			0.436	0.479	0.453	Pk Hr Factor			0.921	0.840	0.485	
7 - 9 Volume	0	0	525	429	954	4 - 6 Volume	0	0	678	757	1435	
7 - 9 Peak Hour			8:00	7:45	8:00	4 - 6 Peak Hour			16:00	16:15	16:15	
7 - 9 Pk Volume	0	0	283	243	518	4 - 6 Pk Volume	0	0	351	402	746	
Pk Hr Factor	0.000	0.000	0.907	0.880	0.932	Pk Hr Factor	0.000	0.000	0.934	0.882	0.928	

VOLUME

North St Bet. Oak St & I-5 SB Off Ramp

Day: Saturday
 Date: 7/16/2016

City: Redding
 Project #: CA16-7488-011

DAILY TOTALS					NB	SB						Total			
					0	0						7,157			
					3,712					3,445					
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
0:00	0	0	9	15	24		12:00	0	0	78	74	152			
0:15	0	0	3	8	11		12:15	0	0	81	79	160			
0:30	0	0	9	10	19		12:30	0	0	74	56	130			
0:45	0	0	8	29	6	39	12:45	0	0	64	297	76	285		
1:00	0	0	3	6	9		13:00	0	0	87	89	176			
1:15	0	0	3	3	6		13:15	0	0	80	68	148			
1:30	0	0	1	8	9		13:30	0	0	80	72	152			
1:45	0	0	7	14	7	24	13:45	0	0	67	314	69	298		
2:00	0	0	9	5	14		14:00	0	0	69	73	142			
2:15	0	0	4	5	9		14:15	0	0	63	54	117			
2:30	0	0	4	0	4		14:30	0	0	64	55	119			
2:45	0	0	4	21	2	12	14:45	0	0	54	250	66	248		
3:00	0	0	2	3	5		15:00	0	0	69	63	132			
3:15	0	0	2	1	3		15:15	0	0	60	62	122			
3:30	0	0	2	2	4		15:30	0	0	54	62	116			
3:45	0	0	0	6	3	9	15:45	0	0	60	243	54	241		
4:00	0	0	4	4	8		16:00	0	0	59	63	122			
4:15	0	0	2	3	5		16:15	0	0	54	61	115			
4:30	0	0	5	5	10		16:30	0	0	60	48	108			
4:45	0	0	3	14	5	17	16:45	0	0	68	241	57	229		
5:00	0	0	7	1	8		17:00	0	0	62	54	116			
5:15	0	0	9	6	15		17:15	0	0	53	62	115			
5:30	0	0	11	10	21		17:30	0	0	61	45	106			
5:45	0	0	5	32	13	30	17:45	0	0	54	230	55	216		
6:00	0	0	13	12	25		18:00	0	0	48	51	99			
6:15	0	0	17	15	32		18:15	0	0	42	42	84			
6:30	0	0	19	10	29		18:30	0	0	42	42	84			
6:45	0	0	12	61	16	53	18:45	0	0	45	177	40	175		
7:00	0	0	21	16	37		19:00	0	0	44	37	81			
7:15	0	0	24	19	43		19:15	0	0	50	47	97			
7:30	0	0	48	34	82		19:30	0	0	47	48	95			
7:45	0	0	38	131	30	99	19:45	0	0	42	183	34	166		
8:00	0	0	31	33	64		20:00	0	0	37	28	65			
8:15	0	0	43	21	64		20:15	0	0	41	32	73			
8:30	0	0	57	34	91		20:30	0	0	26	44	70			
8:45	0	0	47	178	49	137	20:45	0	0	39	143	30	134		
9:00	0	0	72	48	120		21:00	0	0	32	37	69			
9:15	0	0	63	45	108		21:15	0	0	34	36	70			
9:30	0	0	60	45	105		21:30	0	0	42	30	72			
9:45	0	0	65	260	51	189	21:45	0	0	39	147	39	142		
10:00	0	0	75	85	160		22:00	0	0	28	30	58			
10:15	0	0	90	66	156		22:15	0	0	25	33	58			
10:30	0	0	69	59	128		22:30	0	0	22	23	45			
10:45	0	0	60	294	56	266	22:45	0	0	18	93	19	105		
11:00	0	0	62	62	124		23:00	0	0	8	16	24			
11:15	0	0	87	76	163		23:15	0	0	14	19	33			
11:30	0	0	62	66	128		23:30	0	0	15	16	31			
11:45	0	0	86	297	70	274	23:45	0	0	20	57	6	57		
TOTALS			1337	1149	2486		TOTALS			2375	2296	4671			
SPLIT %			53.8%	46.2%	34.7%		SPLIT %			50.8%	49.2%	65.3%			

DAILY TOTALS					NB	SB						Total			
					0	0						7,157			
					3,712					3,445					
AM Peak Hour			11:45	11:30	11:15		PM Peak Hour			13:00	12:45	12:45			
AM Pk Volume			319	289	599		PM Pk Volume			279	305	616			
Pk Hr Factor			0.477	0.709	0.919		Pk Hr Factor			0.872	0.966	0.875			
7 - 9 Volume	0	0	309	236	545		4 - 6 Volume	0	0	471	445	916			
7 - 9 Peak Hour			8:00	8:00	8:00		4 - 6 Peak Hour			16:15	16:00	16:00			
7 - 9 Pk Volume	0	0	178	137	315		4 - 6 Pk Volume	0	0	244	229	470			
Pk Hr Factor	0.000	0.000	0.781	0.699	0.820		Pk Hr Factor	0.000	0.000	0.897	0.909	0.940			

VOLUME

Oak St Bet. North St & Balls Ferry Rd

Day: Saturday
 Date: 7/16/2016

City: Redding
 Project #: CA16-7488-010

DAILY TOTALS					NB	SB	EB	WB	Total		
					228	236	0	0	464		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	0	0	0	0		12:00	9	3	0	0	12
0:15	0	0	0	0		12:15	5	9	0	0	14
0:30	0	0	0	0		12:30	2	4	0	0	6
0:45	0	0	0	0		12:45	4	20	2	18	44
1:00	0	0	0	0		13:00	5	5	0	0	10
1:15	0	0	0	0		13:15	4	5	0	0	9
1:30	0	0	0	0		13:30	5	4	0	0	9
1:45	0	0	0	0		13:45	3	17	2	16	38
2:00	0	0	0	0		14:00	5	7	0	0	12
2:15	0	0	0	0		14:15	4	3	0	0	7
2:30	0	0	0	0		14:30	1	1	0	0	2
2:45	0	0	0	0		14:45	7	17	1	12	27
3:00	0	0	0	0		15:00	4	2	0	0	6
3:15	0	0	0	0		15:15	2	5	0	0	7
3:30	0	1	0	0	1	15:30	5	4	0	0	9
3:45	0	0	1	0	1	15:45	3	14	2	13	32
4:00	0	0	0	0		16:00	5	2	0	0	7
4:15	0	1	0	0	1	16:15	3	3	0	0	6
4:30	0	0	0	0		16:30	2	2	0	0	4
4:45	0	0	1	0	1	16:45	2	12	8	15	37
5:00	0	0	0	0		17:00	5	3	0	0	8
5:15	0	0	0	0		17:15	7	4	0	0	11
5:30	0	0	0	0		17:30	2	5	0	0	7
5:45	0	0	0	0		17:45	5	19	3	15	42
6:00	1	1	0	0	2	18:00	2	7	0	0	9
6:15	2	1	0	0	3	18:15	2	0	0	0	2
6:30	0	1	0	0	1	18:30	3	5	0	0	8
6:45	0	3	0	3	6	18:45	3	10	0	12	25
7:00	0	3	0	0	3	19:00	4	5	0	0	9
7:15	2	1	0	0	3	19:15	3	6	0	0	9
7:30	0	4	0	0	4	19:30	5	4	0	0	9
7:45	4	6	1	9	20	19:45	0	12	5	20	37
8:00	0	1	0	0	1	20:00	4	2	0	0	6
8:15	2	4	0	0	6	20:15	1	5	0	0	6
8:30	7	4	0	0	11	20:30	2	5	0	0	7
8:45	3	12	4	13	22	20:45	2	9	2	14	27
9:00	5	1	0	0	6	21:00	1	0	0	0	1
9:15	6	4	0	0	10	21:15	1	3	0	0	4
9:30	7	4	0	0	11	21:30	4	0	0	0	4
9:45	5	23	14	23	45	21:45	4	10	3	6	23
10:00	9	2	0	0	11	22:00	1	1	0	0	2
10:15	3	4	0	0	7	22:15	3	2	0	0	5
10:30	1	2	0	0	3	22:30	0	1	0	0	1
10:45	6	19	2	10	37	22:45	0	4	0	4	8
11:00	3	8	0	0	11	23:00	0	1	0	0	1
11:15	6	8	0	0	14	23:15	0	0	0	0	0
11:30	6	7	0	0	13	23:30	0	1	0	0	1
11:45	5	20	6	29	60	23:45	1	1	0	2	4
TOTALS	83	89			172	TOTALS	145	147			292
SPLIT %	48.3%	51.7%			37.1%	SPLIT %	49.7%	50.3%			62.9%

DAILY TOTALS					NB	SB	EB	WB	Total
					228	236	0	0	464
AM Peak Hour	9:15	11:00			9:15	PM Peak Hour	12:00	12:15	12:00
AM Pk Volume	27	29			51	PM Pk Volume	20	20	38
Pk Hr Factor	0.750	0.906			0.671	Pk Hr Factor	0.556	0.800	0.464
7 - 9 Volume	18	22	0	0	40	4 - 6 Volume	31	30	61
7 - 9 Peak Hour	7:45	8:00			8:00	4 - 6 Peak Hour	17:00	16:45	16:45
7 - 9 Pk Volume	13	13	0	0	25	4 - 6 Pk Volume	19	20	36
Pk Hr Factor	0.464	0.813	0.000	0.000	0.568	Pk Hr Factor	0.679	0.625	0.818

VOLUME

Oak St Bet. North St & Balls Ferry Rd

Day: Friday
 Date: 7/15/2016

City: Redding
 Project #: CA16-7488-010

DAILY TOTALS					NB	SB	EB	WB	Total		
					300	280	0	0	580		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	0	0	0	0		12:00	8	7	0	0	15
0:15	0	1	0	0	1	12:15	4	4	0	0	8
0:30	0	1	0	0	1	12:30	5	9	0	0	14
0:45	1	1	0	2	3	12:45	9	26	9	29	55
1:00	0	1	0	0	1	13:00	12	1	0	0	13
1:15	0	0	0	0		13:15	5	7	0	0	12
1:30	0	1	0	0	1	13:30	5	4	0	0	9
1:45	0	0	2	0	2	13:45	7	29	4	16	45
2:00	0	0	0	0		14:00	8	10	0	0	18
2:15	1	0	0	0	1	14:15	5	7	0	0	12
2:30	0	0	0	0		14:30	7	3	0	0	10
2:45	0	1	0	0	1	14:45	9	29	5	25	54
3:00	0	0	0	0		15:00	7	5	0	0	12
3:15	0	1	0	0	1	15:15	9	6	0	0	15
3:30	0	0	0	0		15:30	1	5	0	0	6
3:45	0	0	1	0	1	15:45	3	20	10	26	46
4:00	0	0	0	0		16:00	8	5	0	0	13
4:15	0	1	0	0	1	16:15	7	6	0	0	13
4:30	0	0	0	0		16:30	3	6	0	0	9
4:45	0	0	1	0	1	16:45	8	26	5	22	48
5:00	0	1	0	0	1	17:00	5	5	0	0	10
5:15	0	1	0	0	1	17:15	5	5	0	0	10
5:30	1	0	0	0	1	17:30	5	4	0	0	9
5:45	2	3	2	4	7	17:45	2	17	9	23	40
6:00	0	1	0	0	1	18:00	6	2	0	0	8
6:15	1	0	0	0	1	18:15	6	5	0	0	11
6:30	3	0	0	0	3	18:30	2	4	0	0	6
6:45	4	8	2	3	11	18:45	1	15	3	14	29
7:00	1	1	0	0	2	19:00	4	5	0	0	9
7:15	0	1	0	0	1	19:15	4	4	0	0	8
7:30	1	3	0	0	4	19:30	3	2	0	0	5
7:45	5	7	5	10	17	19:45	2	13	0	11	24
8:00	5	3	0	0	8	20:00	6	2	0	0	8
8:15	3	2	0	0	5	20:15	1	2	0	0	3
8:30	2	3	0	0	5	20:30	3	1	0	0	4
8:45	2	12	2	10	22	20:45	4	14	1	6	20
9:00	6	2	0	0	8	21:00	3	3	0	0	6
9:15	2	4	0	0	6	21:15	1	0	0	0	1
9:30	4	3	0	0	7	21:30	0	5	0	0	5
9:45	10	22	3	12	34	21:45	1	5	2	10	15
10:00	7	3	0	0	10	22:00	2	1	0	0	3
10:15	5	4	0	0	9	22:15	0	0	0	0	
10:30	4	6	0	0	10	22:30	0	3	0	0	3
10:45	4	20	6	19	39	22:45	0	2	1	5	7
11:00	4	3	0	0	7	23:00	0	0	0	0	
11:15	6	6	0	0	12	23:15	0	1	0	0	1
11:30	11	5	0	0	16	23:30	3	3	0	0	6
11:45	4	25	9	23	48	23:45	2	5	2	6	11
TOTALS	99	87			186	TOTALS	201	193			394
SPLIT %	53.2%	46.8%			32.1%	SPLIT %	51.0%	49.0%			67.9%

DAILY TOTALS					NB	SB	EB	WB	Total
					300	280	0	0	580
AM Peak Hour	11:15	11:45			11:15	PM Peak Hour	14:30	12:00	12:30
AM Pk Volume	29	29			56	PM Pk Volume	32	29	57
Pk Hr Factor	0.659	0.444			0.875	Pk Hr Factor	0.556	0.806	0.792
7 - 9 Volume	19	20	0	0	39	4 - 6 Volume	43	45	88
7 - 9 Peak Hour	7:45	7:30			7:45	4 - 6 Peak Hour	16:00	17:00	16:00
7 - 9 Pk Volume	15	13	0	0	28	4 - 6 Pk Volume	26	23	48
Pk Hr Factor	0.750	0.650	0.000	0.000	0.700	Pk Hr Factor	0.813	0.639	0.923

VOLUME

North St Bet. East St & Oak St

Day: Friday
 Date: 7/15/2016

City: Redding
 Project #: CA16-7488-009

DAILY TOTALS					NB	SB	EB		WB		Total				
					0	0	4,345	4,091			8,436				
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
0:00	0	0	6	8	14		12:00	0	0	94	71	165			
0:15	0	0	3	5	8		12:15	0	0	94	79	173			
0:30	0	0	5	7	12		12:30	0	0	95	86	181			
0:45	0	0	5	19	3	23	12:45	0	0	101	384	88	324	189	708
1:00	0	0	2	4	6		13:00	0	0	72	83	155			
1:15	0	0	6	5	11		13:15	0	0	93	66	159			
1:30	0	0	3	2	5		13:30	0	0	75	86	161			
1:45	0	0	3	14	6	17	13:45	0	0	84	324	73	308	157	632
2:00	0	0	1	6	7		14:00	0	0	91	73	164			
2:15	0	0	2	0	2		14:15	0	0	81	85	166			
2:30	0	0	2	3	5		14:30	0	0	94	81	175			
2:45	0	0	2	7	3	12	14:45	0	0	81	347	72	311	153	658
3:00	0	0	2	2	4		15:00	0	0	83	63	146			
3:15	0	0	1	2	3		15:15	0	0	69	68	137			
3:30	0	0	1	4	5		15:30	0	0	65	80	145			
3:45	0	0	5	9	3	11	15:45	0	0	90	307	78	289	168	596
4:00	0	0	5	2	7		16:00	0	0	89	79	168			
4:15	0	0	5	2	7		16:15	0	0	69	94	163			
4:30	0	0	9	7	16		16:30	0	0	76	79	155			
4:45	0	0	11	30	3	14	16:45	0	0	84	318	83	335	167	653
5:00	0	0	8	3	11		17:00	0	0	77	103	180			
5:15	0	0	10	12	22		17:15	0	0	52	71	123			
5:30	0	0	17	12	29		17:30	0	0	77	78	155			
5:45	0	0	19	54	18	45	17:45	0	0	75	281	74	326	149	607
6:00	0	0	24	14	38		18:00	0	0	65	70	135			
6:15	0	0	25	15	40		18:15	0	0	61	55	116			
6:30	0	0	31	20	51		18:30	0	0	58	48	106			
6:45	0	0	34	114	23	72	18:45	0	0	41	225	51	224	92	449
7:00	0	0	37	23	60		19:00	0	0	55	41	96			
7:15	0	0	55	37	92		19:15	0	0	47	45	92			
7:30	0	0	58	44	102		19:30	0	0	44	32	76			
7:45	0	0	49	199	64	168	19:45	0	0	38	184	38	156	76	340
8:00	0	0	52	59	111		20:00	0	0	34	34	68			
8:15	0	0	58	52	110		20:15	0	0	34	30	64			
8:30	0	0	69	52	121		20:30	0	0	32	46	78			
8:45	0	0	67	246	53	216	20:45	0	0	38	138	28	138	66	276
9:00	0	0	57	53	110		21:00	0	0	31	43	74			
9:15	0	0	62	53	115		21:15	0	0	36	43	79			
9:30	0	0	61	74	135		21:30	0	0	37	25	62			
9:45	0	0	86	266	63	243	21:45	0	0	22	126	35	146	57	272
10:00	0	0	61	84	145		22:00	0	0	31	32	63			
10:15	0	0	72	69	141		22:15	0	0	32	22	54			
10:30	0	0	90	64	154		22:30	0	0	26	24	50			
10:45	0	0	77	300	78	295	22:45	0	0	17	106	17	95	34	201
11:00	0	0	51	60	111		23:00	0	0	13	13	26			
11:15	0	0	79	84	163		23:15	0	0	17	17	34			
11:30	0	0	86	69	155		23:30	0	0	9	14	23			
11:45	0	0	85	301	59	272	23:45	0	0	7	46	7	51	14	97
TOTALS			1559	1388	2947		TOTALS			2786	2703	5489			
SPLIT %			52.9%	47.1%	34.9%		SPLIT %			50.8%	49.2%	65.1%			

DAILY TOTALS					NB	SB	EB		WB		Total
					0	0	4,345	4,091			8,436

AM Peak Hour			11:45	10:00	11:45	PM Peak Hour			12:00	16:15	12:00
AM Pk Volume			368	295	663	PM Pk Volume			384	359	708
Pk Hr Factor			0.476	0.878	0.468	Pk Hr Factor			0.950	0.813	0.488
7 - 9 Volume	0	0	445	384	829	4 - 6 Volume	0	0	599	661	1260
7 - 9 Peak Hour			8:00	7:45	8:00	4 - 6 Peak Hour			16:00	16:15	16:15
7 - 9 Pk Volume	0	0	246	227	462	4 - 6 Pk Volume	0	0	318	359	665
Pk Hr Factor	0.000	0.000	0.891	0.887	0.955	Pk Hr Factor	0.000	0.000	0.893	0.871	0.924

VOLUME

North St Bet. East St & Oak St

Day: Saturday
 Date: 7/16/2016

City: Redding
 Project #: CA16-7488-009

DAILY TOTALS					NB	SB						Total	
					0	0						6,122	
							3,149			2,973			
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
0:00	0	0	9	14	23		12:00	0	0	63	61	124	
0:15	0	0	3	8	11		12:15	0	0	66	75	141	
0:30	0	0	8	10	18		12:30	0	0	62	46	108	
0:45	0	0	7	27	5	37	12:45	0	0	56	247	67	249
1:00	0	0	3	3	6		13:00	0	0	76	75	151	
1:15	0	0	2	1	3		13:15	0	0	71	54	125	
1:30	0	0	2	6	8		13:30	0	0	62	60	122	
1:45	0	0	4	11	5	15	13:45	0	0	54	263	64	253
2:00	0	0	8	2	10		14:00	0	0	58	59	117	
2:15	0	0	3	5	8		14:15	0	0	59	41	100	
2:30	0	0	4	0	4		14:30	0	0	53	50	103	
2:45	0	0	4	19	0	7	14:45	0	0	36	206	54	204
3:00	0	0	2	3	5		15:00	0	0	55	49	104	
3:15	0	0	2	1	3		15:15	0	0	61	59	120	
3:30	0	0	1	2	3		15:30	0	0	43	61	104	
3:45	0	0	0	5	3	9	15:45	0	0	52	211	48	217
4:00	0	0	3	3	6		16:00	0	0	48	51	99	
4:15	0	0	1	3	4		16:15	0	0	45	48	93	
4:30	0	0	5	5	10		16:30	0	0	49	39	88	
4:45	0	0	3	12	5	16	16:45	0	0	53	195	41	179
5:00	0	0	7	2	9		17:00	0	0	43	41	84	
5:15	0	0	9	6	15		17:15	0	0	42	48	90	
5:30	0	0	10	9	19		17:30	0	0	50	44	94	
5:45	0	0	5	31	12	29	17:45	0	0	41	176	50	183
6:00	0	0	12	10	22		18:00	0	0	46	40	86	
6:15	0	0	15	14	29		18:15	0	0	32	43	75	
6:30	0	0	16	9	25		18:30	0	0	37	40	77	
6:45	0	0	10	53	15	48	18:45	0	0	45	160	39	162
7:00	0	0	16	16	32		19:00	0	0	40	32	72	
7:15	0	0	20	14	34		19:15	0	0	41	38	79	
7:30	0	0	40	33	73		19:30	0	0	44	46	90	
7:45	0	0	32	108	25	88	19:45	0	0	36	161	25	141
8:00	0	0	31	28	59		20:00	0	0	32	25	57	
8:15	0	0	38	23	61		20:15	0	0	34	26	60	
8:30	0	0	48	31	79		20:30	0	0	26	37	63	
8:45	0	0	46	163	43	125	20:45	0	0	33	125	28	116
9:00	0	0	58	44	102		21:00	0	0	28	27	55	
9:15	0	0	56	42	98		21:15	0	0	24	28	52	
9:30	0	0	48	36	84		21:30	0	0	33	32	65	
9:45	0	0	46	208	41	163	21:45	0	0	34	119	31	118
10:00	0	0	61	69	130		22:00	0	0	20	24	44	
10:15	0	0	77	61	138		22:15	0	0	23	31	54	
10:30	0	0	64	56	120		22:30	0	0	18	22	40	
10:45	0	0	55	257	53	239	22:45	0	0	15	76	16	93
11:00	0	0	56	56	112		23:00	0	0	9	10	19	
11:15	0	0	67	62	129		23:15	0	0	13	12	25	
11:30	0	0	63	61	124		23:30	0	0	13	14	27	
11:45	0	0	79	265	63	242	23:45	0	0	16	51	4	40
TOTALS			1159	1018	2177		TOTALS			1990	1955	3945	
SPLIT %			53.2%	46.8%	35.6%		SPLIT %			50.4%	49.6%	64.4%	

DAILY TOTALS					NB	SB						Total
					0	0						6,122
							3,149			2,973		
AM Peak Hour			11:15	11:30	11:30	PM Peak Hour			12:30	12:15	12:15	
AM Pk Volume			272	260	531	PM Pk Volume			263	263	523	
Pk Hr Factor			0.861	0.734	0.687	Pk Hr Factor			0.865	0.853	0.866	
7 - 9 Volume	0	0	271	213	484	4 - 6 Volume	0	0	371	362	733	
7 - 9 Peak Hour			8:00	8:00	8:00	4 - 6 Peak Hour			16:00	17:00	16:00	
7 - 9 Pk Volume	0	0	163	125	288	4 - 6 Pk Volume	0	0	195	183	374	
Pk Hr Factor	0.000	0.000	0.849	0.727	0.809	Pk Hr Factor	0.000	0.000	0.920	0.915	0.944	

VOLUME

Canyon Rd Bet. SR-273 & Redbank Rd

Day: Saturday
 Date: 7/16/2016

City: Redding
 Project #: CA16-7488-008

DAILY TOTALS						NB	SB	EB	WB	Total						
						2,851	2,837	0	0	5,688						
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL					
0:00	5	17	0	0	22	12:00	48	48	0	0	96					
0:15	10	11	0	0	21	12:15	47	46	0	0	93					
0:30	5	16	0	0	21	12:30	53	45	0	0	98					
0:45	5	25	18	62	0	0	23	87	59	207	48	187	0	0	107	394
1:00	5	14	0	0	19	13:00	43	46	0	0	89					
1:15	10	10	0	0	20	13:15	60	46	0	0	106					
1:30	3	3	0	0	6	13:30	48	44	0	0	92					
1:45	3	21	3	30	0	0	6	51	52	203	61	197	0	0	113	400
2:00	2	9	0	0	11	14:00	42	57	0	0	99					
2:15	5	3	0	0	8	14:15	41	52	0	0	93					
2:30	1	5	0	0	6	14:30	28	56	0	0	84					
2:45	2	10	4	21	0	0	6	31	40	151	65	230	0	0	105	381
3:00	8	1	0	0	9	15:00	42	44	0	0	86					
3:15	2	4	0	0	6	15:15	43	57	0	0	100					
3:30	5	1	0	0	6	15:30	39	43	0	0	82					
3:45	6	21	5	11	0	0	11	32	41	165	54	198	0	0	95	363
4:00	6	6	0	0	12	16:00	46	65	0	0	111					
4:15	9	2	0	0	11	16:15	41	51	0	0	92					
4:30	7	2	0	0	9	16:30	44	61	0	0	105					
4:45	6	28	4	14	0	0	10	42	42	173	69	246	0	0	111	419
5:00	7	6	0	0	13	17:00	42	42	0	0	84					
5:15	7	6	0	0	13	17:15	32	48	0	0	80					
5:30	24	5	0	0	29	17:30	53	62	0	0	115					
5:45	19	57	7	24	0	0	26	81	37	164	52	204	0	0	89	368
6:00	9	3	0	0	12	18:00	39	62	0	0	101					
6:15	22	6	0	0	28	18:15	43	43	0	0	86					
6:30	25	6	0	0	31	18:30	33	46	0	0	79					
6:45	21	77	10	25	0	0	31	102	35	150	42	193	0	0	77	343
7:00	22	9	0	0	31	19:00	34	41	0	0	75					
7:15	31	16	0	0	47	19:15	29	46	0	0	75					
7:30	42	11	0	0	53	19:30	20	48	0	0	68					
7:45	33	128	15	51	0	0	48	179	29	112	36	171	0	0	65	283
8:00	45	17	0	0	62	20:00	21	44	0	0	65					
8:15	38	17	0	0	55	20:15	30	38	0	0	68					
8:30	38	21	0	0	59	20:30	35	36	0	0	71					
8:45	51	172	20	75	0	0	71	247	17	103	33	151	0	0	50	254
9:00	51	24	0	0	75	21:00	20	35	0	0	55					
9:15	61	31	0	0	92	21:15	30	32	0	0	62					
9:30	58	25	0	0	83	21:30	31	42	0	0	73					
9:45	66	236	35	115	0	0	101	351	34	115	32	141	0	0	66	256
10:00	45	31	0	0	76	22:00	13	35	0	0	48					
10:15	54	42	0	0	96	22:15	14	21	0	0	35					
10:30	68	43	0	0	111	22:30	13	26	0	0	39					
10:45	50	217	36	152	0	0	86	369	17	57	19	101	0	0	36	158
11:00	59	48	0	0	107	23:00	16	19	0	0	35					
11:15	51	40	0	0	91	23:15	15	14	0	0	29					
11:30	54	36	0	0	90	23:30	12	18	0	0	30					
11:45	48	212	46	170	0	0	94	382	4	47	17	68	0	0	21	115
TOTALS	1204	750			1954	TOTALS	1647	2087			3734					
SPLIT %	61.6%	38.4%			34.4%	SPLIT %	44.1%	55.9%			65.6%					

DAILY TOTALS						NB	SB	EB	WB	Total
						2,851	2,837	0	0	5,688

AM Peak Hour	9:00	11:45			10:15	PM Peak Hour	12:30	16:00			16:00
AM Pk Volume	236	185			400	PM Pk Volume	215	246			419
Pk Hr Factor	0.894	0.490			0.901	Pk Hr Factor	0.846	0.797			0.944
7 - 9 Volume	300	126	0	0	426	4 - 6 Volume	337	450	0	0	787
7 - 9 Peak Hour	8:00	8:00			8:00	4 - 6 Peak Hour	16:00	16:00			16:00
7 - 9 Pk Volume	172	75	0	0	247	4 - 6 Pk Volume	173	246	0	0	419
Pk Hr Factor	0.843	0.893	0.000	0.000	0.870	Pk Hr Factor	0.940	0.891	0.000	0.000	0.944

VOLUME

Canyon Rd Bet. SR-273 & Redbank Rd

Day: Friday
 Date: 7/15/2016

City: Redding
 Project #: CA16-7488-008

DAILY TOTALS						NB	SB	EB	WB	Total	
						3,565	3,534	0	0	7,099	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	8	9	0	0	17	12:00	62	43	0	0	105
0:15	4	16	0	0	20	12:15	42	54	0	0	96
0:30	4	8	0	0	12	12:30	52	50	0	0	102
0:45	4	20	4	37	8	12:45	56	212	56	203	415
1:00	2	4	0	0	6	13:00	53	64	0	0	117
1:15	5	6	0	0	11	13:15	58	47	0	0	105
1:30	3	3	0	0	6	13:30	59	56	0	0	115
1:45	2	12	12	25	14	13:45	52	222	49	216	438
2:00	2	5	0	0	7	14:00	48	71	0	0	119
2:15	0	0	0	0		14:15	43	77	0	0	120
2:30	7	6	0	0	13	14:30	52	71	0	0	123
2:45	5	14	4	15	9	14:45	53	196	55	274	470
3:00	5	3	0	0	8	15:00	57	72	0	0	129
3:15	5	5	0	0	10	15:15	44	67	0	0	111
3:30	4	4	0	0	8	15:30	49	93	0	0	142
3:45	5	19	4	16	9	15:45	56	206	86	318	524
4:00	5	2	0	0	7	16:00	50	69	0	0	119
4:15	2	4	0	0	6	16:15	59	67	0	0	126
4:30	9	2	0	0	11	16:30	34	61	0	0	95
4:45	8	24	0	8	8	16:45	51	194	80	277	471
5:00	26	1	0	0	27	17:00	43	105	0	0	148
5:15	21	4	0	0	25	17:15	45	92	0	0	137
5:30	40	9	0	0	49	17:30	45	101	0	0	146
5:45	37	124	2	16	39	17:45	47	180	83	381	561
6:00	35	9	0	0	44	18:00	42	78	0	0	120
6:15	37	11	0	0	48	18:15	53	70	0	0	123
6:30	69	9	0	0	78	18:30	41	77	0	0	118
6:45	63	204	9	38	72	18:45	44	180	58	283	463
7:00	74	16	0	0	90	19:00	34	43	0	0	77
7:15	94	26	0	0	120	19:15	35	57	0	0	92
7:30	123	19	0	0	142	19:30	24	44	0	0	68
7:45	88	379	24	85	112	19:45	27	120	41	185	305
8:00	74	22	0	0	96	20:00	37	47	0	0	84
8:15	56	17	0	0	73	20:15	28	42	0	0	70
8:30	68	19	0	0	87	20:30	23	36	0	0	59
8:45	71	269	28	86	99	20:45	16	104	31	156	260
9:00	61	34	0	0	95	21:00	24	50	0	0	74
9:15	60	41	0	0	101	21:15	21	40	0	0	61
9:30	81	21	0	0	102	21:30	17	41	0	0	58
9:45	52	254	45	141	97	21:45	19	81	46	177	258
10:00	57	49	0	0	106	22:00	17	35	0	0	52
10:15	43	49	0	0	92	22:15	17	29	0	0	46
10:30	55	45	0	0	100	22:30	9	33	0	0	42
10:45	56	211	39	182	95	22:45	14	57	26	123	180
11:00	54	63	0	0	117	23:00	13	12	0	0	25
11:15	71	45	0	0	116	23:15	10	12	0	0	22
11:30	53	54	0	0	107	23:30	11	26	0	0	37
11:45	59	237	57	219	116	23:45	12	46	23	73	119
TOTALS	1767	868			2635	TOTALS	1798	2666			4464
SPLIT %	67.1%	32.9%			37.1%	SPLIT %	40.3%	59.7%			62.9%

DAILY TOTALS						NB	SB	EB	WB	Total	
						3,565	3,534	0	0	7,099	
AM Peak Hour	7:00	11:00			7:15	PM Peak Hour	12:45	17:00		16:45	
AM Pk Volume	379	219			470	PM Pk Volume	226	381		562	
Pk Hr Factor	0.770	0.869			0.827	Pk Hr Factor	0.919	0.822		0.949	
7 - 9 Volume	648	171	0	0	819	4 - 6 Volume	374	658	0	0	1032
7 - 9 Peak Hour	7:00	7:15			7:15	4 - 6 Peak Hour	16:00	17:00			16:45
7 - 9 Pk Volume	379	91	0	0	470	4 - 6 Pk Volume	194	381	0	0	562
Pk Hr Factor	0.770	0.875	0.000	0.000	0.827	Pk Hr Factor	0.822	0.907	0.000	0.000	0.949

VOLUME

Redding Rancheria Rd W/O RV Parking Lot

Day: Saturday
 Date: 7/23/2016

City: Redding
 Project #: CA16-7488-007

DAILY TOTALS						NB	SB	EB	WB	Total					
						0	0	123	105	228					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL				
0:00	0	0	0	1	1	12:00	0	0	2	1	3				
0:15	0	0	4	1	5	12:15	0	0	1	2	3				
0:30	0	0	2	3	5	12:30	0	0	2	2	4				
0:45	0	0	3	9	2	7	12:45	0	0	0	5	0	5	10	
1:00	0	0	2	2	4	13:00	0	0	1	0	1				
1:15	0	0	2	1	3	13:15	0	0	0	1	1				
1:30	0	0	1	1	2	13:30	0	0	6	2	8				
1:45	0	0	0	5	0	4	13:45	0	0	1	8	1	4	2	12
2:00	0	0	1	1	2	14:00	0	0	1	1	2				
2:15	0	0	2	1	3	14:15	0	0	3	1	4				
2:30	0	0	0	0	0	14:30	0	0	0	4	4				
2:45	0	0	0	3	0	2	14:45	0	0	3	7	0	6	3	13
3:00	0	0	0	0	0	15:00	0	0	1	1	2				
3:15	0	0	0	0	0	15:15	0	0	3	3	6				
3:30	0	0	0	0	0	15:30	0	0	3	1	4				
3:45	0	0	0	1	1	1	15:45	0	0	3	10	3	8	6	18
4:00	0	0	2	1	3	16:00	0	0	3	1	4				
4:15	0	0	0	0	0	16:15	0	0	1	0	1				
4:30	0	0	0	0	0	16:30	0	0	0	1	1				
4:45	0	0	0	2	0	1	16:45	0	0	0	4	1	3	1	7
5:00	0	0	0	0	0	17:00	0	0	0	1	1				
5:15	0	0	0	0	0	17:15	0	0	2	1	3				
5:30	0	0	0	0	0	17:30	0	0	3	2	5				
5:45	0	0	0	0	0	17:45	0	0	0	5	1	5	1	10	
6:00	0	0	0	0	0	18:00	0	0	3	1	4				
6:15	0	0	0	2	2	18:15	0	0	1	1	2				
6:30	0	0	1	0	1	18:30	0	0	1	2	3				
6:45	0	0	0	1	0	2	18:45	0	0	2	7	3	7	5	14
7:00	0	0	0	0	0	19:00	0	0	1	3	4				
7:15	0	0	1	0	1	19:15	0	0	4	2	6				
7:30	0	0	0	1	1	19:30	0	0	2	3	5				
7:45	0	0	2	3	1	2	19:45	0	0	3	10	2	10	5	20
8:00	0	0	0	0	0	20:00	0	0	2	1	3				
8:15	0	0	1	1	2	20:15	0	0	1	3	4				
8:30	0	0	0	0	0	20:30	0	0	3	2	5				
8:45	0	0	2	3	1	2	20:45	0	0	1	7	1	7	2	14
9:00	0	0	1	0	1	21:00	0	0	0	3	3				
9:15	0	0	1	0	1	21:15	0	0	1	1	2				
9:30	0	0	1	0	1	21:30	0	0	3	3	6				
9:45	0	0	0	3	0	3	21:45	0	0	1	5	1	8	2	13
10:00	0	0	1	4	5	22:00	0	0	0	1	1				
10:15	0	0	0	1	1	22:15	0	0	1	2	3				
10:30	0	0	2	0	2	22:30	0	0	1	0	1				
10:45	0	0	2	5	1	6	22:45	0	0	0	2	0	3	5	
11:00	0	0	1	3	4	23:00	0	0	2	2	4				
11:15	0	0	4	1	5	23:15	0	0	2	1	3				
11:30	0	0	3	1	4	23:30	0	0	2	2	4				
11:45	0	0	4	12	1	6	23:45	0	0	1	7	1	6	2	13
TOTALS					46	33	79	TOTALS					77	72	149
SPLIT %					58.2%	41.8%	34.6%	SPLIT %					51.7%	48.3%	65.4%

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	123	105	228	
AM Peak Hour	11:15		0:15	0:15	PM Peak Hour	15:15		18:45	15:15		
AM Pk Volume	13		8	19	PM Pk Volume	7		11	20		
Pk Hr Factor	0.813		0.667	0.950	Pk Hr Factor	0.583		0.667	0.833		
7 - 9 Volume	0	0	6	4	10	4 - 6 Volume	0	0	9	8	17
7 - 9 Peak Hour	7:00		7:30	7:30	4 - 6 Peak Hour	16:45		16:45	16:45	16:45	
7 - 9 Pk Volume	0	0	3	3	6	4 - 6 Pk Volume	0	0	5	5	10
Pk Hr Factor	0.000	0.000	0.375	0.750	0.500	Pk Hr Factor	0.000	0.000	0.417	0.625	0.500

VOLUME

Redding Rancheria Rd W/O RV Parking Lot

Day: Friday
 Date: 7/22/2016

City: Redding
 Project #: CA16-7488-007

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	126	103	229		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	0	0	0	0		12:00	0	0	0	0	
0:15	0	0	0	0		12:15	0	0	0	0	
0:30	0	0	0	0		12:30	0	0	0	0	
0:45	0	0	0	0		12:45	0	0	0	1	1
1:00	0	0	1	0	1	13:00	0	0	1	0	1
1:15	0	0	0	1	1	13:15	0	0	0	2	2
1:30	0	0	0	0		13:30	0	0	1	1	2
1:45	0	0	0	1	1	13:45	0	0	2	4	3
2:00	0	0	0	0		14:00	0	0	1	2	3
2:15	0	0	0	0		14:15	0	0	2	2	4
2:30	0	0	2	0	2	14:30	0	0	4	1	5
2:45	0	0	0	2	2	14:45	0	0	2	9	3
3:00	0	0	0	0		15:00	0	0	1	1	2
3:15	0	0	0	0		15:15	0	0	2	2	4
3:30	0	0	0	0		15:30	0	0	3	2	5
3:45	0	0	1	1	1	15:45	0	0	2	8	3
4:00	0	0	0	1	1	16:00	0	0	2	4	6
4:15	0	0	0	0		16:15	0	0	2	2	4
4:30	0	0	0	0		16:30	0	0	2	2	4
4:45	0	0	0	0	1	16:45	0	0	2	8	4
5:00	0	0	1	0	1	17:00	0	0	0	1	1
5:15	0	0	0	0		17:15	0	0	1	2	3
5:30	0	0	0	0		17:30	0	0	1	2	3
5:45	0	0	0	1	1	17:45	0	0	1	3	3
6:00	0	0	1	0	1	18:00	0	0	2	0	2
6:15	0	0	0	0		18:15	0	0	0	0	
6:30	0	0	0	0		18:30	0	0	0	1	1
6:45	0	0	2	3	2	18:45	0	0	2	4	3
7:00	0	0	0	1	1	19:00	0	0	1	4	5
7:15	0	0	1	0	1	19:15	0	0	5	4	9
7:30	0	0	1	0	1	19:30	0	0	1	1	2
7:45	0	0	0	2	1	19:45	0	0	3	10	6
8:00	0	0	0	0		20:00	0	0	4	1	5
8:15	0	0	1	2	3	20:15	0	0	2	2	4
8:30	0	0	1	1	2	20:30	0	0	9	3	12
8:45	0	0	7	9	7	20:45	0	0	3	18	3
9:00	0	0	1	4	5	21:00	0	0	1	4	5
9:15	0	0	1	3	4	21:15	0	0	8	4	12
9:30	0	0	2	1	3	21:30	0	0	0	2	2
9:45	0	0	0	4	8	21:45	0	0	2	11	4
10:00	0	0	2	1	3	22:00	0	0	2	2	4
10:15	0	0	0	3	3	22:15	0	0	5	1	6
10:30	0	0	0	0		22:30	0	0	2	5	7
10:45	0	0	0	2	4	22:45	0	0	6	15	9
11:00	0	0	0	0		23:00	0	0	4	2	6
11:15	0	0	0	0		23:15	0	0	2	2	4
11:30	0	0	0	0		23:30	0	0	3	1	4
11:45	0	0	0	0		23:45	0	0	2	11	5
TOTALS			25	18	43	TOTALS			101	85	186
SPLIT %			58.1%	41.9%	18.8%	SPLIT %			54.3%	45.7%	81.2%

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	126	103	229		
AM Peak Hour			8:45	8:30	8:45	PM Peak Hour			20:30	19:00	20:30
AM Pk Volume			11	8	19	PM Pk Volume			11	12	32
Pk Hr Factor			0.393	0.500	0.679	Pk Hr Factor			0.344	0.583	0.667
7 - 9 Volume	0	0	11	4	15	4 - 6 Volume	0	0	11	17	28
7 - 9 Peak Hour			8:00	7:45	8:00	4 - 6 Peak Hour			16:00	16:00	16:00
7 - 9 Pk Volume	0	0	9	3	12	4 - 6 Pk Volume	0	0	8	10	18
Pk Hr Factor	0.000	0.000	0.321	0.375	0.429	Pk Hr Factor	0.000	0.000	1.000	0.625	0.750

VOLUME

SR-273 Bet. Redding Rancheria Rd/Canyon Rd & Happy Valley Rd

Day: Saturday
 Date: 7/16/2016

City: Redding
 Project #: CA16-7488-006

DAILY TOTALS					NB	SB						Total			
					0	0						9,199			
							4,790			4,409					
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
0:00	0	0	24	7	31		12:00	0	0	84	79	163			
0:15	0	0	20	12	32		12:15	0	0	83	92	175			
0:30	0	0	12	7	19		12:30	0	0	84	100	184			
0:45	0	0	16	72	16	42	12:45	0	0	87	338	54	325	141	663
1:00	0	0	7	8	15		13:00	0	0	121	92	213			
1:15	0	0	16	6	22		13:15	0	0	98	88	186			
1:30	0	0	11	5	16		13:30	0	0	82	103	185			
1:45	0	0	9	43	2	21	13:45	0	0	97	398	76	359	173	757
2:00	0	0	9	8	17		14:00	0	0	75	74	149			
2:15	0	0	14	6	20		14:15	0	0	74	83	157			
2:30	0	0	9	3	12		14:30	0	0	84	62	146			
2:45	0	0	5	37	4	21	14:45	0	0	61	294	75	294	136	588
3:00	0	0	5	2	7		15:00	0	0	58	68	126			
3:15	0	0	6	7	13		15:15	0	0	87	81	168			
3:30	0	0	9	2	11		15:30	0	0	56	78	134			
3:45	0	0	4	24	2	13	15:45	0	0	81	282	67	294	148	576
4:00	0	0	12	1	13		16:00	0	0	85	78	163			
4:15	0	0	13	6	19		16:15	0	0	73	67	140			
4:30	0	0	18	12	30		16:30	0	0	85	64	149			
4:45	0	0	10	53	13	32	16:45	0	0	77	320	84	293	161	613
5:00	0	0	19	14	33		17:00	0	0	72	59	131			
5:15	0	0	23	12	35		17:15	0	0	72	65	137			
5:30	0	0	42	22	64		17:30	0	0	62	68	130			
5:45	0	0	35	119	24	72	17:45	0	0	53	259	54	246	107	505
6:00	0	0	23	43	66		18:00	0	0	62	64	126			
6:15	0	0	17	35	52		18:15	0	0	69	43	112			
6:30	0	0	22	34	56		18:30	0	0	49	53	102			
6:45	0	0	19	81	33	145	18:45	0	0	49	229	59	219	108	448
7:00	0	0	24	20	44		19:00	0	0	52	52	104			
7:15	0	0	40	37	77		19:15	0	0	53	37	90			
7:30	0	0	48	33	81		19:30	0	0	56	41	97			
7:45	0	0	49	161	46	136	19:45	0	0	37	198	43	173	80	371
8:00	0	0	44	57	101		20:00	0	0	49	48	97			
8:15	0	0	42	40	82		20:15	0	0	44	37	81			
8:30	0	0	50	54	104		20:30	0	0	55	33	88			
8:45	0	0	51	187	76	227	20:45	0	0	46	194	44	162	90	356
9:00	0	0	54	53	107		21:00	0	0	56	36	92			
9:15	0	0	87	42	129		21:15	0	0	47	45	92			
9:30	0	0	82	69	151		21:30	0	0	65	38	103			
9:45	0	0	89	312	61	225	21:45	0	0	45	213	25	144	70	357
10:00	0	0	67	83	150		22:00	0	0	33	24	57			
10:15	0	0	95	106	201		22:15	0	0	38	25	63			
10:30	0	0	85	84	169		22:30	0	0	31	36	67			
10:45	0	0	79	326	113	386	22:45	0	0	36	138	23	108	59	246
11:00	0	0	103	81	184		23:00	0	0	46	21	67			
11:15	0	0	96	100	196		23:15	0	0	65	24	89			
11:30	0	0	67	106	173		23:30	0	0	28	15	43			
11:45	0	0	76	342	116	403	23:45	0	0	31	170	9	69	40	239
TOTALS			1757	1723	3480		TOTALS			3033	2686	5719			
SPLIT %			50.5%	49.5%	37.8%		SPLIT %			53.0%	47.0%	62.2%			

DAILY TOTALS					NB	SB						Total
					0	0						9,199
							4,790			4,409		
AM Peak Hour			10:30	11:00	10:15	PM Peak Hour			13:00	13:00	13:00	
AM Pk Volume			363	403	746	PM Pk Volume			328	359	757	
Pk Hr Factor			0.881	0.869	0.928	Pk Hr Factor			0.845	0.816	0.888	
7 - 9 Volume	0	0	348	363	711	4 - 6 Volume	0	0	579	539	1118	
7 - 9 Peak Hour			8:00	8:00	8:00	4 - 6 Peak Hour			16:00	16:00	16:00	
7 - 9 Pk Volume			187	227	414	4 - 6 Pk Volume			320	293	613	
Pk Hr Factor	0.000	0.000	0.917	0.747	0.815	Pk Hr Factor	0.000	0.000	0.941	0.872	0.940	

VOLUME

SR-273 Bet. Redding Rancheria Rd/Canyon Rd & Happy Valley Rd

Day: Friday
 Date: 7/15/2016

City: Redding
 Project #: CA16-7488-006

DAILY TOTALS					NB	SB	EB	WB	Total						
					0	0	5,505	5,338	10,843						
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL				
0:00	0	0	17	9	26	12:00	0	0	94	94	188				
0:15	0	0	9	8	17	12:15	0	0	86	86	172				
0:30	0	0	15	6	21	12:30	0	0	88	75	163				
0:45	0	0	9	50	8	31	12:45	0	0	75	343	104	359	179	702
1:00	0	0	10	11	21	13:00	0	0	95	84	179				
1:15	0	0	10	2	12	13:15	0	0	83	91	174				
1:30	0	0	3	6	9	13:30	0	0	91	87	178				
1:45	0	0	7	30	8	27	13:45	0	0	106	375	86	348	192	723
2:00	0	0	9	7	16	14:00	0	0	119	77	196				
2:15	0	0	6	10	16	14:15	0	0	116	89	205				
2:30	0	0	8	0	8	14:30	0	0	117	98	215				
2:45	0	0	4	27	13	30	14:45	0	0	109	461	90	354	199	815
3:00	0	0	8	7	15	15:00	0	0	105	84	189				
3:15	0	0	3	7	10	15:15	0	0	103	95	198				
3:30	0	0	10	5	15	15:30	0	0	107	101	208				
3:45	0	0	6	27	7	26	15:45	0	0	91	406	95	375	186	781
4:00	0	0	27	10	37	16:00	0	0	102	86	188				
4:15	0	0	19	21	40	16:15	0	0	93	101	194				
4:30	0	0	19	16	35	16:30	0	0	143	94	237				
4:45	0	0	23	88	21	68	16:45	0	0	109	447	97	378	206	825
5:00	0	0	12	20	32	17:00	0	0	133	82	215				
5:15	0	0	37	24	61	17:15	0	0	126	89	215				
5:30	0	0	55	22	77	17:30	0	0	106	81	187				
5:45	0	0	41	145	57	123	17:45	0	0	73	438	96	348	169	786
6:00	0	0	40	52	92	18:00	0	0	64	57	121				
6:15	0	0	41	71	112	18:15	0	0	73	47	120				
6:30	0	0	53	72	125	18:30	0	0	59	61	120				
6:45	0	0	62	196	55	250	18:45	0	0	63	259	55	220	118	479
7:00	0	0	56	63	119	19:00	0	0	42	40	82				
7:15	0	0	47	91	138	19:15	0	0	53	40	93				
7:30	0	0	58	110	168	19:30	0	0	45	24	69				
7:45	0	0	65	226	88	352	19:45	0	0	43	183	40	144	83	327
8:00	0	0	64	86	150	20:00	0	0	48	37	85				
8:15	0	0	59	84	143	20:15	0	0	60	33	93				
8:30	0	0	74	104	178	20:30	0	0	58	36	94				
8:45	0	0	65	262	92	366	20:45	0	0	41	207	26	132	67	339
9:00	0	0	50	84	134	21:00	0	0	39	35	74				
9:15	0	0	73	88	161	21:15	0	0	47	22	69				
9:30	0	0	89	120	209	21:30	0	0	44	34	78				
9:45	0	0	78	290	99	391	21:45	0	0	38	168	27	118	65	286
10:00	0	0	83	87	170	22:00	0	0	30	27	57				
10:15	0	0	88	107	195	22:15	0	0	37	29	66				
10:30	0	0	69	100	169	22:30	0	0	30	23	53				
10:45	0	0	79	319	80	374	22:45	0	0	22	119	26	105	48	224
11:00	0	0	93	110	203	23:00	0	0	18	12	30				
11:15	0	0	88	78	166	23:15	0	0	18	12	30				
11:30	0	0	96	96	192	23:30	0	0	19	14	33				
11:45	0	0	89	366	83	367	23:45	0	0	18	73	14	52	32	125
TOTALS			2026	2405	4431	TOTALS			3479	2933	6412				
SPLIT %			45.7%	54.3%	40.9%	SPLIT %			54.3%	45.7%	59.1%				

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	5,505	5,338	10,843

AM Peak Hour		11:15	9:30	9:30	PM Peak Hour		16:30	15:30	16:30		
AM Pk Volume		367	413	751	PM Pk Volume		438	383	873		
Pk Hr Factor		0.956	0.860	0.898	Pk Hr Factor		0.823	0.936	0.921		
7 - 9 Volume	0	0	488	718	1206	4 - 6 Volume	0	0	885	726	1611
7 - 9 Peak Hour			7:45	7:15	8:00	4 - 6 Peak Hour			16:30	16:00	16:30
7 - 9 Pk Volume	0	0	262	375	628	4 - 6 Pk Volume	0	0	511	378	873
Pk Hr Factor	0.000	0.000	0.885	0.852	0.882	Pk Hr Factor	0.000	0.000	0.893	0.936	0.921

VOLUME

SR-273 Bet. Westside Rd/Girvan Rd & Redding Rancheria Rd/Canyon Rd

Day: Saturday
 Date: 7/16/2016

City: Redding
 Project #: CA16-7488-005

DAILY TOTALS						NB	SB	EB	WB	Total			
						8,857	8,897	0	0	17,754			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL		
0:00	40	49	0	0	89	12:00	144	165	0	0	309		
0:15	47	40	0	0	87	12:15	160	143	0	0	303		
0:30	31	38	0	0	69	12:30	153	146	0	0	299		
0:45	31	149	42	169	0	0	73	318	0	0	285		
1:00	33	28	0	0	61	12:45	145	602	140	594	0	0	1196
1:15	33	29	0	0	62	13:00	152	183	0	0	335		
1:30	29	15	0	0	44	13:15	148	151	0	0	299		
1:45	25	120	17	89	0	0	44	13:30	148	152	0	0	300
2:00	34	24	0	0	58	13:45	157	605	175	661	0	0	1266
2:15	34	23	0	0	57	14:00	135	141	0	0	276		
2:30	16	25	0	0	41	14:15	156	152	0	0	308		
2:45	24	108	9	81	0	0	41	14:30	109	161	0	0	270
3:00	28	11	0	0	39	14:45	135	535	135	589	0	0	1124
3:15	26	19	0	0	45	15:00	136	127	0	0	263		
3:30	14	13	0	0	27	15:15	124	142	0	0	266		
3:45	18	86	8	51	0	0	27	15:30	136	124	0	0	260
4:00	25	16	0	0	41	15:45	120	516	172	565	0	0	1081
4:15	25	15	0	0	40	16:00	140	160	0	0	300		
4:30	32	29	0	0	61	16:15	123	158	0	0	281		
4:45	24	106	21	81	0	0	61	16:30	98	172	0	0	270
5:00	27	27	0	0	54	16:45	141	502	157	647	0	0	1149
5:15	27	27	0	0	54	17:00	109	121	0	0	230		
5:30	42	40	0	0	82	17:15	117	148	0	0	265		
5:45	43	139	62	156	0	0	82	17:30	149	163	0	0	312
6:00	53	33	0	0	86	17:45	103	478	131	563	0	0	1041
6:15	75	36	0	0	111	18:00	115	154	0	0	269		
6:30	68	29	0	0	97	18:15	93	152	0	0	245		
6:45	65	261	43	141	0	0	97	18:30	99	165	0	0	264
7:00	56	43	0	0	99	18:45	89	396	135	606	0	0	1002
7:15	64	60	0	0	124	19:00	93	142	0	0	235		
7:30	101	60	0	0	161	19:15	83	148	0	0	231		
7:45	83	304	71	234	0	0	161	19:30	75	131	0	0	206
8:00	113	62	0	0	175	19:45	102	353	107	528	0	0	881
8:15	98	63	0	0	161	20:00	76	121	0	0	197		
8:30	108	85	0	0	193	20:15	82	101	0	0	183		
8:45	133	452	77	287	0	0	193	20:30	83	104	0	0	187
9:00	133	85	0	0	218	20:45	82	323	96	422	0	0	745
9:15	129	125	0	0	254	21:00	77	104	0	0	181		
9:30	131	107	0	0	238	21:15	101	99	0	0	200		
9:45	131	524	136	453	0	0	238	21:30	93	107	0	0	200
10:00	133	97	0	0	230	21:45	77	348	84	394	0	0	742
10:15	161	148	0	0	309	22:00	82	82	0	0	164		
10:30	170	137	0	0	307	22:15	60	74	0	0	134		
10:45	157	621	140	522	0	0	307	22:30	68	69	0	0	137
11:00	180	140	0	0	320	22:45	67	277	76	301	0	0	578
11:15	195	137	0	0	332	23:00	72	63	0	0	135		
11:30	176	118	0	0	294	23:15	127	60	0	0	187		
11:45	174	725	137	532	0	0	294	23:30	71	49	0	0	120
TOTALS	3595	2796			6391	TOTALS	5262	6101			11363		
SPLIT %	56.3%	43.7%			36.0%	SPLIT %	46.3%	53.7%			64.0%		

DAILY TOTALS						NB	SB	EB	WB	Total
						8,857	8,897	0	0	17,754

AM Peak Hour	11:00	11:45			11:00	PM Peak Hour	12:15	15:45			13:00
AM Pk Volume	725	591			1257	PM Pk Volume	610	662			1266
Pk Hr Factor	0.929	0.458			0.947	Pk Hr Factor	0.975	0.884			0.945
7 - 9 Volume	756	521	0	0	1277	4 - 6 Volume	980	1210	0	0	2190
7 - 9 Peak Hour	8:00	8:00			8:00	4 - 6 Peak Hour	16:45	16:00			16:00
7 - 9 Pk Volume	452	287	0	0	739	4 - 6 Pk Volume	516	647	0	0	1149
Pk Hr Factor	0.850	0.844	0.000	0.000	0.880	Pk Hr Factor	0.866	0.940	0.000	0.000	0.958

VOLUME

SR-273 Bet. Westside Rd/Girvan Rd & Redding Rancheria Rd/Canyon Rd

Day: Friday
 Date: 7/15/2016

City: Redding
 Project #: CA16-7488-005

DAILY TOTALS						NB	SB	EB	WB	Total	
						10,852	10,999	0	0	21,851	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	42	35	0	0	77	12:00	191	167	0	0	358
0:15	21	26	0	0	47	12:15	162	158	0	0	320
0:30	24	40	0	0	64	12:30	171	184	0	0	355
0:45	20	107	16	117	224	12:45	183	707	151	660	1367
1:00	22	24	0	0	46	13:00	172	209	0	0	381
1:15	16	20	0	0	36	13:15	174	171	0	0	345
1:30	18	15	0	0	33	13:30	185	163	0	0	348
1:45	24	80	22	81	161	13:45	176	707	194	737	1444
2:00	24	18	0	0	42	14:00	149	200	0	0	349
2:15	25	13	0	0	38	14:15	153	213	0	0	366
2:30	13	10	0	0	23	14:30	175	216	0	0	391
2:45	19	81	14	55	136	14:45	189	666	197	826	1492
3:00	25	12	0	0	37	15:00	183	204	0	0	387
3:15	20	12	0	0	32	15:15	174	217	0	0	391
3:30	18	18	0	0	36	15:30	182	239	0	0	421
3:45	16	79	9	51	130	15:45	180	719	229	889	1608
4:00	28	25	0	0	53	16:00	184	206	0	0	390
4:15	28	28	0	0	56	16:15	190	185	0	0	375
4:30	38	24	0	0	62	16:30	196	241	0	0	437
4:45	30	124	29	106	230	16:45	177	747	234	866	1613
5:00	50	16	0	0	66	17:00	163	268	0	0	431
5:15	50	42	0	0	92	17:15	174	264	0	0	438
5:30	59	68	0	0	127	17:30	149	218	0	0	367
5:45	86	245	64	190	435	17:45	183	669	185	935	1604
6:00	82	58	0	0	140	18:00	118	165	0	0	283
6:15	117	60	0	0	177	18:15	120	167	0	0	287
6:30	139	52	0	0	191	18:30	115	156	0	0	271
6:45	130	468	96	266	734	18:45	126	479	146	634	1113
7:00	153	87	0	0	240	19:00	112	112	0	0	224
7:15	184	93	0	0	277	19:15	105	136	0	0	241
7:30	229	100	0	0	329	19:30	73	129	0	0	202
7:45	196	762	118	398	1160	19:45	86	376	107	484	860
8:00	162	108	0	0	270	20:00	83	103	0	0	186
8:15	154	103	0	0	257	20:15	76	115	0	0	191
8:30	189	117	0	0	306	20:30	102	108	0	0	210
8:45	178	683	134	462	1145	20:45	61	322	96	422	744
9:00	164	102	0	0	266	21:00	87	112	0	0	199
9:15	156	134	0	0	290	21:15	74	108	0	0	182
9:30	212	144	0	0	356	21:30	71	104	0	0	175
9:45	174	706	140	520	1226	21:45	72	304	111	435	739
10:00	168	163	0	0	331	22:00	82	79	0	0	161
10:15	153	152	0	0	305	22:15	66	88	0	0	154
10:30	187	144	0	0	331	22:30	51	89	0	0	140
10:45	153	661	128	587	1248	22:45	57	256	74	330	586
11:00	177	183	0	0	360	23:00	62	44	0	0	106
11:15	183	165	0	0	348	23:15	55	62	0	0	117
11:30	178	174	0	0	352	23:30	48	74	0	0	122
11:45	159	697	178	700	1397	23:45	42	207	68	248	455
TOTALS	4693	3533			8226	TOTALS	6159	7466			13625
SPLIT %	57.1%	42.9%			37.6%	SPLIT %	45.2%	54.8%			62.4%

DAILY TOTALS						NB	SB	EB	WB	Total	
						10,852	10,999	0	0	21,851	
AM Peak Hour	7:15	11:00			11:00	PM Peak Hour	15:45	16:30		16:30	
AM Pk Volume	771	700			1397	PM Pk Volume	750	1007		1717	
Pk Hr Factor	0.842	0.956			0.970	Pk Hr Factor	0.926	0.872		0.980	
7 - 9 Volume	1445	860	0	0	2305	4 - 6 Volume	1416	1801	0	0	3217
7 - 9 Peak Hour	7:15	8:00			7:15	4 - 6 Peak Hour	16:00	16:30			16:30
7 - 9 Pk Volume	771	462	0	0	1190	4 - 6 Pk Volume	747	1007	0	0	1717
Pk Hr Factor	0.842	0.862	0.000	0.000	0.904	Pk Hr Factor	0.953	0.939	0.000	0.000	0.980

VOLUME

Smith Rd Bet. I-5 & Churn Creek Rd

Day: Saturday
 Date: 7/16/2016

City: Redding
 Project #: CA16-7488-004

DAILY TOTALS						NB	SB	EB	WB	Total							
						0	0	173	203	376							
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL						
0:00	0	0	1	1	2	12:00	0	0	5	4	9						
0:15	0	0	3	0	3	12:15	0	0	3	4	7						
0:30	0	0	0	0	0	12:30	0	0	3	5	8						
0:45	0	0	0	4	1	5	12:45	0	0	5	16	4	17	9	33		
1:00	0	0	1	1	2	13:00	0	0	3	3	6						
1:15	0	0	0	0	0	13:15	0	0	1	4	5						
1:30	0	0	0	0	0	13:30	0	0	7	5	12						
1:45	0	0	0	1	0	1	2	13:45	0	0	4	15	7	19	11	34	
2:00	0	0	1	1	2	14:00	0	0	2	3	5						
2:15	0	0	0	0	0	14:15	0	0	1	4	5						
2:30	0	0	0	0	0	14:30	0	0	2	1	3						
2:45	0	0	0	1	0	1	2	14:45	0	0	1	6	8	16	9	22	
3:00	0	0	1	0	1	15:00	0	0	0	3	3						
3:15	0	0	1	0	1	15:15	0	0	4	3	7						
3:30	0	0	0	0	0	15:30	0	0	2	3	5						
3:45	0	0	0	2	2	2	4	15:45	0	0	2	8	2	11	4	19	
4:00	0	0	0	0	0	16:00	0	0	1	3	4						
4:15	0	0	0	0	0	16:15	0	0	4	3	7						
4:30	0	0	0	0	0	16:30	0	0	2	3	5						
4:45	0	0	0	0	0	16:45	0	0	3	10	4	13	7	23			
5:00	0	0	0	0	0	17:00	0	0	1	3	4						
5:15	0	0	0	2	2	17:15	0	0	2	2	4						
5:30	0	0	2	0	2	17:30	0	0	3	7	10						
5:45	0	0	1	3	0	2	1	5	11	6	18	11	29				
6:00	0	0	0	0	0	18:00	0	0	2	4	6						
6:15	0	0	1	0	1	18:15	0	0	2	5	7						
6:30	0	0	1	3	4	18:30	0	0	2	1	3						
6:45	0	0	3	5	1	4	9	18:45	0	0	4	10	7	17	11	27	
7:00	0	0	1	4	5	19:00	0	0	2	0	2						
7:15	0	0	1	1	2	19:15	0	0	2	2	4						
7:30	0	0	2	1	3	19:30	0	0	2	2	4						
7:45	0	0	3	7	1	7	4	14	19:45	0	0	2	8	4	8	6	16
8:00	0	0	0	2	2	20:00	0	0	4	0	4						
8:15	0	0	3	1	4	20:15	0	0	1	2	3						
8:30	0	0	1	2	3	20:30	0	0	0	2	2						
8:45	0	0	1	5	1	6	2	11	20:45	0	0	3	8	3	7	6	15
9:00	0	0	2	2	4	21:00	0	0	2	6	8						
9:15	0	0	2	2	4	21:15	0	0	2	4	6						
9:30	0	0	5	2	7	21:30	0	0	1	3	4						
9:45	0	0	7	16	1	7	8	23	21:45	0	0	2	7	2	15	4	22
10:00	0	0	2	5	7	22:00	0	0	1	1	2						
10:15	0	0	3	4	7	22:15	0	0	1	0	1						
10:30	0	0	3	1	4	22:30	0	0	0	1	1						
10:45	0	0	3	11	1	11	4	22	22:45	0	0	0	2	0	2	4	
11:00	0	0	3	2	5	23:00	0	0	0	2	2						
11:15	0	0	5	3	8	23:15	0	0	1	2	3						
11:30	0	0	5	4	9	23:30	0	0	1	1	2						
11:45	0	0	1	14	3	12	4	26	23:45	0	0	1	3	1	6	2	9
TOTALS					69	54	123	TOTALS					104	149	253		
SPLIT %					56.1%	43.9%	32.7%	SPLIT %					41.1%	58.9%	67.3%		

DAILY TOTALS						NB	SB	EB	WB	Total
						0	0	173	203	376

AM Peak Hour		9:30	11:45	11:15	PM Peak Hour		12:00	17:30	13:00		
AM Pk Volume		17	16	30	PM Pk Volume		16	22	34		
Pk Hr Factor		0.607	0.438	0.833	Pk Hr Factor		0.800	0.607	0.708		
7 - 9 Volume	0	0	12	13	25	4 - 6 Volume	0	0	21	31	52
7 - 9 Peak Hour		7:30	7:00	7:00	4 - 6 Peak Hour		17:00	17:00	17:00		
7 - 9 Pk Volume	0	0	8	7	14	4 - 6 Pk Volume	0	0	11	18	29
Pk Hr Factor	0.000	0.000	0.667	0.438	0.700	Pk Hr Factor	0.000	0.000	0.550	0.643	0.659

VOLUME

Smith Rd Bet. I-5 & Churn Creek Rd

Day: Friday
 Date: 7/15/2016

City: Redding
 Project #: CA16-7488-004

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	217	234	451	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	0	0	1	2	3	12:00	0	0	1	1	2
0:15	0	0	0	0		12:15	0	0	1	1	2
0:30	0	0	0	0		12:30	0	0	1	5	6
0:45	0	0	0	1	2	12:45	0	0	3	6	10
1:00	0	0	0	0		13:00	0	0	2	3	5
1:15	0	0	0	1	1	13:15	0	0	2	2	4
1:30	0	0	1	0	1	13:30	0	0	4	1	5
1:45	0	0	0	1	2	13:45	0	0	2	10	12
2:00	0	0	0	1	1	14:00	0	0	4	4	8
2:15	0	0	0	0		14:15	0	0	3	4	7
2:30	0	0	0	0		14:30	0	0	2	4	6
2:45	0	0	2	2	4	14:45	0	0	3	12	15
3:00	0	0	1	0	1	15:00	0	0	3	3	6
3:15	0	0	1	1	2	15:15	0	0	2	6	8
3:30	0	0	0	0		15:30	0	0	3	3	6
3:45	0	0	0	2	3	15:45	0	0	3	11	14
4:00	0	0	0	0		16:00	0	0	2	4	6
4:15	0	0	0	0		16:15	0	0	2	7	9
4:30	0	0	1	1	2	16:30	0	0	6	3	9
4:45	0	0	1	2	3	16:45	0	0	5	15	20
5:00	0	0	0	0		17:00	0	0	2	8	10
5:15	0	0	3	2	5	17:15	0	0	4	12	16
5:30	0	0	0	0		17:30	0	0	5	8	13
5:45	0	0	3	6	9	17:45	0	0	5	16	21
6:00	0	0	0	0		18:00	0	0	4	6	10
6:15	0	0	2	0	2	18:15	0	0	5	3	8
6:30	0	0	1	1	2	18:30	0	0	0	4	4
6:45	0	0	3	6	9	18:45	0	0	6	15	21
7:00	0	0	7	1	8	19:00	0	0	4	3	7
7:15	0	0	5	2	7	19:15	0	0	2	6	8
7:30	0	0	8	0	8	19:30	0	0	2	4	6
7:45	0	0	4	24	28	19:45	0	0	4	12	16
8:00	0	0	3	2	5	20:00	0	0	4	2	6
8:15	0	0	3	2	5	20:15	0	0	2	1	3
8:30	0	0	4	3	7	20:30	0	0	2	4	6
8:45	0	0	2	12	14	20:45	0	0	1	9	10
9:00	0	0	1	2	3	21:00	0	0	2	0	2
9:15	0	0	4	1	5	21:15	0	0	1	2	3
9:30	0	0	4	3	7	21:30	0	0	0	3	3
9:45	0	0	8	17	25	21:45	0	0	0	3	3
10:00	0	0	4	0	4	22:00	0	0	0	3	3
10:15	0	0	2	2	4	22:15	0	0	3	3	6
10:30	0	0	2	3	5	22:30	0	0	1	1	2
10:45	0	0	1	9	10	22:45	0	0	0	4	4
11:00	0	0	5	5	10	23:00	0	0	1	1	2
11:15	0	0	5	2	7	23:15	0	0	0	2	2
11:30	0	0	2	3	5	23:30	0	0	1	2	3
11:45	0	0	7	19	26	23:45	0	0	1	3	4
TOTALS			101	61	162	TOTALS			116	173	289
SPLIT %			62.3%	37.7%	35.9%	SPLIT %			40.1%	59.9%	64.1%

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	217	234	451	
AM Peak Hour			7:00	10:15	11:00	PM Peak Hour			17:30	17:00	17:00
AM Pk Volume			24	12	31	PM Pk Volume			15	36	52
Pk Hr Factor			0.750	0.600	0.775	Pk Hr Factor			0.625	0.781	0.813
7 - 9 Volume	0	0	36	15	51	4 - 6 Volume	0	0	31	52	83
7 - 9 Peak Hour			7:00	7:45	7:00	4 - 6 Peak Hour			16:30	17:00	17:00
7 - 9 Pk Volume	0	0	24	10	30	4 - 6 Pk Volume	0	0	17	36	52
Pk Hr Factor	0.000	0.000	0.750	0.833	0.938	Pk Hr Factor	0.000	0.000	0.708	0.750	0.813

VOLUME

S Bonnyview Rd Bet. Alrose Ln & Hartmeyer Ln

Day: Saturday
 Date: 7/16/2016

City: Redding
 Project #: CA16-7488-003

DAILY TOTALS					NB	SB						Total			
					0	0						8,357			
							4,215			4,142					
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
0:00	0	0	24	10	34		12:00	0	0	91	66	157			
0:15	0	0	17	12	29		12:15	0	0	81	82	163			
0:30	0	0	14	12	26		12:30	0	0	67	87	154			
0:45	0	0	10	65	8	42	12:45	0	0	84	323	69	304	153	627
1:00	0	0	11	11	22		13:00	0	0	80	66	146			
1:15	0	0	12	7	19		13:15	0	0	83	71	154			
1:30	0	0	8	6	14		13:30	0	0	78	72	150			
1:45	0	0	7	38	6	30	13:45	0	0	78	319	64	273	142	592
2:00	0	0	10	5	15		14:00	0	0	73	80	153			
2:15	0	0	9	5	14		14:15	0	0	79	77	156			
2:30	0	0	9	5	14		14:30	0	0	66	72	138			
2:45	0	0	5	33	5	20	14:45	0	0	77	295	65	294	142	589
3:00	0	0	5	3	8		15:00	0	0	70	82	152			
3:15	0	0	6	6	12		15:15	0	0	66	66	132			
3:30	0	0	5	4	9		15:30	0	0	61	71	132			
3:45	0	0	3	19	7	20	15:45	0	0	68	265	79	298	147	563
4:00	0	0	2	17	19		16:00	0	0	75	59	134			
4:15	0	0	5	3	8		16:15	0	0	66	63	129			
4:30	0	0	4	8	12		16:30	0	0	67	63	130			
4:45	0	0	7	18	8	36	16:45	0	0	86	294	53	238	139	532
5:00	0	0	9	7	16		17:00	0	0	60	67	127			
5:15	0	0	2	9	11		17:15	0	0	67	56	123			
5:30	0	0	5	18	23		17:30	0	0	63	53	116			
5:45	0	0	8	24	18	52	17:45	0	0	64	254	50	226	114	480
6:00	0	0	15	17	32		18:00	0	0	65	61	126			
6:15	0	0	12	17	29		18:15	0	0	64	39	103			
6:30	0	0	15	24	39		18:30	0	0	74	64	138			
6:45	0	0	23	65	29	87	18:45	0	0	51	254	56	220	107	474
7:00	0	0	34	36	70		19:00	0	0	59	49	108			
7:15	0	0	25	46	71		19:15	0	0	60	51	111			
7:30	0	0	30	39	69		19:30	0	0	63	45	108			
7:45	0	0	40	129	57	178	19:45	0	0	57	239	44	189	101	428
8:00	0	0	28	52	80		20:00	0	0	47	47	94			
8:15	0	0	48	57	105		20:15	0	0	55	43	98			
8:30	0	0	41	60	101		20:30	0	0	57	47	104			
8:45	0	0	49	166	59	228	20:45	0	0	50	209	40	177	90	386
9:00	0	0	38	90	128		21:00	0	0	48	41	89			
9:15	0	0	49	75	124		21:15	0	0	44	40	84			
9:30	0	0	61	66	127		21:30	0	0	48	32	80			
9:45	0	0	86	234	64	295	21:45	0	0	45	185	31	144	76	329
10:00	0	0	62	65	127		22:00	0	0	35	23	58			
10:15	0	0	64	81	145		22:15	0	0	33	30	63			
10:30	0	0	65	74	139		22:30	0	0	36	25	61			
10:45	0	0	61	252	68	288	22:45	0	0	28	132	28	106	56	238
11:00	0	0	59	75	134		23:00	0	0	24	20	44			
11:15	0	0	77	76	153		23:15	0	0	28	24	52			
11:30	0	0	79	84	163		23:30	0	0	29	19	48			
11:45	0	0	85	300	78	313	23:45	0	0	22	103	21	84	43	187
TOTALS			1343	1589	2932		TOTALS			2872	2553	5425			
SPLIT %			45.8%	54.2%	35.1%		SPLIT %			52.9%	47.1%	64.9%			

DAILY TOTALS					NB	SB						Total
					0	0						8,357
							4,215			4,142		

AM Peak Hour			11:30	11:00	11:30	PM Peak Hour			12:45	12:00	12:00
AM Pk Volume			336	313	646	PM Pk Volume			312	304	627
Pk Hr Factor			0.701	0.932	0.741	Pk Hr Factor			0.940	0.874	0.491
7 - 9 Volume	0	0	295	406	701	4 - 6 Volume	0	0	548	464	1012
7 - 9 Peak Hour			8:00	8:00	8:00	4 - 6 Peak Hour			16:00	16:15	16:00
7 - 9 Pk Volume	0	0	166	228	394	4 - 6 Pk Volume	0	0	294	246	532
Pk Hr Factor	0.000	0.000	0.847	0.950	0.912	Pk Hr Factor	0.000	0.000	0.855	0.918	0.957

VOLUME

S Bonnyview Rd Bet. Alrose Ln & Hartmeyer Ln

Day: Friday
 Date: 7/15/2016

City: Redding
 Project #: CA16-7488-003

DAILY TOTALS					NB	SB						Total			
					0	0						10,847			
					5,439					5,408					
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
0:00	0	0	11	14	25		12:00	0	0	88	78	166			
0:15	0	0	13	11	24		12:15	0	0	89	77	166			
0:30	0	0	14	4	18		12:30	0	0	87	87	174			
0:45	0	0	12	50	10	39	12:45	0	0	86	350	119	361		
1:00	0	0	11	7	18	89	13:00	0	0	86	87	173			
1:15	0	0	11	7	18		13:15	0	0	83	80	163			
1:30	0	0	6	5	11		13:30	0	0	101	108	209			
1:45	0	0	6	34	11	30	13:45	0	0	98	368	91	366		
2:00	0	0	10	6	16		14:00	0	0	87	101	188			
2:15	0	0	8	3	11		14:15	0	0	84	85	169			
2:30	0	0	4	4	8		14:30	0	0	85	77	162			
2:45	0	0	5	27	4	17	14:45	0	0	102	358	86	349		
3:00	0	0	8	4	12		15:00	0	0	101	85	186			
3:15	0	0	3	6	9		15:15	0	0	97	86	183			
3:30	0	0	7	9	16		15:30	0	0	86	94	180			
3:45	0	0	5	23	9	28	15:45	0	0	115	399	79	344		
4:00	0	0	10	7	17		16:00	0	0	103	80	183			
4:15	0	0	3	8	11		16:15	0	0	116	89	205			
4:30	0	0	6	15	21		16:30	0	0	91	109	200			
4:45	0	0	12	31	23	53	16:45	0	0	118	428	80	358		
5:00	0	0	5	13	18		17:00	0	0	133	97	230			
5:15	0	0	15	22	37		17:15	0	0	156	102	258			
5:30	0	0	15	29	44		17:30	0	0	110	89	199			
5:45	0	0	30	65	41	105	17:45	0	0	89	488	84	372		
6:00	0	0	28	46	74		18:00	0	0	90	79	169			
6:15	0	0	26	36	62		18:15	0	0	75	61	136			
6:30	0	0	38	61	99		18:30	0	0	76	76	152			
6:45	0	0	50	142	66	209	18:45	0	0	64	305	79	295		
7:00	0	0	46	72	118		19:00	0	0	73	45	118			
7:15	0	0	54	89	143		19:15	0	0	64	42	106			
7:30	0	0	77	117	194		19:30	0	0	53	48	101			
7:45	0	0	74	251	133	411	19:45	0	0	58	248	49	184		
8:00	0	0	88	76	164		20:00	0	0	50	40	90			
8:15	0	0	63	100	163		20:15	0	0	46	52	98			
8:30	0	0	72	99	171		20:30	0	0	60	46	106			
8:45	0	0	73	296	93	368	20:45	0	0	43	199	50	188		
9:00	0	0	74	68	142		21:00	0	0	53	41	94			
9:15	0	0	80	81	161		21:15	0	0	40	37	77			
9:30	0	0	69	96	165		21:30	0	0	52	36	88			
9:45	0	0	88	311	84	329	21:45	0	0	48	193	38	152		
10:00	0	0	84	86	170		22:00	0	0	68	30	98			
10:15	0	0	63	83	146		22:15	0	0	44	17	61			
10:30	0	0	74	81	155		22:30	0	0	27	22	49			
10:45	0	0	62	283	77	327	22:45	0	0	40	179	19	88		
11:00	0	0	88	100	188		23:00	0	0	27	22	49			
11:15	0	0	81	88	169		23:15	0	0	24	21	45			
11:30	0	0	80	70	150		23:30	0	0	20	25	45			
11:45	0	0	78	327	94	352	23:45	0	0	13	84	15	83		
TOTALS			1840	2268	4108		TOTALS			3599	3140	6739			
SPLIT %			44.8%	55.2%	37.9%		SPLIT %			53.4%	46.6%	62.1%			

DAILY TOTALS					NB	SB						Total			
					0	0						10,847			
					5,439					5,408					
AM Peak Hour			11:45	7:30	7:30		PM Peak Hour			16:45	12:45	16:30			
AM Pk Volume			342	426	728		PM Pk Volume			445	394	886			
Pk Hr Factor			0.472	0.801	0.879		Pk Hr Factor			0.713	0.880	0.859			
7 - 9 Volume	0	0	547	779	1326		4 - 6 Volume	0	0	916	730	1646			
7 - 9 Peak Hour			7:30	7:30	7:30		4 - 6 Peak Hour			16:45	16:30	16:30			
7 - 9 Pk Volume	0	0	302	426	728		4 - 6 Pk Volume	0	0	517	388	886			
Pk Hr Factor	0.000	0.000	0.858	0.801	0.879		Pk Hr Factor	0.000	0.000	0.829	0.890	0.859			

VOLUME

Bechelli Ln S/O S Bonnyview Rd

Day: Saturday
 Date: 7/16/2016

City: Redding
 Project #: CA16-7488-002

DAILY TOTALS					NB	SB	EB	WB	Total		
					467	289	0	0	756		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	2	0	0	0	2	12:00	6	6	0	0	12
0:15	0	0	0	0		12:15	7	4	0	0	11
0:30	2	1	0	0	3	12:30	7	4	0	0	11
0:45	0	4	0	1	5	12:45	7	27	5	19	46
1:00	0	0	0	0		13:00	8	4	0	0	12
1:15	1	1	0	0	2	13:15	8	1	0	0	9
1:30	0	0	0	0		13:30	8	6	0	0	14
1:45	1	2	1	2	4	13:45	12	36	4	15	51
2:00	1	0	0	0	1	14:00	10	5	0	0	15
2:15	0	0	0	0		14:15	7	8	0	0	15
2:30	0	0	0	0		14:30	4	5	0	0	9
2:45	1	2	0	0	2	14:45	5	26	8	26	52
3:00	1	1	0	0	2	15:00	8	5	0	0	13
3:15	3	1	0	0	4	15:15	13	3	0	0	16
3:30	0	0	0	0		15:30	4	5	0	0	9
3:45	0	4	0	2	6	15:45	7	32	6	19	51
4:00	0	0	0	0		16:00	2	7	0	0	9
4:15	0	0	0	0		16:15	11	3	0	0	14
4:30	1	1	0	0	2	16:30	11	3	0	0	14
4:45	0	1	0	1	2	16:45	7	31	6	19	50
5:00	1	0	0	0	1	17:00	7	3	0	0	10
5:15	0	3	0	0	3	17:15	5	6	0	0	11
5:30	3	1	0	0	4	17:30	9	6	0	0	15
5:45	3	7	0	4	11	17:45	5	26	2	17	43
6:00	3	4	0	0	7	18:00	3	0	0	0	3
6:15	4	3	0	0	7	18:15	8	12	0	0	20
6:30	5	1	0	0	6	18:30	2	5	0	0	7
6:45	6	18	1	9	27	18:45	5	18	5	22	40
7:00	3	0	0	0	3	19:00	10	4	0	0	14
7:15	4	0	0	0	4	19:15	11	9	0	0	20
7:30	3	1	0	0	4	19:30	11	6	0	0	17
7:45	4	14	1	2	16	19:45	5	37	2	21	58
8:00	8	2	0	0	10	20:00	6	5	0	0	11
8:15	2	2	0	0	4	20:15	8	4	0	0	12
8:30	5	5	0	0	10	20:30	3	4	0	0	7
8:45	13	28	3	12	40	20:45	6	23	7	20	43
9:00	6	1	0	0	7	21:00	6	2	0	0	8
9:15	2	3	0	0	5	21:15	2	3	0	0	5
9:30	2	2	0	0	4	21:30	1	6	0	0	7
9:45	3	13	0	6	19	21:45	5	14	5	16	30
10:00	9	3	0	0	12	22:00	3	4	0	0	7
10:15	9	2	0	0	11	22:15	5	2	0	0	7
10:30	7	4	0	0	11	22:30	8	2	0	0	10
10:45	10	35	8	17	52	22:45	2	18	3	11	29
11:00	8	5	0	0	13	23:00	4	3	0	0	7
11:15	6	3	0	0	9	23:15	5	6	0	0	11
11:30	9	2	0	0	11	23:30	5	0	0	0	5
11:45	9	32	7	17	49	23:45	5	19	2	11	30
TOTALS	160	73			233	TOTALS	307	216			523
SPLIT %	68.7%	31.3%			30.8%	SPLIT %	58.7%	41.3%			69.2%

DAILY TOTALS					NB	SB	EB	WB	Total		
					467	289	0	0	756		
AM Peak Hour	10:00	11:45		10:15	PM Peak Hour	13:15	14:00		18:45		
AM Pk Volume	35	21		53	PM Pk Volume	38	26		61		
Pk Hr Factor	0.875	0.464		0.736	Pk Hr Factor	0.688	0.656		0.763		
7 - 9 Volume	42	14	0	0	56	4 - 6 Volume	57	36	0	0	93
7 - 9 Peak Hour	8:00	8:00		8:00	4 - 6 Peak Hour	16:15	16:45				16:15
7 - 9 Pk Volume	28	12	0	0	40	4 - 6 Pk Volume	36	21	0	0	51
Pk Hr Factor	0.538	0.600	0.000	0.000	0.625	Pk Hr Factor	0.818	0.875	0.000	0.000	0.911

VOLUME

Bechelli Ln S/O S Bonnyview Rd

Day: Friday
 Date: 7/15/2016

City: Redding
 Project #: CA16-7488-002

DAILY TOTALS					NB	SB	EB	WB	Total		
					627	394	0	0	1,021		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	2	2	0	0	4	12:00	7	10	0	0	17
0:15	2	0	0	0	2	12:15	13	12	0	0	25
0:30	0	1	0	0	1	12:30	12	8	0	0	20
0:45	0	4	0	3	7	12:45	12	44	5	35	79
1:00	0	0	0	0		13:00	12	7	0	0	19
1:15	0	0	0	0		13:15	9	11	0	0	20
1:30	0	0	0	0		13:30	12	9	0	0	21
1:45	0	0	0	0		13:45	11	44	7	34	78
2:00	0	0	0	0		14:00	12	6	0	0	18
2:15	0	1	0	0	1	14:15	11	9	0	0	20
2:30	0	1	0	0	1	14:30	11	10	0	0	21
2:45	0	1	3	0	3	14:45	9	43	9	34	77
3:00	0	0	0	0		15:00	10	6	0	0	16
3:15	3	1	0	0	4	15:15	6	4	0	0	10
3:30	1	1	0	0	2	15:30	18	6	0	0	24
3:45	0	4	0	2	6	15:45	13	47	6	22	69
4:00	0	0	0	0		16:00	3	8	0	0	11
4:15	0	0	0	0		16:15	12	12	0	0	24
4:30	1	2	0	0	3	16:30	7	10	0	0	17
4:45	0	1	1	3	4	16:45	11	33	11	41	74
5:00	0	0	0	0		17:00	12	6	0	0	18
5:15	3	2	0	0	5	17:15	11	6	0	0	17
5:30	0	0	0	0		17:30	6	2	0	0	8
5:45	7	10	1	3	13	17:45	11	40	6	20	60
6:00	6	3	0	0	9	18:00	10	2	0	0	12
6:15	3	0	0	0	3	18:15	5	7	0	0	12
6:30	3	3	0	0	6	18:30	7	5	0	0	12
6:45	11	23	2	8	31	18:45	8	30	5	19	49
7:00	7	6	0	0	13	19:00	5	5	0	0	10
7:15	10	2	0	0	12	19:15	6	6	0	0	12
7:30	17	3	0	0	20	19:30	6	5	0	0	11
7:45	13	47	9	20	67	19:45	9	26	4	20	46
8:00	9	5	0	0	14	20:00	4	4	0	0	8
8:15	11	6	0	0	17	20:15	4	4	0	0	8
8:30	9	7	0	0	16	20:30	6	2	0	0	8
8:45	9	38	1	19	57	20:45	8	22	2	12	34
9:00	4	2	0	0	6	21:00	6	4	0	0	10
9:15	7	3	0	0	10	21:15	10	7	0	0	17
9:30	7	3	0	0	10	21:30	7	4	0	0	11
9:45	6	24	9	17	41	21:45	6	29	2	17	46
10:00	11	5	0	0	16	22:00	9	4	0	0	13
10:15	7	2	0	0	9	22:15	5	2	0	0	7
10:30	8	6	0	0	14	22:30	5	4	0	0	9
10:45	6	32	8	21	53	22:45	10	29	3	13	42
11:00	10	5	0	0	15	23:00	2	2	0	0	4
11:15	11	5	0	0	16	23:15	1	1	0	0	2
11:30	18	4	0	0	22	23:30	4	5	0	0	9
11:45	9	48	5	19	67	23:45	2	9	1	9	18
TOTALS	231	118			349	TOTALS	396	276			672
SPLIT %	66.2%	33.8%			34.2%	SPLIT %	58.9%	41.1%			65.8%

DAILY TOTALS					NB	SB	EB	WB	Total
					627	394	0	0	1,021

AM Peak Hour	7:30	11:45			11:30	PM Peak Hour	12:15	16:00			12:15
AM Pk Volume	50	35			78	PM Pk Volume	49	41			81
Pk Hr Factor	0.735	0.375			0.602	Pk Hr Factor	0.938	0.750			0.810
7 - 9 Volume	85	39	0	0	124	4 - 6 Volume	73	61	0	0	134
7 - 9 Peak Hour	7:30	7:45			7:30	4 - 6 Peak Hour	16:15	16:00			16:15
7 - 9 Pk Volume	50	27	0	0	73	4 - 6 Pk Volume	42	41	0	0	81
Pk Hr Factor	0.735	0.750	0.000	0.000	0.830	Pk Hr Factor	0.875	0.854	0.000	0.000	0.844

VOLUME

S Bonnyview Rd Bet. Bechelli Ln & Indianwood Dr

Day: Saturday
 Date: 7/16/2016

City: Redding
 Project #: CA16-7488-001

DAILY TOTALS					NB	SB						Total			
					0	0						21,051			
					10,450					10,601					
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
0:00	0	0	35	52	87		12:00	0	0	182	186	368			
0:15	0	0	38	34	72		12:15	0	0	184	198	382			
0:30	0	0	31	43	74		12:30	0	0	182	179	361			
0:45	0	0	32	136	43	172	12:45	0	0	183	731	185	748		
1:00	0	0	26	30	56		13:00	0	0	186	163	349			
1:15	0	0	30	28	58		13:15	0	0	177	199	376			
1:30	0	0	18	29	47		13:30	0	0	168	185	353			
1:45	0	0	26	100	23	110	13:45	0	0	174	705	200	747		
2:00	0	0	21	25	46		14:00	0	0	172	178	350			
2:15	0	0	24	16	40		14:15	0	0	168	166	334			
2:30	0	0	22	24	46		14:30	0	0	159	168	327			
2:45	0	0	15	82	17	82	14:45	0	0	183	682	163	675		
3:00	0	0	19	11	30		15:00	0	0	158	184	342			
3:15	0	0	21	16	37		15:15	0	0	145	188	333			
3:30	0	0	22	13	35		15:30	0	0	146	169	315			
3:45	0	0	16	78	16	56	15:45	0	0	146	595	176	717		
4:00	0	0	31	17	48		16:00	0	0	150	190	340			
4:15	0	0	31	18	49		16:15	0	0	180	199	379			
4:30	0	0	25	18	43		16:30	0	0	180	197	377			
4:45	0	0	29	116	16	69	16:45	0	0	170	680	162	748		
5:00	0	0	29	25	54		17:00	0	0	135	208	343			
5:15	0	0	29	27	56		17:15	0	0	159	156	315			
5:30	0	0	34	49	83		17:30	0	0	159	158	317			
5:45	0	0	52	144	38	139	17:45	0	0	141	594	158	680		
6:00	0	0	48	36	84		18:00	0	0	146	175	321			
6:15	0	0	65	46	111		18:15	0	0	143	175	318			
6:30	0	0	60	55	115		18:30	0	0	135	183	318			
6:45	0	0	86	259	61	198	18:45	0	0	122	546	141	674		
7:00	0	0	68	68	136		19:00	0	0	135	176	311			
7:15	0	0	98	95	193		19:15	0	0	112	158	270			
7:30	0	0	117	60	177		19:30	0	0	127	123	250			
7:45	0	0	110	393	96	319	19:45	0	0	111	485	130	587		
8:00	0	0	128	87	215		20:00	0	0	126	126	252			
8:15	0	0	128	107	235		20:15	0	0	99	120	219			
8:30	0	0	144	103	247		20:30	0	0	102	112	214			
8:45	0	0	168	568	129	426	20:45	0	0	117	444	92	450		
9:00	0	0	153	127	280		21:00	0	0	88	109	197			
9:15	0	0	149	126	275		21:15	0	0	90	109	199			
9:30	0	0	182	144	326		21:30	0	0	99	115	214			
9:45	0	0	199	683	148	545	21:45	0	0	96	373	108	441		
10:00	0	0	151	168	319		22:00	0	0	83	99	182			
10:15	0	0	158	166	324		22:15	0	0	95	100	195			
10:30	0	0	194	175	369		22:30	0	0	69	78	147			
10:45	0	0	208	711	152	661	22:45	0	0	58	305	94	371		
11:00	0	0	185	169	354		23:00	0	0	60	70	130			
11:15	0	0	212	189	401		23:15	0	0	65	79	144			
11:30	0	0	208	176	384		23:30	0	0	54	47	101			
11:45	0	0	206	811	191	725	23:45	0	0	50	229	65	261		
TOTALS			4081	3502	7583		TOTALS			6369	7099	13468			
SPLIT %			53.8%	46.2%	36.0%		SPLIT %			47.3%	52.7%	64.0%			

DAILY TOTALS					NB	SB						Total			
					0	0						21,051			
					10,450					10,601					

AM Peak Hour			10:45	11:45	11:15	PM Peak Hour			12:15	16:15	12:00
AM Pk Volume			813	754	1550	PM Pk Volume			714	766	1479
Pk Hr Factor			0.959	0.493	0.966	Pk Hr Factor			0.960	0.822	0.491
7 - 9 Volume	0	0	961	745	1706	4 - 6 Volume	0	0	1274	1428	2702
7 - 9 Peak Hour			8:00	8:00	8:00	4 - 6 Peak Hour			16:00	16:15	16:15
7 - 9 Pk Volume	0	0	568	426	994	4 - 6 Pk Volume	0	0	680	766	1431
Pk Hr Factor	0.000	0.000	0.845	0.826	0.837	Pk Hr Factor	0.000	0.000	0.944	0.921	0.944

VOLUME

S Bonnyview Rd Bet. Bechelli Ln & Indianwood Dr

Day: Friday
Date: 7/15/2016

City: Redding
Project #: CA16-7488-001

DAILY TOTALS					NB	SB						Total			
					0	0						28,339			
					13,994		14,345								
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
0:00	0	0	37	32	69		12:00	0	0	252	241	493			
0:15	0	0	25	42	67		12:15	0	0	227	233	460			
0:30	0	0	34	25	59		12:30	0	0	211	240	451			
0:45	0	0	13	109	26	125	12:45	0	0	238	928	243	957	481	1885
1:00	0	0	24	24	48		13:00	0	0	219	229	448			
1:15	0	0	15	17	32		13:15	0	0	218	244	462			
1:30	0	0	12	21	33		13:30	0	0	221	241	462			
1:45	0	0	19	70	27	89	13:45	0	0	209	867	247	961	456	1828
2:00	0	0	23	23	46		14:00	0	0	214	237	451			
2:15	0	0	12	20	32		14:15	0	0	217	240	457			
2:30	0	0	12	22	34		14:30	0	0	195	230	425			
2:45	0	0	14	61	12	77	14:45	0	0	252	878	254	961	506	1839
3:00	0	0	26	21	47		15:00	0	0	261	261	522			
3:15	0	0	17	13	30		15:15	0	0	233	266	499			
3:30	0	0	34	17	51		15:30	0	0	226	259	485			
3:45	0	0	22	99	18	69	15:45	0	0	236	956	278	1064	514	2020
4:00	0	0	22	26	48		16:00	0	0	241	278	519			
4:15	0	0	25	33	58		16:15	0	0	255	241	496			
4:30	0	0	41	27	68		16:30	0	0	266	296	562			
4:45	0	0	40	128	39	125	16:45	0	0	250	1012	286	1101	536	2113
5:00	0	0	44	37	81		17:00	0	0	323	309	632			
5:15	0	0	59	57	116		17:15	0	0	274	318	592			
5:30	0	0	87	81	168		17:30	0	0	226	253	479			
5:45	0	0	98	288	91	266	17:45	0	0	233	1056	229	1109	462	2165
6:00	0	0	90	67	157		18:00	0	0	202	232	434			
6:15	0	0	128	91	219		18:15	0	0	180	219	399			
6:30	0	0	156	124	280		18:30	0	0	191	200	391			
6:45	0	0	183	557	142	424	18:45	0	0	153	726	182	833	335	1559
7:00	0	0	156	130	286		19:00	0	0	153	166	319			
7:15	0	0	204	194	398		19:15	0	0	152	153	305			
7:30	0	0	242	238	480		19:30	0	0	121	172	293			
7:45	0	0	283	885	291	853	19:45	0	0	103	529	142	633	245	1162
8:00	0	0	191	160	351		20:00	0	0	95	133	228			
8:15	0	0	217	175	392		20:15	0	0	125	136	261			
8:30	0	0	215	201	416		20:30	0	0	100	122	222			
8:45	0	0	232	855	183	719	20:45	0	0	76	396	117	508	193	904
9:00	0	0	201	146	347		21:00	0	0	108	139	247			
9:15	0	0	218	157	375		21:15	0	0	104	151	255			
9:30	0	0	247	175	422		21:30	0	0	86	127	213			
9:45	0	0	278	944	166	644	21:45	0	0	82	380	118	535	200	915
10:00	0	0	219	193	412		22:00	0	0	99	114	213			
10:15	0	0	200	198	398		22:15	0	0	86	102	188			
10:30	0	0	202	184	386		22:30	0	0	73	81	154			
10:45	0	0	214	835	204	779	22:45	0	0	66	324	90	387	156	711
11:00	0	0	222	198	420		23:00	0	0	68	77	145			
11:15	0	0	249	227	476		23:15	0	0	52	55	107			
11:30	0	0	203	208	411		23:30	0	0	40	68	108			
11:45	0	0	231	905	232	865	23:45	0	0	46	206	61	261	107	467
TOTALS			5736	5035	10771		TOTALS			8258	9310	17568			
SPLIT %			53.3%	46.7%	38.0%		SPLIT %			47.0%	53.0%	62.0%			

DAILY TOTALS					NB	SB						Total	
					0	0						28,339	
					13,994		14,345						
AM Peak Hour			9:15	11:45	11:45		PM Peak Hour			16:30	16:30	16:30	
AM Pk Volume			962	946	1867		PM Pk Volume			1056	1209	2322	
Pk Hr Factor			0.865	0.491	0.485		Pk Hr Factor			0.817	0.872	0.919	
7 - 9 Volume	0	0	1740	1572	3312		4 - 6 Volume	0	0	2068	2210	4278	
7 - 9 Peak Hour			7:30	7:15	7:15		4 - 6 Peak Hour			16:30	16:30	16:30	
7 - 9 Pk Volume	0	0	933	883	1803		4 - 6 Pk Volume	0	0	1113	1209	2322	
Pk Hr Factor	0.000	0.000	0.824	0.759	0.785		Pk Hr Factor	0.000	0.000	0.861	0.950	0.919	

VOLUME

North St Bet. Oak St & I-5 SB Off-Ramp

Day: Friday
Date: 9/9/2016City: Redding
Project #: CA16_7606_003

DAILY TOTALS					NB	SB	EB	WB	Total		
					5,737	5,386	0	0	11,123		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	7	11			18	12:00	98	85			183
00:15	2	3			5	12:15	103	96			199
00:30	5	7			12	12:30	105	92			197
00:45	4	18	5	26	47	12:45	97	403	102	375	778
01:00	4	4			8	13:00	98	90			188
01:15	2	5			7	13:15	77	88			165
01:30	1	2			3	13:30	93	84			177
01:45	3	10	3	14	20	13:45	104	372	97	359	731
02:00	6	3			9	14:00	105	95			200
02:15	2	4			6	14:15	100	127			227
02:30	4	5			9	14:30	135	126			261
02:45	4	16	3	15	38	14:45	128	468	119	467	935
03:00	1	4			5	15:00	164	132			296
03:15	0	0			0	15:15	130	111			241
03:30	3	0			3	15:30	118	109			227
03:45	3	7	6	10	26	15:45	120	532	106	458	990
04:00	5	2			7	16:00	128	100			228
04:15	5	3			8	16:15	97	93			190
04:30	8	4			12	16:30	101	90			191
04:45	6	24	5	14	49	16:45	84	410	98	381	791
05:00	5	3			8	17:00	106	89			195
05:15	12	4			16	17:15	92	101			193
05:30	29	7			36	17:30	101	107			208
05:45	15	61	20	34	110	17:45	70	369	87	384	753
06:00	23	15			38	18:00	85	77			162
06:15	36	19			55	18:15	75	69			144
06:30	49	30			79	18:30	76	73			149
06:45	46	154	44	108	352	18:45	61	297	80	299	596
07:00	75	63			138	19:00	65	73			138
07:15	108	104			212	19:15	44	64			108
07:30	168	142			310	19:30	50	63			113
07:45	145	496	134	443	1218	19:45	54	213	54	254	467
08:00	105	67			172	20:00	48	44			92
08:15	65	70			135	20:15	41	36			77
08:30	91	82			173	20:30	37	37			74
08:45	70	331	78	297	776	20:45	33	159	40	157	316
09:00	95	71			166	21:00	34	31			65
09:15	74	78			152	21:15	38	33			71
09:30	84	72			156	21:30	33	31			64
09:45	84	337	89	310	720	21:45	21	126	24	119	245
10:00	86	80			166	22:00	15	23			38
10:15	106	84			190	22:15	14	28			42
10:30	102	85			187	22:30	22	16			38
10:45	90	384	115	364	953	22:45	17	68	15	82	150
11:00	109	101			210	23:00	13	7			20
11:15	115	100			215	23:15	12	14			26
11:30	105	99			204	23:30	10	11			21
11:45	103	432	68	368	971	23:45	15	50	16	48	98
TOTALS	2270	2003			4273	TOTALS	3467	3383			6850
SPLIT %	53.1%	46.9%			38.4%	SPLIT %	50.6%	49.4%			61.6%

DAILY TOTALS					NB	SB	EB	WB	Total		
					5,737	5,386	0	0	11,123		
AM Peak Hour	07:15	07:15			07:15	PM Peak Hour	14:30	14:15			14:30
AM Pk Volume	526	447			973	PM Pk Volume	557	504			1045
Pk Hr Factor	0.783	0.787			0.785	Pk Hr Factor	0.849	0.955			0.883
7 - 9 Volume	827	740	0	0	1567	4 - 6 Volume	779	765	0	0	1544
7 - 9 Peak Hour	07:15	07:15			07:15	4 - 6 Peak Hour	16:00	16:45			16:00
7 - 9 Pk Volume	526	447	0	0	973	4 - 6 Pk Volume	410	395	0	0	791
Pk Hr Factor	0.783	0.787	0.000	0.000	0.785	Pk Hr Factor	0.801	0.923	0.000	0.000	0.867

VOLUME

SR 273 Bet. Westside Rd/Girvan Rd & Redding Rancheria Rd/Canyon Rd

Day: Saturday
Date: 9/10/2016

City: Redding
Project #: CA16_7606_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					8,473	8,593	0	0	17,066		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	29	41			70	12:00	146	169			315
00:15	28	28			56	12:15	156	154			310
00:30	37	29			66	12:30	151	170			321
00:45	32	126	30	128	62	12:45	148	601	149	642	297
01:00	19	23			42	13:00	140	163			303
01:15	30	14			44	13:15	132	116			248
01:30	38	30			68	13:30	133	160			293
01:45	40	127	26	93	66	13:45	153	558	174	613	327
02:00	23	19			42	14:00	147	142			289
02:15	23	21			44	14:15	163	154			317
02:30	25	23			48	14:30	143	170			313
02:45	20	91	16	79	36	14:45	155	608	159	625	314
03:00	30	14			44	15:00	131	165			296
03:15	23	20			43	15:15	141	149			290
03:30	22	11			33	15:30	137	153			290
03:45	22	97	10	55	32	15:45	139	548	159	626	298
04:00	19	17			36	16:00	121	150			271
04:15	30	13			43	16:15	126	133			259
04:30	24	12			36	16:30	122	141			263
04:45	22	95	17	59	39	16:45	134	503	127	551	261
05:00	22	12			34	17:00	135	129			264
05:15	26	29			55	17:15	125	150			275
05:30	38	26			64	17:30	121	127			248
05:45	44	130	37	104	81	17:45	98	479	118	524	216
06:00	41	30			71	18:00	104	102			206
06:15	43	43			86	18:15	100	130			230
06:30	62	33			95	18:30	109	109			218
06:45	77	223	43	149	120	18:45	102	415	99	440	201
07:00	68	67			135	19:00	112	136			248
07:15	77	51			128	19:15	90	107			197
07:30	95	61			156	19:30	80	112			192
07:45	93	333	80	259	173	19:45	78	360	97	452	175
08:00	87	75			162	20:00	79	85			164
08:15	107	92			199	20:15	88	102			190
08:30	113	93			206	20:30	74	99			173
08:45	115	422	89	349	204	20:45	79	320	93	379	172
09:00	126	97			223	21:00	79	80			159
09:15	128	113			241	21:15	62	89			151
09:30	131	96			227	21:30	66	67			133
09:45	140	525	125	431	265	21:45	51	258	76	312	127
10:00	138	147			285	22:00	63	79			142
10:15	143	131			274	22:15	50	89			139
10:30	177	140			317	22:30	50	79			129
10:45	167	625	150	568	317	22:45	59	222	77	324	136
11:00	135	168			303	23:00	52	47			99
11:15	163	146			309	23:15	42	66			108
11:30	175	150			325	23:30	54	50			104
11:45	153	626	148	612	301	23:45	33	181	56	219	89
TOTALS	3420	2886			6306	TOTALS	5053	5707			10760
SPLIT %	54.2%	45.8%			37.0%	SPLIT %	47.0%	53.0%			63.0%

DAILY TOTALS					NB	SB	EB	WB	Total
					8,473	8,593	0	0	17,066
AM Peak Hour	10:30	11:45			10:45	PM Peak Hour	14:00	14:15	13:45
AM Pk Volume	642	641			1254	PM Pk Volume	608	648	1246
Pk Hr Factor	0.907	0.943			0.965	Pk Hr Factor	0.933	0.953	0.953
7 - 9 Volume	755	608	0	0	1363	4 - 6 Volume	982	1075	2057
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:15	16:00	16:30
7 - 9 Pk Volume	422	349	0	0	771	4 - 6 Pk Volume	517	551	1063
Pk Hr Factor	0.917	0.938	0.000	0.000	0.936	Pk Hr Factor	0.957	0.918	0.966

VOLUME

SR 273 Bet. Westside Rd/Girvan Rd & Redding Rancheria Rd/Canyon Rd

Day: Friday
Date: 9/9/2016

City: Redding
Project #: CA16_7606_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					11,115	11,112	0	0	22,227		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	23	20			43	12:00	212	200			412
00:15	22	17			39	12:15	156	202			358
00:30	19	22			41	12:30	184	171			355
00:45	30	94	20	79	50	12:45	184	736	214	787	398
01:00	21	20			41	13:00	171	187			358
01:15	23	15			38	13:15	188	203			391
01:30	19	24			43	13:30	214	177			391
01:45	24	87	14	73	38	13:45	149	722	242	809	391
02:00	24	24			48	14:00	170	201			371
02:15	24	16			40	14:15	182	199			381
02:30	23	13			36	14:30	202	193			395
02:45	19	90	14	67	33	14:45	169	723	189	782	358
03:00	16	18			34	15:00	204	212			416
03:15	14	13			27	15:15	175	229			404
03:30	15	18			33	15:30	194	235			429
03:45	25	70	22	71	47	15:45	213	786	226	902	439
04:00	20	29			49	16:00	185	231			416
04:15	27	14			41	16:15	208	231			439
04:30	31	16			47	16:30	158	221			379
04:45	38	116	30	89	68	16:45	183	734	217	900	400
05:00	31	13			44	17:00	174	219			393
05:15	33	25			58	17:15	147	289			436
05:30	82	29			111	17:30	138	215			353
05:45	76	222	51	118	127	17:45	146	605	163	886	309
06:00	74	61			135	18:00	132	190			322
06:15	91	62			153	18:15	122	151			273
06:30	132	78			210	18:30	127	156			283
06:45	154	451	101	302	255	18:45	106	487	136	633	242
07:00	171	113			284	19:00	109	134			243
07:15	247	132			379	19:15	108	120			228
07:30	255	141			396	19:30	103	118			221
07:45	307	980	165	551	472	19:45	91	411	119	491	210
08:00	212	131			343	20:00	109	112			221
08:15	171	122			293	20:15	81	103			184
08:30	169	143			312	20:30	91	118			209
08:45	192	744	157	553	349	20:45	61	342	100	433	161
09:00	151	120			271	21:00	74	97			171
09:15	195	137			332	21:15	62	94			156
09:30	192	125			317	21:30	72	77			149
09:45	174	712	132	514	306	21:45	61	269	69	337	130
10:00	159	150			309	22:00	62	83			145
10:15	160	144			304	22:15	60	69			129
10:30	176	148			324	22:30	37	56			93
10:45	194	689	157	599	351	22:45	48	207	57	265	105
11:00	176	158			334	23:00	47	70			117
11:15	160	179			339	23:15	41	43			84
11:30	154	167			321	23:30	42	44			86
11:45	179	669	169	673	348	23:45	39	169	41	198	80
TOTALS	4924	3689			8613	TOTALS	6191	7423			13614
SPLIT %	57.2%	42.8%			38.8%	SPLIT %	45.5%	54.5%			61.2%

DAILY TOTALS					NB	SB	EB	WB	Total		
					11,115	11,112	0	0	22,227		
AM Peak Hour	07:15	11:45			07:15	PM Peak Hour	15:30	16:30	15:30		
AM Pk Volume	1021	742			1590	PM Pk Volume	800	946	1723		
Pk Hr Factor	0.831	0.918			0.842	Pk Hr Factor	0.939	0.818	0.981		
7 - 9 Volume	1724	1104	0	0	2828	4 - 6 Volume	1339	1786	0	0	3125
7 - 9 Peak Hour	07:15	07:15			07:15	4 - 6 Peak Hour	16:00	16:30			16:00
7 - 9 Pk Volume	1021	569	0	0	1590	4 - 6 Pk Volume	734	946	0	0	1634
Pk Hr Factor	0.831	0.862	0.000	0.000	0.842	Pk Hr Factor	0.882	0.818	0.000	0.000	0.931

VOLUME

S Bonnyview Rd Bet. Bechelli Ln & Indianwood Dr

Day: Saturday
Date: 9/10/2016

City: Redding
Project #: CA16_7606_001

DAILY TOTALS					NB	SB						Total			
					0	0						21,262			
							10,579			10,683					
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00			34	38	72		12:00			184	183	367			
00:15			26	39	65		12:15			213	188	401			
00:30			42	37	79		12:30			196	186	382			
00:45			35	137	34	148	12:45			184	777	182	739	366	1516
01:00			18	25	43		13:00			179	201	380			
01:15			19	20	39		13:15			181	199	380			
01:30			20	29	49		13:30			185	184	369			
01:45			26	83	17	91	13:45			167	712	175	759	342	1471
02:00			24	10	34		14:00			174	202	376			
02:15			15	25	40		14:15			180	199	379			
02:30			17	19	36		14:30			203	203	406			
02:45			20	76	13	67	14:45			176	733	188	792	364	1525
03:00			20	18	38		15:00			170	197	367			
03:15			23	11	34		15:15			167	189	356			
03:30			17	7	24		15:30			161	223	384			
03:45			21	81	14	50	15:45			149	647	186	795	335	1442
04:00			24	12	36		16:00			150	208	358			
04:15			27	12	39		16:15			174	200	374			
04:30			32	18	50		16:30			197	177	374			
04:45			29	112	21	63	16:45			179	700	171	756	350	1456
05:00			31	21	52		17:00			153	200	353			
05:15			30	30	60		17:15			170	192	362			
05:30			50	39	89		17:30			152	177	329			
05:45			37	148	32	122	17:45			163	638	166	735	329	1373
06:00			35	46	81		18:00			124	139	263			
06:15			64	45	109		18:15			131	172	303			
06:30			66	61	127		18:30			136	145	281			
06:45			97	262	72	224	18:45			143	534	130	586	273	1120
07:00			81	71	152		19:00			136	146	282			
07:15			103	63	166		19:15			131	133	264			
07:30			118	94	212		19:30			100	141	241			
07:45			149	451	90	318	19:45			112	479	124	544	236	1023
08:00			146	80	226		20:00			125	125	250			
08:15			167	94	261		20:15			82	142	224			
08:30			161	111	272		20:30			91	132	223			
08:45			170	644	136	421	20:45			96	394	97	496	193	890
09:00			154	114	268		21:00			89	99	188			
09:15			171	131	302		21:15			78	101	179			
09:30			175	129	304		21:30			61	106	167			
09:45			179	679	158	532	21:45			82	310	94	400	176	710
10:00			174	153	327		22:00			75	105	180			
10:15			180	163	343		22:15			57	110	167			
10:30			192	156	348		22:30			60	70	130			
10:45			209	755	189	661	22:45			47	239	100	385	147	624
11:00			177	176	353		23:00			61	73	134			
11:15			196	203	399		23:15			49	64	113			
11:30			196	196	392		23:30			50	49	99			
11:45			222	791	191	766	23:45			37	197	47	233	84	430
TOTALS				4219		3463	TOTALS				6360	7220	13580		
SPLIT %				54.9%		45.1%	SPLIT %				46.8%	53.2%	63.9%		

DAILY TOTALS					NB	SB						Total
					0	0						21,262
							10,579			10,683		
AM Peak Hour			11:30	11:15	11:30		PM Peak Hour			12:00	15:30	12:15
AM Pk Volume			815	773	1573		PM Pk Volume			777	817	1529
Pk Hr Factor			0.918	0.952	0.952		Pk Hr Factor			0.912	0.916	0.953
7 - 9 Volume	0	0	1095	739	1834		4 - 6 Volume	0	0	1338	1491	2829
7 - 9 Peak Hour			08:00	08:00	08:00		4 - 6 Peak Hour			16:15	16:00	16:00
7 - 9 Pk Volume	0	0	644	421	1065		4 - 6 Pk Volume	0	0	703	756	1456
Pk Hr Factor	0.000	0.000	0.947	0.774	0.870		Pk Hr Factor	0.000	0.000	0.892	0.909	0.973

VOLUME

S Bonnyview Rd Bet. Bechelli Ln & Indianwood Dr

Day: Friday
Date: 9/9/2016

City: Redding
Project #: CA16_7606_001

DAILY TOTALS					NB	SB					Total				
					0	0	14,320		14,328		28,648				
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00			31	21	52		12:00			236	254	490			
00:15			16	25	41		12:15			245	228	473			
00:30			14	20	34		12:30			222	262	484			
00:45			28	89	33	99	12:45			221	924	237	981	458	1905
01:00			23	20	43		13:00			213	229	442			
01:15			19	27	46		13:15			231	225	456			
01:30			14	25	39		13:30			260	243	503			
01:45			15	71	24	96	13:45			246	950	237	934	483	1884
02:00			18	14	32		14:00			240	226	466			
02:15			17	11	28		14:15			240	227	467			
02:30			18	11	29		14:30			256	246	502			
02:45			16	69	17	53	14:45			239	975	251	950	490	1925
03:00			18	13	31		15:00			239	274	513			
03:15			25	8	33		15:15			261	300	561			
03:30			10	12	22		15:30			248	267	515			
03:45			18	71	16	49	15:45			231	979	291	1132	522	2111
04:00			33	24	57		16:00			285	240	525			
04:15			26	15	41		16:15			289	267	556			
04:30			43	22	65		16:30			264	305	569			
04:45			33	135	40	101	16:45			223	1061	279	1091	502	2152
05:00			34	29	63		17:00			335	287	622			
05:15			54	46	100		17:15			273	326	599			
05:30			69	73	142		17:30			235	230	465			
05:45			90	247	76	224	17:45			237	1080	252	1095	489	2175
06:00			82	82	164		18:00			200	242	442			
06:15			126	100	226		18:15			161	203	364			
06:30			154	128	282		18:30			189	169	358			
06:45			209	571	172	482	18:45			168	718	161	775	329	1493
07:00			189	160	349		19:00			143	179	322			
07:15			280	219	499		19:15			127	157	284			
07:30			336	246	582		19:30			123	151	274			
07:45			349	1154	314	939	19:45			84	477	135	622	219	1099
08:00			273	228	501		20:00			105	136	241			
08:15			215	196	411		20:15			123	142	265			
08:30			213	233	446		20:30			95	141	236			
08:45			255	956	190	847	20:45			84	407	141	560	225	967
09:00			224	176	400		21:00			88	109	197			
09:15			209	158	367		21:15			87	121	208			
09:30			227	185	412		21:30			76	106	182			
09:45			229	889	190	709	21:45			73	324	91	427	164	751
10:00			206	165	371		22:00			72	99	171			
10:15			203	182	385		22:15			75	87	162			
10:30			226	180	406		22:30			65	79	144			
10:45			236	871	186	713	22:45			63	275	79	344	142	619
11:00			187	216	403		23:00			46	76	122			
11:15			223	209	432		23:15			38	67	105			
11:30			255	224	479		23:30			40	46	86			
11:45			206	871	227	876	23:45			32	156	40	229	72	385
TOTALS			5994	5188	11182		TOTALS			8326	9140	17466			
SPLIT %			53.6%	46.4%	39.0%		SPLIT %			47.7%	52.3%	61.0%			

DAILY TOTALS					NB	SB					Total
					0	0	14,320		14,328		28,648

AM Peak Hour			07:15	07:15	07:15	PM Peak Hour			16:15	16:30	16:30
AM Pk Volume			1238	1007	2245	PM Pk Volume			1111	1197	2292
Pk Hr Factor			0.887	0.802	0.847	Pk Hr Factor			0.829	0.918	0.921
7 - 9 Volume	0	0	2110	1786	3896	4 - 6 Volume	0	0	2141	2186	4327
7 - 9 Peak Hour			07:15	07:15	07:15	4 - 6 Peak Hour			16:15	16:30	16:30
7 - 9 Pk Volume	0	0	1238	1007	2245	4 - 6 Pk Volume	0	0	1111	1197	2292
Pk Hr Factor	0.000	0.000	0.887	0.802	0.847	Pk Hr Factor	0.000	0.000	0.829	0.918	0.921

VOLUME

North St Bet. Oak St & I-5 SB Off-Ramp

Day: Saturday
Date: 9/10/2016City: Redding
Project #: CA16_7606_003

DAILY TOTALS					NB	SB	EB	WB	Total		
					4,063	3,809	0	0	7,872		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	10	12			22	12:00	109	65			174
00:15	7	10			17	12:15	92	63			155
00:30	10	7			17	12:30	79	88			167
00:45	5	32	12	41	17	12:45	72	352	67	283	139
01:00	19	10			29	13:00	87	72			159
01:15	5	6			11	13:15	94	71			165
01:30	8	3			11	13:30	86	81			167
01:45	3	35	4	23	7	13:45	87	354	84	308	171
02:00	5	6			11	14:00	78	84			162
02:15	4	9			13	14:15	80	82			162
02:30	1	3			4	14:30	85	68			153
02:45	7	17	5	23	12	14:45	74	317	83	317	157
03:00	5	4			9	15:00	76	64			140
03:15	1	2			3	15:15	67	79			146
03:30	1	1			2	15:30	69	68			137
03:45	2	9	4	11	6	15:45	68	280	62	273	130
04:00	4	3			7	16:00	47	60			107
04:15	3	2			5	16:15	72	68			140
04:30	3	4			7	16:30	65	60			125
04:45	6	16	4	13	10	16:45	67	251	54	242	121
05:00	8	3			11	17:00	65	56			121
05:15	8	2			10	17:15	61	52			113
05:30	9	9			18	17:30	50	50			100
05:45	8	33	13	27	21	17:45	54	230	42	200	96
06:00	10	4			14	18:00	42	60			102
06:15	12	5			17	18:15	57	65			122
06:30	18	16			34	18:30	55	48			103
06:45	14	54	28	53	42	18:45	53	207	47	220	100
07:00	13	28			41	19:00	52	51			103
07:15	26	31			57	19:15	57	58			115
07:30	43	18			61	19:30	48	44			92
07:45	50	132	36	113	86	19:45	42	199	46	199	88
08:00	52	40			92	20:00	36	51			87
08:15	43	42			85	20:15	39	47			86
08:30	64	47			111	20:30	32	36			68
08:45	48	207	52	181	100	20:45	32	139	36	170	68
09:00	71	59			130	21:00	21	45			66
09:15	74	50			124	21:15	29	39			68
09:30	76	63			139	21:30	24	28			52
09:45	76	297	67	239	143	21:45	27	101	29	141	56
10:00	88	71			159	22:00	24	32			56
10:15	73	66			139	22:15	21	25			46
10:30	100	75			175	22:30	21	11			32
10:45	88	349	91	303	179	22:45	16	82	16	84	32
11:00	86	78			164	23:00	7	10			17
11:15	83	84			167	23:15	9	14			23
11:30	87	69			156	23:30	8	6			14
11:45	81	337	73	304	154	23:45	9	33	11	41	20
TOTALS	1518	1331			2849	TOTALS	2545	2478			5023
SPLIT %	53.3%	46.7%			36.2%	SPLIT %	50.7%	49.3%			63.8%

DAILY TOTALS					NB	SB	EB	WB	Total
					4,063	3,809	0	0	7,872
AM Peak Hour	11:30	10:30			10:30	PM Peak Hour	13:00	13:30	13:15
AM Pk Volume	369	328			685	PM Pk Volume	354	331	665
Pk Hr Factor	0.846	0.901			0.957	Pk Hr Factor	0.941	0.985	0.972
7 - 9 Volume	339	294	0	0	633	4 - 6 Volume	481	442	0
7 - 9 Peak Hour	07:45	08:00			08:00	4 - 6 Peak Hour	16:15	16:00	16:15
7 - 9 Pk Volume	209	181	0	0	388	4 - 6 Pk Volume	269	242	0
Pk Hr Factor	0.816	0.870	0.000	0.000	0.874	Pk Hr Factor	0.934	0.890	0.000

EXISTING ANALYSIS

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Existing Conditions
Timing Plan: Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	56	66	492	78	191	54	375	309	273	592	4
Future Volume (veh/h)	2	56	66	492	78	191	54	375	309	273	592	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	2	61	72	535	177	146	59	408	336	297	643	4
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	5	317	142	736	548	466	259	1014	454	445	956	428
Arrive On Green	0.00	0.09	0.09	0.21	0.29	0.29	0.15	0.29	0.29	0.13	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	2	61	72	535	177	146	59	408	336	297	643	4
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.1	0.9	2.4	7.8	4.1	2.4	1.6	5.2	10.7	4.6	9.0	0.1
Cycle Q Clear(g_c), s	0.1	0.9	2.4	7.8	4.1	2.4	1.6	5.2	10.7	4.6	9.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	5	317	142	736	548	466	259	1014	454	445	956	428
V/C Ratio(X)	0.41	0.19	0.51	0.73	0.32	0.31	0.23	0.40	0.74	0.67	0.67	0.01
Avail Cap(c_a), veh/h	175	2573	1151	955	1672	1421	259	2014	901	1038	2732	1222
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	23.5	24.2	20.6	15.3	5.7	21.0	16.0	18.0	23.1	18.1	9.5
Incr Delay (d2), s/veh	47.6	0.3	2.8	2.0	0.3	0.4	0.4	0.3	2.4	1.7	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.4	1.2	4.0	2.2	1.6	0.8	2.5	4.9	2.3	4.5	0.0
LnGrp Delay(d),s/veh	75.4	23.8	27.0	22.6	15.7	6.1	21.5	16.3	20.4	24.9	19.0	9.5
LnGrp LOS	E	C	C	C	B	A	C	B	C	C	B	A
Approach Vol, veh/h		135			858			803			944	
Approach Delay, s/veh		26.2			18.4			18.4			20.8	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	20.0	15.6	9.0	12.1	19.0	4.2	20.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	16.8	31.7	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.6	12.7	9.8	4.4	3.6	11.0	2.1	6.1				
Green Ext Time (p_c), s	0.7	3.3	1.7	0.6	0.2	4.0	0.0	3.6				
Intersection Summary												
HCM 2010 Ctrl Delay			19.6									
HCM 2010 LOS			B									
Notes												

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Existing Conditions
Timing Plan: Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	846	0	0	960	185	0	0	0	260	1	39
Future Volume (veh/h)	41	846	0	0	960	185	0	0	0	260	1	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	45	920	0	0	1043	201	0	0	0	283	1	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	2050	0	3	1643	735	0	522	0	467	1	52
Arrive On Green	0.04	0.58	0.00	0.00	0.46	0.46	0.00	0.00	0.00	0.28	0.28	0.28
Sat Flow, veh/h	1774	3632	0	1774	3539	1583	0	1863	0	1244	4	185
Grp Volume(v), veh/h	45	920	0	0	1043	201	0	0	0	326	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	1583	0	1863	0	1433	0	0
Q Serve(g_s), s	1.4	8.4	0.0	0.0	12.7	4.4	0.0	0.0	0.0	12.1	0.0	0.0
Cycle Q Clear(g_c), s	1.4	8.4	0.0	0.0	12.7	4.4	0.0	0.0	0.0	12.1	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	0.00		0.00	0.87		0.13
Lane Grp Cap(c), veh/h	79	2050	0	3	1643	735	0	522	0	519	0	0
V/C Ratio(X)	0.57	0.45	0.00	0.00	0.63	0.27	0.00	0.00	0.00	0.63	0.00	0.00
Avail Cap(c_a), veh/h	156	2050	0	156	1992	891	0	1343	0	1151	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.6	6.8	0.0	0.0	11.6	9.3	0.0	0.0	0.0	19.1	0.0	0.0
Incr Delay (d2), s/veh	6.2	0.2	0.0	0.0	0.5	0.2	0.0	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	4.1	0.0	0.0	6.2	1.9	0.0	0.0	0.0	4.9	0.0	0.0
LnGrp Delay(d),s/veh	32.8	7.0	0.0	0.0	12.1	9.5	0.0	0.0	0.0	20.3	0.0	0.0
LnGrp LOS	C	A			B	A				C		
Approach Vol, veh/h		965			1244			0			326	
Approach Delay, s/veh		8.2			11.6			0.0			20.3	
Approach LOS		A			B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		19.9	0.0	36.9		19.9	6.5	30.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		0.0	0.0	10.4		14.1	3.4	14.7				
Green Ext Time (p_c), s		0.0	0.0	14.5		2.0	0.0	11.7				
Intersection Summary												
HCM 2010 Ctrl Delay				11.4								
HCM 2010 LOS				B								

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Existing Conditions
Timing Plan: Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	984	10	11	921	114	17	13	29	226	5	227
Future Volume (veh/h)	127	984	10	11	921	114	17	13	29	226	5	227
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	138	1070	11	12	1001	124	18	14	32	250	0	247
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	1824	19	26	1549	693	52	40	80	706	0	315
Arrive On Green	0.09	0.51	0.51	0.01	0.44	0.44	0.05	0.05	0.05	0.20	0.00	0.20
Sat Flow, veh/h	1774	3589	37	1774	3539	1583	1019	793	1583	3548	0	1583
Grp Volume(v), veh/h	138	528	553	12	1001	124	32	0	32	250	0	247
Grp Sat Flow(s),veh/h/ln	1774	1770	1856	1774	1770	1583	1812	0	1583	1774	0	1583
Q Serve(g_s), s	5.4	14.7	14.7	0.5	15.6	3.4	1.2	0.0	1.4	4.3	0.0	10.4
Cycle Q Clear(g_c), s	5.4	14.7	14.7	0.5	15.6	3.4	1.2	0.0	1.4	4.3	0.0	10.4
Prop In Lane	1.00		0.02	1.00		1.00	0.56		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	151	899	943	26	1549	693	92	0	80	706	0	315
V/C Ratio(X)	0.91	0.59	0.59	0.46	0.65	0.18	0.35	0.00	0.40	0.35	0.00	0.78
Avail Cap(c_a), veh/h	151	942	988	126	1834	821	476	0	416	1663	0	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	12.1	12.1	34.4	15.5	12.1	32.3	0.0	32.4	24.3	0.0	26.8
Incr Delay (d2), s/veh	48.3	0.9	0.8	11.8	0.6	0.1	2.2	0.0	3.2	0.3	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	7.4	7.8	0.3	7.6	1.5	0.7	0.0	0.7	2.1	0.0	4.9
LnGrp Delay(d),s/veh	80.3	13.0	13.0	46.2	16.1	12.2	34.5	0.0	35.6	24.6	0.0	31.0
LnGrp LOS	F	B	B	D	B	B	C		D	C		C
Approach Vol, veh/h		1219			1137			64			497	
Approach Delay, s/veh		20.6			16.0			35.1			27.8	
Approach LOS		C			B			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		7.6	5.0	39.8		18.0	10.0	34.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		3.4	2.5	16.7		12.4	7.4	17.6				
Green Ext Time (p_c), s		0.1	0.0	14.2		1.6	0.0	13.2				
Intersection Summary												
HCM 2010 Ctrl Delay				20.4								
HCM 2010 LOS				C								
Notes												

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Existing Conditions
Timing Plan: Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	923	318	214	601	0	0	0	0	152	1	481
Future Volume (veh/h)	0	923	318	214	601	0	0	0	0	152	1	481
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1003	346	233	653	0				165	1	523
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1382	476	282	2073	0				529	3	475
Arrive On Green	0.00	0.37	0.37	0.05	0.19	0.00				0.30	0.30	0.30
Sat Flow, veh/h	0	3905	1288	1774	3632	0				1764	11	1583
Grp Volume(v), veh/h	0	910	439	233	653	0				166	0	523
Grp Sat Flow(s),veh/h/ln	0	1695	1635	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	16.2	16.2	9.1	11.1	0.0				5.1	0.0	21.0
Cycle Q Clear(g_c), s	0.0	16.2	16.2	9.1	11.1	0.0				5.1	0.0	21.0
Prop In Lane	0.00		0.79	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1254	605	282	2073	0				532	0	475
V/C Ratio(X)	0.00	0.73	0.73	0.83	0.32	0.00				0.31	0.00	1.10
Avail Cap(c_a), veh/h	0	1254	605	329	2073	0				532	0	475
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.84	0.84	0.71	0.71	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.0	19.0	32.2	16.2	0.0				18.9	0.0	24.5
Incr Delay (d2), s/veh	0.0	3.1	6.3	10.4	0.3	0.0				0.3	0.0	71.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.1	8.4	5.3	5.5	0.0				2.5	0.0	18.6
LnGrp Delay(d),s/veh	0.0	22.1	25.3	42.7	16.5	0.0				19.3	0.0	96.2
LnGrp LOS		C	C	D	B					B		F
Approach Vol, veh/h		1349			886						689	
Approach Delay, s/veh		23.2			23.3						77.6	
Approach LOS		C			C						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			15.1	29.9		25.0		45.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			13.0	24.0		21.0		41.0				
Max Q Clear Time (g_c+I1), s			11.1	18.2		23.0		13.1				
Green Ext Time (p_c), s			0.1	4.8		0.0		16.3				
Intersection Summary												
HCM 2010 Ctrl Delay			36.1									
HCM 2010 LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	508	569	0	0	587	141	225	3	161	0	0	0
Future Volume (veh/h)	508	569	0	0	587	141	225	3	161	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	552	618	0	0	638	153	245	3	175			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	355	2505	0	0	1595	714	312	4	282			
Arrive On Green	0.40	1.00	0.00	0.00	0.45	0.45	0.18	0.18	0.18			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1754	21	1583			
Grp Volume(v), veh/h	552	618	0	0	638	153	248	0	175			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	14.0	0.0	0.0	0.0	8.5	4.1	9.3	0.0	7.2			
Cycle Q Clear(g_c), s	14.0	0.0	0.0	0.0	8.5	4.1	9.3	0.0	7.2			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	355	2505	0	0	1595	714	316	0	282			
V/C Ratio(X)	1.56	0.25	0.00	0.00	0.40	0.21	0.79	0.00	0.62			
Avail Cap(c_a), veh/h	355	2505	0	0	1595	714	469	0	418			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.70	0.70	0.00	0.00	0.82	0.82	1.00	0.00	1.00			
Uniform Delay (d), s/veh	21.0	0.0	0.0	0.0	12.9	11.7	27.5	0.0	26.6			
Incr Delay (d2), s/veh	259.6	0.2	0.0	0.0	0.6	0.6	5.2	0.0	2.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	32.3	0.1	0.0	0.0	4.2	1.9	5.0	0.0	3.3			
LnGrp Delay(d),s/veh	280.6	0.2	0.0	0.0	13.5	12.3	32.7	0.0	28.8			
LnGrp LOS	F	A			B	B	C		C			
Approach Vol, veh/h		1170			791			423				
Approach Delay, s/veh		132.5			13.3			31.1				
Approach LOS		F			B			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		16.5		53.5			18.0	35.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		43.5			14.0	25.5				
Max Q Clear Time (g_c+1), s		11.3		2.0			16.0	10.5				
Green Ext Time (p_c), s		1.1		11.2			0.0	7.5				
Intersection Summary												
HCM 2010 Ctrl Delay				74.9								
HCM 2010 LOS				E								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Existing Conditions
Timing Plan: Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖	↕	↗		↖	↗		↖	↗
Traffic Volume (veh/h)	221	499	10	0	411	67	5	2	1	102	3	316
Future Volume (veh/h)	221	499	10	0	411	67	5	2	1	102	3	316
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	240	542	11	0	447	73	5	2	1	111	3	343
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	376	1641	734	4	819	133	14	5	17	463	13	424
Arrive On Green	0.11	0.46	0.46	0.00	0.27	0.27	0.01	0.01	0.01	0.27	0.27	0.27
Sat Flow, veh/h	3442	3539	1583	1774	3050	495	1285	514	1583	1730	47	1583
Grp Volume(v), veh/h	240	542	11	0	258	262	7	0	1	114	0	343
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1775	1799	0	1583	1776	0	1583
Q Serve(g_s), s	3.1	4.5	0.2	0.0	5.8	5.9	0.2	0.0	0.0	2.3	0.0	9.4
Cycle Q Clear(g_c), s	3.1	4.5	0.2	0.0	5.8	5.9	0.2	0.0	0.0	2.3	0.0	9.4
Prop In Lane	1.00		1.00	1.00		0.28	0.71		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	376	1641	734	4	475	477	19	0	17	475	0	424
V/C Ratio(X)	0.64	0.33	0.01	0.00	0.54	0.55	0.37	0.00	0.06	0.24	0.00	0.81
Avail Cap(c_a), veh/h	592	1641	734	191	704	706	735	0	647	707	0	630
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	7.9	6.7	0.0	14.6	14.6	22.9	0.0	22.8	13.3	0.0	15.9
Incr Delay (d2), s/veh	1.8	0.1	0.0	0.0	1.0	1.0	11.5	0.0	1.5	0.3	0.0	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.2	0.1	0.0	2.9	3.0	0.1	0.0	0.0	1.2	0.0	4.7
LnGrp Delay(d),s/veh	21.6	8.0	6.7	0.0	15.5	15.6	34.3	0.0	24.3	13.6	0.0	20.8
LnGrp LOS	C	A	A		B	B	C		C	B		C
Approach Vol, veh/h		793			520			8			457	
Approach Delay, s/veh		12.1			15.6			33.1			19.0	
Approach LOS		B			B			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		4.5	0.0	25.6		16.4	9.1	16.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		2.2	0.0	6.5		11.4	5.1	7.9				
Green Ext Time (p_c), s		0.0	0.0	5.7		1.1	0.2	4.6				
Intersection Summary												
HCM 2010 Ctrl Delay				15.0								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	98	489	378	16	25	92
Future Vol, veh/h	98	489	378	16	25	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	107	532	411	17	27	100

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	428	0	214
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	6.94
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	3.32
Pot Cap-1 Maneuver	1128	-	791
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1128	-	791
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1128	-	-	-	241	791
HCM Lane V/C Ratio	0.094	-	-	-	0.113	0.126
HCM Control Delay (s)	8.5	-	-	-	21.8	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.4	0.4

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑		↓	
Traffic Vol, veh/h	144	346	261	67	62	102
Future Vol, veh/h	144	346	261	67	62	102
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	157	376	284	73	67	111

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	357	0	1009
Stage 1	-	-	320
Stage 2	-	-	689
Critical Hdwy	4.12	-	7.12
Critical Hdwy Stg 1	-	-	6.12
Critical Hdwy Stg 2	-	-	6.12
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1202	-	219
Stage 1	-	-	692
Stage 2	-	-	436
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1202	-	197
Mov Cap-2 Maneuver	-	-	197
Stage 1	-	-	602
Stage 2	-	-	379

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	24.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1202	-	-	-	359
HCM Lane V/C Ratio	0.13	-	-	-	0.497
HCM Control Delay (s)	8.4	-	-	-	24.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.6

Intersection

Int Delay, s/veh 6.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑		↓	
Traffic Vol, veh/h	234	157	101	28	31	225
Future Vol, veh/h	234	157	101	28	31	225
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	254	171	110	30	34	245

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	140	0	125
Stage 1	-	-	125
Stage 2	-	-	679
Critical Hdwy	4.12	-	6.22
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.318
Pot Cap-1 Maneuver	1443	-	926
Stage 1	-	-	901
Stage 2	-	-	504
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1443	-	926
Mov Cap-2 Maneuver	-	-	290
Stage 1	-	-	901
Stage 2	-	-	415

Approach	EB	WB	SB
HCM Control Delay, s	4.8	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1443	-	-	-	732
HCM Lane V/C Ratio	0.176	-	-	-	0.38
HCM Control Delay (s)	8	-	-	-	12.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.8

Intersection
















Int Delay, s/veh 0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			↑	↑	
Traffic Vol, veh/h	15	3	7	109	133	29
Future Vol, veh/h	15	3	7	109	133	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	3	8	118	145	32

Major/Minor	Minor2	Major1		Major2
Conflicting Flow All	294	160	176	0
Stage 1	160	-	-	-
Stage 2	134	-	-	-
Critical Hdwy	6.42	6.22	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-
Pot Cap-1 Maneuver	697	885	1400	-
Stage 1	869	-	-	-
Stage 2	892	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	693	885	1400	-
Mov Cap-2 Maneuver	693	-	-	-
Stage 1	869	-	-	-
Stage 2	887	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1400	-	719	-	-
HCM Lane V/C Ratio	0.005	-	0.027	-	-
HCM Control Delay (s)	7.6	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	 			 	 			
Traffic Volume (veh/h)	270	227	145	534	714	409		
Future Volume (veh/h)	270	227	145	534	714	409		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	293	247	158	580	776	445		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	761	350	205	2123	1397	625		
Arrive On Green	0.22	0.22	0.12	0.60	0.39	0.39		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	293	247	158	580	776	445		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	3.2	6.4	3.9	3.5	7.6	10.6		
Cycle Q Clear(g_c), s	3.2	6.4	3.9	3.5	7.6	10.6		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	761	350	205	2123	1397	625		
V/C Ratio(X)	0.39	0.71	0.77	0.27	0.56	0.71		
Avail Cap(c_a), veh/h	1387	638	397	2695	1585	709		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	14.8	16.0	19.2	4.3	10.5	11.4		
Incr Delay (d2), s/veh	0.3	2.6	6.1	0.1	0.3	2.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	5.7	2.2	1.7	3.7	5.1		
LnGrp Delay(d),s/veh	15.1	18.7	25.3	4.3	10.8	14.3		
LnGrp LOS	B	B	C	A	B	B		
Approach Vol, veh/h	540			738	1221			
Approach Delay, s/veh	16.7			8.8	12.1			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		5	6		
Phs Duration (G+Y+Rc), s	30.8		13.9		9.1	21.6		
Change Period (Y+Rc), s	4.0		4.0		4.0	4.0		
Max Green Setting (Gmax), s	34.0		18.0		10.0	20.0		
Max Q Clear Time (g_c+I1), s	5.5		8.4		5.9	12.6		
Green Ext Time (p_c), s	11.7		1.5		0.1	5.1		
Intersection Summary								
HCM 2010 Ctrl Delay			12.1					
HCM 2010 LOS			B					



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	120	32	17	570	865	72		
Future Volume (veh/h)	120	32	17	570	865	72		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	130	35	18	620	940	78		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	215	192	41	2214	1683	753		
Arrive On Green	0.12	0.12	0.02	0.63	0.48	0.48		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	130	35	18	620	940	78		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	2.2	0.6	0.3	2.5	6.0	0.9		
Cycle Q Clear(g_c), s	2.2	0.6	0.3	2.5	6.0	0.9		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	215	192	41	2214	1683	753		
V/C Ratio(X)	0.60	0.18	0.44	0.28	0.56	0.10		
Avail Cap(c_a), veh/h	2079	1856	281	6727	5718	2558		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.2	12.5	15.2	2.7	5.9	4.6		
Incr Delay (d2), s/veh	2.7	0.5	7.2	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	0.6	0.2	1.2	2.9	0.4		
LnGrp Delay(d),s/veh	15.9	12.9	22.4	2.8	6.2	4.6		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	165			638	1018			
Approach Delay, s/veh	15.3			3.3	6.1			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		23.7		7.8	4.7	19.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+I1), s		4.5		4.2	2.3	8.0		
Green Ext Time (p_c), s		4.0		0.4	1.0	7.0		
Intersection Summary								
HCM 2010 Ctrl Delay			5.9					
HCM 2010 LOS			A					

Redding Rancheria
13: SR-273 & Westside Rd/Girvan Rd

Existing Conditions
Timing Plan: Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕	↕	↕	↕	↕
Traffic Volume (veh/h)	6	15	43	157	14	61	26	521	146	93	751	25
Future Volume (veh/h)	6	15	43	157	14	61	26	521	146	93	751	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	7	16	47	171	15	66	28	566	159	101	816	27
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	11	26	76	268	46	200	60	939	420	182	1184	530
Arrive On Green	0.07	0.07	0.07	0.15	0.15	0.15	0.03	0.27	0.27	0.10	0.33	0.33
Sat Flow, veh/h	166	379	1113	1774	302	1327	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	70	0	0	171	0	81	28	566	159	101	816	27
Grp Sat Flow(s),veh/h/ln1658	0	0	0	1774	0	1629	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	1.6	0.0	0.0	3.5	0.0	1.7	0.6	5.4	3.2	2.1	7.7	0.4
Cycle Q Clear(g_c), s	1.6	0.0	0.0	3.5	0.0	1.7	0.6	5.4	3.2	2.1	7.7	0.4
Prop In Lane	0.10		0.67	1.00		0.81	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	113	0	0	268	0	246	60	939	420	182	1184	530
V/C Ratio(X)	0.62	0.00	0.00	0.64	0.00	0.33	0.47	0.60	0.38	0.55	0.69	0.05
Avail Cap(c_a), veh/h	1583	0	0	847	0	777	229	1689	756	229	1689	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.6	0.0	0.0	15.5	0.0	14.7	18.4	12.5	11.6	16.5	11.2	8.7
Incr Delay (d2), s/veh	5.4	0.0	0.0	2.5	0.0	0.8	5.7	0.6	0.6	2.6	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.9	0.0	0.0	0.0	1.9	0.0	0.8	0.4	2.7	1.4	1.1	3.9	0.2
LnGrp Delay(d),s/veh	23.0	0.0	0.0	18.0	0.0	15.5	24.1	13.1	12.2	19.2	11.9	8.8
LnGrp LOS	C			B		B	C	B	B	B	B	A
Approach Vol, veh/h		70			252			753			944	
Approach Delay, s/veh		23.0			17.2			13.3			12.6	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s8.0	14.3			6.6	5.3	17.0		9.8				
Change Period (Y+Rc), s 4.0	4.0			4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s 18.5				37.0	5.0	18.5		18.5				
Max Q Clear Time (g_c+1), s 7.4				3.6	2.6	9.7		5.5				
Green Ext Time (p_c), s 0.0		2.9		0.4	0.1	3.2		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				13.8								
HCM 2010 LOS				B								

Redding Rancheria
14: SR-273 & Canyon Rd

Existing Conditions
Timing Plan: Friday PM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	TT		T	TT	TT	TT		
Traffic Volume (veh/h)	339	61	65	422	487	457		
Future Volume (veh/h)	339	61	65	422	487	457		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	430	0	71	459	529	0		
Adj No. of Lanes	2	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	754	343	128	1935	1253	986		
Arrive On Green	0.21	0.00	0.07	0.55	0.35	0.00		
Sat Flow, veh/h	3548	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	430	0	71	459	529	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	3.6	0.0	1.3	2.2	3.8	0.0		
Cycle Q Clear(g_c), s	3.6	0.0	1.3	2.2	3.8	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	754	343	128	1935	1253	986		
V/C Ratio(X)	0.57	0.00	0.55	0.24	0.42	0.00		
Avail Cap(c_a), veh/h	3204	1458	427	4474	3196	2516		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	11.7	0.0	14.9	3.9	8.2	0.0		
Incr Delay (d2), s/veh	0.7	0.0	3.7	0.1	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.8	1.1	1.9	0.0		
LnGrp Delay(d),s/veh	12.4	0.0	18.6	4.0	8.4	0.0		
LnGrp LOS	B		B	A	A			
Approach Vol, veh/h	430			530	529			
Approach Delay, s/veh	12.4			5.9	8.4			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		22.2		11.1	6.4	15.8		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		
Max Q Clear Time (g_c+I1), s		4.2		5.6	3.3	5.8		
Green Ext Time (p_c), s		6.5		1.6	0.0	6.0		
Intersection Summary								
HCM 2010 Ctrl Delay			8.7					
HCM 2010 LOS			A					
Notes								

Redding Rancheria
15: Canyon Rd & Redding Rancheria Rd

Existing Conditions
Timing Plan: Friday PM Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	352	175	7	220	176	12		
Future Volume (veh/h)	352	175	7	220	176	12		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	383	0	0	244	200	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	529	472	277	470	490	257		
Arrive On Green	0.30	0.00	0.00	0.15	0.14	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	383	0	0	244	200	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	5.6	0.0	0.0	2.1	1.5	0.0		
Cycle Q Clear(g_c), s	5.6	0.0	0.0	2.1	1.5	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	529	472	277	470	490	257		
V/C Ratio(X)	0.72	0.00	0.00	0.52	0.41	0.00		
Avail Cap(c_a), veh/h	1276	1139	1198	2037	2282	1198		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.1	0.0	0.0	11.4	11.4	0.0		
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.9	0.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	0.9	0.8	0.0		
LnGrp Delay(d),s/veh	11.0	0.0	0.0	12.2	11.9	0.0		
LnGrp LOS	B			B	B			
Approach Vol, veh/h	383		244			200		
Approach Delay, s/veh	11.0		12.2			11.9		
Approach LOS	B		B			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.3				8.0		12.6
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		18.6				18.6		20.8
Max Q Clear Time (g_c+I1), s		4.1				3.5		7.6
Green Ext Time (p_c), s		0.8				0.6		1.0
Intersection Summary								
HCM 2010 Ctrl Delay			11.6					
HCM 2010 LOS			B					
Notes								



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	63	75	74	325	411	69		
Future Volume (veh/h)	63	75	74	325	411	69		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	68	82	80	353	447	75		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	93	113	148	2067	1256	562		
Arrive On Green	0.12	0.12	0.08	0.58	0.35	0.35		
Sat Flow, veh/h	750	905	1774	3632	3632	1583		
Grp Volume(v), veh/h	151	0	80	353	447	75		
Grp Sat Flow(s),veh/h/ln	1666	0	1774	1770	1770	1583		
Q Serve(g_s), s	2.4	0.0	1.2	1.3	2.6	0.9		
Cycle Q Clear(g_c), s	2.4	0.0	1.2	1.3	2.6	0.9		
Prop In Lane	0.45	0.54	1.00			1.00		
Lane Grp Cap(c), veh/h	207	0	148	2067	1256	562		
V/C Ratio(X)	0.73	0.00	0.54	0.17	0.36	0.13		
Avail Cap(c_a), veh/h	1821	0	453	6061	4643	2077		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.6	0.0	12.1	2.6	6.5	6.0		
Incr Delay (d2), s/veh	4.8	0.0	3.1	0.0	0.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4	0.0	0.7	0.6	1.3	0.4		
LnGrp Delay(d),s/veh	16.4	0.0	15.2	2.7	6.7	6.1		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	151			433	522			
Approach Delay, s/veh	16.4			5.0	6.6			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		20.0		7.4	6.3	13.7		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+I1), s		3.3		4.4	3.2	4.6		
Green Ext Time (p_c), s		5.4		0.4	0.0	5.2		
Intersection Summary								
HCM 2010 Ctrl Delay			7.3					
HCM 2010 LOS			A					
Notes								

Redding Rancheria
17: SR-273 & North St

Existing Conditions
Timing Plan: Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↕	↖	↖	↕	↖
Traffic Volume (veh/h)	15	112	37	111	109	87	36	173	114	91	266	19
Future Volume (veh/h)	15	112	37	111	109	87	36	173	114	91	266	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	16	122	40	121	118	95	39	188	124	99	289	21
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	249	188	62	252	265	225	79	685	306	154	834	373
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.04	0.19	0.19	0.09	0.24	0.24
Sat Flow, veh/h	1774	1344	441	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	16	0	162	121	118	95	39	188	124	99	289	21
Grp Sat Flow(s),veh/h/ln	1774	0	1785	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.3	0.0	3.1	2.3	2.1	2.0	0.8	1.7	2.5	2.0	2.5	0.4
Cycle Q Clear(g_c), s	0.3	0.0	3.1	2.3	2.1	2.0	0.8	1.7	2.5	2.0	2.5	0.4
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	249	0	250	252	265	225	79	685	306	154	834	373
V/C Ratio(X)	0.06	0.00	0.65	0.48	0.45	0.42	0.49	0.27	0.40	0.64	0.35	0.06
Avail Cap(c_a), veh/h	1746	0	1757	873	917	779	291	1742	779	339	1838	822
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	0.0	14.9	14.4	14.4	14.3	17.1	12.6	12.9	16.2	11.6	10.8
Incr Delay (d2), s/veh	0.1	0.0	2.8	1.4	1.2	1.3	4.6	0.2	0.9	4.4	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.7	1.2	1.2	0.9	0.5	0.8	1.2	1.2	1.2	0.2
LnGrp Delay(d),s/veh	13.8	0.0	17.7	15.9	15.5	15.6	21.7	12.8	13.8	20.6	11.9	10.9
LnGrp LOS	B		B	B	B	B	C	B	B	C	B	B
Approach Vol, veh/h		178			334			351			409	
Approach Delay, s/veh		17.3			15.7			14.1			13.9	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	11.1		9.1	5.6	12.6		9.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.0			36.0	6.0	19.0		18.0				
Max Q Clear Time (g_c+1), s	4.5			5.1	2.8	4.5		4.3				
Green Ext Time (p_c), s	0.0	2.6		1.0	0.0	2.7		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay				14.9								
HCM 2010 LOS				B								

Redding Rancheria
18: Oak St & North St

Existing Conditions
Timing Plan: Friday PM Peak

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↕			↕		
Traffic Vol, veh/h	21	304	4	12	382	42	3	7	16	39	6	10
Future Vol, veh/h	21	304	4	12	382	42	3	7	16	39	6	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	330	4	13	415	46	3	8	17	42	7	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	461	0	0	335	0	0	615	865	333	855	844	230
Stage 1	-	-	-	-	-	-	378	378	-	464	464	-
Stage 2	-	-	-	-	-	-	237	487	-	391	380	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1098	-	-	1223	-	-	389	291	708	265	299	773
Stage 1	-	-	-	-	-	-	643	614	-	548	563	-
Stage 2	-	-	-	-	-	-	746	550	-	633	613	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1098	-	-	1223	-	-	368	282	708	247	290	773
Mov Cap-2 Maneuver	-	-	-	-	-	-	368	282	-	247	290	-
Stage 1	-	-	-	-	-	-	630	601	-	537	557	-
Stage 2	-	-	-	-	-	-	719	544	-	597	600	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	13.2	20.8
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	468	1098	-	-	1223	-	-	287
HCM Lane V/C Ratio	0.06	0.021	-	-	0.011	-	-	0.208
HCM Control Delay (s)	13.2	8.3	-	-	8	-	-	20.8
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.8

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↑↑		↑↑			↓	↓
Traffic Vol, veh/h	0	0	391	0	312	0	0	232	161
Future Vol, veh/h	0	0	391	0	312	0	0	232	161
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	425	0	339	0	0	252	175
Number of Lanes	0	0	2	0	2	0	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	10.8	10.3	13.6
HCM LOS	B	B	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	196	196	156	156	232	161
LT Vol	0	0	0	0	232	0
Through Vol	196	196	156	156	0	0
RT Vol	0	0	0	0	0	161
Lane Flow Rate	212	212	170	170	252	175
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.371	0.267	0.3	0.217	0.479	0.273
Departure Headway (Hd)	6.278	4.515	6.379	4.614	6.835	5.622
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	572	793	563	775	527	639
Service Time	4.027	2.263	4.132	2.365	4.577	3.364
HCM Lane V/C Ratio	0.371	0.267	0.302	0.219	0.478	0.274
HCM Control Delay	12.7	8.9	11.9	8.7	15.7	10.5
HCM Lane LOS	B	A	B	A	C	B
HCM 95th-tile Q	1.7	1.1	1.3	0.8	2.6	1.1

Intersection

Intersection Delay, s/veh 22.6

Intersection LOS C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↖	↕			↖	↕			↖		↖				
Traffic Vol, veh/h	0	130	185	283	0	118	217	25	0	92	192	160	0	0	0	0
Future Vol, veh/h	0	130	185	283	0	118	217	25	0	92	192	160	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	141	201	308	0	128	236	27	0	100	209	174	0	0	0	0
Number of Lanes	0	1	2	0	0	1	2	0	0	1	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	21.8	14.8	29.9
HCM LOS	C	B	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	55%	0%	100%	18%	0%	100%	74%
Vol Right, %	0%	45%	0%	0%	82%	0%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	92	352	130	123	345	118	145	97
LT Vol	92	0	130	0	0	118	0	0
Through Vol	0	192	0	123	62	0	145	72
RT Vol	0	160	0	0	283	0	0	25
Lane Flow Rate	100	383	141	134	375	128	157	106
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.232	0.799	0.322	0.286	0.738	0.31	0.357	0.235
Departure Headway (Hd)	8.345	7.521	8.196	7.681	7.089	8.699	8.182	7.996
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	430	482	438	467	510	413	439	448
Service Time	6.106	5.282	5.958	5.442	4.849	6.47	5.953	5.767
HCM Lane V/C Ratio	0.233	0.795	0.322	0.287	0.735	0.31	0.358	0.237
HCM Control Delay	13.6	34.1	14.8	13.5	27.4	15.4	15.5	13.2
HCM Lane LOS	B	D	B	B	D	C	C	B
HCM 95th-tile Q	0.9	7.4	1.4	1.2	6.2	1.3	1.6	0.9

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↗		↖	↑↗			↕		↖		
Traffic Vol, veh/h	1	231	11	22	230	11	15	3	53	26	0	0
Future Vol, veh/h	1	231	11	22	230	11	15	3	53	26	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	251	12	24	250	12	16	3	58	28	0	0




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	262	0	0	263	0	0	432	569	132	433	-	-
Stage 1	-	-	-	-	-	-	259	259	-	304	-	-
Stage 2	-	-	-	-	-	-	173	310	-	129	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	-
Pot Cap-1 Maneuver	1299	-	-	1298	-	-	507	430	893	507	0	0
Stage 1	-	-	-	-	-	-	723	692	-	681	0	0
Stage 2	-	-	-	-	-	-	812	658	-	861	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1299	-	-	1298	-	-	500	422	893	465	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	500	422	-	465	-	-
Stage 1	-	-	-	-	-	-	722	691	-	680	-	-
Stage 2	-	-	-	-	-	-	797	646	-	801	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.7	10.5	13.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	736	1299	-	-	1298	-	-	465
HCM Lane V/C Ratio	0.105	0.001	-	-	0.018	-	-	0.061
HCM Control Delay (s)	10.5	7.8	-	-	7.8	-	-	13.2
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.2

Redding Rancheria
22: I-5 SB On Ramp/Ventura St & Balls Ferry Rd

Existing Conditions
Timing Plan: Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	258	42	285	258	19	0	0	0	14	59	6
Future Volume (veh/h)	3	258	42	285	258	19	0	0	0	14	59	6
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	3	280	46	310	280	21				15	64	7
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	7	380	62	1241	2902	1298				99	92	10
Arrive On Green	0.00	0.12	0.12	0.70	0.82	0.82				0.06	0.06	0.06
Sat Flow, veh/h	1774	3050	495	1774	3539	1583				1774	1650	181
Grp Volume(v), veh/h	3	161	165	310	280	21				15	0	71
Grp Sat Flow(s),veh/h/ln	1774	1770	1775	1774	1770	1583				1774	0	1831
Q Serve(g_s), s	0.2	8.8	9.0	6.4	1.5	0.2				0.8	0.0	3.8
Cycle Q Clear(g_c), s	0.2	8.8	9.0	6.4	1.5	0.2				0.8	0.0	3.8
Prop In Lane	1.00		0.28	1.00		1.00				1.00		0.10
Lane Grp Cap(c), veh/h	7	220	221	1241	2902	1298				99	0	103
V/C Ratio(X)	0.42	0.73	0.75	0.25	0.10	0.02				0.15	0.00	0.69
Avail Cap(c_a), veh/h	89	442	444	1241	2902	1298				550	0	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.7	42.2	42.2	5.5	1.8	1.6				44.9	0.0	46.4
Incr Delay (d2), s/veh	35.4	19.1	20.3	0.1	0.1	0.0				0.7	0.0	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.5	5.6	3.1	0.8	0.1				0.4	0.0	2.2
LnGrp Delay(d),s/veh	85.1	61.3	62.5	5.6	1.8	1.7				45.6	0.0	54.4
LnGrp LOS	F	E	E	A	A	A				D		D
Approach Vol, veh/h		329			611						86	
Approach Delay, s/veh		62.1			3.7						52.9	
Approach LOS		E			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			73.9	16.5		9.6	4.4	86.0				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			32.0	25.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			8.4	11.0		5.8	2.2	3.5				
Green Ext Time (p_c), s			2.7	1.5		0.4	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			26.6									
HCM 2010 LOS			C									

Redding Rancheria
 23: I-5 NB Off Ramp/McMurray Dr & Balls Ferry Rd

Existing Conditions
 Timing Plan: Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↗	↖	↗		↖
Traffic Volume (veh/h)	62	205	0	0	402	198	49	102	164	232	0	152
Future Volume (veh/h)	62	205	0	0	402	198	49	102	164	232	0	152
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	67	223	0	0	437	215	53	111	178	252	0	165
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	85	2758	0	0	1595	778	250	262	223	0	0	0
Arrive On Green	0.10	1.00	0.00	0.00	0.69	0.69	0.14	0.14	0.14	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2401	1126	1774	1863	1583		0	
Grp Volume(v), veh/h	67	223	0	0	334	318	53	111	178		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1664	1774	1863	1583			
Q Serve(g_s), s	3.7	0.0	0.0	0.0	7.2	7.3	2.6	5.4	10.9			
Cycle Q Clear(g_c), s	3.7	0.0	0.0	0.0	7.2	7.3	2.6	5.4	10.9			
Prop In Lane	1.00		0.00	0.00		0.68	1.00		1.00			
Lane Grp Cap(c), veh/h	85	2758	0	0	1223	1150	250	262	223			
V/C Ratio(X)	0.79	0.08	0.00	0.00	0.27	0.28	0.21	0.42	0.80			
Avail Cap(c_a), veh/h	89	2758	0	0	1223	1150	603	633	538			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.99	0.99	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	44.7	0.0	0.0	0.0	5.9	5.9	38.1	39.3	41.6			
Incr Delay (d2), s/veh	34.8	0.1	0.0	0.0	0.6	0.6	0.4	1.1	6.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.0	0.0	3.6	3.5	1.3	2.9	5.1			
LnGrp Delay(d),s/veh	79.5	0.1	0.0	0.0	6.4	6.5	38.5	40.3	48.1			
LnGrp LOS	E	A			A	A	D	D	D			
Approach Vol, veh/h		290			652			342				
Approach Delay, s/veh		18.4			6.5			44.1				
Approach LOS		B			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		18.1		81.9			8.8	73.1				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+I1), s		12.9		2.0			5.7	9.3				
Green Ext Time (p_c), s		1.2		6.2			0.0	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay				19.2								
HCM 2010 LOS				B								

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Vol, veh/h	0	18	36	0	0	0
Future Vol, veh/h	0	18	36	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	39	0	0	0

























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	39	0	59
Stage 1	-	-	39
Stage 2	-	-	20
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1571	-	948
Stage 1	-	-	983
Stage 2	-	-	1003
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1571	-	948
Mov Cap-2 Maneuver	-	-	948
Stage 1	-	-	983
Stage 2	-	-	1003

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1571	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Existing Conditions
Timing Plan: Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	31	52	351	56	123	34	312	222	192	341	2
Future Volume (veh/h)	0	31	52	351	56	123	34	312	222	192	341	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	34	57	382	116	98	37	339	241	209	371	2
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	418	187	475	651	553	288	882	395	375	693	310
Arrive On Green	0.00	0.12	0.12	0.13	0.35	0.35	0.16	0.25	0.25	0.11	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	34	57	382	116	98	37	339	241	209	371	2
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.4	1.4	4.3	1.8	0.9	0.7	3.3	5.5	2.4	3.9	0.0
Cycle Q Clear(g_c), s	0.0	0.4	1.4	4.3	1.8	0.9	0.7	3.3	5.5	2.4	3.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	418	187	475	651	553	288	882	395	375	693	310
V/C Ratio(X)	0.00	0.08	0.30	0.80	0.18	0.18	0.13	0.38	0.61	0.56	0.54	0.01
Avail Cap(c_a), veh/h	238	3492	1562	475	1838	1562	288	3129	1400	981	3664	1639
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	16.1	16.6	17.3	9.3	2.6	14.7	12.8	13.6	17.3	14.8	10.3
Incr Delay (d2), s/veh	0.0	0.1	0.9	9.7	0.1	0.2	0.2	0.3	1.5	1.3	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.6	2.7	0.9	0.7	0.4	1.6	2.6	1.2	1.9	0.0
LnGrp Delay(d),s/veh	0.0	16.2	17.5	26.9	9.4	2.8	14.9	13.1	15.2	18.6	15.5	10.3
LnGrp LOS		B	B	C	A	A	B	B	B	B	B	B
Approach Vol, veh/h		91			596			617			582	
Approach Delay, s/veh		17.0			19.5			14.0			16.6	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	14.2	9.5	8.8	10.7	12.0	0.0	18.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	11.7	36.3	5.5	40.5	5.5	42.5	5.5	40.5				
Max Q Clear Time (g_c+I1), s	4.4	7.5	6.3	3.4	2.7	5.9	0.0	3.8				
Green Ext Time (p_c), s	0.4	2.7	0.0	0.3	0.2	2.2	0.0	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			16.7									
HCM 2010 LOS			B									
Notes												

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Existing Conditions
Timing Plan: Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	575	0	0	669	101	0	0	0	92	0	25
Future Volume (veh/h)	17	575	0	0	669	101	0	0	0	92	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	18	625	0	0	727	110	0	0	0	100	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	2271	0	5	1760	787	0	214	0	327	0	35
Arrive On Green	0.02	0.64	0.00	0.00	0.50	0.50	0.00	0.00	0.00	0.12	0.00	0.12
Sat Flow, veh/h	1774	3632	0	1774	3539	1583	0	1863	0	1138	0	307
Grp Volume(v), veh/h	18	625	0	0	727	110	0	0	0	127	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	1583	0	1863	0	1445	0	0
Q Serve(g_s), s	0.3	2.5	0.0	0.0	4.3	1.2	0.0	0.0	0.0	2.8	0.0	0.0
Cycle Q Clear(g_c), s	0.3	2.5	0.0	0.0	4.3	1.2	0.0	0.0	0.0	2.8	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	0.00		0.00	0.79		0.21
Lane Grp Cap(c), veh/h	41	2271	0	5	1760	787	0	214	0	362	0	0
V/C Ratio(X)	0.44	0.28	0.00	0.00	0.41	0.14	0.00	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	270	3227	0	270	3227	1443	0	2434	0	2084	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.9	2.6	0.0	0.0	5.2	4.5	0.0	0.0	0.0	14.1	0.0	0.0
Incr Delay (d2), s/veh	7.3	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.2	0.0	0.0	2.1	0.5	0.0	0.0	0.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	23.1	2.6	0.0	0.0	5.4	4.6	0.0	0.0	0.0	14.7	0.0	0.0
LnGrp LOS	C	A			A	A				B		
Approach Vol, veh/h		643			837			0			127	
Approach Delay, s/veh		3.2			5.3			0.0			14.7	
Approach LOS		A			A						B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		7.8	0.0	25.1		7.8	4.8	20.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		43.0	5.0	30.0		43.0	5.0	30.0				
Max Q Clear Time (g_c+I1), s		0.0	0.0	4.5		4.8	2.3	6.3				
Green Ext Time (p_c), s		0.0	0.0	10.4		0.7	0.0	10.1				
Intersection Summary												
HCM 2010 Ctrl Delay				5.2								
HCM 2010 LOS				A								

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Existing Conditions
Timing Plan: Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	617	10	5	696	65	15	4	13	81	3	96
Future Volume (veh/h)	69	617	10	5	696	65	15	4	13	81	3	96
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	75	671	11	5	757	71	16	4	14	90	0	104
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	1762	29	12	1536	687	55	14	61	388	0	173
Arrive On Green	0.07	0.49	0.49	0.01	0.43	0.43	0.04	0.04	0.04	0.11	0.00	0.11
Sat Flow, veh/h	1774	3564	58	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	75	333	349	5	757	71	20	0	14	90	0	104
Grp Sat Flow(s),veh/h/ln	1774	1770	1852	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	1.9	5.3	5.3	0.1	7.0	1.2	0.5	0.0	0.4	1.1	0.0	2.9
Cycle Q Clear(g_c), s	1.9	5.3	5.3	0.1	7.0	1.2	0.5	0.0	0.4	1.1	0.0	2.9
Prop In Lane	1.00		0.03	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	119	875	916	12	1536	687	69	0	61	388	0	173
V/C Ratio(X)	0.63	0.38	0.38	0.42	0.49	0.10	0.29	0.00	0.23	0.23	0.00	0.60
Avail Cap(c_a), veh/h	234	1456	1524	195	2835	1268	727	0	643	2569	0	1147
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.7	7.2	7.2	22.5	9.3	7.6	21.3	0.0	21.3	18.5	0.0	19.4
Incr Delay (d2), s/veh	5.3	0.3	0.3	21.7	0.2	0.1	2.3	0.0	1.9	0.3	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.7	2.8	0.1	3.4	0.5	0.3	0.0	0.2	0.5	0.0	1.4
LnGrp Delay(d),s/veh	26.0	7.4	7.4	44.2	9.5	7.7	23.6	0.0	23.2	18.9	0.0	22.7
LnGrp LOS	C	A	A	D	A	A	C		C	B		C
Approach Vol, veh/h		757			833			34			194	
Approach Delay, s/veh		9.3			9.6			23.4			20.9	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		5.7	4.3	26.5		9.0	7.1	23.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		2.5	2.1	7.3		4.9	3.9	9.0				
Green Ext Time (p_c), s		0.1	0.0	11.1		0.6	0.0	10.8				
Intersection Summary												
HCM 2010 Ctrl Delay			10.9									
HCM 2010 LOS			B									
Notes												

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Existing Conditions
Timing Plan: Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	560	162	127	426	0	0	0	0	94	1	339
Future Volume (veh/h)	0	560	162	127	426	0	0	0	0	94	1	339
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	609	176	138	463	0				102	1	368
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	884	251	649	2265	0				457	4	412
Arrive On Green	0.00	0.22	0.22	0.73	1.00	0.00				0.26	0.26	0.26
Sat Flow, veh/h	0	4107	1116	1774	3632	0				1758	17	1583
Grp Volume(v), veh/h	0	522	263	138	463	0				103	0	368
Grp Sat Flow(s),veh/h/ln	0	1695	1666	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	11.3	11.6	2.0	0.0	0.0				3.6	0.0	17.9
Cycle Q Clear(g_c), s	0.0	11.3	11.6	2.0	0.0	0.0				3.6	0.0	17.9
Prop In Lane	0.00		0.67	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	761	374	649	2265	0				461	0	412
V/C Ratio(X)	0.00	0.69	0.70	0.21	0.20	0.00				0.22	0.00	0.89
Avail Cap(c_a), veh/h	0	1229	604	649	2265	0				555	0	495
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.97	0.97	0.97	0.97	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	28.4	28.6	7.1	0.0	0.0				23.3	0.0	28.5
Incr Delay (d2), s/veh	0.0	4.8	10.2	0.2	0.2	0.0				0.2	0.0	16.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.8	6.4	0.9	0.1	0.0				1.8	0.0	9.6
LnGrp Delay(d),s/veh	0.0	33.3	38.8	7.2	0.2	0.0				23.5	0.0	45.0
LnGrp LOS		C	D	A	A					C		D
Approach Vol, veh/h		785			601						471	
Approach Delay, s/veh		35.1			1.8						40.3	
Approach LOS		D			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			33.2	22.0		24.8		55.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			14.0	29.0		25.0		47.0				
Max Q Clear Time (g_c+I1), s			4.0	13.6		19.9		2.0				
Green Ext Time (p_c), s			2.3	4.3		0.9		3.5				
Intersection Summary												
HCM 2010 Ctrl Delay			25.6									
HCM 2010 LOS			C									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Existing Conditions
Timing Plan: Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	322	335	0	0	400	110	143	2	119	0	0	0
Future Volume (veh/h)	322	335	0	0	400	110	143	2	119	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	350	364	0	0	435	120	155	2	129			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	385	2760	0	0	1814	812	211	3	190			
Arrive On Green	0.43	1.00	0.00	0.00	1.00	1.00	0.12	0.12	0.12			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	23	1583			
Grp Volume(v), veh/h	350	364	0	0	435	120	157	0	129			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	14.7	0.0	0.0	0.0	0.0	0.0	6.8	0.0	6.2			
Cycle Q Clear(g_c), s	14.7	0.0	0.0	0.0	0.0	0.0	6.8	0.0	6.2			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	385	2760	0	0	1814	812	214	0	190			
V/C Ratio(X)	0.91	0.13	0.00	0.00	0.24	0.15	0.74	0.00	0.68			
Avail Cap(c_a), veh/h	532	2760	0	0	1814	812	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.97	0.97	0.00	0.00	0.80	0.80	1.00	0.00	1.00			
Uniform Delay (d), s/veh	21.9	0.0	0.0	0.0	0.0	0.0	34.0	0.0	33.7			
Incr Delay (d2), s/veh	15.2	0.1	0.0	0.0	0.2	0.3	4.9	0.0	4.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.6	0.0	0.0	0.0	0.1	0.1	3.6	0.0	2.9			
LnGrp Delay(d),s/veh	37.1	0.1	0.0	0.0	0.2	0.3	38.8	0.0	37.9			
LnGrp LOS	D	A			A	A	D		D			
Approach Vol, veh/h		714			555			286				
Approach Delay, s/veh		18.2			0.3			38.4				
Approach LOS		B			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		13.6		66.4			21.4	45.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+I1), s		8.8		2.0			16.7	2.0				
Green Ext Time (p_c), s		0.8		6.3			0.6	5.6				
Intersection Summary												
HCM 2010 Ctrl Delay				15.5								
HCM 2010 LOS				B								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Existing Conditions
Timing Plan: Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	263	13	2	243	41	7	1	2	91	0	198
Future Volume (veh/h)	176	263	13	2	243	41	7	1	2	91	0	198
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	191	286	14	2	264	45	8	1	2	99	0	215
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	758	339	5	422	71	665	83	664	291	0	259
Arrive On Green	0.16	0.43	0.43	0.00	0.14	0.14	0.42	0.42	0.42	0.16	0.00	0.16
Sat Flow, veh/h	3442	3539	1583	1774	3032	510	1585	198	1583	1774	0	1583
Grp Volume(v), veh/h	191	286	14	2	153	156	9	0	2	99	0	215
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1773	1783	0	1583	1774	0	1583
Q Serve(g_s), s	4.2	4.4	0.4	0.1	6.5	6.7	0.2	0.0	0.1	4.0	0.0	10.5
Cycle Q Clear(g_c), s	4.2	4.4	0.4	0.1	6.5	6.7	0.2	0.0	0.1	4.0	0.0	10.5
Prop In Lane	1.00		1.00	1.00		0.29	0.89		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	758	339	5	246	247	748	0	664	291	0	259
V/C Ratio(X)	0.71	0.38	0.04	0.41	0.62	0.63	0.01	0.00	0.00	0.34	0.00	0.83
Avail Cap(c_a), veh/h	344	951	426	111	409	410	748	0	664	410	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.9	19.2	18.1	39.8	32.4	32.5	13.6	0.0	13.5	29.6	0.0	32.4
Incr Delay (d2), s/veh	4.8	0.3	0.0	48.3	2.5	2.7	0.0	0.0	0.0	0.7	0.0	10.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.2	0.2	0.1	3.4	3.4	0.1	0.0	0.0	2.0	0.0	5.3
LnGrp Delay(d),s/veh	37.7	19.5	18.1	88.2	35.0	35.2	13.6	0.0	13.5	30.3	0.0	42.8
LnGrp LOS	D	B	B	F	C	D	B		B	C		D
Approach Vol, veh/h		491			311			11			314	
Approach Delay, s/veh		26.6			35.4			13.6			38.9	
Approach LOS		C			D			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		37.5	4.2	21.1		17.1	10.2	15.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		2.2	2.1	6.4		12.5	6.2	8.7				
Green Ext Time (p_c), s		0.0	0.0	3.0		0.6	0.1	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay				32.3								
HCM 2010 LOS				C								

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	72	276	261	16	10	72
Future Vol, veh/h	72	276	261	16	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	300	284	17	11	78

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	301	0	151
Stage 1	-	-	292
Stage 2	-	-	307
Critical Hdwy	4.14	-	6.94
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.32
Pot Cap-1 Maneuver	1257	-	868
Stage 1	-	-	732
Stage 2	-	-	719
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1257	-	868
Mov Cap-2 Maneuver	-	-	401
Stage 1	-	-	732
Stage 2	-	-	666

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1257	-	-	-	401	868
HCM Lane V/C Ratio	0.062	-	-	-	0.027	0.09
HCM Control Delay (s)	8.1	-	-	-	14.2	9.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Intersection

Int Delay, s/veh 4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	90	177	192	29	43	106
Future Vol, veh/h	90	177	192	29	43	106
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	192	209	32	47	115

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	240	0	224
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	6.22
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	3.318
Pot Cap-1 Maneuver	1327	-	815
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1327	-	815
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1327	-	-	-	642
HCM Lane V/C Ratio	0.074	-	-	-	0.252
HCM Control Delay (s)	7.9	-	-	-	12.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1

Intersection

Int Delay, s/veh 5.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	132	79	68	17	17	152
Future Vol, veh/h	132	79	68	17	17	152
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	143	86	74	18	18	165

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	92	0	83
Stage 1	-	-	83
Stage 2	-	-	373
Critical Hdwy	4.12	-	6.22
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.318
Pot Cap-1 Maneuver	1503	-	976
Stage 1	-	-	940
Stage 2	-	-	696
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1503	-	976
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	940
Stage 2	-	-	630

Approach	EB	WB	SB
HCM Control Delay, s	4.8	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1503	-	-	-	894
HCM Lane V/C Ratio	0.095	-	-	-	0.205
HCM Control Delay (s)	7.6	-	-	-	10.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.8

Intersection
















Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			↑	↑	
Traffic Vol, veh/h	11	7	3	64	80	19
Future Vol, veh/h	11	7	3	64	80	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	8	3	70	87	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	173	97	108	0	-	0
Stage 1	97	-	-	-	-	-
Stage 2	76	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	817	959	1483	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	815	959	1483	-	-	-
Mov Cap-2 Maneuver	815	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	945	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1483	-	866	-	-
HCM Lane V/C Ratio	0.002	-	0.023	-	-
HCM Control Delay (s)	7.4	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	 			 	 			
Traffic Volume (veh/h)	201	170	124	351	467	250		
Future Volume (veh/h)	201	170	124	351	467	250		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	218	185	135	382	508	272		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	679	313	181	2067	1319	590		
Arrive On Green	0.20	0.20	0.10	0.58	0.37	0.37		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	218	185	135	382	508	272		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	2.0	3.9	2.7	1.8	3.8	4.8		
Cycle Q Clear(g_c), s	2.0	3.9	2.7	1.8	3.8	4.8		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	679	313	181	2067	1319	590		
V/C Ratio(X)	0.32	0.59	0.75	0.18	0.39	0.46		
Avail Cap(c_a), veh/h	3573	1644	339	5222	4158	1860		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.6	13.3	16.0	3.5	8.4	8.7		
Incr Delay (d2), s/veh	0.3	1.8	6.0	0.0	0.2	0.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	3.5	1.6	0.9	1.9	2.1		
LnGrp Delay(d),s/veh	12.9	15.1	22.0	3.6	8.6	9.3		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	403			517	780			
Approach Delay, s/veh	13.9			8.4	8.8			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		5	6		
Phs Duration (G+Y+Rc), s	25.4		11.2		7.7	17.6		
Change Period (Y+Rc), s	4.0		4.0		4.0	4.0		
Max Green Setting (Gmax), s	54.0		38.0		7.0	43.0		
Max Q Clear Time (g_c+I1), s	3.8		5.9		4.7	6.8		
Green Ext Time (p_c), s	7.1		1.5		0.1	6.9		
Intersection Summary								
HCM 2010 Ctrl Delay			9.9					
HCM 2010 LOS			A					



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	67	16	19	410	582	52		
Future Volume (veh/h)	67	16	19	410	582	52		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	73	17	21	446	633	57		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	166	148	48	2050	1374	615		
Arrive On Green	0.09	0.09	0.03	0.58	0.39	0.39		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	73	17	21	446	633	57		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	1.0	0.2	0.3	1.5	3.3	0.6		
Cycle Q Clear(g_c), s	1.0	0.2	0.3	1.5	3.3	0.6		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	166	148	48	2050	1374	615		
V/C Ratio(X)	0.44	0.11	0.44	0.22	0.46	0.09		
Avail Cap(c_a), veh/h	2686	2397	363	8689	7385	3304		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.5	10.1	11.7	2.5	5.6	4.7		
Incr Delay (d2), s/veh	1.8	0.3	6.1	0.1	0.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.6	0.2	0.2	0.7	1.6	0.2		
LnGrp Delay(d),s/veh	12.3	10.5	17.8	2.5	5.8	4.8		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	90			467	690			
Approach Delay, s/veh	12.0			3.2	5.7			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		18.2		6.3	4.7	13.5		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+I1), s		3.5		3.0	2.3	5.3		
Green Ext Time (p_c), s		2.8		0.2	0.7	4.2		
Intersection Summary								
HCM 2010 Ctrl Delay			5.2					
HCM 2010 LOS			A					

Redding Rancheria
13: SR-273 & Westside Rd/Girvan Rd

Existing Conditions
Timing Plan: Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕	↕	↕	↕	↕
Traffic Volume (veh/h)	11	9	30	101	5	51	23	374	100	68	496	23
Future Volume (veh/h)	11	9	30	101	5	51	23	374	100	68	496	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	12	10	33	110	5	55	25	407	109	74	539	25
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	18	61	218	16	181	60	820	367	134	969	433
Arrive On Green	0.06	0.06	0.06	0.12	0.12	0.12	0.03	0.23	0.23	0.08	0.27	0.27
Sat Flow, veh/h	364	303	1001	1774	134	1470	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	55	0	0	110	0	60	25	407	109	74	539	25
Grp Sat Flow(s),veh/h/ln	1668	0	0	1774	0	1603	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	1.0	0.0	0.0	1.8	0.0	1.1	0.4	3.1	1.8	1.3	4.1	0.4
Cycle Q Clear(g_c), s	1.0	0.0	0.0	1.8	0.0	1.1	0.4	3.1	1.8	1.3	4.1	0.4
Prop In Lane	0.22		0.60	1.00		0.92	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	101	0	0	218	0	197	60	820	367	134	969	433
V/C Ratio(X)	0.54	0.00	0.00	0.50	0.00	0.30	0.42	0.50	0.30	0.55	0.56	0.06
Avail Cap(c_a), veh/h	1963	0	0	1044	0	943	282	2083	932	282	2083	932
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.3	0.0	0.0	12.9	0.0	12.6	14.9	10.5	10.0	14.0	9.8	8.4
Incr Delay (d2), s/veh	4.5	0.0	0.0	1.8	0.0	0.9	4.6	0.5	0.4	3.5	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	1.0	0.0	0.5	0.3	1.6	0.8	0.7	2.0	0.2
LnGrp Delay(d),s/veh	18.8	0.0	0.0	14.7	0.0	13.4	19.5	11.0	10.4	17.5	10.3	8.5
LnGrp LOS	B			B		B	B	B	B	B	B	A
Approach Vol, veh/h		55			170			541			638	
Approach Delay, s/veh		18.8			14.2			11.2			11.0	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	11.3		5.9	5.1	12.6		7.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.5	18.5		37.0	5.0	18.5		18.5				
Max Q Clear Time (g_c+1), s	13.3	5.1		3.0	2.4	6.1		3.8				
Green Ext Time (p_c), s	0.0	2.1		0.3	0.0	2.5		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				11.8								
HCM 2010 LOS				B								

Redding Rancheria
14: SR-273 & Canyon Rd

Existing Conditions
Timing Plan: Saturday PM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	TTT		T	TT	TT	TT		
Traffic Volume (veh/h)	286	41	59	248	272	354		
Future Volume (veh/h)	286	41	59	248	272	354		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	353	0	64	270	296	0		
Adj No. of Lanes	2	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	703	320	126	1747	949	747		
Arrive On Green	0.20	0.00	0.07	0.49	0.27	0.00		
Sat Flow, veh/h	3548	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	353	0	64	270	296	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	2.3	0.0	0.9	1.1	1.7	0.0		
Cycle Q Clear(g_c), s	2.3	0.0	0.9	1.1	1.7	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	703	320	126	1747	949	747		
V/C Ratio(X)	0.50	0.00	0.51	0.15	0.31	0.00		
Avail Cap(c_a), veh/h	4101	1867	479	5728	4228	3329		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.3	0.0	11.6	3.6	7.6	0.0		
Incr Delay (d2), s/veh	0.6	0.0	3.1	0.0	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.6	0.5	0.8	0.0		
LnGrp Delay(d),s/veh	9.8	0.0	14.7	3.6	7.8	0.0		
LnGrp LOS	A		B	A	A			
Approach Vol, veh/h	353			334	296			
Approach Delay, s/veh	9.8			5.8	7.8			
Approach LOS	A			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		16.8		9.1	5.8	11.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	7.0	31.0		
Max Q Clear Time (g_c+I1), s		3.1		4.3	2.9	3.7		
Green Ext Time (p_c), s		3.4		1.3	0.0	3.2		
Intersection Summary								
HCM 2010 Ctrl Delay			7.8					
HCM 2010 LOS			A					
Notes								

Redding Rancheria
15: Canyon Rd & Redding Rancheria Rd

Existing Conditions
Timing Plan: Saturday PM Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	197	203	8	211	149	8		
Future Volume (veh/h)	197	203	8	211	149	8		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	214	0	0	235	168	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	374	334	303	514	492	258		
Arrive On Green	0.21	0.00	0.00	0.16	0.14	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	214	0	0	235	168	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	2.7	0.0	0.0	1.7	1.1	0.0		
Cycle Q Clear(g_c), s	2.7	0.0	0.0	1.7	1.1	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	374	334	303	514	492	258		
V/C Ratio(X)	0.57	0.00	0.00	0.46	0.34	0.00		
Avail Cap(c_a), veh/h	1442	1287	1439	2446	2740	1439		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	8.7	0.0	0.0	9.3	9.6	0.0		
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.6	0.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	0.8	0.5	0.0		
LnGrp Delay(d),s/veh	10.1	0.0	0.0	10.0	10.0	0.0		
LnGrp LOS	B			A	A			
Approach Vol, veh/h	214		235			168		
Approach Delay, s/veh	10.1		10.0			10.0		
Approach LOS	B		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.0				7.4		9.2
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		19.0				19.0		20.0
Max Q Clear Time (g_c+I1), s		3.7				3.1		4.7
Green Ext Time (p_c), s		0.8				0.5		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			10.0					
HCM 2010 LOS			B					
Notes								



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	40	53	56	232	233	45		
Future Volume (veh/h)	40	53	56	232	233	45		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	43	58	61	252	253	49		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	74	99	125	1891	1004	449		
Arrive On Green	0.11	0.11	0.07	0.53	0.28	0.28		
Sat Flow, veh/h	700	945	1774	3632	3632	1583		
Grp Volume(v), veh/h	102	0	61	252	253	49		
Grp Sat Flow(s),veh/h/ln	1661	0	1774	1770	1770	1583		
Q Serve(g_s), s	1.3	0.0	0.7	0.8	1.2	0.5		
Cycle Q Clear(g_c), s	1.3	0.0	0.7	0.8	1.2	0.5		
Prop In Lane	0.42	0.57	1.00			1.00		
Lane Grp Cap(c), veh/h	175	0	125	1891	1004	449		
V/C Ratio(X)	0.58	0.00	0.49	0.13	0.25	0.11		
Avail Cap(c_a), veh/h	2245	0	559	7494	5740	2568		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	9.5	0.0	9.9	2.6	6.1	5.9		
Incr Delay (d2), s/veh	3.1	0.0	2.9	0.0	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.5	0.4	0.6	0.2		
LnGrp Delay(d),s/veh	12.5	0.0	12.8	2.6	6.3	6.0		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	102			313	302			
Approach Delay, s/veh	12.5			4.6	6.2			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		15.9		6.3	5.6	10.3		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+I1), s		2.8		3.3	2.7	3.2		
Green Ext Time (p_c), s		3.1		0.3	0.0	3.1		
Intersection Summary								
HCM 2010 Ctrl Delay			6.4					
HCM 2010 LOS			A					
Notes								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↕	↖	↖	↕	↖
Traffic Volume (veh/h)	5	74	12	67	59	73	18	144	82	63	171	10
Future Volume (veh/h)	5	74	12	67	59	73	18	144	82	63	171	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	5	80	13	73	64	79	20	157	89	68	186	11
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	145	23	244	256	218	45	617	276	127	781	349
Arrive On Green	0.09	0.09	0.09	0.14	0.14	0.14	0.03	0.17	0.17	0.07	0.22	0.22
Sat Flow, veh/h	1774	1564	254	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	5	0	93	73	64	79	20	157	89	68	186	11
Grp Sat Flow(s),veh/h/ln	1774	0	1818	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.1	0.0	1.5	1.1	0.9	1.4	0.3	1.2	1.5	1.1	1.3	0.2
Cycle Q Clear(g_c), s	0.1	0.0	1.5	1.1	0.9	1.4	0.3	1.2	1.5	1.1	1.3	0.2
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	164	0	168	244	256	218	45	617	276	127	781	349
V/C Ratio(X)	0.03	0.00	0.55	0.30	0.25	0.36	0.44	0.25	0.32	0.53	0.24	0.03
Avail Cap(c_a), veh/h	2091	0	2143	1046	1098	933	349	2086	933	407	2202	985
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	0.0	13.3	11.8	11.8	12.0	14.7	10.9	11.0	13.7	9.8	9.3
Incr Delay (d2), s/veh	0.1	0.0	2.8	0.7	0.5	1.0	6.6	0.2	0.7	3.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.9	0.6	0.5	0.7	0.2	0.6	0.7	0.7	0.7	0.1
LnGrp Delay(d),s/veh	12.7	0.0	16.1	12.5	12.3	13.0	21.3	11.1	11.7	17.1	9.9	9.4
LnGrp LOS	B		B	B	B	B	C	B	B	B	A	A
Approach Vol, veh/h		98			216			266			265	
Approach Delay, s/veh		15.9			12.6			12.1			11.8	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	9.3		6.8	4.8	10.7		8.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.0			36.0	6.0	19.0		18.0				
Max Q Clear Time (g_c+1), s	3.5			3.5	2.3	3.3		3.4				
Green Ext Time (p_c), s	0.0	1.8		0.5	0.0	1.9		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay				12.6								
HCM 2010 LOS				B								

Redding Rancheria
18: Oak St & North St

Existing Conditions
Timing Plan: Saturday PM Peak

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	11	195	2	9	201	30	3	3	13	47	10	9
Future Vol, veh/h	11	195	2	9	201	30	3	3	13	47	10	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	212	2	10	218	33	3	3	14	51	11	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	251	0	0	214	0	0	371	508	213	500	492	126
Stage 1	-	-	-	-	-	-	237	237	-	254	254	-
Stage 2	-	-	-	-	-	-	134	271	-	246	238	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1313	-	-	1355	-	-	573	467	826	467	477	901
Stage 1	-	-	-	-	-	-	766	708	-	729	696	-
Stage 2	-	-	-	-	-	-	856	685	-	757	708	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1313	-	-	1355	-	-	550	459	826	451	469	901
Mov Cap-2 Maneuver	-	-	-	-	-	-	550	459	-	451	469	-
Stage 1	-	-	-	-	-	-	759	702	-	722	691	-
Stage 2	-	-	-	-	-	-	827	680	-	734	702	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	10.4	13.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	685	1313	-	-	1355	-	-	487
HCM Lane V/C Ratio	0.03	0.009	-	-	0.007	-	-	0.147
HCM Control Delay (s)	10.4	7.8	-	-	7.7	-	-	13.7
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.5

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↑↑		↑↑			↓	↓
Traffic Vol, veh/h	0	0	267	0	178	0	0	139	100
Future Vol, veh/h	0	0	267	0	178	0	0	139	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	290	0	193	0	0	151	109
Number of Lanes	0	0	2	0	2	0	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	8.4	8.1	9.9
HCM LOS	A	A	A

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	134	134	89	89	139	100
LT Vol	0	0	0	0	139	0
Through Vol	134	134	89	89	0	0
RT Vol	0	0	0	0	0	100
Lane Flow Rate	145	145	97	97	151	109
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.219	0.148	0.148	0.101	0.253	0.146
Departure Headway (Hd)	5.429	3.68	5.515	3.764	6.035	4.829
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	660	969	648	945	592	737
Service Time	3.173	1.423	3.267	1.515	3.806	2.599
HCM Lane V/C Ratio	0.22	0.15	0.15	0.103	0.255	0.148
HCM Control Delay	9.7	7.1	9.2	6.9	10.9	8.4
HCM Lane LOS	A	A	A	A	B	A
HCM 95th-tile Q	0.8	0.5	0.5	0.3	1	0.5

Intersection

Intersection Delay, s/veh 12.1

Intersection LOS B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↖	↕			↖	↕			↖		↖				
Traffic Vol, veh/h	0	73	129	189	0	89	120	27	0	61	116	133	0	0	0	0
Future Vol, veh/h	0	73	129	189	0	89	120	27	0	61	116	133	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	79	140	205	0	97	130	29	0	66	126	145	0	0	0	0
Number of Lanes	0	1	2	0	0	1	2	0	0	1	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	11.7	10.9	13.5
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	47%	0%	100%	19%	0%	100%	60%
Vol Right, %	0%	53%	0%	0%	81%	0%	0%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	61	249	73	86	232	89	80	67
LT Vol	61	0	73	0	0	89	0	0
Through Vol	0	116	0	86	43	0	80	40
RT Vol	0	133	0	0	189	0	0	27
Lane Flow Rate	66	271	79	93	252	97	87	73
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.129	0.461	0.152	0.166	0.406	0.193	0.161	0.129
Departure Headway (Hd)	7.004	6.131	6.883	6.375	5.795	7.187	6.678	6.391
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	511	587	520	561	618	498	535	559
Service Time	4.759	3.885	4.639	4.131	3.551	4.952	4.443	4.156
HCM Lane V/C Ratio	0.129	0.462	0.152	0.166	0.408	0.195	0.163	0.131
HCM Control Delay	10.8	14.1	10.9	10.4	12.5	11.7	10.7	10.1
HCM Lane LOS	B	B	B	B	B	B	B	B
HCM 95th-tile Q	0.4	2.4	0.5	0.6	2	0.7	0.6	0.4

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕		↖		
Traffic Vol, veh/h	1	131	4	37	181	5	12	4	33	14	5	2
Future Vol, veh/h	1	131	4	37	181	5	12	4	33	14	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	142	4	40	197	5	13	4	36	15	5	2




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	202	0	0	147	0	0	329	430	73	356	429	101
Stage 1	-	-	-	-	-	-	147	147	-	280	280	-
Stage 2	-	-	-	-	-	-	182	283	-	76	149	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1367	-	-	1432	-	-	600	516	974	575	517	935
Stage 1	-	-	-	-	-	-	841	774	-	703	678	-
Stage 2	-	-	-	-	-	-	802	676	-	924	773	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1367	-	-	1432	-	-	581	501	974	538	502	935
Mov Cap-2 Maneuver	-	-	-	-	-	-	581	501	-	538	502	-
Stage 1	-	-	-	-	-	-	840	773	-	702	659	-
Stage 2	-	-	-	-	-	-	771	657	-	884	772	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.3	9.9	11.5
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	784	1367	-	-	1432	-	-	568
HCM Lane V/C Ratio	0.068	0.001	-	-	0.028	-	-	0.031
HCM Control Delay (s)	9.9	7.6	-	-	7.6	-	-	11.5
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.1

Redding Rancheria
22: I-5 SB On Ramp/Ventura St & Balls Ferry Rd

Existing Conditions
Timing Plan: Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	140	31	239	209	15	0	0	0	9	37	18
Future Volume (veh/h)	2	140	31	239	209	15	0	0	0	9	37	18
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	2	152	34	260	227	16				10	40	20
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	5	1915	418	300	2934	1312				86	57	28
Arrive On Green	0.00	0.66	0.66	0.17	0.83	0.83				0.05	0.05	0.05
Sat Flow, veh/h	1774	2890	631	1774	3539	1583				1774	1173	586
Grp Volume(v), veh/h	2	92	94	260	227	16				10	0	60
Grp Sat Flow(s),veh/h/ln	1774	1770	1751	1774	1770	1583				1774	0	1759
Q Serve(g_s), s	0.1	1.8	1.9	14.3	1.2	0.2				0.5	0.0	3.4
Cycle Q Clear(g_c), s	0.1	1.8	1.9	14.3	1.2	0.2				0.5	0.0	3.4
Prop In Lane	1.00		0.36	1.00		1.00				1.00		0.33
Lane Grp Cap(c), veh/h	5	1172	1160	300	2934	1312				86	0	85
V/C Ratio(X)	0.42	0.08	0.08	0.87	0.08	0.01				0.12	0.00	0.70
Avail Cap(c_a), veh/h	89	1172	1160	568	2934	1312				550	0	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.8	6.0	6.0	40.5	1.6	1.5				45.5	0.0	46.9
Incr Delay (d2), s/veh	48.9	0.1	0.1	7.3	0.0	0.0				0.6	0.0	10.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.9	1.0	7.6	0.6	0.1				0.3	0.0	1.9
LnGrp Delay(d),s/veh	98.7	6.1	6.2	47.7	1.6	1.5				46.1	0.0	57.0
LnGrp LOS	F	A	A	D	A	A				D		E
Approach Vol, veh/h		188			503							70
Approach Delay, s/veh		7.1			25.4							55.5
Approach LOS		A			C							E
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			20.9	70.3		8.8	4.3	86.9				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			32.0	25.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			16.3	3.9		5.4	2.1	3.2				
Green Ext Time (p_c), s			0.6	2.4		0.3	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			23.7									
HCM 2010 LOS			C									

Redding Rancheria
23: I-5 NB Off Ramp/McMurray Dr & Balls Ferry Rd

Existing Conditions
Timing Plan: Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↗	↖	↗		↖
Traffic Volume (veh/h)	33	109	0	0	322	138	33	76	95	162	0	130
Future Volume (veh/h)	33	109	0	0	322	138	33	76	95	162	0	130
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	36	118	0	0	350	150	36	83	103	176	0	141
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	56	2934	0	0	1840	775	161	169	144	0	0	0
Arrive On Green	0.01	0.27	0.00	0.00	0.76	0.76	0.09	0.09	0.09	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2522	1023	1774	1863	1583		0	
Grp Volume(v), veh/h	36	118	0	0	253	247	36	83	103		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1682	1774	1863	1583			
Q Serve(g_s), s	2.0	2.4	0.0	0.0	4.1	4.2	1.9	4.2	6.3			
Cycle Q Clear(g_c), s	2.0	2.4	0.0	0.0	4.1	4.2	1.9	4.2	6.3			
Prop In Lane	1.00		0.00	0.00		0.61	1.00		1.00			
Lane Grp Cap(c), veh/h	56	2934	0	0	1341	1274	161	169	144			
V/C Ratio(X)	0.64	0.04	0.00	0.00	0.19	0.19	0.22	0.49	0.72			
Avail Cap(c_a), veh/h	89	2934	0	0	1341	1274	603	633	538			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	48.9	7.1	0.0	0.0	3.4	3.4	42.2	43.3	44.2			
Incr Delay (d2), s/veh	11.6	0.0	0.0	0.0	0.3	0.3	0.7	2.2	6.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.2	1.2	0.0	0.0	2.1	2.0	1.0	2.3	3.0			
LnGrp Delay(d),s/veh	60.5	7.1	0.0	0.0	3.7	3.8	42.9	45.4	50.7			
LnGrp LOS	E	A			A	A	D	D	D			
Approach Vol, veh/h		154			500			222				
Approach Delay, s/veh		19.6			3.8			47.5				
Approach LOS		B			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		13.1		86.9			7.2	79.8				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+I1), s		8.3		4.4			4.0	6.2				
Green Ext Time (p_c), s		0.8		4.0			0.0	3.7				
Intersection Summary												
HCM 2010 Ctrl Delay				17.6								
HCM 2010 LOS				B								

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Vol, veh/h	0	18	22	0	0	0
Future Vol, veh/h	0	18	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	24	0	44
Stage 1	-	-	24
Stage 2	-	-	20
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1591	-	967
Stage 1	-	-	999
Stage 2	-	-	1003
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1591	-	967
Mov Cap-2 Maneuver	-	-	967
Stage 1	-	-	999
Stage 2	-	-	1003

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1591	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information	Site Information
Analyst	Highway / Direction of Travel <i>Smith Road (WB)</i>
Agency or Company	From/To <i>w/o Churn Creek Road</i>
Date Performed <i>6/7/2017</i>	Jurisdiction
Analysis Time Period <i>Saturday PM Peak-Hour</i>	Analysis Year <i>2017</i>

Project Description: *Redding Rancheria*

Input Data

Segment length, L_1 _____ mi

Class I highway Class II highway
 Class III highway

Terrain Level Rolling

Grade Length _____ mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *100%*

% Trucks and Buses, P_T *3%*

% Recreational vehicles, P_R *4%*

Access points *mi* *5/mi*

Analysis direction vol., V_d	<i>22veh/h</i>
Opposing direction vol., V_o	<i>18veh/h</i>
Shoulder width ft	<i>6.0</i>
Lane Width ft	<i>12.0</i>
Segment Length mi	<i>0.2</i>

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>25</i>	<i>20</i>

Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed
Mean speed of sample ³ , S_{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>
Total demand flow rate, both directions, v	Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>
Free-flow speed, $FFS = S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$	Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>1.3 mi/h</i>
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>2.9 mi/h</i>	Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>58.8 mi/h</i>
	Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + V_{o,ATS}) - f_{np,ATS}$ <i>55.6 mi/h</i>
	Percent free flow speed, PFFS <i>94.6 %</i>

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>24</i>	<i>20</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>3.0</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>53.0</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + V_{o,PTSF})$	<i>31.9</i>	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	<i>A</i>
Volume to capacity ratio, v/c	<i>0.01</i>

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	94.6
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	23.9
Effective width, Wv (Eq. 15-29) ft	40.02
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, $BLOS$ (Eq. 15-31)	-3.91
Bicycle level of service (Exhibit 15-4)	A
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information	Site Information
Analyst	Highway / Direction of Travel <i>Smith Road (EB)</i>
Agency or Company	From/To <i>w/o Churn Creek Road</i>
Date Performed <i>6/7/2017</i>	Jurisdiction
Analysis Time Period <i>Saturday PM Peak-Hour</i>	Analysis Year <i>2017</i>

Project Description: *Redding Rancheria*

Input Data

Segment length, L_1 _____ mi

Class I highway Class II highway
 Class III highway

Terrain Level Rolling

Grade Length _____ mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *100%*

% Trucks and Buses, P_T *3%*

% Recreational vehicles, P_R *4%*

Access points *mi* *5/mi*

Analysis direction vol., V_d	<i>18veh/h</i>
Oposing direction vol., V_o	<i>22veh/h</i>
Shoulder width ft	<i>6.0</i>
Lane Width ft	<i>12.0</i>
Segment Length mi	<i>0.2</i>

Average Travel Speed

	Analysis Direction (d)	Oposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>20</i>	<i>25</i>
Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, $FFS = S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$	Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>1.3 mi/h</i>	
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>2.9 mi/h</i>	Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>58.8 mi/h</i>	
	Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + V_{o,ATS}) - f_{np,ATS}$ <i>55.6 mi/h</i>	
	Percent free flow speed, PFFS <i>94.6 %</i>	

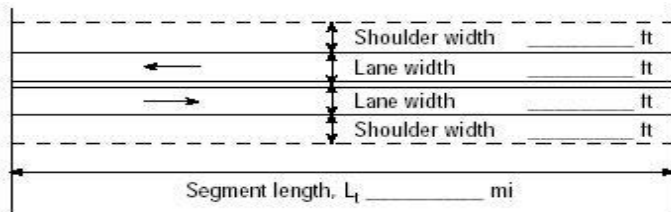

Percent Time-Spent-Following

	Analysis Direction (d)	Oposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>20</i>	<i>24</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>2.5</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>53.0</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + V_{o,PTSF})$	<i>26.6</i>	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	<i>A</i>
Volume to capacity ratio, v/c	<i>0.01</i>

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	94.6
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	19.6
Effective width, Wv (Eq. 15-29) ft	40.38
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, $BLOS$ (Eq. 15-31)	-4.14
Bicycle level of service (Exhibit 15-4)	A
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>Church Creek Road (WB)</i>	
Agency or Company	From/To <i>e/o Alrose Ln</i>	
Date Performed <i>6/7/2017</i>	Jurisdiction	
Analysis Time Period <i>Saturday PM Peak-Hour</i>	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div style="width: 45%;"> <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <p>Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling</p> <p>Grade Length <i>mi</i> Up/down</p> <p>Peak-hour factor, PHF <i>0.92</i></p> <p>No-passing zone <i>100%</i></p> <p>% Trucks and Buses, P_T <i>3%</i></p> <p>% Recreational vehicles, P_R <i>4%</i></p> <p>Access points <i>mi</i> <i>5/mi</i></p> <div style="text-align: center;">  Show North Arrow </div>	
Analysis direction vol., V _d <i>277veh/h</i>		
Opposing direction vol., V _o <i>286veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.2</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	<i>1.4</i>	<i>1.4</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV,ATS} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.988</i>	<i>0.988</i>
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{g,ATS} *f _{HV,ATS})	<i>305</i>	<i>315</i>
Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed	
Mean speed of sample ³ , S _{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width, ⁴ f _{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, FFS=S _{FM} +0.00776(v/f _{HV,ATS})	Adj. for access points ⁴ , f _A (Exhibit 15-8) <i>1.3 mi/h</i>	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15) <i>3.9 mi/h</i>	Free-flow speed, FFS (FFS=BFFS-f _{LS} -f _A) <i>58.8 mi/h</i>	
	Average travel speed, ATS _d =FFS-0.00776(v _{d,ATS} + V _{o,ATS}) - f _{np,ATS} <i>50.1 mi/h</i>	
	Percent free flow speed, PFFS <i>85.2 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{HV,PTSF} *f _{g,PTSF})	<i>302</i>	<i>312</i>
Base percent time-spent-following ⁴ , BPTSF _d (%)=100(1-e ^{-av_d})	<i>32.8</i>	
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	<i>55.9</i>	
Percent time-spent-following, PTSF _d (%)=BPTSF _d +f _{np,PTSF} *(v _{d,PTSF} /v _{d,PTSF} +V _{o,PTSF})	<i>60.3</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>B</i>	
Volume to capacity ratio, v/c	<i>0.18</i>	

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1680
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	85.2
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	301.1
Effective width, Wv (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.50
Bicycle level of service (Exhibit 15-4)	C
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information	Site Information
Analyst	Highway / Direction of Travel <i>Church Creek Road (EB)</i>
Agency or Company	From/To <i>e/o Alrose Ln</i>
Date Performed <i>6/7/2017</i>	Jurisdiction
Analysis Time Period <i>Saturday PM Peak-Hour</i>	Analysis Year <i>2017</i>

Project Description: *Redding Rancheria*

Input Data

Segment length, L_1 _____ mi

Class I highway Class II highway
 Class III highway

Terrain Level Rolling

Grade Length _____ mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *100%*

% Trucks and Buses, P_T *3%*

% Recreational vehicles, P_R *4%*

Access points *mi* *5/mi*

Analysis direction vol., V_d	<i>286veh/h</i>
Opposing direction vol., V_o	<i>277veh/h</i>
Shoulder width ft	<i>6.0</i>
Lane Width ft	<i>12.0</i>
Segment Length mi	<i>0.2</i>

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.4</i>	<i>1.4</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.988</i>	<i>0.988</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>315</i>	<i>305</i>
Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM}	<i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	<i>0.0 mi/h</i>	
Free-flow speed, $FFS = S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$	<i>1.3 mi/h</i>	
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>3.9 mi/h</i>	<i>58.8 mi/h</i>	
	<i>50.1 mi/h</i>	
	<i>85.2 %</i>	

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>312</i>	<i>302</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>33.9</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>55.9</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>62.3</i>	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	<i>B</i>
Volume to capacity ratio, v/c	<i>0.19</i>

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1680
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	85.2
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	310.9
Effective width, Wv (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.52
Bicycle level of service (Exhibit 15-4)	C
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	903	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	10.2	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	807	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	807	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	452	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	452	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, Dc	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	10.2	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/7/2017 11:02:23

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_SAT_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	779	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	8.8	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	696	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

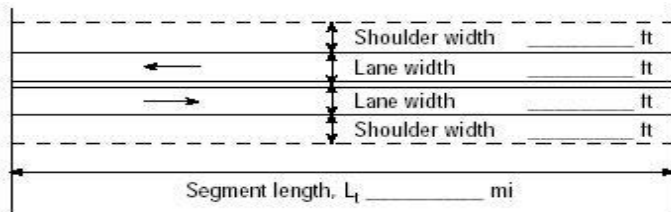

Step 4: Adjust Demand Volume

Demand Volume, V	696	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	390	pc/h/ln

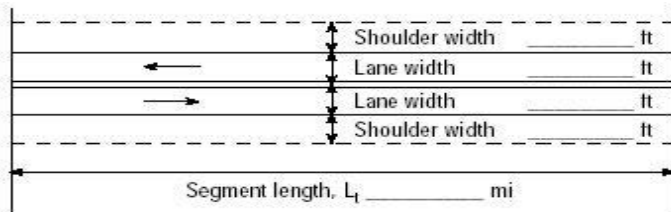

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	390	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, Dc	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	8.8	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/7/2017 11:02:10

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>Bechelli Lane (SB)</i>	
Agency or Company	From/To <i>s/o Bonnyview Road</i>	
Date Performed <i>6/7/2017</i>	Jurisdiction	
Analysis Time Period <i>Saturday PM Peak-Hour</i>	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
 <p style="font-size: small;">Shoulder width _____ ft Lane width _____ ft Lane width _____ ft Shoulder width _____ ft</p> <p style="text-align: center;">Segment length, L_1 _____ mi</p>	<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">  Show North Arrow </div> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling Grade Length _____ mi Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>100%</i> % Trucks and Buses, P_T <i>3%</i> % Recreational vehicles, P_R <i>4%</i> Access points <i>mi</i> <i>20/mi</i> </div> </div>	
Analysis direction vol., V_d <i>18veh/h</i>	Opposing direction vol., V_o <i>32veh/h</i>	
Shoulder width ft <i>6.0</i>	Lane Width ft <i>12.0</i>	
Segment Length mi <i>0.2</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i=V_i/(PHF * f_{g,ATS} * f_{HV,ATS})$	<i>20</i>	<i>36</i>
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed
Mean speed of sample ³ , S_{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width, ⁴ f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, $FFS=S_{FM}+0.00776(\sqrt{v_{HV,ATS}})$	Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>5.0 mi/h</i>	
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>2.7 mi/h</i>	Free-flow speed, FFS ($FFS=BFFS-f_{LS}-f_A$) <i>55.0 mi/h</i>	
	Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS} + V_{o,ATS}) - f_{np,ATS}$ <i>51.9 mi/h</i>	
	Percent free flow speed, PFFS <i>94.3 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i=V_i/(PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>20</i>	<i>35</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%)=100(1-e^{av_d^b})$	<i>2.5</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>51.7</i>	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + V_{o,PTSF})$	<i>21.3</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>A</i>	
Volume to capacity ratio, v/c	<i>0.01</i>	

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	94.3
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	19.6
Effective width, Wv (Eq. 15-29) ft	40.38
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-4.14
Bicycle level of service (Exhibit 15-4)	A
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>Bechelli Lane (NB)</i>	
Agency or Company	From/To <i>s/o Bonnyview Road</i>	
Date Performed <i>6/7/2017</i>	Jurisdiction	
Analysis Time Period <i>Saturday PM Peak-Hour</i>	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
	<input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling Grade Length mi Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>100%</i> % Trucks and Buses, P _T <i>3%</i> % Recreational vehicles, P _R <i>4%</i> Access points <i>mi</i> <i>20/mi</i>	
Analysis direction vol., V _d <i>32veh/h</i>	 Show North Arrow	
Opposing direction vol., V _o <i>18veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.2</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV,ATS} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{g,ATS} *f _{HV,ATS})	<i>36</i>	<i>20</i>
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed
Mean speed of sample ³ , S _{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width, ⁴ f _{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, FFS=S _{FM} +0.00776(v ^{1/4} f _{HV,ATS})	Adj. for access points ⁴ , f _A (Exhibit 15-8) <i>5.0 mi/h</i>	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15) <i>2.7 mi/h</i>	Free-flow speed, FFS (FFS=BFFS-f _{LS} -f _A) <i>55.0 mi/h</i>	
	Average travel speed, ATS _d =FFS-0.00776(v _{d,ATS} ^{1/4} +v _{o,ATS} ^{1/4})-f _{np,ATS} <i>51.9 mi/h</i>	
	Percent free flow speed, PFFS <i>94.3 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{HV,PTSF} *f _{g,PTSF})	<i>35</i>	<i>20</i>
Base percent time-spent-following ⁴ , BPTSF _d (%)=100(1-e ^{-av_d})	<i>4.4</i>	
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	<i>51.7</i>	
Percent time-spent-following, PTSF _d (%)=BPTSF _d +f _{np,PTSF} (v _{d,PTSF} ^{1/4} +v _{o,PTSF} ^{1/4})	<i>37.3</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>A</i>	
Volume to capacity ratio, v/c	<i>0.02</i>	

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	94.3
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	34.8
Effective width, Wv (Eq. 15-29) ft	39.12
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-3.36
Bicycle level of service (Exhibit 15-4)	A
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information	Site Information
Analyst	Highway / Direction of Travel <i>Smith Road (WB)</i>
Agency or Company	From/To <i>w/o Churn Creek Road</i>
Date Performed <i>6/7/2017</i>	Jurisdiction
Analysis Time Period <i>Friday PM Peak-Hour</i>	Analysis Year <i>2017</i>

Project Description: *Redding Rancheria*

Input Data

Segment length, L_1 _____ mi

Class I highway Class II highway
 Class III highway

Terrain Level Rolling

Grade Length _____ mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *0%*

% Trucks and Buses, P_T *3%*

% Recreational vehicles, P_R *4%*

Access points *mi* *10/mi*

Analysis direction vol., V_d	<i>36veh/h</i>
Oposing direction vol., V_o	<i>18veh/h</i>
Shoulder width ft	<i>6.0</i>
Lane Width ft	<i>12.0</i>
Segment Length mi	<i>0.6</i>

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>40</i>	<i>20</i>

Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed
Mean speed of sample ³ , S_{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>
Total demand flow rate, both directions, v	Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>
Free-flow speed, $FFS = S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$	Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>2.5 mi/h</i>
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>0.6 mi/h</i>	Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>57.5 mi/h</i>
	Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + V_{o,ATS}) - f_{np,ATS}$ <i>56.4 mi/h</i>
	Percent free flow speed, PFFS <i>98.1 %</i>

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>39</i>	<i>20</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>4.8</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>10.3</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + V_{o,PTSF})$	<i>11.6</i>	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	<i>A</i>
Volume to capacity ratio, v/c	<i>0.02</i>

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	98.1
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	39.1
Effective width, Wv (Eq. 15-29) ft	38.76
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-3.16
Bicycle level of service (Exhibit 15-4)	A
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information	Site Information
Analyst	Highway / Direction of Travel <i>Smith Road (EB)</i>
Agency or Company	From/To <i>w/o Churn Creek Road</i>
Date Performed <i>6/7/2017</i>	Jurisdiction
Analysis Time Period <i>Friday PM Peak-Hour</i>	Analysis Year <i>2017</i>

Project Description: *Redding Rancheria*

Input Data

Segment length, L_1 _____ mi

Class I highway Class II highway
 Class III highway

Terrain Level Rolling

Grade Length _____ mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *0%*

% Trucks and Buses, P_T *3%*

% Recreational vehicles, P_R *4%*

Access points *mi* *10/mi*

Analysis direction vol., V_d	<i>18veh/h</i>
Oposing direction vol., V_o	<i>36veh/h</i>
Shoulder width ft	<i>6.0</i>
Lane Width ft	<i>12.0</i>
Segment Length mi	<i>0.6</i>

Average Travel Speed

	Analysis Direction (d)	Oposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>20</i>	<i>40</i>
Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, $FFS = S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$	Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>2.5 mi/h</i>	
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>0.6 mi/h</i>	Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>57.5 mi/h</i>	
	Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + V_{o,ATS}) - f_{np,ATS}$ <i>56.4 mi/h</i>	
	Percent free flow speed, PFFS <i>98.1 %</i>	

Percent Time-Spent-Following

	Analysis Direction (d)	Oposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>20</i>	<i>39</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>2.5</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>10.3</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + V_{o,PTSF})$	<i>6.0</i>	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	<i>A</i>
Volume to capacity ratio, v/c	<i>0.01</i>

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	98.1
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	19.6
Effective width, Wv (Eq. 15-29) ft	40.38
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-4.14
Bicycle level of service (Exhibit 15-4)	A
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information	Site Information
Analyst	Highway / Direction of Travel <i>Church Creek Road (WB)</i>
Agency or Company	From/To <i>e/o Alrose Ln</i>
Date Performed <i>6/7/2017</i>	Jurisdiction
Analysis Time Period	Analysis Year <i>2017</i>

Project Description: *Redding Rancheria*

Input Data

Segment length, L_1 _____ mi

Class I highway Class II highway
 Class III highway

Terrain Level Rolling
 Grade Length _____ mi Up/down
 Peak-hour factor, PHF *0.92*
 No-passing zone *100%*
 % Trucks and Buses, P_T *3%*
 % Recreational vehicles, P_R *4%*
 Access points *mi* *5/mi*

Analysis direction vol., V_d	<i>395veh/h</i>
Oposing direction vol., V_o	<i>516veh/h</i>
Shoulder width ft	<i>6.0</i>
Lane Width ft	<i>12.0</i>
Segment Length mi	<i>0.2</i>

Average Travel Speed

	Analysis Direction (d)	Oposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.3</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.991</i>	<i>0.997</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>433</i>	<i>563</i>

Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed
Mean speed of sample ³ , S_{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>
Total demand flow rate, both directions, v	Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>
Free-flow speed, $FFS = S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$	Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>1.3 mi/h</i>
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>2.3 mi/h</i>	Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>58.8 mi/h</i>
	Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ <i>48.7 mi/h</i>
	Percent free flow speed, PFFS <i>83.0 %</i>

Percent Time-Spent-Following

	Analysis Direction (d)	Oposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>1.000</i>	<i>1.000</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>429</i>	<i>561</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>47.4</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>38.2</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>64.0</i>	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	<i>C</i>
Volume to capacity ratio, v/c	<i>0.25</i>

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1695
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1700
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	83.0
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	429.3
Effective width, Wv (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.68
Bicycle level of service (Exhibit 15-4)	C
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information	Site Information
Analyst	Highway / Direction of Travel <i>Church Creek Road (EB)</i>
Agency or Company	From/To <i>e/o Alrose Ln</i>
Date Performed <i>6/7/2017</i>	Jurisdiction
Analysis Time Period	Analysis Year <i>2017</i>

Project Description: *Redding Rancheria*

Input Data

Segment length, L_1 _____ mi

Class I highway Class II highway
 Class III highway

Terrain Level Rolling

Grade Length _____ mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *100%*

% Trucks and Buses, P_T *3%*

% Recreational vehicles, P_R *4%*

Access points *mi* *5/mi*

Analysis direction vol., V_d	<i>516</i> veh/h
Opposing direction vol., V_o	<i>395</i> veh/h
Shoulder width ft	<i>6.0</i>
Lane Width ft	<i>12.0</i>
Segment Length mi	<i>0.2</i>

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.1</i>	<i>1.3</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.991</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>563</i>	<i>433</i>

Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed
Mean speed of sample ³ , S_{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>
Total demand flow rate, both directions, v	Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>
Free-flow speed, $FFS = S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$	Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>1.3 mi/h</i>
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>3.4 mi/h</i>	Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>58.8 mi/h</i>
	Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + V_{o,ATS}) - f_{np,ATS}$ <i>47.7 mi/h</i>
	Percent free flow speed, PFFS <i>81.1 %</i>

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>1.000</i>	<i>1.000</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>561</i>	<i>429</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>54.4</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>38.2</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + V_{o,PTSF})$	<i>76.0</i>	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	<i>C</i>
Volume to capacity ratio, v/c	<i>0.33</i>

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1685
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1700
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	81.1
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	560.9
Effective width, Wv (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.82
Bicycle level of service (Exhibit 15-4)	C
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1304	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	14.8	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1165	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	1165	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	652	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	652	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, Dc	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	14.8	pc/mi/ln
Level of service, LOS	B	

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MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_FRI_Bonnyview.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyview Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1255	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	14.2	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1121	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

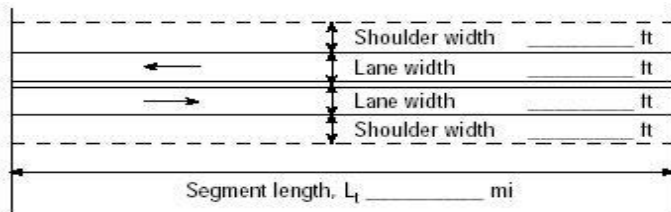
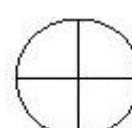
Step 4: Adjust Demand Volume

Demand Volume, V	1121	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	628	pc/h/ln

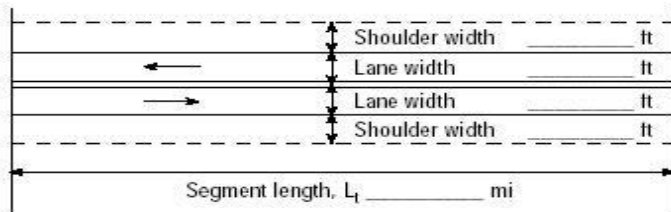

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	628	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	14.2	pc/mi/ln
Level of service, LOS	B	

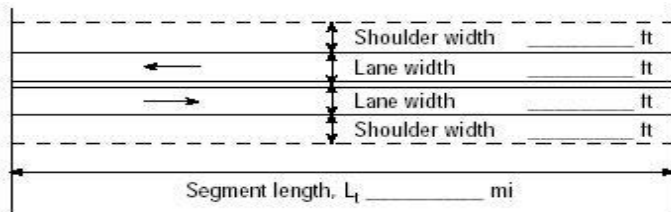

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DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>Bechelli Lane (SB)</i>	
Agency or Company	From/To <i>s/o Bonnyview Road</i>	
Date Performed <i>6/7/2017</i>	Jurisdiction	
Analysis Time Period	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div style="width: 45%;"> <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="margin-top: 10px;">  <p>Show North Arrow</p> </div> <div style="margin-top: 10px;"> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling Grade Length <i>mi</i> Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>100%</i> % Trucks and Buses, P_T <i>3%</i> % Recreational vehicles, P_R <i>4%</i> Access points <i>mi</i> <i>20/mi</i> </div>	
Analysis direction vol., V _d <i>26veh/h</i>		
Opposing direction vol., V _o <i>59veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.2</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV,ATS} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{g,ATS} *f _{HV,ATS})	<i>29</i>	<i>66</i>
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed
Mean speed of sample ³ , S _{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width, ⁴ f _{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, FFS=S _{FM} +0.00776(v/f _{HV,ATS})	Adj. for access points ⁴ , f _A (Exhibit 15-8) <i>5.0 mi/h</i>	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15) <i>2.7 mi/h</i>	Free-flow speed, FFS (FFS=BFFS-f _{LS} -f _A) <i>55.0 mi/h</i>	
	Average travel speed, ATS _d =FFS-0.00776(v _{d,ATS} + V _{o,ATS}) - f _{np,ATS} <i>51.6 mi/h</i>	
	Percent free flow speed, PFFS <i>93.8 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{HV,PTSF} *f _{g,PTSF})	<i>28</i>	<i>64</i>
Base percent time-spent-following ⁴ , BPTSF _d (%)=100(1-e ^{-av_d})	<i>3.5</i>	
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	<i>49.3</i>	
Percent time-spent-following, PTSF _d (%)=BPTSF _d +f _{np,PTSF} *(v _{d,PTSF} /v _{d,PTSF} +V _{o,PTSF})	<i>18.5</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>A</i>	
Volume to capacity ratio, v/c	<i>0.02</i>	

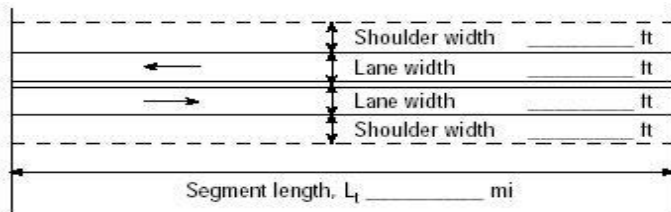

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	93.8
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	28.3
Effective width, Wv (Eq. 15-29) ft	39.66
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-3.69
Bicycle level of service (Exhibit 15-4)	A
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>Bechelli Lane (NB)</i>	
Agency or Company	From/To <i>s/o Bonnyview Road</i>	
Date Performed <i>6/7/2017</i>	Jurisdiction	
Analysis Time Period	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway</p> <p>highway <input checked="" type="checkbox"/> Class III highway</p> <p>Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling</p> <p>Grade Length <i>mi</i> Up/down</p> <p>Peak-hour factor, PHF <i>0.92</i></p> <p>No-passing zone <i>100%</i></p> <p>% Trucks and Buses, P_T <i>3%</i></p> <p>% Recreational vehicles, P_R <i>4%</i></p> <p>Access points <i>mi</i> <i>20/mi</i></p> </div> <div style="width: 45%; text-align: center;">  <p>Show North Arrow</p> </div> </div>	
Analysis direction vol., V _d <i>59veh/h</i>		
Opposing direction vol., V _o <i>26veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.2</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV,ATS} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{g,ATS} *f _{HV,ATS})	<i>66</i>	<i>29</i>
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed
Mean speed of sample ³ , S _{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width, ⁴ f _{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, FFS=S _{FM} +0.00776(v/f _{HV,ATS})	Adj. for access points ⁴ , f _A (Exhibit 15-8) <i>5.0 mi/h</i>	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15) <i>2.7 mi/h</i>	Free-flow speed, FFS (FFS=BFFS-f _{LS} -f _A) <i>55.0 mi/h</i>	
	Average travel speed, ATS _d =FFS-0.00776(v _{d,ATS} + V _{o,ATS}) - f _{np,ATS} <i>51.6 mi/h</i>	
	Percent free flow speed, PFFS <i>93.8 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{HV,PTSF} *f _{g,PTSF})	<i>64</i>	<i>28</i>
Base percent time-spent-following ⁴ , BPTSF _d (%)=100(1-e ^{-av_d})	<i>7.7</i>	
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	<i>49.3</i>	
Percent time-spent-following, PTSF _d (%)=BPTSF _d +f _{np,PTSF} *(v _{d,PTSF} /v _{d,PTSF} +V _{o,PTSF})	<i>42.0</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>A</i>	
Volume to capacity ratio, v/c	<i>0.04</i>	

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	93.8
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	64.1
Effective width, Wv (Eq. 15-29) ft	36.69
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-2.13
Bicycle level of service (Exhibit 15-4)	A
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>Oak St, s/o North St (SB)</i>	
Agency or Company	From/To	
Date Performed <i>6/8/2017</i>	Jurisdiction	
Analysis Time Period <i>Saturday PM Peak-Hour</i>	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
 <p style="font-size: small;">Shoulder width _____ ft Lane width _____ ft Lane width _____ ft Shoulder width _____ ft</p> <p style="text-align: center;">Segment length, L_1 _____ mi</p>	<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">  Show North Arrow </div> <div> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling Grade Length _____ mi Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>20%</i> % Trucks and Buses, P_T <i>3%</i> % Recreational vehicles, P_R <i>4%</i> Access points <i>mi</i> <i>8/mi</i> </div> </div>	
Analysis direction vol., V_d <i>21veh/h</i>		
Opposing direction vol., V_o <i>19veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.3</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i=V_i/(PHF * f_{g,ATS} * f_{HV,ATS})$	<i>23</i>	<i>21</i>
Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, $FFS=S_{FM}+0.00776(\sqrt{v_{HV,ATS}})$	Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>2.0 mi/h</i>	
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>0.6 mi/h</i>	Free-flow speed, FFS ($FFS=BFFS-f_{LS}-f_A$) <i>58.0 mi/h</i>	
	Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS} + V_{o,ATS}) - f_{np,ATS}$ <i>57.0 mi/h</i>	
	Percent free flow speed, PFFS <i>98.3 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i=V_i/(PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>23</i>	<i>21</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%)=100(1-e^{av_d^b})$	<i>2.9</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>29.6</i>	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + V_{o,PTSF})$	<i>18.4</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>A</i>	
Volume to capacity ratio, v/c	<i>0.01</i>	

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	98.3
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	22.8
Effective width, Wv (Eq. 15-29) ft	40.11
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-3.96
Bicycle level of service (Exhibit 15-4)	A
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>Oak St, s/o North St (NB)</i>	
Agency or Company	From/To	
Date Performed <i>6/8/2017</i>	Jurisdiction	
Analysis Time Period <i>Saturday PM Peak-Hour</i>	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway</p> <p>highway <input checked="" type="checkbox"/> Class III highway</p> <p>Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling</p> <p>Grade Length <i>mi</i> Up/down</p> <p>Peak-hour factor, PHF <i>0.92</i></p> <p>No-passing zone <i>20%</i></p> <p>% Trucks and Buses, P_T <i>3%</i></p> <p>% Recreational vehicles, P_R <i>4%</i></p> <p>Access points <i>mi</i> <i>8/mi</i></p> </div> <div style="width: 45%; text-align: center;">  <p>Show North Arrow</p> </div> </div>	
Analysis direction vol., V _d <i>19veh/h</i>		
Opposing direction vol., V _o <i>21veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.3</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV,ATS} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{g,ATS} *f _{HV,ATS})	<i>21</i>	<i>23</i>
Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed	
Mean speed of sample ³ , S _{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width, ⁴ f _{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, FFS=S _{FM} +0.00776(v/f _{HV,ATS})	Adj. for access points ⁴ , f _A (Exhibit 15-8) <i>2.0 mi/h</i>	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15) <i>0.6 mi/h</i>	Free-flow speed, FFS (FFS=BFFS-f _{LS} -f _A) <i>58.0 mi/h</i>	
	Average travel speed, ATS _d =FFS-0.00776(v _{d,ATS} + V _{o,ATS}) - f _{np,ATS} <i>57.0 mi/h</i>	
	Percent free flow speed, PFFS <i>98.3 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{HV,PTSF} *f _{g,PTSF})	<i>21</i>	<i>23</i>
Base percent time-spent-following ⁴ , BPTSF _d (%)=100(1-e ^{av_d})	<i>2.7</i>	
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	<i>29.5</i>	
Percent time-spent-following, PTSF _d (%)=BPTSF _d +f _{np,PTSF} *(v _{d,PTSF} /v _{d,PTSF} +V _{o,PTSF})	<i>16.8</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>A</i>	
Volume to capacity ratio, v/c	<i>0.01</i>	

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	98.3
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	20.7
Effective width, Wv (Eq. 15-29) ft	40.29
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-4.08
Bicycle level of service (Exhibit 15-4)	A
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information	Site Information
Analyst	Highway / Direction of Travel <i>Oak St, s/o North St (SB)</i>
Agency or Company	From/To
Date Performed <i>6/8/2017</i>	Jurisdiction
Analysis Time Period <i>Friday PM Peak-Hour</i>	Analysis Year <i>2017</i>

Project Description: *Redding Rancheria*

Input Data

Segment length, L_1 _____ mi

Class I highway Class II highway
 Class III highway

Terrain Level Rolling

Grade Length _____ mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *20%*

% Trucks and Buses, P_T *3%*

% Recreational vehicles, P_R *4%*

Access points *mi* *8/mi*

Analysis direction vol., V_d	<i>26veh/h</i>
Opposing direction vol., V_o	<i>26veh/h</i>
Shoulder width ft	<i>6.0</i>
Lane Width ft	<i>12.0</i>
Segment Length mi	<i>0.3</i>

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>29</i>	<i>29</i>

Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed
Mean speed of sample ³ , S_{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>
Total demand flow rate, both directions, v	Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>
Free-flow speed, $FFS = S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$	Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>2.0 mi/h</i>
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>0.6 mi/h</i>	Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>58.0 mi/h</i>
	Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + V_{o,ATS}) - f_{np,ATS}$ <i>56.9 mi/h</i>
	Percent free flow speed, PFFS <i>98.2 %</i>

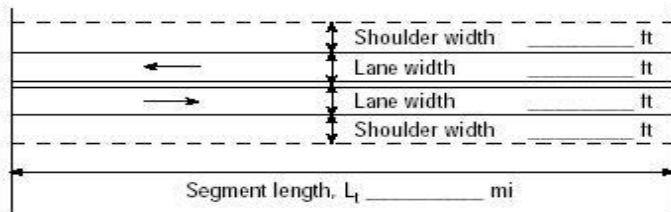
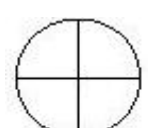
Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>28</i>	<i>28</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>3.5</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>29.2</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + V_{o,PTSF})$	<i>18.1</i>	

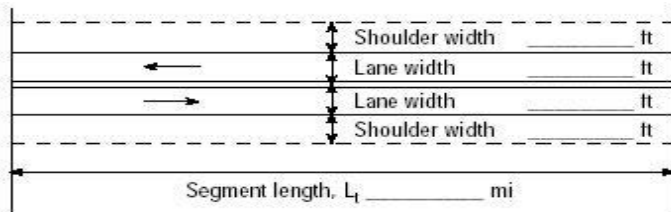
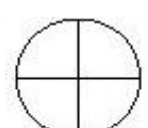
Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	<i>A</i>
Volume to capacity ratio, v/c	<i>0.02</i>

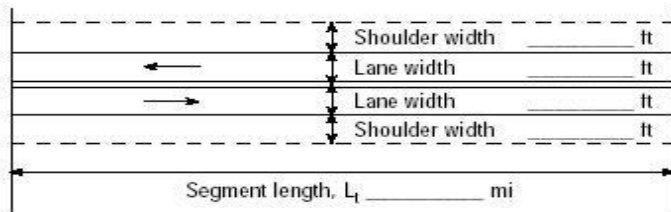

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	98.2
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	28.3
Effective width, Wv (Eq. 15-29) ft	39.66
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, $BLOS$ (Eq. 15-31)	-3.69
Bicycle level of service (Exhibit 15-4)	A
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>Oak St, s/o North St (NB)</i>	
Agency or Company	From/To	
Date Performed <i>6/8/2017</i>	Jurisdiction	
Analysis Time Period <i>Friday PM Peak-Hour</i>	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div style="width: 45%;"> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="margin-top: 10px;">  <p>Show North Arrow</p> </div> <div style="margin-top: 10px;"> Grade Length <i>mi</i> Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>20%</i> % Trucks and Buses, P_T <i>3%</i> % Recreational vehicles, P_R <i>4%</i> Access points <i>mi</i> <i>8/mi</i> </div>	
Analysis direction vol., V _d <i>26veh/h</i>		
Opposing direction vol., V _o <i>26veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.3</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV,ATS} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{g,ATS} *f _{HV,ATS})	<i>29</i>	<i>29</i>
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed
Mean speed of sample ³ , S _{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width, ⁴ f _{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, FFS=S _{FM} +0.00776(v ^{1/4} f _{HV,ATS})	Adj. for access points ⁴ , f _A (Exhibit 15-8) <i>2.0 mi/h</i>	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15) <i>0.6 mi/h</i>	Free-flow speed, FFS (FFS=BFFS-f _{LS} -f _A) <i>58.0 mi/h</i>	
	Average travel speed, ATS _d =FFS-0.00776(v _{d,ATS} ^{1/4} +v _{o,ATS} ^{1/4})-f _{np,ATS} <i>56.9 mi/h</i>	
	Percent free flow speed, PFFS <i>98.2 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{HV,PTSF} *f _{g,PTSF})	<i>28</i>	<i>28</i>
Base percent time-spent-following ⁴ , BPTSF _d (%)=100(1-e ^{-av_d})	<i>3.5</i>	
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	<i>29.2</i>	
Percent time-spent-following, PTSF _d (%)=BPTSF _d +f _{np,PTSF} (v _{d,PTSF} ^{1/4} +v _{o,PTSF} ^{1/4})	<i>18.1</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>A</i>	
Volume to capacity ratio, v/c	<i>0.02</i>	

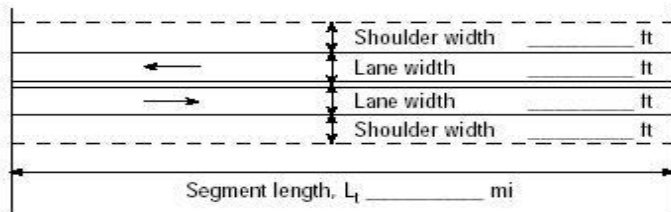
Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	98.2
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	28.3
Effective width, Wv (Eq. 15-29) ft	39.66
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-3.69
Bicycle level of service (Exhibit 15-4)	A
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>Oak St, n/o North St (SB)</i>	
Agency or Company	From/To	
Date Performed <i>6/8/2017</i>	Jurisdiction	
Analysis Time Period <i>Saturday PM Peak-Hour</i>	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway</p> <p>highway <input checked="" type="checkbox"/> Class III highway</p> <p>Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling</p> <p>Grade Length <i>mi</i> Up/down</p> <p>Peak-hour factor, PHF <i>0.92</i></p> <p>No-passing zone <i>0%</i></p> <p>% Trucks and Buses, P_T <i>3%</i></p> <p>% Recreational vehicles, P_R <i>4%</i></p> <p>Access points <i>mi</i> <i>40/mi</i></p> </div> <div style="width: 45%; text-align: center;">  <p>Show North Arrow</p> </div> </div>	
Analysis direction vol., V _d <i>267veh/h</i>		
Opposing direction vol., V _o <i>240veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.2</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	<i>1.4</i>	<i>1.4</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV,ATS} =1/(1+ P _T (E _T -1)+P _R (E _R -1))	<i>0.988</i>	<i>0.988</i>
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v _i (pc/h) v _i =V _i /(PHF* f _{g,ATS} * f _{HV,ATS})	<i>294</i>	<i>264</i>
Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed	
Mean speed of sample ³ , S _{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width, ⁴ f _{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, FFS=S _{FM} +0.00776(v/ f _{HV,ATS})	Adj. for access points ⁴ , f _A (Exhibit 15-8) <i>10.0 mi/h</i>	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15) <i>1.2 mi/h</i>	Free-flow speed, FFS (FSS=BFFS-f _{LS} -f _A) <i>50.0 mi/h</i>	
	Average travel speed, ATS _d =FFS-0.00776(v _{d,ATS} + V _{o,ATS}) - f _{np,ATS} <i>44.5 mi/h</i>	
	Percent free flow speed, PFFS <i>89.0 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV} =1/(1+ P _T (E _T -1)+P _R (E _R -1))	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{HV,PTSF} * f _{g,PTSF})	<i>291</i>	<i>262</i>
Base percent time-spent-following ⁴ , BPTSF _d (%)=100(1-e ^{av_d})	<i>30.6</i>	
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	<i>15.6</i>	
Percent time-spent-following, PTSF _d (%)=BPTSF _d +f _{np,PTSF} *(v _{d,PTSF} / v _{d,PTSF} + V _{o,PTSF})	<i>38.8</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>B</i>	
Volume to capacity ratio, v/c	<i>0.17</i>	

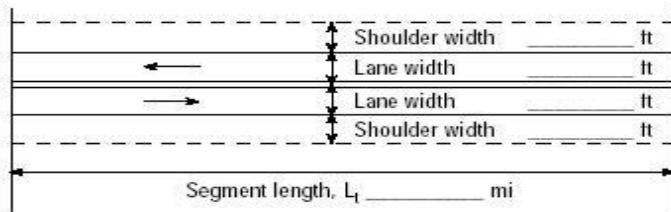
Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1680
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	89.0
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	290.2
Effective width, Wv (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.48
Bicycle level of service (Exhibit 15-4)	B
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>Oak St, n/o North St (NB)</i>	
Agency or Company	From/To	
Date Performed <i>6/8/2017</i>	Jurisdiction	
Analysis Time Period <i>Saturday PM Peak-Hour</i>	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway</p> <p>highway <input checked="" type="checkbox"/> Class III highway</p> <p>Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling</p> <p>Grade Length <i>mi</i> Up/down</p> <p>Peak-hour factor, PHF <i>0.92</i></p> <p>No-passing zone <i>0%</i></p> <p>% Trucks and Buses, P_T <i>3%</i></p> <p>% Recreational vehicles, P_R <i>4%</i></p> <p>Access points <i>mi</i> <i>40/mi</i></p> </div> <div style="width: 45%; text-align: center;">  <p>Show North Arrow</p> </div> </div>	
Analysis direction vol., V _d <i>240veh/h</i>		
Opposing direction vol., V _o <i>267veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.2</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	<i>1.4</i>	<i>1.4</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV,ATS} =1/(1+ P _T (E _T -1)+P _R (E _R -1))	<i>0.988</i>	<i>0.988</i>
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v _i (pc/h) v _i =V _i /(PHF* f _{g,ATS} * f _{HV,ATS})	<i>264</i>	<i>294</i>
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed
Mean speed of sample ³ , S _{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width, ⁴ f _{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, FFS=S _{FM} +0.00776(v/ f _{HV,ATS})	Adj. for access points ⁴ , f _A (Exhibit 15-8) <i>10.0 mi/h</i>	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15) <i>1.2 mi/h</i>	Free-flow speed, FFS (FFS=BFFS-f _{LS} -f _A) <i>50.0 mi/h</i>	
	Average travel speed, ATS _d =FFS-0.00776(v _{d,ATS} + V _{o,ATS}) - f _{np,ATS} <i>44.5 mi/h</i>	
	Percent free flow speed, PFFS <i>89.0 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV} =1/(1+ P _T (E _T -1)+P _R (E _R -1))	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{HV,PTSF} * f _{g,PTSF})	<i>262</i>	<i>291</i>
Base percent time-spent-following ⁴ , BPTSF _d (%)=100(1-e ^{av_d})	<i>30.0</i>	
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	<i>15.6</i>	
Percent time-spent-following, PTSF _d (%)=BPTSF _d +f _{np,PTSF} *(v _{d,PTSF} / v _{d,PTSF} + V _{o,PTSF})	<i>37.4</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>B</i>	
Volume to capacity ratio, v/c	<i>0.16</i>	

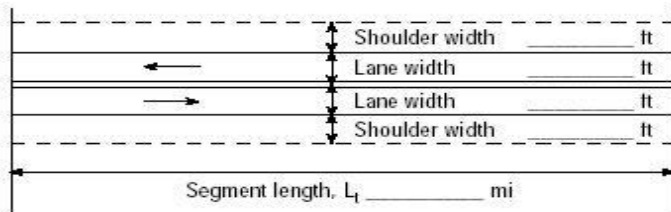
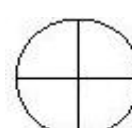
Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1680
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	89.0
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	260.9
Effective width, Wv (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.43
Bicycle level of service (Exhibit 15-4)	B
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>Oak St, n/o North St (SB)</i>	
Agency or Company	From/To	
Date Performed <i>6/8/2017</i>	Jurisdiction	
Analysis Time Period <i>Friday PM Peak-Hour</i>	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
	<input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling Grade Length mi Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>0%</i> % Trucks and Buses, P _T <i>3%</i> % Recreational vehicles, P _R <i>4%</i> Access points <i>mi</i> <i>40/mi</i>	
Analysis direction vol., V _d <i>391veh/h</i>		
Opposing direction vol., V _o <i>436veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.2</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	<i>1.3</i>	<i>1.2</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV,ATS} =1/(1+ P _T (E _T -1)+P _R (E _R -1))	<i>0.991</i>	<i>0.994</i>
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v _i (pc/h) v _i =V _i /(PHF* f _{g,ATS} * f _{HV,ATS})	<i>429</i>	<i>477</i>
Free-Flow Speed from Field Measurement		
Estimated Free-Flow Speed		
Mean speed of sample ³ , S _{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width, ⁴ f _{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, FFS=S _{FM} +0.00776(√ v _{HV,ATS})	Adj. for access points ⁴ , f _A (Exhibit 15-8) <i>10.0 mi/h</i>	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15) <i>0.9 mi/h</i>	Free-flow speed, FFS (FFS=BFFS-f _{LS} -f _A) <i>50.0 mi/h</i>	
	Average travel speed, ATS _d =FFS-0.00776(v _{d,ATS} + V _{o,ATS}) - f _{np,ATS} <i>42.1 mi/h</i>	
	Percent free flow speed, PFFS <i>84.1 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV} =1/(1+ P _T (E _T -1)+P _R (E _R -1))	<i>1.000</i>	<i>1.000</i>
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{HV,PTSF} * f _{g,PTSF})	<i>425</i>	<i>474</i>
Base percent time-spent-following ⁴ , BPTSF _d (%)=100(1-e ^{av_d})	<i>45.9</i>	
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	<i>14.8</i>	
Percent time-spent-following, PTSF _d (%)=BPTSF _d +f _{np,PTSF} *(v _{d,PTSF} / v _{d,PTSF} + V _{o,PTSF})	<i>52.9</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>B</i>	
Volume to capacity ratio, v/c	<i>0.25</i>	

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1690
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1700
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	84.1
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	425.0
Effective width, Wv (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.68
Bicycle level of service (Exhibit 15-4)	C
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>Oak St, n/o North St (NB)</i>	
Agency or Company	From/To	
Date Performed <i>6/8/2017</i>	Jurisdiction	
Analysis Time Period <i>Friday PM Peak-Hour</i>	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div style="width: 45%;"> <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="display: flex; align-items: center; margin-top: 10px;"> <div> Show North Arrow </div> </div> <div style="margin-top: 10px;"> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling Grade Length <i>mi</i> Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>0%</i> % Trucks and Buses, P_T <i>3%</i> % Recreational vehicles, P_R <i>4%</i> Access points <i>mi</i> <i>40/mi</i> </div>	
Analysis direction vol., V _d <i>436veh/h</i>		
Opposing direction vol., V _o <i>391veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.2</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	<i>1.2</i>	<i>1.3</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV,ATS} =1/(1+ P _T (E _T -1)+P _R (E _R -1))	<i>0.994</i>	<i>0.991</i>
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v _i (pc/h) v _i =V _i /(PHF* f _{g,ATS} * f _{HV,ATS})	<i>477</i>	<i>429</i>
Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed	
Mean speed of sample ³ , S _{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width, ⁴ f _{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, FFS=S _{FM} +0.00776(v ^{1/4} f _{HV,ATS})	Adj. for access points ⁴ , f _A (Exhibit 15-8) <i>10.0 mi/h</i>	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15) <i>1.0 mi/h</i>	Free-flow speed, FFS (FFS=BFFS-f _{LS} -f _A) <i>50.0 mi/h</i>	
	Average travel speed, ATS _d =FFS-0.00776(v _{d,ATS} + V _{o,ATS}) - f _{np,ATS} <i>41.9 mi/h</i>	
	Percent free flow speed, PFFS <i>83.9 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV} =1/(1+ P _T (E _T -1)+P _R (E _R -1))	<i>1.000</i>	<i>1.000</i>
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{HV,PTSF} * f _{g,PTSF})	<i>474</i>	<i>425</i>
Base percent time-spent-following ⁴ , BPTSF _d (%)=100(1-e ^{-av_d})	<i>47.8</i>	
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	<i>14.8</i>	
Percent time-spent-following, PTSF _d (%)=BPTSF _d +f _{np,PTSF} *(v _{d,PTSF} / v _{d,PTSF} + V _{o,PTSF})	<i>55.6</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>B</i>	
Volume to capacity ratio, v/c	<i>0.28</i>	

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1685
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1700
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	83.9
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	473.9
Effective width, Wv (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.73
Bicycle level of service (Exhibit 15-4)	C
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>North Road, w/o Oak St (WB)</i>	
Agency or Company	From/To	
Date Performed <i>6/8/2017</i>	Jurisdiction	
Analysis Time Period <i>Saturday PM Peak-Hour</i>	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div style="width: 45%;"> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="margin-top: 10px;">  <p>Show North Arrow</p> </div> <div style="margin-top: 10px;"> Grade Length <i>mi</i> Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>0%</i> % Trucks and Buses, P_T <i>3%</i> % Recreational vehicles, P_R <i>4%</i> Access points <i>mi</i> <i>40/mi</i> </div>	
Analysis direction vol., V _d <i>213veh/h</i>		
Opposing direction vol., V _o <i>208veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.2</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	<i>1.5</i>	<i>1.5</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV,ATS} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.985</i>	<i>0.985</i>
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{g,ATS} *f _{HV,ATS})	<i>235</i>	<i>230</i>
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed
Mean speed of sample ³ , S _{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width, ⁴ f _{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, FFS=S _{FM} +0.00776(v ^{1/4} f _{HV,ATS})	Adj. for access points ⁴ , f _A (Exhibit 15-8) <i>10.0 mi/h</i>	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15) <i>1.2 mi/h</i>	Free-flow speed, FFS (FFS=BFFS-f _{LS} -f _A) <i>50.0 mi/h</i>	
	Average travel speed, ATS _d =FFS-0.00776(v _{d,ATS} ^{1/4} +v _{o,ATS} ^{1/4})-f _{np,ATS} <i>45.2 mi/h</i>	
	Percent free flow speed, PFFS <i>90.4 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{HV,PTSF} *f _{g,PTSF})	<i>232</i>	<i>227</i>
Base percent time-spent-following ⁴ , BPTSF _d (%)=100(1-e ^{-av_d})	<i>25.1</i>	
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	<i>16.0</i>	
Percent time-spent-following, PTSF _d (%)=BPTSF _d +f _{np,PTSF} (v _{d,PTSF} ^{1/4} +v _{o,PTSF} ^{1/4})	<i>33.2</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>B</i>	
Volume to capacity ratio, v/c	<i>0.14</i>	

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1675
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	90.4
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	231.5
Effective width, Wv (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.37
Bicycle level of service (Exhibit 15-4)	B
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information	Site Information
Analyst	Highway / Direction of Travel <i>North Road, w/o Oak St (EB)</i>
Agency or Company	From/To
Date Performed <i>6/8/2017</i>	Jurisdiction
Analysis Time Period <i>Saturday PM Peak-Hour</i>	Analysis Year <i>2017</i>

Project Description: *Redding Rancheria*

Input Data

Segment length, L_1 _____ mi

Class I highway Class II highway
 Class III highway

Terrain Level Rolling

Grade Length _____ mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *0%*

% Trucks and Buses, P_T *3%*

% Recreational vehicles, P_R *4%*

Access points *mi* *40/mi*

Analysis direction vol., V_d	<i>208</i> veh/h
Oposing direction vol., V_o	<i>213</i> veh/h
Shoulder width ft	<i>6.0</i>
Lane Width ft	<i>12.0</i>
Segment Length mi	<i>0.2</i>

Average Travel Speed

	Analysis Direction (d)	Oposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.5</i>	<i>1.5</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.985</i>	<i>0.985</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>230</i>	<i>235</i>
Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, $FFS = S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$	Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>10.0 mi/h</i>	
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>1.2 mi/h</i>	Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>50.0 mi/h</i>	
	Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + V_{o,ATS}) - f_{np,ATS}$ <i>45.2 mi/h</i>	
	Percent free flow speed, PFFS <i>90.4 %</i>	

Percent Time-Spent-Following

	Analysis Direction (d)	Oposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>227</i>	<i>232</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>24.5</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>16.0</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + V_{o,PTSF})$	<i>32.4</i>	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	<i>B</i>
Volume to capacity ratio, v/c	<i>0.14</i>

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1675
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	90.4
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	226.1
Effective width, Wv (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.36
Bicycle level of service (Exhibit 15-4)	B
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information	Site Information
Analyst	Highway / Direction of Travel <i>North Road, w/o Oak St (WB)</i>
Agency or Company	From/To
Date Performed <i>6/8/2017</i>	Jurisdiction
Analysis Time Period <i>Friday PM Peak-Hour</i>	Analysis Year <i>2017</i>

Project Description: *Redding Rancheria*

Input Data

Segment length, L_1 _____ mi

Class I highway Class II highway
 Class III highway

Terrain Level Rolling

Grade Length _____ mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *0%*

% Trucks and Buses, P_T *3%*

% Recreational vehicles, P_R *4%*

Access points *mi* *40/mi*

Analysis direction vol., V_d	<i>395veh/h</i>
Opposing direction vol., V_o	<i>329veh/h</i>
Shoulder width ft	<i>6.0</i>
Lane Width ft	<i>12.0</i>
Segment Length mi	<i>0.2</i>

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.3</i>	<i>1.3</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.991</i>	<i>0.991</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>433</i>	<i>361</i>

Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed
Mean speed of sample ³ , S_{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>
Total demand flow rate, both directions, v	Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>
Free-flow speed, $FFS = S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$	Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>10.0 mi/h</i>
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>1.1 mi/h</i>	Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>50.0 mi/h</i>
	Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ <i>42.7 mi/h</i>
	Percent free flow speed, PFFS <i>85.4 %</i>

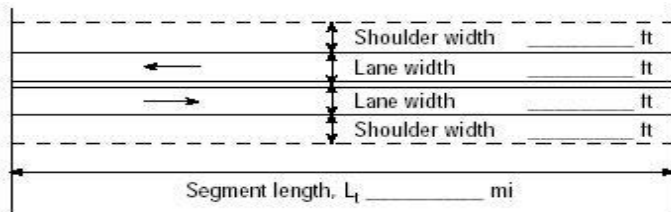
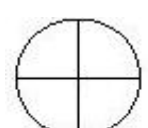
Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>1.000</i>	<i>0.997</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>429</i>	<i>359</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>43.5</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>14.8</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>51.6</i>	

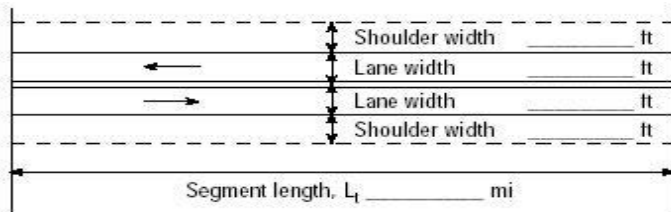

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	<i>B</i>
Volume to capacity ratio, v/c	<i>0.25</i>

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1685
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	85.4
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	429.3
Effective width, Wv (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.68
Bicycle level of service (Exhibit 15-4)	C
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>North Road, w/o Oak St (EB)</i>	
Agency or Company	From/To	
Date Performed <i>6/8/2017</i>	Jurisdiction	
Analysis Time Period <i>Friday PM Peak-Hour</i>	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway</p> <p>highway <input checked="" type="checkbox"/> Class III highway</p> <p>Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling</p> <p>Grade Length <i>mi</i> Up/down</p> <p>Peak-hour factor, PHF <i>0.92</i></p> <p>No-passing zone <i>0%</i></p> <p>% Trucks and Buses, P_T <i>3%</i></p> <p>% Recreational vehicles, P_R <i>4%</i></p> <p>Access points <i>mi</i> <i>40/mi</i></p> </div> <div style="width: 45%; text-align: center;">  <p>Show North Arrow</p> </div> </div>	
Analysis direction vol., V _d <i>329veh/h</i>		
Opposing direction vol., V _o <i>395veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.2</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	<i>1.3</i>	<i>1.3</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV,ATS} =1/(1+ P _T (E _T -1)+P _R (E _R -1))	<i>0.991</i>	<i>0.991</i>
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v _i (pc/h) v _i =V _i /(PHF* f _{g,ATS} * f _{HV,ATS})	<i>361</i>	<i>433</i>
Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed	
Mean speed of sample ³ , S _{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width, ⁴ f _{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, FFS=S _{FM} +0.00776(v/ f _{HV,ATS})	Adj. for access points ⁴ , f _A (Exhibit 15-8) <i>10.0 mi/h</i>	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15) <i>1.0 mi/h</i>	Free-flow speed, FFS (FFS=BFFS-f _{LS} -f _A) <i>50.0 mi/h</i>	
	Average travel speed, ATS _d =FFS-0.00776(v _{d,ATS} + V _{o,ATS}) - f _{np,ATS} <i>42.8 mi/h</i>	
	Percent free flow speed, PFFS <i>85.6 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.0</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV} =1/(1+ P _T (E _T -1)+P _R (E _R -1))	<i>0.997</i>	<i>1.000</i>
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{HV,PTSF} * f _{g,PTSF})	<i>359</i>	<i>429</i>
Base percent time-spent-following ⁴ , BPTSF _d (%)=100(1-e ^{av_d})	<i>40.7</i>	
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	<i>14.8</i>	
Percent time-spent-following, PTSF _d (%)=BPTSF _d +f _{np,PTSF} *(v _{d,PTSF} / v _{d,PTSF} + V _{o,PTSF})	<i>47.4</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>B</i>	
Volume to capacity ratio, v/c	<i>0.21</i>	

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1685
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1700
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	85.6
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	357.6
Effective width, Wv (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	2.59
Bicycle level of service (Exhibit 15-4)	C
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>North St, e/o Oak St (WB)</i>	
Agency or Company	From/To	
Date Performed <i>6/8/2017</i>	Jurisdiction	
Analysis Time Period <i>Saturday PM Peak-Hour</i>	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
	<input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling Grade Length <i>mi</i> Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>0%</i> % Trucks and Buses, P _T <i>3%</i> % Recreational vehicles, P _R <i>4%</i> Access points <i>mi</i> <i>40/mi</i>	
Analysis direction vol., V _d <i>66veh/h</i>	 Show North Arrow	
Opposing direction vol., V _o <i>44veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.2</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV,ATS} =1/(1+ P _T (E _T -1)+P _R (E _R -1))	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v _i (pc/h) v _i =V _i /(PHF* f _{g,ATS} * f _{HV,ATS})	<i>74</i>	<i>49</i>
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed
Mean speed of sample ³ , S _{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width, ⁴ f _{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, FFS=S _{FM} +0.00776(v ^{1/4} f _{HV,ATS})	Adj. for access points ⁴ , f _A (Exhibit 15-8) <i>10.0 mi/h</i>	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15) <i>0.2 mi/h</i>	Free-flow speed, FFS (FFS=BFFS-f _{LS} -f _A) <i>50.0 mi/h</i>	
	Average travel speed, ATS _d =FFS-0.00776(v _{d,ATS} + V _{o,ATS}) - f _{np,ATS} <i>48.8 mi/h</i>	
	Percent free flow speed, PFFS <i>97.7 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV} =1/(1+ P _T (E _T -1)+P _R (E _R -1))	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{HV,PTSF} * f _{g,PTSF})	<i>72</i>	<i>48</i>
Base percent time-spent-following ⁴ , BPTSF _d (%)=100(1-e ^{-av_d})	<i>8.6</i>	
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	<i>11.0</i>	
Percent time-spent-following, PTSF _d (%)=BPTSF _d +f _{np,PTSF} *(v _{d,PTSF} / v _{d,PTSF} + V _{o,PTSF})	<i>15.2</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>A</i>	
Volume to capacity ratio, v/c	<i>0.04</i>	

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	97.7
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	71.7
Effective width, Wv (Eq. 15-29) ft	36.06
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-1.84
Bicycle level of service (Exhibit 15-4)	A
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information	Site Information
Analyst	Highway / Direction of Travel <i>North St, e/o Oak St (EB)</i>
Agency or Company	From/To
Date Performed <i>6/8/2017</i>	Jurisdiction
Analysis Time Period <i>Saturday PM Peak-Hour</i>	Analysis Year <i>2017</i>

Project Description: *Redding Rancheria*

Input Data

Segment length, L_1 _____ mi

Class I highway Class II highway
 Class III highway

Terrain Level Rolling

Grade Length _____ mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *0%*

% Trucks and Buses, P_T *3%*

% Recreational vehicles, P_R *4%*

Access points *mi* *40/mi*

Analysis direction vol., V_d	<i>44veh/h</i>
Opposing direction vol., V_o	<i>66veh/h</i>
Shoulder width ft	<i>6.0</i>
Lane Width ft	<i>12.0</i>
Segment Length mi	<i>0.2</i>

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>49</i>	<i>74</i>

Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed
Mean speed of sample ³ , S_{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>
Total demand flow rate, both directions, v	Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>
Free-flow speed, $FFS = S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$	Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>10.0 mi/h</i>
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>0.2 mi/h</i>	Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>50.0 mi/h</i>
	Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + V_{o,ATS}) - f_{np,ATS}$ <i>48.8 mi/h</i>
	Percent free flow speed, PFFS <i>97.7 %</i>

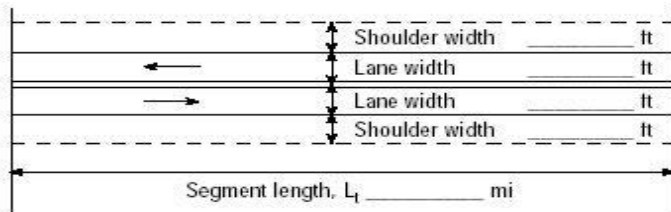
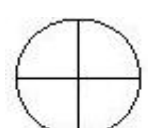
Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>48</i>	<i>72</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>5.9</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>11.0</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + V_{o,PTSF})$	<i>10.3</i>	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	<i>A</i>
Volume to capacity ratio, v/c	<i>0.03</i>

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	97.7
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	47.8
Effective width, Wv (Eq. 15-29) ft	38.04
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-2.78
Bicycle level of service (Exhibit 15-4)	A
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>North St, e/o Oak St (WB)</i>	
Agency or Company	From/To	
Date Performed <i>6/8/2017</i>	Jurisdiction	
Analysis Time Period <i>Friday PM Peak-Hour</i>	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
 <p style="font-size: small;">Shoulder width _____ ft Lane width _____ ft Lane width _____ ft Shoulder width _____ ft</p> <p style="text-align: center;">Segment length, L_1 _____ mi</p>	<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"> <input type="checkbox"/> Class I highway <input checked="" type="checkbox"/> Class III highway <input type="checkbox"/> Class II highway </div> <div> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling Grade Length _____ mi Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>0%</i> % Trucks and Buses, P_T <i>3%</i> % Recreational vehicles, P_R <i>4%</i> Access points <i>mi</i> <i>40/mi</i> </div> </div> <div style="text-align: center; margin-top: 10px;">  Show North Arrow </div>	
Analysis direction vol., V_d <i>55veh/h</i>		
Opposing direction vol., V_o <i>70veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.2</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>61</i>	<i>78</i>
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed
Mean speed of sample ³ , S_{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, $FFS = S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$	Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>10.0 mi/h</i>	
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>0.2 mi/h</i>	Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>50.0 mi/h</i>	
	Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$ <i>48.7 mi/h</i>	
	Percent free flow speed, PFFS <i>97.4 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>60</i>	<i>76</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>7.2</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>10.2</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	<i>11.7</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>A</i>	
Volume to capacity ratio, v/c	<i>0.04</i>	

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	97.4
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	59.8
Effective width, Wv (Eq. 15-29) ft	37.05
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-2.30
Bicycle level of service (Exhibit 15-4)	A
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information	Site Information
Analyst	Highway / Direction of Travel <i>North St, e/o Oak St (EB)</i>
Agency or Company	From/To
Date Performed <i>6/8/2017</i>	Jurisdiction
Analysis Time Period <i>Friday PM Peak-Hour</i>	Analysis Year <i>2017</i>

Project Description: *Redding Rancheria*

Input Data

Segment length, L_1 _____ mi

Class I highway Class II highway
 Class III highway

Terrain Level Rolling

Grade Length _____ mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *0%*

% Trucks and Buses, P_T *3%*

% Recreational vehicles, P_R *4%*

Access points *mi* *40/mi*

Analysis direction vol., V_d	<i>70veh/h</i>
Oposing direction vol., V_o	<i>55veh/h</i>
Shoulder width ft	<i>6.0</i>
Lane Width ft	<i>12.0</i>
Segment Length mi	<i>0.2</i>

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.9</i>	<i>1.9</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.974</i>	<i>0.974</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>78</i>	<i>61</i>

Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed
Mean speed of sample ³ , S_{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>
Total demand flow rate, both directions, v	Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>
Free-flow speed, $FFS = S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$	Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>10.0 mi/h</i>
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>0.2 mi/h</i>	Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>50.0 mi/h</i>
	Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + V_{o,ATS}) - f_{np,ATS}$ <i>48.7 mi/h</i>
	Percent free flow speed, PFFS <i>97.4 %</i>

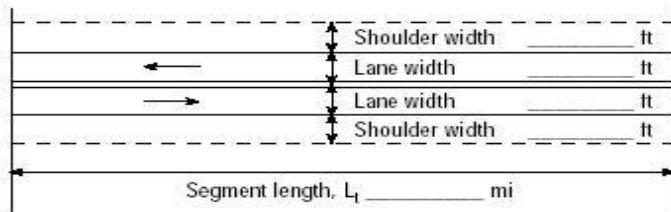
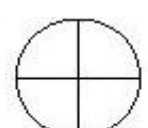
Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.997</i>	<i>0.997</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>76</i>	<i>60</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>9.0</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>10.2</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + V_{o,PTSF})$	<i>14.7</i>	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	<i>A</i>
Volume to capacity ratio, v/c	<i>0.05</i>

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1656
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1695
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	97.4
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	76.1
Effective width, Wv (Eq. 15-29) ft	35.70
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	-1.69
Bicycle level of service (Exhibit 15-4)	A
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>Canyon Road (SB)</i>	
Agency or Company	From/To	
Date Performed <i>6/8/2017</i>	Jurisdiction	
Analysis Time Period <i>Friday PM Peak-Hour</i>	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div style="width: 45%;"> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="margin-top: 10px;">  <p>Show North Arrow</p> </div> <div style="margin-top: 10px;"> Grade Length <i>mi</i> Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>100%</i> % Trucks and Buses, P_T <i>6%</i> % Recreational vehicles, P_R <i>4%</i> Access points <i>mi</i> <i>0/mi</i> </div>	
Analysis direction vol., V _d <i>227veh/h</i>		
Opposing direction vol., V _o <i>364veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.2</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	<i>1.5</i>	<i>1.3</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV,ATS} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.971</i>	<i>0.982</i>
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{g,ATS} *f _{HV,ATS})	<i>254</i>	<i>403</i>
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed
Mean speed of sample ³ , S _{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width, ⁴ f _{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, FFS=S _{FM} +0.00776(v/f _{HV,ATS})	Adj. for access points ⁴ , f _A (Exhibit 15-8) <i>0.0 mi/h</i>	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15) <i>3.9 mi/h</i>	Free-flow speed, FFS (FFS=BFFS-f _{LS} -f _A) <i>60.0 mi/h</i>	
	Average travel speed, ATS _d =FFS-0.00776(v _{d,ATS} + V _{o,ATS}) - f _{np,ATS} <i>51.0 mi/h</i>	
	Percent free flow speed, PFFS <i>85.1 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.994</i>	<i>0.994</i>
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{HV,PTSF} *f _{g,PTSF})	<i>248</i>	<i>398</i>
Base percent time-spent-following ⁴ , BPTSF _d (%)=100(1-e ^{av_d})	<i>30.2</i>	
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	<i>50.4</i>	
Percent time-spent-following, PTSF _d (%)=BPTSF _d +f _{np,PTSF} *(v _{d,PTSF} /v _{d,PTSF} +V _{o,PTSF})	<i>49.5</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>B</i>	
Volume to capacity ratio, v/c	<i>0.15</i>	

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1669
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1690
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	85.1
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	246.7
Effective width, Wv (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	3.28
Bicycle level of service (Exhibit 15-4)	C
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information	Site Information
Analyst	Highway / Direction of Travel <i>Canyon Road (NB)</i>
Agency or Company	From/To
Date Performed <i>6/8/2017</i>	Jurisdiction
Analysis Time Period <i>Saturday PM Peak-Hour</i>	Analysis Year <i>2017</i>

Project Description: *Redding Rancheria*

Input Data

Segment length, L_1 _____ mi

Class I highway Class II highway
 Class III highway

Terrain Level Rolling

Grade Length _____ mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *100%*

% Trucks and Buses, P_T *6%*

% Recreational vehicles, P_R *4%*

Access points *mi* *0/mi*

Analysis direction vol., V_d	<i>229veh/h</i>
Opposing direction vol., V_o	<i>362veh/h</i>
Shoulder width ft	<i>6.0</i>
Lane Width ft	<i>12.0</i>
Segment Length mi	<i>0.2</i>

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	<i>1.5</i>	<i>1.3</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.971</i>	<i>0.982</i>
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	<i>256</i>	<i>401</i>

Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed
Mean speed of sample ³ , S_{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>
Total demand flow rate, both directions, v	Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) <i>0.0 mi/h</i>
Free-flow speed, $FFS = S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$	Adj. for access points ⁴ , f_A (Exhibit 15-8) <i>0.0 mi/h</i>
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) <i>3.9 mi/h</i>	Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) <i>60.0 mi/h</i>
	Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + V_{o,ATS}) - f_{np,ATS}$ <i>51.0 mi/h</i>
	Percent free flow speed, PFFS <i>85.0 %</i>

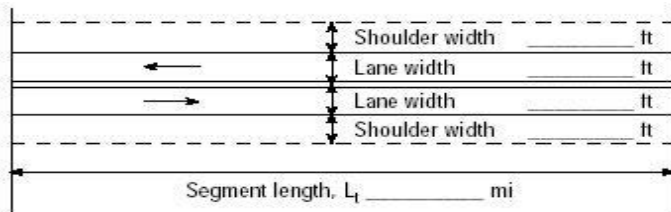
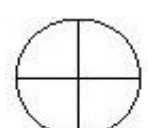
Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	<i>0.994</i>	<i>0.994</i>
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	<i>250</i>	<i>396</i>
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	<i>30.3</i>	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	<i>50.6</i>	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + V_{o,PTSF})$	<i>49.9</i>	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	<i>B</i>
Volume to capacity ratio, v/c	<i>0.15</i>

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1669
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1690
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	85.0
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	248.9
Effective width, Wv (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	3.28
Bicycle level of service (Exhibit 15-4)	C
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET		
General Information		Site Information
Analyst	Highway / Direction of Travel <i>Canyon Road (NB)</i>	
Agency or Company	From/To	
Date Performed <i>6/8/2017</i>	Jurisdiction	
Analysis Time Period <i>Friday PM Peak-Hour</i>	Analysis Year <i>2017</i>	
Project Description: <i>Redding Rancheria</i>		
Input Data		
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Class I highway <input type="checkbox"/> Class II highway <input checked="" type="checkbox"/> Class III highway </div> <div style="width: 45%;"> <input type="checkbox"/> Terrain <input checked="" type="checkbox"/> Level <input type="checkbox"/> Rolling </div> </div> <div style="margin-top: 10px;">  <p>Show North Arrow</p> </div> <div style="margin-top: 10px;"> Grade Length <i>mi</i> Up/down Peak-hour factor, PHF <i>0.92</i> No-passing zone <i>100%</i> % Trucks and Buses, P_T <i>6%</i> % Recreational vehicles, P_R <i>4%</i> Access points <i>mi</i> <i>0/mi</i> </div>	
Analysis direction vol., V _d <i>227veh/h</i>		
Opposing direction vol., V _o <i>364veh/h</i>		
Shoulder width ft <i>6.0</i>		
Lane Width ft <i>12.0</i>		
Segment Length mi <i>0.2</i>		
Average Travel Speed		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-11 or 15-12)	<i>1.5</i>	<i>1.3</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-11 or 15-13)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV,ATS} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.971</i>	<i>0.982</i>
Grade adjustment factor ¹ , f _{g,ATS} (Exhibit 15-9)	<i>1.00</i>	<i>1.00</i>
Demand flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{g,ATS} *f _{HV,ATS})	<i>254</i>	<i>403</i>
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed
Mean speed of sample ³ , S _{FM}	Base free-flow speed ⁴ , BFFS <i>60.0 mi/h</i>	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width, ⁴ f _{LS} (Exhibit 15-7) <i>0.0 mi/h</i>	
Free-flow speed, FFS=S _{FM} +0.00776(v/f _{HV,ATS})	Adj. for access points ⁴ , f _A (Exhibit 15-8) <i>0.0 mi/h</i>	
Adj. for no-passing zones, f _{np,ATS} (Exhibit 15-15) <i>3.9 mi/h</i>	Free-flow speed, FFS (FFS=BFFS-f _{LS} -f _A) <i>60.0 mi/h</i>	
	Average travel speed, ATS _d =FFS-0.00776(v _{d,ATS} + V _{o,ATS}) - f _{np,ATS} <i>51.0 mi/h</i>	
	Percent free flow speed, PFFS <i>85.1 %</i>	
Percent Time-Spent-Following		
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E _T (Exhibit 15-18 or 15-19)	<i>1.1</i>	<i>1.1</i>
Passenger-car equivalents for RVs, E _R (Exhibit 15-18 or 15-19)	<i>1.0</i>	<i>1.0</i>
Heavy-vehicle adjustment factor, f _{HV} =1/(1+P _T (E _T -1)+P _R (E _R -1))	<i>0.994</i>	<i>0.994</i>
Grade adjustment factor ¹ , f _{g,PTSF} (Exhibit 15-16 or Ex 15-17)	<i>1.00</i>	<i>1.00</i>
Directional flow rate ² , v _i (pc/h) v _i =V _i /(PHF*f _{HV,PTSF} *f _{g,PTSF})	<i>248</i>	<i>398</i>
Base percent time-spent-following ⁴ , BPTSF _d (%)=100(1-e ^{av_d})	<i>30.2</i>	
Adj. for no-passing zone, f _{np,PTSF} (Exhibit 15-21)	<i>50.4</i>	
Percent time-spent-following, PTSF _d (%)=BPTSF _d +f _{np,PTSF} *(v _{d,PTSF} /v _{d,PTSF} +V _{o,PTSF})	<i>49.5</i>	
Level of Service and Other Performance Measures		
Level of service, LOS (Exhibit 15-3)	<i>B</i>	
Volume to capacity ratio, v/c	<i>0.15</i>	

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1669
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1690
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	85.1
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	246.7
Effective width, Wv (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	3.28
Bicycle level of service (Exhibit 15-4)	C
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	333	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	2.8	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	313	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	313	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	166	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	166	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	2.8	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/8/2017 07:27:29

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	327	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	2.7	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	307	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	307	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	164	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	164	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	2.7	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/8/2017 07:27:14

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	583	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	4.9	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	548	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	548	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	292	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	292	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	4.9	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/8/2017 07:25:52

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	518	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	4.3	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	487	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	487	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	259	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	259	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	4.3	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/8/2017 07:25:32

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	666	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.6	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	626	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	626	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	333	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	333	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	5.6	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/7/2017 21:25:16

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	568	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	4.7	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	534	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	534	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	284	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	284	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, Dc	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	4.7	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/7/2017 21:24:49

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	1004	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	8.4	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	944	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	944	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	502	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	502	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, Dc	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	8.4	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/7/2017 21:22:57

MULTILANE HIGHWAY SEGMENT ANALYSIS

File Name: EX_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 6/7/2017
 Analysis Year: 2017
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	810	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	6.8	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	761	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	761	veh/h
Peak Hour Factor, PHF	0.94	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	405	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	405	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, Dc	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	6.8	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 6/7/2017 21:22:46

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst		Highway / Direction of Travel	Canyon Road (SB)
Agency or Company		From/To	
Date Performed	6/8/2017	Jurisdiction	
Analysis Time Period	Saturday PM Peak-Hour	Analysis Year	2017

Project Description: *Redding Rancheria*

Input Data

Segment length, L_1 _____ mi

Class I highway Class II highway
 Class III highway

Terrain Level Rolling

Grade Length _____ mi Up/down

Peak-hour factor, PHF 0.92

No-passing zone 100%

% Trucks and Buses, P_T 6%

% Recreational vehicles, P_R 4%

Access points *mi* 0/mi

Analysis direction vol., V_d	362veh/h
Opposing direction vol., V_o	229veh/h
Shoulder width ft	6.0
Lane Width ft	12.0
Segment Length mi	0.2

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	1.3	1.5
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV,ATS} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.982	0.971
Grade adjustment factor ¹ , $f_{g,ATS}$ (Exhibit 15-9)	1.00	1.00
Demand flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{g,ATS} * f_{HV,ATS})$	401	256
Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed	
Mean speed of sample ³ , S_{FM}	Base free-flow speed ⁴ , BFFS 60.0 mi/h	
Total demand flow rate, both directions, v	Adj. for lane and shoulder width ⁴ , f_{LS} (Exhibit 15-7) 0.0 mi/h	
Free-flow speed, $FFS = S_{FM} + 0.00776(\sqrt{v_{HV,ATS}})$	Adj. for access points ⁴ , f_A (Exhibit 15-8) 0.0 mi/h	
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) 4.1 mi/h	Free-flow speed, FFS ($FFS = BFFS - f_{LS} - f_A$) 60.0 mi/h	
	Average travel speed, $ATS_d = FFS - 0.00776(v_{d,ATS} + V_{o,ATS}) - f_{np,ATS}$ 50.8 mi/h	
	Percent free flow speed, PFFS 84.6 %	

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-18 or 15-19)	1.1	1.1
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV} = 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.994	0.994
Grade adjustment factor ¹ , $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	1.00	1.00
Directional flow rate ² , v_i (pc/h) $v_i = V_i / (PHF * f_{HV,PTSF} * f_{g,PTSF})$	396	250
Base percent time-spent-following ⁴ , $BPTSF_d(\%) = 100(1 - e^{-av_d^b})$	39.5	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	50.6	
Percent time-spent-following, $PTSF_d(\%) = BPTSF_d + f_{np,PTSF} * (v_{d,PTSF} / v_{d,PTSF} + V_{o,PTSF})$	70.5	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	B
Volume to capacity ratio, v/c	0.24

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	1661
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	1690
Percent Free-Flow Speed $PFFS_d$ (Equation 15-11 - Class III only)	84.6
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	393.5
Effective width, Wv (Eq. 15-29) ft	24.00
Effective speed factor, S_t (Eq. 15-30)	4.79
Bicycle level of service score, BLOS (Eq. 15-31)	3.51
Bicycle level of service (Exhibit 15-4)	D
Notes	
<p>1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.</p> <p>2. If $v_i(v_d \text{ or } v_o) \geq 1,700$ pc/h, terminate analysis--the LOS is F.</p> <p>3. For the analysis direction only and for $v > 200$ veh/h.</p> <p>4. For the analysis direction only</p> <p>5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.</p> <p>6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.</p>	

Segment Inputs				Existing Conditions														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
	Length (ft)	Number of Lanes (N)	Interchange Density (I/mi)	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
Northbound	Deschutes Rd to Balls Ferry Rd	200	2	3.00	1,946	1,362	1089.34	67.3	65	63.6315	17.119	B	762.4239	67.3	65	59.2358	12.9	B
	Balls Ferry Rd Off to North St On	4000	2	3.00	1,448	1,029	810.565	67.3	65	60.0734	13.493	B	576.0163	67.3	65	55.3725	10.403	A
	North St to Riverside Ave	200	2	3.00	1,795	1,245	1004.81	67.3	65	62.7854	16.004	B	696.9293	67.3	65	57.9907	12.018	B
Southbound	Riverside Ave to North St	490	2	3.00	2,561	1,720	1433.6	67.3	65	64.984	22.061	C	962.8261	67.3	65	62.2899	15.457	B
	North St Off to Balls Ferry On	4100	2	3.00	2,168	1,481	1213.61	67.3	65	64.5074	18.813	C	829.038	67.3	65	60.3774	13.731	B
	Balls Ferry Rd to Deschutes Rd	130	2	3.00	2,554	1,788	1429.68	67.3	65	64.9875	21.999	C	1000.891	67.3	65	62.7413	15.953	B
Universal Inputs:																		
PHF 0.92																		
P _t 6%																		
f _{HV} 0.970873786																		

Segment Inputs				Existing Conditions																															
				Friday PM Flow Inputs			AM LOS Performance Measures										Saturday PM Flow Inputs			PM LOS Performance Measures															
Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L)	Ramp Volume (R)	Downstream Volume (D)	Upstream Volume (F)	v_0	v_1	v_2	v_3	w/S_{max}	P_{PM}	v_{12}	Capacity	v_1	v_{12a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_0	v_1	v_2	v_3	w/S_{max}	P_{PM}	v_{12}	Capacity	v_1	v_{12a}	v/c	D	LOS	
(ft)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	
2	1	300		1795	1448	347	2010	1621	388	46	1	1621.1	4800	0	1216	1621	0.4187	19.09	B	1599	1165	434	1790	1304	486	37	1	1304.3	4800	0	978	1304	0.373	17.334	B
2	1	300		2554	2168	386	2859	2427	432	69	1	2427.2	4800	0	1820	2427	0.5957	25.698	C	1827	1537	290	2045	1721	325	49	1	1720.8	4800	0	1291	1721	0.4261	19.399	B

Length 1500 (ft)
 Lw 70 (veh/h)
 Lr 35 (veh/h)
 PPF 0.92
 PFI 0.6
 Pw 0.970873786

Segment	Segment Inputs		Existing Conditions																															
			AM Flow Inputs												PM Flow Inputs			PM LOS Performance Measures																
	Number of Lanes	Number of Ramp Lanes	L ₁₀₀ (ft)	Length of Deceleration Lane (L _d) (ft)	Downstream Volume (veh/h)	Upstream Volume (veh/h)	Ramp Volume (veh/h)	V ₀ (pc/h/ln)	V ₁ (pc/h/ln)	V ₂ (pc/h/ln)	P ₁₀	V ₂₁ (pc/h/ln)	Capacity (pc/h/ln)	V ₁	V ₂₁	v/c	D	LOS	Downstream Volume (D) (veh/h)	Upstream Volume (F) (veh/h)	Ramp Volume (R) (veh/h)	V ₀ (pc/h/ln)	V ₁ (pc/h/ln)	V ₂ (pc/h/ln)	P ₁₀	V ₂₁ (pc/h/ln)	Capacity (pc/h/ln)	V ₁	V ₂₁	v/c	D	LOS		
Ball's Ferry Rd Off	2	1	556	300	1448	1946	498	439.989	2178.7	557.54	1	2178.7	4800	0	1634	2179	0.4539	20.289	C	1165	1429	264	485.891	1599.9	295.57	1	1599.9	4800	0	1200	1600	0.3333	15.311	B
North Rd Off	2	1	0	150	2168	2561	393	0	2867.2	439.99	1	2867.2	4800	0	2150	2867	0.5973	27.56	C	1537	1971	434	0	2206.7	485.89	1	2206.7	4800	0	1655	2207	0.4597	21.879	C

Length 1500 (ft)
 L₁₀₀ 75 (ft)
 L_d 35 (ft)
 P₁₀ 0.92
 P₂₁ 0%
 P₂₅ 0.970871786

Segment Inputs				Existing Conditions														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
	Length (ft)	Number of Lanes (N)	Interchange Density (I/mi)	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
Southbound Northbound	Smith Rd to Bonnyview Rd	2400	2	0.33	2,021	1,429	1131.32	74.12	75	74.8091	15.123	B	799.9293	74.12	75	74.5569	10.7	A
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	1,632	1,165	609.043	74.12	75	73.308	8.308	A	434.7645	74.12	75	71.4632	6.0838	A
	Bonnyview Rd to Cypress Ave	7000	3	0.33	2,284	1,599	852.362	74.12	75	74.7587	11.402	B	596.7283	74.12	75	73.1997	8.1521	A
	Cypress Ave to Bonnyview Rd	7000	3	0.33	2,816	1,971	1050.9	74.12	75	74.9713	14.017	B	735.5543	74.12	75	74.2259	9.9097	A
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,182	1,537	814.297	74.12	75	74.6182	10.913	A	573.5906	74.12	75	72.9872	7.8588	A
	Bonnyview Rd to Smith Rd	2600	2	0.33	2,715	1,827	1519.81	74.12	75	72.0089	21.106	C	1022.723	74.12	75	74.9943	13.637	B
Universal Inputs:																		
PHF 0.92																		
P _t 6%																		
f _{HV} 0.970873786																		

Segment Inputs				Existing Conditions																															
				Friday PM Flow Inputs			AM LOS Performance Measures								Saturday PM Flow Inputs			PM LOS Performance Measures																	
ID	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L) (ft)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_0	v_1	v_2	v_3	w/S_{max}	P_{PM}	v_{12}	Capacity	v_1	v_{12a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_0	v_1	v_2	v_3	w/S_{max}	P_{PM}	v_{12}	Capacity	v_1	v_{12a}	v/c	D	LOS
				(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)
22	3	1	430	2284	1632	652	2557	1827	730	52	0.5895	1077.2	7200	375	808	1077	0.3552	16.539	B	1599	1165	434	1790	1304	486	37	0.5895	768.93	7200	268	577	769	0.2486	12.343	B
23	3	1	380	2715	2182	533	3040	2443	597	70	0.5881	1436.8	7200	503	1078	1437	0.4222	18.679	B	1827	1537	290	2045	1721	325	49	0.5881	1012.1	7200	354	759	1012	0.2841	13.37	B

Length 1500 (ft)
 v_0 70 (mi/h)
 v_1 85 (mi/h)
 P_{PM} 0.92
 P_{PM} 0.92
 P_{PM} 0.92
 P_{PM} 0.92

Segment	Segment Inputs		Length of Deceleration Lane (L _d)		Existing Conditions																													
					AM Flow Inputs										PM Flow Inputs			PM LOS Performance Measures																
					Number of Lanes	Number of Ramp Lanes	Downstream Volume	Upstream Volume	Ramp Volume	V ₀	V ₁	V ₂	P ₁₀	V ₁₁	Capacity	V ₁	V _{11a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	P ₁₀	V ₁₁	Capacity	V ₁	V _{11a}	v/c	D	LOS
(in)	(in)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	
Bonnyview Rd Off	3	1	530	180	1632	2021	389	709.804	2262.6	435.51	0.436	1232.1	7200	515	924	1232	0.3143	13.228	B	1165	1429	264	485.891	1599.9	295.57	0.436	864.24	7200	368	648	864	0.2222	10.064	B
Bonnyview Rd Off	3	1	-	180	2182	2816	634	-	3152.7	709.8	0.6485	2294.1	7200	859	1721	2294	0.4379	22.361	C	1537	1971	434	-	2206.7	485.89	0.6825	1660.3	7200	546	1245	1660	0.3065	16.91	B

Weight 1500 (lb)
 K₁ 70 (m/h)
 K₂ 35 (m/h)
 P₁₀ 0.92
 P₂ 0%
 P₁₀ 0.970871786

























TRAFFIC SIGNAL WARRANTS

Intersection	2025			2040		
	NB/SB	EB/WB	Meet Warrant? (2025)	NB/SB	EB/WB	Meet Warrant? (2040)
1	1904	988		2230	1113	
2	420	2348		491	2628	
3	1111	2680		1361	3155	
4	913	3037		993	3527	
5	626	2646		756	3021	
6	803	1793		928	2133	
7	140	1402	YES	140	1742	YES
8	232	1076	YES	327	1343	YES
9	329	696	YES	419	906	YES
10	294	19	NO	357	26	NO
11	1850	514		1931	543	
12	1563	166		1628	189	
13	1607	324		1685	374	
14	1549	400		1754	417	
15	413	525		423	526	
16	986	144		1157	155	
17	852	507		1137	633	
18	82	852	NO	86	994	NO
19	423	763	YES	477	863	YES
20	501	1045	YES	596	1201	YES
21	102	627	NO	112	844	NO
22	93	1080		116	1452	
23	828	1021		1071	1264	

**BASELINE ANALYSIS (OPENING YEAR 2025 AND
CUMULATIVE 2040)**

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	523	80	224	55	420	377	338	705	9
Future Volume (veh/h)	10	83	68	523	80	224	55	420	377	338	705	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	568	204	165	60	457	410	367	766	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	307	137	717	512	436	296	1136	508	499	1059	474
Arrive On Green	0.01	0.09	0.09	0.20	0.28	0.28	0.17	0.32	0.32	0.14	0.30	0.30
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	568	204	165	60	457	410	367	766	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.6	2.9	9.9	5.8	3.5	1.9	6.6	15.5	6.7	12.6	0.2
Cycle Q Clear(g_c), s	0.4	1.6	2.9	9.9	5.8	3.5	1.9	6.6	15.5	6.7	12.6	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	307	137	717	512	436	296	1136	508	499	1059	474
V/C Ratio(X)	0.45	0.29	0.54	0.79	0.40	0.38	0.20	0.40	0.81	0.74	0.72	0.02
Avail Cap(c_a), veh/h	150	2197	983	816	1427	1213	296	1709	764	897	2332	1043
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	27.9	28.5	24.7	19.3	7.6	23.4	17.3	20.3	26.7	20.5	10.5
Incr Delay (d2), s/veh	12.2	0.5	3.2	4.8	0.5	0.5	0.3	0.2	3.9	2.1	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.4	5.3	3.1	2.2	1.0	3.2	7.3	3.3	6.3	0.1
LnGrp Delay(d),s/veh	44.2	28.4	31.8	29.5	19.8	8.2	23.8	17.5	24.2	28.8	21.4	10.5
LnGrp LOS	D	C	C	C	B	A	C	B	C	C	C	B
Approach Vol, veh/h		175			937			927			1143	
Approach Delay, s/veh		30.8			23.6			20.9			23.7	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	24.9	17.2	9.7	14.9	23.5	4.9	21.9				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	8.7	17.5	11.9	4.9	3.9	14.6	2.4	7.8				
Green Ext Time (p_c), s	0.8	3.5	1.3	0.7	0.3	4.9	0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay			23.2									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd























Opening Year (2025) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	980	5	10	1092	216	10	15	10	341	5	39
Future Volume (veh/h)	45	980	5	10	1092	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1065	5	11	1187	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1694	8	24	1552	694	206	289	174	530	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3612	17	1774	3539	1583	403	843	508	1257	17	142
Grp Volume(v), veh/h	49	522	548	11	1187	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1754	0	0	1416	0	0
Q Serve(g_s), s	1.9	15.3	15.3	0.4	19.5	6.7	0.0	0.0	0.0	17.8	0.0	0.0
Cycle Q Clear(g_c), s	1.9	15.3	15.3	0.4	19.5	6.7	1.0	0.0	0.0	18.8	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	78	830	872	24	1552	694	668	0	0	584	0	0
V/C Ratio(X)	0.62	0.63	0.63	0.45	0.76	0.34	0.06	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	129	830	872	129	1648	737	1076	0	0	940	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.3	13.7	13.7	33.6	16.3	12.7	15.2	0.0	0.0	20.9	0.0	0.0
Incr Delay (d2), s/veh	7.9	1.5	1.4	12.4	2.1	0.3	0.0	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.7	8.1	0.3	9.8	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	40.2	15.3	15.2	46.0	18.4	13.0	15.2	0.0	0.0	22.6	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h		1119			1433			38			418	
Approach Delay, s/veh		16.3			17.7			15.2			22.6	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.6	4.9	36.2		27.6	7.0	34.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.0	2.4	17.3		20.8	3.9	21.5				
Green Ext Time (p_c), s		3.1	0.0	11.8		2.7	0.0	8.7				
Intersection Summary												
HCM 2010 Ctrl Delay				17.8								
HCM 2010 LOS				B								

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	1058	25	36	1183	306	25	15	30	756	20	265
Future Volume (veh/h)	208	1058	25	36	1183	306	25	15	30	756	20	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1150	27	39	1286	333	27	16	33	838	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	1575	37	62	1455	651	55	33	77	1011	0	451
Arrive On Green	0.07	0.45	0.45	0.04	0.41	0.41	0.05	0.05	0.05	0.28	0.00	0.28
Sat Flow, veh/h	1774	3535	83	1774	3539	1583	1134	672	1583	3548	0	1583
Grp Volume(v), veh/h	226	576	601	39	1286	333	43	0	33	838	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1848	1774	1770	1583	1806	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	23.0	23.0	1.9	29.0	13.5	2.0	0.0	1.7	19.0	0.0	13.7
Cycle Q Clear(g_c), s	6.0	23.0	23.0	1.9	29.0	13.5	2.0	0.0	1.7	19.0	0.0	13.7
Prop In Lane	1.00		0.04	1.00		1.00	0.63		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	124	788	823	62	1455	651	88	0	77	1011	0	451
V/C Ratio(X)	1.83	0.73	0.73	0.62	0.88	0.51	0.49	0.00	0.43	0.83	0.00	0.64
Avail Cap(c_a), veh/h	124	788	823	103	1500	671	388	0	340	1359	0	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.1	19.6	19.6	41.0	23.5	18.9	39.9	0.0	39.8	28.8	0.0	26.9
Incr Delay (d2), s/veh	402.7	3.5	3.3	9.8	6.5	0.6	4.2	0.0	3.7	3.3	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	12.0	12.5	1.1	15.4	6.0	1.1	0.0	0.8	9.8	0.0	6.2
LnGrp Delay(d),s/veh	442.8	23.1	23.0	50.8	30.0	19.5	44.1	0.0	43.5	32.1	0.0	28.4
LnGrp LOS	F	C	C	D	C	B	D		D	C		C
Approach Vol, veh/h		1403			1658			76			1126	
Approach Delay, s/veh		90.6			28.4			43.9			31.2	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.2	7.0	42.4		28.5	10.0	39.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.0	3.9	25.0		21.0	8.0	31.0				
Green Ext Time (p_c), s		0.2	0.0	10.8		3.5	0.0	4.5				
Intersection Summary												
HCM 2010 Ctrl Delay			49.9									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	1254	590	300	893	0	0	0	0	285	1	632
Future Volume (veh/h)	0	1254	590	300	893	0	0	0	0	285	1	632
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1363	641	326	971	0				310	1	687
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1116	514	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3574	1569	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1356	648	326	971	0				311	0	687
Grp Sat Flow(s),veh/h/ln	0	1695	1586	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	19.6	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	19.6	0.0				11.3	0.0	26.8
Prop In Lane	0.00		0.99	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.22	1.25	0.98	0.49	0.00				0.52	0.00	1.30
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.59	0.59	0.47	0.47	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	22.1	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	104.7	120.7	28.7	0.4	0.0				0.8	0.0	146.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	28.3	28.8	9.9	9.7	0.0				5.7	0.0	33.2
LnGrp Delay(d),s/veh	0.0	131.6	147.6	66.1	22.5	0.0				22.3	0.0	173.0
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2004			1297						998	
Approach Delay, s/veh		136.7			33.5						126.0	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+l1), s			16.7	28.2		28.8		21.6				
Green Ext Time (p_c), s			0.0	0.0		0.0		20.4				
Intersection Summary												
HCM 2010 Ctrl Delay			103.1									
HCM 2010 LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	665	874	0	0	822	285	371	5	255	0	0	0
Future Volume (veh/h)	665	874	0	0	822	285	371	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	723	950	0	0	893	310	403	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	405	5	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	22	1583			
Grp Volume(v), veh/h	723	950	0	0	893	310	408	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.7	0.0	0.0	14.8	9.3	18.4	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.7	0.0	0.0	14.8	9.3	18.4	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.36	0.40	0.00	0.00	0.79	0.61	0.99	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.39	0.39	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.6	11.6	30.7	0.0	28.7			
Incr Delay (d2), s/veh	162.5	0.0	0.0	0.0	2.3	2.2	42.7	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	35.6	1.6	0.0	0.0	7.3	4.3	13.8	0.0	6.6			
LnGrp Delay(d),s/veh	186.5	1.7	0.0	0.0	14.8	13.7	73.4	0.0	37.4			
LnGrp LOS	F	A			B	B	E		D			
Approach Vol, veh/h		1673			1203			685				
Approach Delay, s/veh		81.6			14.6			58.9				
Approach LOS		F			B			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		20.4		5.7			26.0	16.8				
Green Ext Time (p_c), s		0.0		21.9			0.0	7.0				
Intersection Summary												
HCM 2010 Ctrl Delay				54.6								
HCM 2010 LOS				D								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑			↖	↖		↖	↖
Traffic Volume (veh/h)	418	631	80	35	499	130	125	10	25	145	15	483
Future Volume (veh/h)	418	631	80	35	499	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	686	87	38	542	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1008	451	63	614	159	409	33	393	374	38	366
Arrive On Green	0.20	0.57	0.57	0.04	0.22	0.22	0.25	0.25	0.25	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2784	721	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	686	87	38	344	339	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	721	1770	1583	1774	1770	1735	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	10.9	2.1	1.7	15.0	15.2	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	10.9	2.1	1.7	15.0	15.2	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.42	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1008	451	63	390	383	442	0	393	412	0	366
V/C Ratio(X)	1.32	0.68	0.19	0.60	0.88	0.89	0.33	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1008	451	111	409	401	442	0	393	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.7	12.8	38.0	30.2	30.2	24.6	0.0	23.0	26.2	0.0	30.8
Incr Delay (d2), s/veh	161.0	1.7	0.2	8.8	18.9	20.0	2.0	0.0	0.3	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.4	0.9	1.0	9.4	9.4	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	193.0	16.3	13.0	46.8	49.1	50.2	26.7	0.0	23.3	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h		1227			721			174			699	
Approach Delay, s/veh		81.5			49.5			26.1			187.8	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.9	6.9	26.8		22.5	12.0	21.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.4	3.7	12.9		20.5	10.0	17.2				
Green Ext Time (p_c), s		0.5	0.0	5.2		0.0	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			96.2									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	696	569	30	25	95
Future Vol, veh/h	105	696	569	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	757	618	33	27	103

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	651	0	0	1242	326
Stage 1	-	-	-	635	-
Stage 2	-	-	-	607	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	931	-	-	167	670
Stage 1	-	-	-	490	-
Stage 2	-	-	-	507	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	931	-	-	132	670
Mov Cap-2 Maneuver	-	-	-	132	-
Stage 1	-	-	-	490	-
Stage 2	-	-	-	400	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.2	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	931	-	-	-	132	670
HCM Lane V/C Ratio	0.123	-	-	-	0.206	0.154
HCM Control Delay (s)	9.4	-	-	-	39.2	11.4
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	0.5

Intersection

Int Delay, s/veh 13.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	198	428	377	73	75	157
Future Vol, veh/h	198	428	377	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	465	410	79	82	171

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	489	0	-	0	1345 449
Stage 1	-	-	-	-	449 -
Stage 2	-	-	-	-	896 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1074	-	-	-	167 610
Stage 1	-	-	-	-	643 -
Stage 2	-	-	-	-	399 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1074	-	-	-	134 610
Mov Cap-2 Maneuver	-	-	-	-	134 -
Stage 1	-	-	-	-	643 -
Stage 2	-	-	-	-	319 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	68
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1074	-	-	-	284
HCM Lane V/C Ratio	0.2	-	-	-	0.888
HCM Control Delay (s)	9.2	-	-	-	68
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.7	-	-	-	7.9

Intersection

Int Delay, s/veh 9.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	360	163	128	45	40	289
Future Vol, veh/h	360	163	128	45	40	289
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	391	177	139	49	43	314

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	188	0	-	0	1124
Stage 1	-	-	-	-	164
Stage 2	-	-	-	-	960
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1386	-	-	-	227
Stage 1	-	-	-	-	865
Stage 2	-	-	-	-	372
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1386	-	-	-	163
Mov Cap-2 Maneuver	-	-	-	-	163
Stage 1	-	-	-	-	865
Stage 2	-	-	-	-	267

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	21.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	574
HCM Lane V/C Ratio	0.282	-	-	-	0.623
HCM Control Delay (s)	8.6	-	-	-	21.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.2	-	-	-	4.3
















Intersection

Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	16	3	8	115	140	31
Future Vol, veh/h	16	3	8	115	140	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	3	9	125	152	34

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	311	169	186	0	0
Stage 1	169	-	-	-	-
Stage 2	142	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	681	875	1388	-	-
Stage 1	861	-	-	-	-
Stage 2	885	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	676	875	1388	-	-
Mov Cap-2 Maneuver	676	-	-	-	-
Stage 1	861	-	-	-	-
Stage 2	879	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1388	-	701	-	-
HCM Lane V/C Ratio	0.006	-	0.029	-	-
HCM Control Delay (s)	7.6	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

									
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	 			 	 				
Traffic Volume (veh/h)	278	236	152	546	731	421			
Future Volume (veh/h)	278	236	152	546	731	421			
Number	7	14	5	2	6	16			
Initial Q (Qb), veh	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	302	257	165	593	795	458			
Adj No. of Lanes	2	1	1	2	2	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Cap, veh/h	776	357	213	2124	1391	622			
Arrive On Green	0.23	0.23	0.12	0.60	0.39	0.39			
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583			
Grp Volume(v), veh/h	302	257	165	593	795	458			
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583			
Q Serve(g_s), s	3.4	6.9	4.1	3.7	8.1	11.3			
Cycle Q Clear(g_c), s	3.4	6.9	4.1	3.7	8.1	11.3			
Prop In Lane	1.00	1.00	1.00			1.00			
Lane Grp Cap(c), veh/h	776	357	213	2124	1391	622			
V/C Ratio(X)	0.39	0.72	0.77	0.28	0.57	0.74			
Avail Cap(c_a), veh/h	1349	621	386	2620	1541	689			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	15.1	16.4	19.6	4.4	10.9	11.9			
Incr Delay (d2), s/veh	0.3	2.7	5.9	0.1	0.4	3.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.6	6.0	2.4	1.8	3.9	5.5			
LnGrp Delay(d),s/veh	15.4	19.2	25.5	4.5	11.3	15.6			
LnGrp LOS	B	B	C	A	B	B			
Approach Vol, veh/h	559			758	1253				
Approach Delay, s/veh	17.1			9.1	12.9				
Approach LOS	B			A	B				
Timer	1	2	3	4	5	6	7	8	
Assigned Phs	2		4		5		6		
Phs Duration (G+Y+Rc), s	31.6		14.4		9.5		22.1		
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0		
Max Green Setting (Gmax), s	34.0		18.0		10.0		20.0		
Max Q Clear Time (g_c+l1), s	5.7		8.9		6.1		13.3		
Green Ext Time (p_c), s	12.0		1.5		0.1		4.7		
Intersection Summary									
HCM 2010 Ctrl Delay			12.7						
HCM 2010 LOS			B						



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	130	36	20	581	885	77		
Future Volume (veh/h)	130	36	20	581	885	77		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	141	39	22	632	962	84		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	219	196	49	2231	1697	759		
Arrive On Green	0.12	0.12	0.03	0.63	0.48	0.48		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	141	39	22	632	962	84		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	2.5	0.7	0.4	2.6	6.3	0.9		
Cycle Q Clear(g_c), s	2.5	0.7	0.4	2.6	6.3	0.9		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	219	196	49	2231	1697	759		
V/C Ratio(X)	0.64	0.20	0.45	0.28	0.57	0.11		
Avail Cap(c_a), veh/h	2020	1802	273	6534	5554	2485		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.6	12.8	15.6	2.7	6.0	4.6		
Incr Delay (d2), s/veh	3.1	0.5	6.2	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	0.7	0.3	1.3	3.0	0.4		
LnGrp Delay(d),s/veh	16.7	13.3	21.8	2.8	6.3	4.7		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	180			654	1046			
Approach Delay, s/veh	16.0			3.4	6.2			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		24.5		8.0	4.9	19.6		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+l1), s		4.6		4.5	2.4	8.3		
Green Ext Time (p_c), s		4.1		0.5	1.0	7.3		
Intersection Summary								
HCM 2010 Ctrl Delay			6.2					
HCM 2010 LOS			A					

Redding Rancheria
13: SR-273 & Westside Rd/Girvan Rd

Opening Year (2025) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗		↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	8	20	57	160	18	61	35	532	148	94	766	32
Future Volume (veh/h)	8	20	57	160	18	61	35	532	148	94	766	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	9	22	62	174	20	66	38	578	161	102	833	35
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	13	31	88	270	58	191	76	932	417	198	1176	526
Arrive On Green	0.08	0.08	0.08	0.15	0.15	0.15	0.04	0.26	0.26	0.11	0.33	0.33
Sat Flow, veh/h	161	393	1106	1774	382	1259	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	93	0	0	174	0	86	38	578	161	102	833	35
Grp Sat Flow(s),veh/h/ln	1659	0	0	1774	0	1641	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	2.2	0.0	0.0	3.8	0.0	1.9	0.9	5.9	3.4	2.2	8.4	0.6
Cycle Q Clear(g_c), s	2.2	0.0	0.0	3.8	0.0	1.9	0.9	5.9	3.4	2.2	8.4	0.6
Prop In Lane	0.10		0.67	1.00		0.77	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	133	0	0	270	0	249	76	932	417	198	1176	526
V/C Ratio(X)	0.70	0.00	0.00	0.65	0.00	0.34	0.50	0.62	0.39	0.51	0.71	0.07
Avail Cap(c_a), veh/h	1508	0	0	806	0	745	218	1608	719	218	1608	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	0.0	0.0	16.2	0.0	15.5	19.1	13.2	12.3	17.0	11.9	9.3
Incr Delay (d2), s/veh	6.6	0.0	0.0	2.6	0.0	0.8	5.0	0.7	0.6	2.1	0.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	2.0	0.0	0.9	0.5	2.9	1.5	1.2	4.2	0.3
LnGrp Delay(d),s/veh	24.8	0.0	0.0	18.8	0.0	16.3	24.0	13.9	12.9	19.1	12.8	9.3
LnGrp LOS	C			B		B	C	B	B	B	B	A
Approach Vol, veh/h		93			260			777			970	
Approach Delay, s/veh		24.8			18.0			14.2			13.3	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	14.7		7.3	5.7	17.5		10.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.5			37.0	5.0	18.5		18.5				
Max Q Clear Time (g_c+I), s	7.9			4.2	2.9	10.4		5.8				
Green Ext Time (p_c), s	0.0	2.9		0.5	0.1	3.2		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				14.7								
HCM 2010 LOS				B								



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	329	71	82	472	547	448		
Future Volume (veh/h)	329	71	82	472	547	448		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	430	0	89	513	595	0		
Adj No. of Lanes	2	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	735	334	146	2011	1323	1042		
Arrive On Green	0.21	0.00	0.08	0.57	0.37	0.00		
Sat Flow, veh/h	3548	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	430	0	89	513	595	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	3.9	0.0	1.7	2.6	4.5	0.0		
Cycle Q Clear(g_c), s	3.9	0.0	1.7	2.6	4.5	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	735	334	146	2011	1323	1042		
V/C Ratio(X)	0.59	0.00	0.61	0.26	0.45	0.00		
Avail Cap(c_a), veh/h	2989	1361	399	4174	2982	2348		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	12.7	0.0	15.8	3.9	8.4	0.0		
Incr Delay (d2), s/veh	0.7	0.0	4.1	0.1	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.0	0.0	1.0	1.2	2.2	0.0		
LnGrp Delay(d),s/veh	13.5	0.0	19.9	3.9	8.6	0.0		
LnGrp LOS	B		B	A	A			
Approach Vol, veh/h	430			602	595			
Approach Delay, s/veh	13.5			6.3	8.6			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		24.2		11.4	6.9	17.3		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		
Max Q Clear Time (g_c+l1), s		4.6		5.9	3.7	6.5		
Green Ext Time (p_c), s		7.6		1.6	0.1	6.8		
Intersection Summary								
HCM 2010 Ctrl Delay			9.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	350	175	9	222	169	13		
Future Volume (veh/h)	350	175	9	222	169	13		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	380	0	0	248	194	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	526	470	279	474	486	255		
Arrive On Green	0.30	0.00	0.00	0.15	0.14	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	380	0	0	248	194	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	5.5	0.0	0.0	2.1	1.4	0.0		
Cycle Q Clear(g_c), s	5.5	0.0	0.0	2.1	1.4	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	526	470	279	474	486	255		
V/C Ratio(X)	0.72	0.00	0.00	0.52	0.40	0.00		
Avail Cap(c_a), veh/h	1281	1144	1203	2045	2291	1203		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.1	0.0	0.0	11.3	11.3	0.0		
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.9	0.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	1.0	0.7	0.0		
LnGrp Delay(d),s/veh	11.0	0.0	0.0	12.2	11.9	0.0		
LnGrp LOS	B			B	B			
Approach Vol, veh/h	380		248			194		
Approach Delay, s/veh	11.0		12.2			11.9		
Approach LOS	B		B			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.3				7.9		12.5
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		18.6				18.6		20.8
Max Q Clear Time (g_c+I1), s		4.1				3.4		7.5
Green Ext Time (p_c), s		0.8				0.5		1.0
Intersection Summary								
HCM 2010 Ctrl Delay			11.5					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	65	79	77	370	467	72		
Future Volume (veh/h)	65	79	77	370	467	72		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	71	86	84	402	508	78		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	95	115	150	2123	1339	599		
Arrive On Green	0.13	0.13	0.08	0.60	0.38	0.38		
Sat Flow, veh/h	748	906	1774	3632	3632	1583		
Grp Volume(v), veh/h	158	0	84	402	508	78		
Grp Sat Flow(s),veh/h/ln	1665	0	1774	1770	1770	1583		
Q Serve(g_s), s	2.7	0.0	1.3	1.5	3.0	0.9		
Cycle Q Clear(g_c), s	2.7	0.0	1.3	1.5	3.0	0.9		
Prop In Lane	0.45	0.54	1.00			1.00		
Lane Grp Cap(c), veh/h	211	0	150	2123	1339	599		
V/C Ratio(X)	0.75	0.00	0.56	0.19	0.38	0.13		
Avail Cap(c_a), veh/h	1709	0	425	5689	4357	1949		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.3	0.0	12.9	2.6	6.6	5.9		
Incr Delay (d2), s/veh	5.3	0.0	3.2	0.0	0.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.8	0.7	1.5	0.4		
LnGrp Delay(d),s/veh	17.6	0.0	16.1	2.7	6.8	6.0		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	158			486	586			
Approach Delay, s/veh	17.6			5.0	6.7			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		21.5		7.7	6.5	15.1		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+l1), s		3.5		4.7	3.3	5.0		
Green Ext Time (p_c), s		6.3		0.4	0.0	6.0		
Intersection Summary								
HCM 2010 Ctrl Delay			7.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	106	48	154	103	82	47	216	157	86	329	17
Future Volume (veh/h)	14	106	48	154	103	82	47	216	157	86	329	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	15	115	52	167	112	89	51	235	171	93	358	18
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	254	174	79	287	301	256	96	782	350	142	875	391
Arrive On Green	0.14	0.14	0.14	0.16	0.16	0.16	0.05	0.22	0.22	0.08	0.25	0.25
Sat Flow, veh/h	1774	1216	550	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	15	0	167	167	112	89	51	235	171	93	358	18
Grp Sat Flow(s),veh/h/ln	1774	0	1766	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.3	0.0	3.6	3.5	2.2	2.0	1.1	2.2	3.8	2.1	3.4	0.4
Cycle Q Clear(g_c), s	0.3	0.0	3.6	3.5	2.2	2.0	1.1	2.2	3.8	2.1	3.4	0.4
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	254	0	253	287	301	256	96	782	350	142	875	391
V/C Ratio(X)	0.06	0.00	0.66	0.58	0.37	0.35	0.53	0.30	0.49	0.66	0.41	0.05
Avail Cap(c_a), veh/h	1574	0	1567	787	826	702	262	1570	702	306	1657	741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.0	0.0	16.5	15.7	15.2	15.1	18.7	13.2	13.8	18.1	12.8	11.6
Incr Delay (d2), s/veh	0.1	0.0	2.9	1.9	0.8	0.8	4.6	0.2	1.1	5.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.0	1.9	1.2	0.9	0.7	1.1	1.8	1.2	1.7	0.2
LnGrp Delay(d),s/veh	15.1	0.0	19.4	17.6	15.9	15.9	23.3	13.4	14.9	23.2	13.1	11.7
LnGrp LOS	B		B	B	B	B	C	B	B	C	B	B
Approach Vol, veh/h		182			368			457			469	
Approach Delay, s/veh		19.0			16.7			15.0			15.0	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	13.0		9.8	6.2	14.0		10.6				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.0			36.0	6.0	19.0		18.0				
Max Q Clear Time (g_c+I), s	5.8			5.6	3.1	5.4		5.5				
Green Ext Time (p_c), s	0.0	3.1		1.0	0.0	3.3		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay				15.9								
HCM 2010 LOS				B								

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	21	344	4	12	429	42	3	7	16	40	6	10
Future Vol, veh/h	21	344	4	12	429	42	3	7	16	40	6	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	374	4	13	466	46	3	8	17	43	7	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	512	0	0	378	0	0	685	960	376	949	939	256
Stage 1	-	-	-	-	-	-	422	422	-	515	515	-
Stage 2	-	-	-	-	-	-	263	538	-	434	424	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1051	-	-	1179	-	-	348	256	670	227	263	744
Stage 1	-	-	-	-	-	-	609	587	-	512	534	-
Stage 2	-	-	-	-	-	-	720	521	-	600	586	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1051	-	-	1179	-	-	328	248	670	211	254	744
Mov Cap-2 Maneuver	-	-	-	-	-	-	328	248	-	211	254	-
Stage 1	-	-	-	-	-	-	596	574	-	501	528	-
Stage 2	-	-	-	-	-	-	693	515	-	564	573	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.2			14.1			24.3		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	424	1051	-	-	1179	-	-	247
HCM Lane V/C Ratio	0.067	0.022	-	-	0.011	-	-	0.246
HCM Control Delay (s)	14.1	8.5	-	-	8.1	-	-	24.3
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.9

Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↓	↓
Traffic Vol, veh/h	0	435	328	0	226	197
Future Vol, veh/h	0	435	328	0	226	197
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	473	357	0	246	214
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	11.6	10.7	14
HCM LOS	B	B	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	218	218	164	164	226	197
LT Vol	0	0	0	0	226	0
Through Vol	218	218	164	164	0	0
RT Vol	0	0	0	0	0	197
Lane Flow Rate	236	236	178	178	246	214
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.421	0.305	0.324	0.237	0.477	0.344
Departure Headway (Hd)	6.407	4.642	6.546	4.778	6.994	5.78
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	560	771	547	747	516	621
Service Time	4.166	2.399	4.308	2.539	4.744	3.529
HCM Lane V/C Ratio	0.421	0.306	0.325	0.238	0.477	0.345
HCM Control Delay	13.8	9.4	12.4	9	16	11.6
HCM Lane LOS	B	A	B	A	C	B
HCM 95th-tile Q	2.1	1.3	1.4	0.9	2.5	1.5

Intersection

Intersection Delay, s/veh 36.2
 Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖		↖			
Traffic Vol, veh/h	129	204	296	151	233	32	92	210	199	0	0	0
Future Vol, veh/h	129	204	296	151	233	32	92	210	199	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	140	222	322	164	253	35	100	228	216	0	0	0
Number of Lanes	1	2	0	1	2	0	1	0	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	30.5	17.3	59.2
HCM LOS	D	C	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	51%	0%	100%	19%	0%	100%	71%
Vol Right, %	0%	49%	0%	0%	81%	0%	0%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	92	409	129	136	364	151	155	110
LT Vol	92	0	129	0	0	151	0	0
Through Vol	0	210	0	136	68	0	155	78
RT Vol	0	199	0	0	296	0	0	32
Lane Flow Rate	100	445	140	148	396	164	169	119
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.247	0.993	0.345	0.343	0.852	0.425	0.413	0.284
Departure Headway (Hd)	8.894	8.044	8.866	8.347	7.756	9.321	8.8	8.587
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	405	453	407	432	467	387	409	418
Service Time	6.617	5.767	6.593	6.074	5.483	7.07	6.549	6.336
HCM Lane V/C Ratio	0.247	0.982	0.344	0.343	0.848	0.424	0.413	0.285
HCM Control Delay	14.5	69.3	16.2	15.4	41.2	18.8	17.6	14.7
HCM Lane LOS	B	F	C	C	E	C	C	B
HCM 95th-tile Q	1	12.7	1.5	1.5	8.6	2.1	2	1.2

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕		↖		
Traffic Vol, veh/h	1	292	11	22	289	12	15	3	54	30	0	0
Future Vol, veh/h	1	292	11	22	289	12	15	3	54	30	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	317	12	24	314	13	16	3	59	33	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	327	0	0	329
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.14	-	-	4.14
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22
Pot Cap-1 Maneuver	1229	-	-	1227
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1229	-	-	1227
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.5	11.1	15
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	671	1229	-	-	1227	-	-	392
HCM Lane V/C Ratio	0.117	0.001	-	-	0.019	-	-	0.083
HCM Control Delay (s)	11.1	7.9	-	-	8	-	-	15
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.3

Redding Rancheria
 22: I-5 SB On Ramp/Ventura St & Balls Ferry Rd

Opening Year (2025) Conditions
 Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	322	51	364	318	22	0	0	0	18	68	7
Future Volume (veh/h)	3	322	51	364	318	22	0	0	0	18	68	7
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	3	350	55	396	346	24				20	74	8
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	7	451	70	1187	2873	1285				114	106	11
Arrive On Green	0.00	0.15	0.15	0.67	0.81	0.81				0.06	0.06	0.06
Sat Flow, veh/h	1774	3070	478	1774	3539	1583				1774	1653	179
Grp Volume(v), veh/h	3	200	205	396	346	24				20	0	82
Grp Sat Flow(s),veh/h/ln	1774	1770	1778	1774	1770	1583				1774	0	1831
Q Serve(g_s), s	0.2	10.9	11.1	9.5	2.0	0.3				1.1	0.0	4.4
Cycle Q Clear(g_c), s	0.2	10.9	11.1	9.5	2.0	0.3				1.1	0.0	4.4
Prop In Lane	1.00		0.27	1.00		1.00				1.00		0.10
Lane Grp Cap(c), veh/h	7	260	261	1187	2873	1285				114	0	118
V/C Ratio(X)	0.42	0.77	0.78	0.33	0.12	0.02				0.18	0.00	0.70
Avail Cap(c_a), veh/h	89	407	409	1187	2873	1285				550	0	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.7	41.0	41.1	7.1	2.0	1.8				44.3	0.0	45.8
Incr Delay (d2), s/veh	35.4	19.6	20.5	0.1	0.1	0.0				0.7	0.0	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	6.8	6.9	4.7	1.0	0.1				0.5	0.0	2.4
LnGrp Delay(d),s/veh	85.1	60.6	61.7	7.2	2.0	1.8				45.0	0.0	53.1
LnGrp LOS	F	E	E	A	A	A				D		D
Approach Vol, veh/h		408			766						102	
Approach Delay, s/veh		61.3			4.7						51.5	
Approach LOS		E			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			70.9	18.7		10.4	4.4	85.2				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			34.0	23.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			11.5	13.1		6.4	2.2	4.0				
Green Ext Time (p_c), s			3.5	1.6		0.4	0.0	3.8				
Intersection Summary												
HCM 2010 Ctrl Delay			26.5									
HCM 2010 LOS			C									

Redding Rancheria
 23: I-5 NB Off Ramp/McMurray Dr & Balls Ferry Rd

























Opening Year (2025) Conditions
 Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↗	↖	↗		↖
Traffic Volume (veh/h)	80	254	0	0	491	196	73	129	201	231	0	194
Future Volume (veh/h)	80	254	0	0	491	196	73	129	201	231	0	194
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	87	276	0	0	534	213	79	140	218	251	0	211
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	89	2662	0	0	1639	651	298	313	266	0	0	0
Arrive On Green	0.10	1.00	0.00	0.00	0.66	0.66	0.17	0.17	0.17	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2568	984	1774	1863	1583		0	
Grp Volume(v), veh/h	87	276	0	0	381	366	79	140	218		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1689	1774	1863	1583			
Q Serve(g_s), s	4.9	0.0	0.0	0.0	9.3	9.3	3.9	6.8	13.3			
Cycle Q Clear(g_c), s	4.9	0.0	0.0	0.0	9.3	9.3	3.9	6.8	13.3			
Prop In Lane	1.00		0.00	0.00		0.58	1.00		1.00			
Lane Grp Cap(c), veh/h	89	2662	0	0	1172	1118	298	313	266			
V/C Ratio(X)	0.98	0.10	0.00	0.00	0.33	0.33	0.27	0.45	0.82			
Avail Cap(c_a), veh/h	89	2662	0	0	1172	1118	603	633	538			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.98	0.98	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	45.0	0.0	0.0	0.0	7.3	7.3	36.2	37.4	40.1			
Incr Delay (d2), s/veh	88.2	0.1	0.0	0.0	0.7	0.8	0.5	1.0	6.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.5	0.0	0.0	0.0	4.7	4.5	1.9	3.5	6.3			
LnGrp Delay(d),s/veh	133.1	0.1	0.0	0.0	8.0	8.1	36.7	38.4	46.3			
LnGrp LOS	F	A			A	A	D	D	D			
Approach Vol, veh/h		363			747			437				
Approach Delay, s/veh		32.0			8.0			42.0				
Approach LOS		C			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.8		79.2			9.0	70.2				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+l1), s		15.3		2.0			6.9	11.3				
Green Ext Time (p_c), s		1.5		7.5			0.0	5.8				
Intersection Summary												
HCM 2010 Ctrl Delay				23.3								
HCM 2010 LOS				C								

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	373	57	144	35	349	271	238	406	5
Future Volume (veh/h)	0	46	54	373	57	144	35	349	271	238	406	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	405	133	110	38	379	295	259	441	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	395	177	441	608	516	331	993	444	420	765	342
Arrive On Green	0.00	0.11	0.11	0.12	0.33	0.33	0.19	0.28	0.28	0.12	0.22	0.22
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	405	133	110	38	379	295	259	441	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.5	5.0	2.3	1.2	0.8	3.8	7.3	3.2	4.9	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.5	5.0	2.3	1.2	0.8	3.8	7.3	3.2	4.9	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	395	177	441	608	516	331	993	444	420	765	342
V/C Ratio(X)	0.00	0.13	0.33	0.92	0.22	0.21	0.11	0.38	0.66	0.62	0.58	0.01
Avail Cap(c_a), veh/h	221	3239	1449	441	1705	1449	331	2863	1281	949	3399	1521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	17.7	18.1	19.2	10.8	3.3	15.0	12.8	14.1	18.4	15.5	10.7
Incr Delay (d2), s/veh	0.0	0.1	1.1	24.2	0.2	0.2	0.2	0.2	1.7	1.5	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.7	3.9	1.2	0.9	0.4	1.9	3.4	1.6	2.5	0.0
LnGrp Delay(d),s/veh	0.0	17.9	19.2	43.3	11.0	3.5	15.1	13.1	15.8	19.9	16.2	10.7
LnGrp LOS		B	B	D	B	A	B	B	B	B	B	B
Approach Vol, veh/h		109			648			712			705	
Approach Delay, s/veh		18.6			29.9			14.3			17.5	
Approach LOS		B			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	16.4	9.5	8.9	12.2	13.6	0.0	18.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	12.2	35.8	5.5	40.5	5.5	42.5	5.5	40.5				
Max Q Clear Time (g_c+l1), s	5.2	9.3	7.0	3.5	2.8	6.9	0.0	4.3				
Green Ext Time (p_c), s	0.5	3.1	0.0	0.4	0.3	2.6	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			20.2									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd























Opening Year (2025) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	666	5	10	761	118	10	15	10	121	0	25
Future Volume (veh/h)	19	666	5	10	761	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	724	5	11	827	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1829	13	26	1755	785	164	156	80	364	5	40
Arrive On Green	0.03	0.51	0.51	0.01	0.50	0.50	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3603	25	1774	3539	1583	256	969	499	1176	30	247
Grp Volume(v), veh/h	21	356	373	11	827	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	1774	1770	1583	1723	0	0	1452	0	0
Q Serve(g_s), s	0.4	4.7	4.7	0.2	5.8	1.7	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	0.4	4.7	4.7	0.2	5.8	1.7	0.7	0.0	0.0	3.8	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	898	943	26	1755	785	401	0	0	408	0	0
V/C Ratio(X)	0.45	0.40	0.40	0.43	0.47	0.16	0.09	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	234	1401	1471	234	2802	1253	1973	0	0	1779	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.2	5.8	5.8	18.5	6.3	5.2	13.6	0.0	0.0	14.9	0.0	0.0
Incr Delay (d2), s/veh	6.7	0.3	0.3	11.0	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.3	2.5	0.2	2.8	0.7	0.3	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	24.9	6.0	6.0	29.5	6.5	5.3	13.7	0.0	0.0	15.5	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		750			966			38			159	
Approach Delay, s/veh		6.6			6.6			13.7			15.5	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.1	4.5	23.2		10.1	5.0	22.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		43.0	5.0	30.0		43.0	5.0	30.0				
Max Q Clear Time (g_c+l1), s		2.7	2.2	6.7		5.8	2.4	7.8				
Green Ext Time (p_c), s		1.2	0.0	11.2		1.2	0.0	11.0				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	778	25	16	888	174	22	5	13	271	12	112
Future Volume (veh/h)	113	778	25	16	888	174	22	5	13	271	12	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	846	27	17	965	189	24	5	14	304	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	1855	59	37	1636	732	63	13	68	489	0	218
Arrive On Green	0.09	0.53	0.53	0.02	0.46	0.46	0.04	0.04	0.04	0.14	0.00	0.14
Sat Flow, veh/h	1774	3501	112	1774	3539	1583	1480	308	1583	3548	0	1583
Grp Volume(v), veh/h	123	428	445	17	965	189	29	0	14	304	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1843	1774	1770	1583	1789	0	1583	1774	0	1583
Q Serve(g_s), s	4.0	8.9	8.9	0.6	12.0	4.3	0.9	0.0	0.5	4.8	0.0	4.3
Cycle Q Clear(g_c), s	4.0	8.9	8.9	0.6	12.0	4.3	0.9	0.0	0.5	4.8	0.0	4.3
Prop In Lane	1.00		0.06	1.00		1.00	0.83		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	157	938	976	37	1636	732	76	0	68	489	0	218
V/C Ratio(X)	0.79	0.46	0.46	0.47	0.59	0.26	0.38	0.00	0.21	0.62	0.00	0.56
Avail Cap(c_a), veh/h	179	1115	1162	149	2171	971	556	0	492	1968	0	878
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	8.7	8.7	28.8	11.8	9.8	27.7	0.0	27.5	24.2	0.0	24.0
Incr Delay (d2), s/veh	18.1	0.3	0.3	8.9	0.3	0.2	3.1	0.0	1.5	1.3	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	4.4	4.5	0.4	5.8	1.9	0.5	0.0	0.2	2.5	0.0	2.0
LnGrp Delay(d),s/veh	44.7	9.0	9.0	37.8	12.2	10.0	30.8	0.0	29.0	25.5	0.0	26.2
LnGrp LOS	D	A	A	D	B	A	C		C	C		C
Approach Vol, veh/h		996			1171			43			426	
Approach Delay, s/veh		13.4			12.2			30.2			25.7	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.5	5.2	35.5		12.2	9.2	31.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		2.9	2.6	10.9		6.8	6.0	14.0				
Green Ext Time (p_c), s		0.1	0.0	14.9		1.4	0.0	13.5				
Intersection Summary												
HCM 2010 Ctrl Delay			15.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	761	301	178	633	0	0	0	0	176	1	445
Future Volume (veh/h)	0	761	301	178	633	0	0	0	0	176	1	445
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	827	327	193	688	0				191	1	484
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1065	419	428	2079	0				552	3	495
Arrive On Green	0.00	0.30	0.30	0.48	1.00	0.00				0.31	0.31	0.31
Sat Flow, veh/h	0	3759	1412	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	780	374	193	688	0				192	0	484
Grp Sat Flow(s),veh/h/ln	0	1695	1614	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	16.8	17.0	5.8	0.0	0.0				6.7	0.0	24.2
Cycle Q Clear(g_c), s	0.0	16.8	17.0	5.8	0.0	0.0				6.7	0.0	24.2
Prop In Lane	0.00		0.88	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1005	478	428	2079	0				555	0	495
V/C Ratio(X)	0.00	0.78	0.78	0.45	0.33	0.00				0.35	0.00	0.98
Avail Cap(c_a), veh/h	0	1187	565	428	2079	0				555	0	495
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.90	0.90	0.86	0.86	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	25.7	25.8	17.2	0.0	0.0				21.2	0.0	27.2
Incr Delay (d2), s/veh	0.0	5.3	10.8	0.6	0.4	0.0				0.4	0.0	34.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.5	8.9	2.9	0.1	0.0				3.3	0.0	15.3
LnGrp Delay(d),s/veh	0.0	31.0	36.6	17.9	0.4	0.0				21.6	0.0	62.0
LnGrp LOS		C	D	B	A					C		E
Approach Vol, veh/h		1154			881						676	
Approach Delay, s/veh		32.8			4.2						50.5	
Approach LOS		C			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			23.3	27.7		29.0		51.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	28.0		25.0		47.0				
Max Q Clear Time (g_c+l1), s			7.8	19.0		26.2		2.0				
Green Ext Time (p_c), s			2.9	4.8		0.0		5.7				
Intersection Summary												
HCM 2010 Ctrl Delay			27.9									
HCM 2010 LOS			C									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	422	515	0	0	575	222	236	3	255	0	0	0
Future Volume (veh/h)	422	515	0	0	575	222	236	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	459	560	0	0	625	241	257	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	485	2466	0	0	1322	591	356	4	322			
Arrive On Green	0.55	1.00	0.00	0.00	0.75	0.75	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1755	20	1583			
Grp Volume(v), veh/h	459	560	0	0	625	241	260	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	19.4	0.0	0.0	0.0	5.5	4.4	10.9	0.0	13.5			
Cycle Q Clear(g_c), s	19.4	0.0	0.0	0.0	5.5	4.4	10.9	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	485	2466	0	0	1322	591	361	0	322			
V/C Ratio(X)	0.95	0.23	0.00	0.00	0.47	0.41	0.72	0.00	0.86			
Avail Cap(c_a), veh/h	532	2466	0	0	1322	591	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.85	0.85	0.00	0.00	0.69	0.69	1.00	0.00	1.00			
Uniform Delay (d), s/veh	17.6	0.0	0.0	0.0	7.0	6.9	29.8	0.0	30.8			
Incr Delay (d2), s/veh	22.6	0.2	0.0	0.0	0.8	1.4	5.3	0.0	16.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	12.2	0.1	0.0	0.0	2.7	2.1	5.9	0.0	7.4			
LnGrp Delay(d),s/veh	40.2	0.2	0.0	0.0	7.9	8.3	35.0	0.0	47.7			
LnGrp LOS	D	A			A	A	D		D			
Approach Vol, veh/h		1019			866		537					
Approach Delay, s/veh		18.2			8.0		41.5					
Approach LOS		B			A		D					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.3		59.7			25.9	33.9				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		15.5		2.0			21.4	7.5				
Green Ext Time (p_c), s		0.7		11.3			0.4	8.1				
Intersection Summary												
HCM 2010 Ctrl Delay				19.7								
HCM 2010 LOS				B								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	333	104	35	319	110	175	5	50	129	0	303
Future Volume (veh/h)	333	333	104	35	319	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	362	113	38	347	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	891	398	63	486	165	492	13	450	405	0	361
Arrive On Green	0.17	0.42	0.42	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2593	883	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	362	113	38	235	232	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1707	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.7	3.8	1.7	10.0	10.2	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.7	3.8	1.7	10.0	10.2	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.52	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	891	398	63	331	320	505	0	450	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.71	0.73	0.39	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	395	505	0	450	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	19.0	18.4	38.0	30.5	30.6	23.0	0.0	21.2	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	4.3	5.1	2.2	0.0	0.5	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.8	1.7	1.0	5.2	5.3	3.8	0.0	0.9	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.0	19.3	18.8	46.8	34.7	35.6	25.2	0.0	21.7	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	C	D	C		C	C		E
Approach Vol, veh/h		837			505			249			469	
Approach Delay, s/veh		52.0			36.1			24.5			47.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.8	6.9	24.1		22.3	12.0	19.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+l1), s		9.1	3.7	7.7		18.2	10.0	12.2				
Green Ext Time (p_c), s		0.8	0.0	4.5		0.1	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			43.6									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	435	390	30	10	74
Future Vol, veh/h	77	435	390	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	473	424	33	11	80

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	457	0	0	844	228
Stage 1	-	-	-	440	-
Stage 2	-	-	-	404	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1100	-	-	302	775
Stage 1	-	-	-	616	-
Stage 2	-	-	-	643	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1100	-	-	271	775
Mov Cap-2 Maneuver	-	-	-	271	-
Stage 1	-	-	-	616	-
Stage 2	-	-	-	576	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1100	-	-	-	271	775
HCM Lane V/C Ratio	0.076	-	-	-	0.04	0.104
HCM Control Delay (s)	8.5	-	-	-	18.8	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	124	219	277	32	52	163
Future Vol, veh/h	124	219	277	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	238	301	35	57	177

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	336	0	-	0	826 318
Stage 1	-	-	-	-	318 -
Stage 2	-	-	-	-	508 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1223	-	-	-	342 723
Stage 1	-	-	-	-	738 -
Stage 2	-	-	-	-	604 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1223	-	-	-	304 723
Mov Cap-2 Maneuver	-	-	-	-	304 -
Stage 1	-	-	-	-	738 -
Stage 2	-	-	-	-	537 -

Approach	EB	WB	SB
HCM Control Delay, s	3	0	16.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1223	-	-	-	542
HCM Lane V/C Ratio	0.11	-	-	-	0.431
HCM Control Delay (s)	8.3	-	-	-	16.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.2

Intersection

Int Delay, s/veh	6.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	203	82	86	27	22	195
Future Vol, veh/h	203	82	86	27	22	195
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	221	89	93	29	24	212

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	123	0	-	0	638
Stage 1	-	-	-	-	108
Stage 2	-	-	-	-	530
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1464	-	-	-	441
Stage 1	-	-	-	-	916
Stage 2	-	-	-	-	590
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1464	-	-	-	374
Mov Cap-2 Maneuver	-	-	-	-	374
Stage 1	-	-	-	-	916
Stage 2	-	-	-	-	501

Approach	EB	WB	SB
HCM Control Delay, s	5.6	0	11.2
HCM LOS			B
















Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	819
HCM Lane V/C Ratio	0.151	-	-	-	0.288
HCM Control Delay (s)	7.9	-	-	-	11.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1.2

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	12	7	3	68	84	20
Future Vol, veh/h	12	7	3	68	84	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	8	3	74	91	22

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	182	102	113	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	80	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	807	953	1476	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	943	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	805	953	1476	-	-	-
Mov Cap-2 Maneuver	805	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	941	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	854	-	-
HCM Lane V/C Ratio	0.002	-	0.024	-	-
HCM Control Delay (s)	7.4	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	 			 	 			
Traffic Volume (veh/h)	207	177	130	359	478	257		
Future Volume (veh/h)	207	177	130	359	478	257		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	225	192	141	390	520	279		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	692	318	185	2074	1328	594		
Arrive On Green	0.20	0.20	0.10	0.59	0.38	0.38		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	225	192	141	390	520	279		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	2.1	4.1	2.9	1.9	4.0	5.0		
Cycle Q Clear(g_c), s	2.1	4.1	2.9	1.9	4.0	5.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	692	318	185	2074	1328	594		
V/C Ratio(X)	0.33	0.60	0.76	0.19	0.39	0.47		
Avail Cap(c_a), veh/h	3479	1600	613	5649	4048	1811		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.8	13.7	16.4	3.6	8.6	8.9		
Incr Delay (d2), s/veh	0.3	1.8	6.3	0.0	0.2	0.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	3.7	1.7	0.9	2.0	2.3		
LnGrp Delay(d),s/veh	13.1	15.5	22.7	3.7	8.8	9.5		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	417			531	799			
Approach Delay, s/veh	14.2			8.7	9.0			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		5	6		
Phs Duration (G+Y+Rc), s	26.0		11.6		7.9	18.1		
Change Period (Y+Rc), s	4.0		4.0		4.0	4.0		
Max Green Setting (Gmax), s	60.0		38.0		13.0	43.0		
Max Q Clear Time (g_c+I1), s	3.9		6.1		4.9	7.0		
Green Ext Time (p_c), s	7.3		1.5		0.2	7.1		
Intersection Summary								
HCM 2010 Ctrl Delay			10.2					
HCM 2010 LOS			B					



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	73	18	22	418	595	56		
Future Volume (veh/h)	73	18	22	418	595	56		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	79	20	24	454	647	61		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	176	157	54	2056	1382	618		
Arrive On Green	0.10	0.10	0.03	0.58	0.39	0.39		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	79	20	24	454	647	61		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	1.1	0.3	0.3	1.5	3.4	0.6		
Cycle Q Clear(g_c), s	1.1	0.3	0.3	1.5	3.4	0.6		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	176	157	54	2056	1382	618		
V/C Ratio(X)	0.45	0.13	0.44	0.22	0.47	0.10		
Avail Cap(c_a), veh/h	2623	2341	354	8485	7213	3227		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.6	10.3	11.9	2.5	5.7	4.8		
Incr Delay (d2), s/veh	1.8	0.4	5.5	0.1	0.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.6	0.0	0.2	0.7	1.7	0.3		
LnGrp Delay(d),s/veh	12.4	10.6	17.4	2.6	5.9	4.9		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	99			478	708			
Approach Delay, s/veh	12.0			3.3	5.8			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		18.5		6.5	4.8	13.8		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+l1), s		3.5		3.1	2.3	5.4		
Green Ext Time (p_c), s		2.8		0.3	0.7	4.4		
Intersection Summary								
HCM 2010 Ctrl Delay			5.4					
HCM 2010 LOS			A					



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕↕	↕	↕	↕↕	↕
Traffic Volume (veh/h)	15	12	40	103	6	51	31	382	101	69	506	29
Future Volume (veh/h)	15	12	40	103	6	51	31	382	101	69	506	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	16	13	43	112	7	55	34	415	110	75	550	32
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	27	22	73	216	22	174	72	815	365	148	968	433
Arrive On Green	0.07	0.07	0.07	0.12	0.12	0.12	0.04	0.23	0.23	0.08	0.27	0.27
Sat Flow, veh/h	371	301	996	1774	182	1429	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	72	0	0	112	0	62	34	415	110	75	550	32
Grp Sat Flow(s),veh/h/ln	1668	0	0	1774	0	1611	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	1.4	0.0	0.0	1.9	0.0	1.1	0.6	3.3	1.9	1.3	4.4	0.5
Cycle Q Clear(g_c), s	1.4	0.0	0.0	1.9	0.0	1.1	0.6	3.3	1.9	1.3	4.4	0.5
Prop In Lane	0.22		0.60	1.00		0.89	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	123	0	0	216	0	196	72	815	365	148	968	433
V/C Ratio(X)	0.59	0.00	0.00	0.52	0.00	0.32	0.47	0.51	0.30	0.51	0.57	0.07
Avail Cap(c_a), veh/h	1894	0	0	1007	0	914	272	2008	899	272	2008	899
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	0.0	13.4	0.0	13.1	15.3	10.9	10.4	14.3	10.2	8.8
Incr Delay (d2), s/veh	4.4	0.0	0.0	1.9	0.0	0.9	4.7	0.5	0.5	2.6	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	1.0	0.0	0.5	0.4	1.7	0.8	0.8	2.1	0.2
LnGrp Delay(d),s/veh	19.0	0.0	0.0	15.4	0.0	14.0	20.0	11.4	10.8	16.9	10.7	8.9
LnGrp LOS	B			B		B	C	B	B	B	B	A
Approach Vol, veh/h		72			174			559			657	
Approach Delay, s/veh		19.0			14.9			11.8			11.3	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7	11.5		6.4	5.3	12.9		8.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.5			37.0	5.0	18.5		18.5				
Max Q Clear Time (g_c+I), s	5.3			3.4	2.6	6.4		3.9				
Green Ext Time (p_c), s	0.0	2.2		0.4	0.0	2.6		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				12.3								
HCM 2010 LOS				B								



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	278	48	74	277	306	347		
Future Volume (veh/h)	278	48	74	277	306	347		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	351	0	80	301	333	0		
Adj No. of Lanes	2	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	688	313	148	1813	999	787		
Arrive On Green	0.19	0.00	0.08	0.51	0.28	0.00		
Sat Flow, veh/h	3548	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	351	0	80	301	333	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	2.4	0.0	1.2	1.2	2.0	0.0		
Cycle Q Clear(g_c), s	2.4	0.0	1.2	1.2	2.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	688	313	148	1813	999	787		
V/C Ratio(X)	0.51	0.00	0.54	0.17	0.33	0.00		
Avail Cap(c_a), veh/h	3906	1778	456	5455	4026	3170		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.8	0.0	12.0	3.5	7.7	0.0		
Incr Delay (d2), s/veh	0.6	0.0	3.1	0.0	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.7	0.6	1.0	0.0		
LnGrp Delay(d),s/veh	10.4	0.0	15.0	3.6	7.9	0.0		
LnGrp LOS	B		B	A	A			
Approach Vol, veh/h	351			381	333			
Approach Delay, s/veh	10.4			6.0	7.9			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		18.0		9.3	6.3	11.7		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	7.0	31.0		
Max Q Clear Time (g_c+l1), s		3.2		4.4	3.2	4.0		
Green Ext Time (p_c), s		3.8		1.3	0.0	3.7		
Intersection Summary								
HCM 2010 Ctrl Delay			8.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	196	203	10	213	143	9		
Future Volume (veh/h)	196	203	10	213	143	9		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	213	0	0	239	162	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	374	334	305	519	483	254		
Arrive On Green	0.21	0.00	0.00	0.16	0.14	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	213	0	0	239	162	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	2.6	0.0	0.0	1.7	1.0	0.0		
Cycle Q Clear(g_c), s	2.6	0.0	0.0	1.7	1.0	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	374	334	305	519	483	254		
V/C Ratio(X)	0.57	0.00	0.00	0.46	0.34	0.00		
Avail Cap(c_a), veh/h	1447	1291	1443	2453	2748	1443		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	8.7	0.0	0.0	9.3	9.6	0.0		
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.6	0.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.8	0.5	0.0		
LnGrp Delay(d),s/veh	10.1	0.0	0.0	9.9	10.0	0.0		
LnGrp LOS	B			A	A			
Approach Vol, veh/h	213		239		162			
Approach Delay, s/veh	10.1		9.9		10.0			
Approach LOS	B		A		A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.0				7.3		9.2
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		19.0				19.0		20.0
Max Q Clear Time (g_c+I1), s		3.7				3.0		4.6
Green Ext Time (p_c), s		0.8				0.4		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			10.0					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	41	56	58	264	265	47		
Future Volume (veh/h)	41	56	58	264	265	47		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	45	61	63	287	288	51		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	75	102	128	1934	1066	477		
Arrive On Green	0.11	0.11	0.07	0.55	0.30	0.30		
Sat Flow, veh/h	698	947	1774	3632	3632	1583		
Grp Volume(v), veh/h	107	0	63	287	288	51		
Grp Sat Flow(s),veh/h/ln	661	0	1774	1770	1770	1583		
Q Serve(g_s), s	1.4	0.0	0.8	0.9	1.4	0.5		
Cycle Q Clear(g_c), s	1.4	0.0	0.8	0.9	1.4	0.5		
Prop In Lane	0.42	0.57	1.00			1.00		
Lane Grp Cap(c), veh/h	179	0	128	1934	1066	477		
V/C Ratio(X)	0.60	0.00	0.49	0.15	0.27	0.11		
Avail Cap(c_a), veh/h	2156	0	537	7198	5513	2466		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	9.8	0.0	10.3	2.6	6.1	5.8		
Incr Delay (d2), s/veh	3.2	0.0	2.9	0.0	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.5	0.4	0.7	0.2		
LnGrp Delay(d),s/veh	13.0	0.0	13.2	2.6	6.3	5.9		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	107			350	339			
Approach Delay, s/veh	13.0			4.5	6.2			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		16.6		6.5	5.7	11.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+l1), s		2.9		3.4	2.8	3.4		
Green Ext Time (p_c), s		3.6		0.3	0.0	3.5		
Intersection Summary								
HCM 2010 Ctrl Delay			6.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗	↖	↖	↗	↖
Traffic Volume (veh/h)	5	70	16	93	56	69	24	180	113	60	212	9
Future Volume (veh/h)	5	70	16	93	56	69	24	180	113	60	212	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	5	76	17	101	61	75	26	196	123	65	230	10
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	134	30	244	256	218	57	715	320	122	844	377
Arrive On Green	0.09	0.09	0.09	0.14	0.14	0.14	0.03	0.20	0.20	0.07	0.24	0.24
Sat Flow, veh/h	1774	1475	330	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	5	0	93	101	61	75	26	196	123	65	230	10
Grp Sat Flow(s),veh/h/ln	1774	0	1805	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.1	0.0	1.6	1.7	0.9	1.4	0.5	1.5	2.1	1.1	1.7	0.2
Cycle Q Clear(g_c), s	0.1	0.0	1.6	1.7	0.9	1.4	0.5	1.5	2.1	1.1	1.7	0.2
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	161	0	164	244	256	218	57	715	320	122	844	377
V/C Ratio(X)	0.03	0.00	0.57	0.41	0.24	0.34	0.45	0.27	0.38	0.53	0.27	0.03
Avail Cap(c_a), veh/h	2000	0	2034	1000	1050	892	278	1995	892	389	2216	992
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	0.0	13.9	12.6	12.3	12.5	15.2	10.8	11.0	14.4	9.9	9.3
Incr Delay (d2), s/veh	0.1	0.0	3.1	1.1	0.5	0.9	5.5	0.2	0.8	3.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.9	0.9	0.5	0.7	0.3	0.7	1.0	0.7	0.9	0.1
LnGrp Delay(d),s/veh	13.3	0.0	17.0	13.7	12.8	13.4	20.7	11.0	11.8	18.0	10.1	9.3
LnGrp LOS	B		B	B	B	B	C	B	B	B	B	A
Approach Vol, veh/h		98			237			345			305	
Approach Delay, s/veh		16.8			13.4			12.0			11.7	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	10.5		6.9	5.0	11.6		8.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.0			36.0	5.0	20.0		18.0				
Max Q Clear Time (g_c+I), s	4.1			3.6	2.5	3.7		3.7				
Green Ext Time (p_c), s	0.0	2.3		0.5	0.0	2.5		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay				12.7								
HCM 2010 LOS				B								

Redding Rancheria
18: Oak St & North St

Opening Year (2025) Conditions
Saturday PM Peak

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	11	221	2	9	226	30	3	3	13	48	10	9
Future Vol, veh/h	11	221	2	9	226	30	3	3	13	48	10	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	240	2	10	246	33	3	3	14	52	11	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	278	0	0	242	0	0	413	563	241	556	548	139
Stage 1	-	-	-	-	-	-	265	265	-	282	282	-
Stage 2	-	-	-	-	-	-	148	298	-	274	266	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1283	-	-	1323	-	-	536	435	797	427	443	884
Stage 1	-	-	-	-	-	-	740	689	-	702	677	-
Stage 2	-	-	-	-	-	-	840	666	-	731	688	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1283	-	-	1323	-	-	513	428	797	412	436	884
Mov Cap-2 Maneuver	-	-	-	-	-	-	513	428	-	412	436	-
Stage 1	-	-	-	-	-	-	733	683	-	695	672	-
Stage 2	-	-	-	-	-	-	811	661	-	708	682	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.3			10.7			14.6		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	651	1283	-	-	1323	-	-	448
HCM Lane V/C Ratio	0.032	0.009	-	-	0.007	-	-	0.163
HCM Control Delay (s)	10.7	7.8	-	-	7.7	-	-	14.6
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.6

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	0	297	187	0	135	122
Future Vol, veh/h	0	297	187	0	135	122
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	323	203	0	147	133
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	8.7	8.3	10
HCM LOS	A	A	A

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	149	149	94	94	135	122
LT Vol	0	0	0	0	135	0
Through Vol	149	149	94	94	0	0
RT Vol	0	0	0	0	0	122
Lane Flow Rate	161	161	102	102	147	133
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.246	0.168	0.158	0.109	0.25	0.181
Departure Headway (Hd)	5.489	3.74	5.598	3.847	6.123	4.917
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	652	952	637	923	583	723
Service Time	3.244	1.493	3.362	1.609	3.907	2.699
HCM Lane V/C Ratio	0.247	0.169	0.16	0.111	0.252	0.184
HCM Control Delay	10	7.3	9.4	7.1	11	8.8
HCM Lane LOS	A	A	A	A	B	A
HCM 95th-tile Q	1	0.6	0.6	0.4	1	0.7

Intersection

Intersection Delay, s/veh	13.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖		↖			
Traffic Vol, veh/h	72	142	198	114	129	35	61	127	165	0	0	0
Future Vol, veh/h	72	142	198	114	129	35	61	127	165	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	78	154	215	124	140	38	66	138	179	0	0	0
Number of Lanes	1	2	0	1	2	0	1	0	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	12.9	11.8	16
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	43%	0%	100%	19%	0%	100%	55%
Vol Right, %	0%	57%	0%	0%	81%	0%	0%	45%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	61	292	72	95	245	114	86	78
LT Vol	61	0	72	0	0	114	0	0
Through Vol	0	127	0	95	47	0	86	43
RT Vol	0	165	0	0	198	0	0	35
Lane Flow Rate	66	317	78	103	267	124	93	85
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.134	0.56	0.157	0.192	0.454	0.257	0.181	0.156
Departure Headway (Hd)	7.25	6.354	7.213	6.703	6.127	7.471	6.96	6.639
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	492	565	495	532	584	478	512	537
Service Time	5.029	4.132	4.993	4.483	3.906	5.261	4.75	4.429
HCM Lane V/C Ratio	0.134	0.561	0.158	0.194	0.457	0.259	0.182	0.158
HCM Control Delay	11.2	17	11.3	11.1	14	12.9	11.3	10.7
HCM Lane LOS	B	C	B	B	B	B	B	B
HCM 95th-tile Q	0.5	3.4	0.6	0.7	2.4	1	0.7	0.5

Redding Rancheria
21: Oak St & Balls Ferry Rd

Opening Year (2025) Conditions
Saturday PM Peak

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕		↖		
Traffic Vol, veh/h	1	166	4	37	227	5	12	4	34	16	0	0
Future Vol, veh/h	1	166	4	37	227	5	12	4	34	16	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	180	4	40	247	5	13	4	37	17	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	252	0	0	185
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.14	-	-	4.14
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22
Pot Cap-1 Maneuver	1310	-	-	1387
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1310	-	-	1387
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.1	10.2	12.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	742	1310	-	-	1387	-	-	478
HCM Lane V/C Ratio	0.073	0.001	-	-	0.029	-	-	0.036
HCM Control Delay (s)	10.2	7.8	-	-	7.7	-	-	12.8
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.1

Redding Rancheria
 22: I-5 SB On Ramp/Ventura St & Balls Ferry Rd

Opening Year (2025) Conditions
 Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	175	38	305	258	17	0	0	0	12	43	21
Future Volume (veh/h)	2	175	38	305	258	17	0	0	0	12	43	21
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	2	190	41	332	280	18				13	47	23
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	7	534	113	514	1666	745				152	101	50
Arrive On Green	0.00	0.18	0.18	0.29	0.47	0.47				0.09	0.09	0.09
Sat Flow, veh/h	1774	2909	615	1774	3539	1583				1774	1182	579
Grp Volume(v), veh/h	2	114	117	332	280	18				13	0	70
Grp Sat Flow(s),veh/h/ln	1774	1770	1754	1774	1770	1583				1774	0	1761
Q Serve(g_s), s	0.0	1.5	1.6	4.5	1.2	0.2				0.2	0.0	1.0
Cycle Q Clear(g_c), s	0.0	1.5	1.6	4.5	1.2	0.2				0.2	0.0	1.0
Prop In Lane	1.00		0.35	1.00		1.00				1.00		0.33
Lane Grp Cap(c), veh/h	7	325	322	514	1666	745				152	0	151
V/C Ratio(X)	0.31	0.35	0.36	0.65	0.17	0.02				0.09	0.00	0.46
Avail Cap(c_a), veh/h	326	1300	1289	1108	4160	1861				2020	0	2005
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	13.5	9.7	9.7	8.4	4.1	3.9				11.5	0.0	11.9
Incr Delay (d2), s/veh	24.5	0.6	0.7	1.4	0.0	0.0				0.2	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.8	0.8	2.3	0.6	0.1				0.1	0.0	0.6
LnGrp Delay(d),s/veh	38.0	10.3	10.4	9.8	4.2	3.9				11.7	0.0	14.1
LnGrp LOS	D	B	B	A	A	A				B		B
Approach Vol, veh/h		233			630							83
Approach Delay, s/veh		10.6			7.1							13.7
Approach LOS		B			A							B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			11.9	9.0		6.3	4.1	16.8				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			17.0	20.0		31.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s			6.5	3.6		3.0	2.0	3.2				
Green Ext Time (p_c), s			2.1	1.1		0.4	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			8.6									
HCM 2010 LOS			A									

Redding Rancheria
 23: I-5 NB Off Ramp/McMurray Dr & Balls Ferry Rd

























Opening Year (2025) Conditions
 Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↗	↖	↗		↖
Traffic Volume (veh/h)	43	135	0	0	393	137	49	96	116	161	0	166
Future Volume (veh/h)	43	135	0	0	393	137	49	96	116	161	0	166
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	47	147	0	0	427	149	53	104	126	175	0	180
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	97	1962	0	0	923	319	286	300	255	0	0	0
Arrive On Green	0.05	0.55	0.00	0.00	0.36	0.36	0.16	0.16	0.16	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2676	892	1774	1863	1583		0	
Grp Volume(v), veh/h	47	147	0	0	291	285	53	104	126		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1705	1774	1863	1583			
Q Serve(g_s), s	0.7	0.5	0.0	0.0	3.6	3.6	0.7	1.4	2.0			
Cycle Q Clear(g_c), s	0.7	0.5	0.0	0.0	3.6	3.6	0.7	1.4	2.0			
Prop In Lane	1.00		0.00	0.00		0.52	1.00		1.00			
Lane Grp Cap(c), veh/h	97	1962	0	0	632	609	286	300	255			
V/C Ratio(X)	0.48	0.07	0.00	0.00	0.46	0.47	0.19	0.35	0.49			
Avail Cap(c_a), veh/h	316	4535	0	0	1701	1639	2147	2254	1916			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	12.9	2.9	0.0	0.0	6.9	7.0	10.2	10.5	10.7			
Incr Delay (d2), s/veh	3.7	0.0	0.0	0.0	0.5	0.6	0.3	0.7	1.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	10.5	0.3	0.0	0.0	1.8	1.8	0.4	0.8	1.0			
LnGrp Delay(d),s/veh	16.6	2.9	0.0	0.0	7.5	7.5	10.5	11.2	12.2			
LnGrp LOS	B	A			A	A	B	B	B			
Approach Vol, veh/h		194			576			283				
Approach Delay, s/veh		6.2			7.5			11.5				
Approach LOS		A			A			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		8.5		19.6			5.5	14.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+l1), s		4.0		2.5			2.7	5.6				
Green Ext Time (p_c), s		1.0		4.9			0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay				8.3								
HCM 2010 LOS				A								

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	578	88	249	55	550	427	378	800	20
Future Volume (veh/h)	20	98	80	578	88	249	55	550	427	378	800	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	628	227	184	60	598	464	411	870	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	324	145	708	497	422	307	1210	542	528	1140	510
Arrive On Green	0.02	0.09	0.09	0.20	0.27	0.27	0.17	0.34	0.34	0.15	0.32	0.32
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	628	227	184	60	598	464	411	870	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.9	2.1	4.0	12.9	7.6	4.7	2.2	10.0	20.4	8.6	16.5	0.6
Cycle Q Clear(g_c), s	0.9	2.1	4.0	12.9	7.6	4.7	2.2	10.0	20.4	8.6	16.5	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	324	145	708	497	422	307	1210	542	528	1140	510
V/C Ratio(X)	0.51	0.33	0.60	0.89	0.46	0.44	0.20	0.49	0.86	0.78	0.76	0.04
Avail Cap(c_a), veh/h	130	1914	856	711	1244	1057	307	1427	638	841	2032	909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	31.9	32.7	29.1	22.9	9.5	26.5	19.5	22.9	30.5	22.8	11.3
Incr Delay (d2), s/veh	8.8	0.6	4.0	13.0	0.7	0.7	0.3	0.3	9.9	2.5	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	1.9	7.6	4.0	2.8	1.1	5.0	10.4	4.2	8.3	0.3
LnGrp Delay(d),s/veh	44.9	32.5	36.7	42.1	23.6	10.2	26.8	19.8	32.8	33.0	23.9	11.4
LnGrp LOS	D	C	D	D	C	B	C	B	C	C	C	B
Approach Vol, veh/h		216			1039			1122			1303	
Approach Delay, s/veh		35.4			32.4			25.6			26.6	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	29.6	18.9	10.8	17.0	28.1	5.8	24.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	10.6	22.4	14.9	6.0	4.2	18.5	2.9	9.6				
Green Ext Time (p_c), s	0.9	3.2	0.1	0.9	0.3	5.6	0.0	4.6				
Intersection Summary												
HCM 2010 Ctrl Delay			28.4									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1105	10	15	1202	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1105	10	15	1202	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1201	11	16	1307	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1578	14	34	1453	650	228	306	198	562	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3594	33	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	591	621	16	1307	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	21.2	21.2	0.7	26.0	8.8	0.0	0.0	0.0	22.4	0.0	0.0
Cycle Q Clear(g_c), s	2.5	21.2	21.2	0.7	26.0	8.8	1.5	0.0	0.0	23.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	777	815	34	1453	650	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.76	0.76	0.48	0.90	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	777	815	118	1505	673	990	0	0	856	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.3	17.8	17.8	36.6	20.7	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.2	4.4	4.2	10.2	7.6	0.4	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	11.3	11.8	0.4	14.0	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.6	22.2	22.0	46.7	28.3	16.1	14.8	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h		1272			1585			54			480	
Approach Delay, s/veh		23.3			26.5			14.8			24.3	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.8	5.4	37.0		32.8	7.6	34.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.5	2.7	23.2		25.8	4.5	28.0				
Green Ext Time (p_c), s		3.8	0.0	7.9		3.0	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			24.8									
HCM 2010 LOS			C									

Intersection						
Int Delay, s/veh	87.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	213	558	482	90	105	222
Future Vol, veh/h	213	558	482	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	607	524	98	114	241

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	622	0	-	0	1643 573
Stage 1	-	-	-	-	573 -
Stage 2	-	-	-	-	1070 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	959	-	-	-	~ 110 519
Stage 1	-	-	-	-	564 -
Stage 2	-	-	-	-	329 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	959	-	-	-	~ 83 519
Mov Cap-2 Maneuver	-	-	-	-	~ 83 -
Stage 1	-	-	-	-	564 -
Stage 2	-	-	-	-	249 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	\$ 439.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	959	-	-	-	193
HCM Lane V/C Ratio	0.241	-	-	-	1.842
HCM Control Delay (s)	9.9	-	-	-	\$ 439.6
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.9	-	-	-	25.5

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 26.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	470	213	173	50	40	379
Future Vol, veh/h	470	213	173	50	40	379
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	511	232	188	54	43	412

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	242	0	0	1468	215
Stage 1	-	-	-	215	-
Stage 2	-	-	-	1253	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1324	-	-	141	825
Stage 1	-	-	-	821	-
Stage 2	-	-	-	269	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1324	-	-	87	825
Mov Cap-2 Maneuver	-	-	-	87	-
Stage 1	-	-	-	821	-
Stage 2	-	-	-	165	-

Approach

	EB	WB	SB
HCM Control Delay, s	6.5	0	72.2
HCM LOS			F

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1324	-	-	-	456
HCM Lane V/C Ratio	0.386	-	-	-	0.999
HCM Control Delay (s)	9.4	-	-	-	72.2
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	13

Intersection
















Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	21	5	13	136	168	40
Future Vol, veh/h	21	5	13	136	168	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	5	14	148	183	43

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	380	204	226	0	-	0
Stage 1	204	-	-	-	-	-
Stage 2	176	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	622	837	1342	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	615	837	1342	-	-	-
Mov Cap-2 Maneuver	615	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	846	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	648	-	-
HCM Lane V/C Ratio	0.011	-	0.044	-	-
HCM Control Delay (s)	7.7	-	10.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

									
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	 			 	 				
Traffic Volume (veh/h)	291	252	164	567	759	441			
Future Volume (veh/h)	291	252	164	567	759	441			
Number	7	14	5	2	6	16			
Initial Q (Qb), veh	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	316	274	178	616	825	479			
Adj No. of Lanes	2	1	1	2	2	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Cap, veh/h	802	369	228	2125	1377	616			
Arrive On Green	0.23	0.23	0.13	0.60	0.39	0.39			
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583			
Grp Volume(v), veh/h	316	274	178	616	825	479			
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583			
Q Serve(g_s), s	3.7	7.7	4.7	4.0	8.9	12.7			
Cycle Q Clear(g_c), s	3.7	7.7	4.7	4.0	8.9	12.7			
Prop In Lane	1.00	1.00	1.00			1.00			
Lane Grp Cap(c), veh/h	802	369	228	2125	1377	616			
V/C Ratio(X)	0.39	0.74	0.78	0.29	0.60	0.78			
Avail Cap(c_a), veh/h	1288	593	369	2503	1472	659			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	15.6	17.1	20.3	4.6	11.7	12.9			
Incr Delay (d2), s/veh	0.3	3.0	5.8	0.1	0.6	5.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.8	6.8	2.6	2.0	4.5	6.4			
LnGrp Delay(d),s/veh	15.9	20.1	26.1	4.7	12.3	18.4			
LnGrp LOS	B	C	C	A	B	B			
Approach Vol, veh/h	590			794	1304				
Approach Delay, s/veh	17.8			9.5	14.6				
Approach LOS	B			A	B				
Timer	1	2	3	4	5	6	7	8	
Assigned Phs	2		4		5	6			
Phs Duration (G+Y+Rc), s	32.9		15.2		10.2	22.7			
Change Period (Y+Rc), s	4.0		4.0		4.0	4.0			
Max Green Setting (Gmax), s	34.0		18.0		10.0	20.0			
Max Q Clear Time (g_c+I1), s	6.0		9.7		6.7	14.7			
Green Ext Time (p_c), s	12.6		1.5		0.1	4.0			
Intersection Summary									
HCM 2010 Ctrl Delay			13.8						
HCM 2010 LOS			B						



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	147	42	25	599	919	85		
Future Volume (veh/h)	147	42	25	599	919	85		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	160	46	27	651	999	92		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	244	218	59	2235	1709	765		
Arrive On Green	0.14	0.14	0.03	0.63	0.48	0.48		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	160	46	27	651	999	92		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	3.0	0.9	0.5	2.9	7.0	1.1		
Cycle Q Clear(g_c), s	3.0	0.9	0.5	2.9	7.0	1.1		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	244	218	59	2235	1709	765		
V/C Ratio(X)	0.66	0.21	0.46	0.29	0.58	0.12		
Avail Cap(c_a), veh/h	1895	1691	256	6131	5211	2331		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	14.2	13.3	16.4	2.9	6.5	4.9		
Incr Delay (d2), s/veh	3.0	0.5	5.5	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.6	0.8	0.3	1.4	3.4	0.5		
LnGrp Delay(d),s/veh	17.1	13.7	22.0	3.0	6.8	5.0		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	206			678	1091			
Approach Delay, s/veh	16.4			3.7	6.6			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		25.9		8.8	5.1	20.7		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+l1), s		4.9		5.0	2.5	9.0		
Green Ext Time (p_c), s		4.3		0.6	1.0	7.7		
Intersection Summary								
HCM 2010 Ctrl Delay			6.6					
HCM 2010 LOS			A					

Redding Rancheria
13: SR-273 & Westside Rd/Girvan Rd

Cumulative (2040) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕	↕	↕	↕	↕
Traffic Volume (veh/h)	13	28	80	165	26	62	53	551	152	96	790	43
Future Volume (veh/h)	13	28	80	165	26	62	53	551	152	96	790	43
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	14	30	87	179	28	67	58	599	165	104	859	47
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	42	122	261	72	172	133	1267	567	133	1267	567
Arrive On Green	0.11	0.11	0.11	0.15	0.15	0.15	0.08	0.36	0.36	0.08	0.36	0.36
Sat Flow, veh/h	177	380	1102	1774	488	1168	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	131	0	0	179	0	95	58	599	165	104	859	47
Grp Sat Flow(s),veh/h/ln	1659	0	0	1774	0	1657	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	3.9	0.0	0.0	4.9	0.0	2.7	1.6	6.8	3.9	3.0	10.6	1.0
Cycle Q Clear(g_c), s	3.9	0.0	0.0	4.9	0.0	2.7	1.6	6.8	3.9	3.0	10.6	1.0
Prop In Lane	0.11		0.66	1.00		0.71	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	0	0	261	0	243	133	1267	567	133	1267	567
V/C Ratio(X)	0.72	0.00	0.00	0.69	0.00	0.39	0.44	0.47	0.29	0.78	0.68	0.08
Avail Cap(c_a), veh/h	1188	0	0	635	0	593	172	1267	567	172	1267	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	0.0	20.9	0.0	19.9	22.8	12.8	11.9	23.5	14.1	11.0
Incr Delay (d2), s/veh	5.2	0.0	0.0	3.2	0.0	1.0	2.2	1.3	1.3	15.9	2.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	2.6	0.0	1.3	0.9	3.5	1.9	2.0	5.6	0.5
LnGrp Delay(d),s/veh	27.4	0.0	0.0	24.1	0.0	21.0	25.1	14.1	13.2	39.4	17.0	11.3
LnGrp LOS	C			C		C	C	B	B	D	B	B
Approach Vol, veh/h		131			274			822			1010	
Approach Delay, s/veh		27.4			23.0			14.7			19.0	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	22.5		9.7	7.9	22.5		11.6				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.5			37.0	5.0	18.5		18.5				
Max Q Clear Time (g_c+I), s	8.8			5.9	3.6	12.6		6.9				
Green Ext Time (p_c), s	0.0	2.8		0.8	0.1	2.6		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				18.4								
HCM 2010 LOS				B								

Redding Rancheria
14: SR-273 & Canyon Rd

Cumulative (2040) Conditions
Friday PM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	TTT		T	TT	TT	TT		
Traffic Volume (veh/h)	330	87	106	555	644	449		
Future Volume (veh/h)	330	87	106	555	644	449		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	227	236	115	603	700	0		
Adj No. of Lanes	1	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	388	353	159	2068	1403	1105		
Arrive On Green	0.22	0.22	0.09	0.58	0.40	0.00		
Sat Flow, veh/h	1774	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	227	236	115	603	700	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	4.7	5.4	2.6	3.5	6.0	0.0		
Cycle Q Clear(g_c), s	4.7	5.4	2.6	3.5	6.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	388	353	159	2068	1403	1105		
V/C Ratio(X)	0.58	0.67	0.72	0.29	0.50	0.00		
Avail Cap(c_a), veh/h	1310	1192	349	3658	2613	2057		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	14.2	14.5	18.0	4.2	9.2	0.0		
Incr Delay (d2), s/veh	1.4	2.2	6.1	0.1	0.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.4	4.9	1.5	1.7	3.0	0.0		
LnGrp Delay(d),s/veh	15.6	16.7	24.2	4.3	9.5	0.0		
LnGrp LOS	B	B	C	A	A			
Approach Vol, veh/h	463			718	700			
Approach Delay, s/veh	16.2			7.5	9.5			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		27.7		12.9	7.6	20.1		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		
Max Q Clear Time (g_c+l1), s		5.5		7.4	4.6	8.0		
Green Ext Time (p_c), s		9.4		1.5	0.1	8.1		
Intersection Summary								
HCM 2010 Ctrl Delay			10.4					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
15: Canyon Rd & Redding Rancheria Rd

Cumulative (2040) Conditions
Friday PM Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	351	175	12	226	170	15		
Future Volume (veh/h)	351	175	12	226	170	15		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	382	0	0	255	196	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	528	471	280	477	486	255		
Arrive On Green	0.30	0.00	0.00	0.15	0.14	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	382	0	0	255	196	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	5.6	0.0	0.0	2.2	1.5	0.0		
Cycle Q Clear(g_c), s	5.6	0.0	0.0	2.2	1.5	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	528	471	280	477	486	255		
V/C Ratio(X)	0.72	0.00	0.00	0.53	0.40	0.00		
Avail Cap(c_a), veh/h	1276	1138	1198	2036	2281	1198		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.1	0.0	0.0	11.4	11.4	0.0		
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.9	0.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	1.0	0.7	0.0		
LnGrp Delay(d),s/veh	11.0	0.0	0.0	12.3	11.9	0.0		
LnGrp LOS	B			B	B			
Approach Vol, veh/h	382		255		196			
Approach Delay, s/veh	11.0		12.3		11.9			
Approach LOS	B		B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.4				8.0		12.6
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		18.6				18.6		20.8
Max Q Clear Time (g_c+l1), s		4.2				3.5		7.6
Green Ext Time (p_c), s		0.8				0.6		1.0
Intersection Summary								
HCM 2010 Ctrl Delay			11.6					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	69	86	83	440	556	78		
Future Volume (veh/h)	69	86	83	440	556	78		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	75	93	90	478	604	85		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	101	125	152	2189	1452	649		
Arrive On Green	0.14	0.14	0.09	0.62	0.41	0.41		
Sat Flow, veh/h	739	916	1774	3632	3632	1583		
Grp Volume(v), veh/h	169	0	90	478	604	85		
Grp Sat Flow(s),veh/h/ln	1664	0	1774	1770	1770	1583		
Q Serve(g_s), s	3.2	0.0	1.6	1.9	4.0	1.1		
Cycle Q Clear(g_c), s	3.2	0.0	1.6	1.9	4.0	1.1		
Prop In Lane	0.44	0.55	1.00			1.00		
Lane Grp Cap(c), veh/h	226	0	152	2189	1452	649		
V/C Ratio(X)	0.75	0.00	0.59	0.22	0.42	0.13		
Avail Cap(c_a), veh/h	1532	0	381	5105	3910	1749		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.5	0.0	14.4	2.7	6.8	6.0		
Incr Delay (d2), s/veh	4.8	0.0	3.7	0.0	0.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.9	0.9	2.0	0.5		
LnGrp Delay(d),s/veh	18.4	0.0	18.0	2.8	7.0	6.1		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	169			568	689			
Approach Delay, s/veh	18.4			5.2	6.9			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		24.2		8.4	6.8	17.4		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+l1), s		3.9		5.2	3.6	6.0		
Green Ext Time (p_c), s		7.8		0.5	0.0	7.4		
Intersection Summary								
HCM 2010 Ctrl Delay			7.6					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
17: SR-273 & North St

Cumulative (2040) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗	↖	↖	↗	↖
Traffic Volume (veh/h)	15	107	68	256	104	83	66	284	253	87	429	18
Future Volume (veh/h)	15	107	68	256	104	83	66	284	253	87	429	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	16	116	74	278	113	90	72	309	275	95	466	20
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	276	166	106	369	387	329	110	925	414	126	959	429
Arrive On Green	0.16	0.16	0.16	0.21	0.21	0.21	0.06	0.26	0.26	0.07	0.27	0.27
Sat Flow, veh/h	1774	1064	679	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	16	0	190	278	113	90	72	309	275	95	466	20
Grp Sat Flow(s),veh/h/ln	1774	0	1743	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.4	0.0	5.4	7.8	2.7	2.5	2.1	3.7	8.2	2.8	5.8	0.5
Cycle Q Clear(g_c), s	0.4	0.0	5.4	7.8	2.7	2.5	2.1	3.7	8.2	2.8	5.8	0.5
Prop In Lane	1.00		0.39	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	276	0	271	369	387	329	110	925	414	126	959	429
V/C Ratio(X)	0.06	0.00	0.70	0.75	0.29	0.27	0.66	0.33	0.66	0.75	0.49	0.05
Avail Cap(c_a), veh/h	1213	0	1191	606	637	541	202	1277	571	202	1277	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	21.1	19.6	17.6	17.5	24.2	15.7	17.4	24.0	16.1	14.2
Incr Delay (d2), s/veh	0.1	0.0	3.3	3.1	0.4	0.4	6.5	0.2	1.8	8.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.8	4.1	1.4	1.1	1.2	1.8	3.7	1.6	2.9	0.2
LnGrp Delay(d),s/veh	19.0	0.0	24.3	22.7	18.0	18.0	30.7	16.0	19.2	32.6	16.5	14.2
LnGrp LOS	B		C	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		206			481			656			581	
Approach Delay, s/veh		23.9			20.7			18.9			19.1	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	17.8		12.2	7.3	18.3		14.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	19.0	19.0		36.0	6.0	19.0		18.0				
Max Q Clear Time (g_c+I), s	10.2	10.2		7.4	4.1	7.8		9.8				
Green Ext Time (p_c), s	0.0	3.6		1.2	0.0	4.1		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			20.0									
HCM 2010 LOS			B									

Redding Rancheria
18: Oak St & North St

Cumulative (2040) Conditions
Friday PM Peak

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	22	407	4	13	505	43	4	7	16	42	7	10
Future Vol, veh/h	22	407	4	13	505	43	4	7	16	42	7	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	442	4	14	549	47	4	8	17	46	8	11

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	596	0	0	447	0	0	799	1116	445	1106	1096	298
Stage 1	-	-	-	-	-	-	492	492	-	601	601	-
Stage 2	-	-	-	-	-	-	307	624	-	505	495	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	978	-	-	1111	-	-	290	207	612	176	213	699
Stage 1	-	-	-	-	-	-	558	547	-	455	488	-
Stage 2	-	-	-	-	-	-	679	477	-	549	545	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	978	-	-	1111	-	-	270	199	612	161	205	699
Mov Cap-2 Maneuver	-	-	-	-	-	-	270	199	-	161	205	-
Stage 1	-	-	-	-	-	-	544	534	-	444	482	-
Stage 2	-	-	-	-	-	-	650	471	-	513	532	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0.4		0.2		16.1		33.1	
HCM LOS					C		D	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	355	978	-	-	1111	-	-	191
HCM Lane V/C Ratio	0.083	0.024	-	-	0.013	-	-	0.336
HCM Control Delay (s)	16.1	8.8	-	-	8.3	-	-	33.1
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	1.4

Intersection

Intersection Delay, s/veh	13.7
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	0	508	355	0	227	250
Future Vol, veh/h	0	508	355	0	227	250
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	552	386	0	247	272
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	13.5	11.7	15.4
HCM LOS	B	B	C

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	254	254	178	178	227	250
LT Vol	0	0	0	0	227	0
Through Vol	254	254	178	178	0	0
RT Vol	0	0	0	0	0	250
Lane Flow Rate	276	276	193	193	247	272
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.511	0.375	0.368	0.273	0.498	0.456
Departure Headway (Hd)	6.657	4.887	6.862	5.088	7.261	6.044
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	538	729	521	700	496	592
Service Time	4.432	2.661	4.642	2.866	5.027	3.809
HCM Lane V/C Ratio	0.513	0.379	0.37	0.276	0.498	0.459
HCM Control Delay	16.3	10.6	13.6	9.8	17.1	13.8
HCM Lane LOS	C	B	B	A	C	B
HCM 95th-tile Q	2.9	1.7	1.7	1.1	2.7	2.4

Intersection

Intersection Delay, s/veh72.3

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖		↖			
Traffic Vol, veh/h	130	236	317	214	260	44	93	241	262	0	0	0
Future Vol, veh/h	130	236	317	214	260	44	93	241	262	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	141	257	345	233	283	48	101	262	285	0	0	0
Number of Lanes	1	2	0	1	2	0	1	0	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	41.7	22	151
HCM LOS	E	C	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	48%	0%	100%	20%	0%	100%	66%
Vol Right, %	0%	52%	0%	0%	80%	0%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	93	503	130	157	396	214	173	131
LT Vol	93	0	130	0	0	214	0	0
Through Vol	0	241	0	157	79	0	173	87
RT Vol	0	262	0	0	317	0	0	44
Lane Flow Rate	101	547	141	171	430	233	188	142
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.265	1.299	0.349	0.399	0.936	0.595	0.456	0.334
Departure Headway (Hd)	9.432	8.554	9.784	9.259	8.671	10.132	9.606	9.358
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	383	426	370	392	421	358	377	386
Service Time	7.132	6.254	7.484	6.959	6.371	7.832	7.306	7.058
HCM Lane V/C Ratio	0.264	1.284	0.381	0.436	1.021	0.651	0.499	0.368
HCM Control Delay	15.5	176.1	17.6	18	59.1	26.7	20.1	16.7
HCM Lane LOS	C	F	C	C	F	D	C	C
HCM 95th-tile Q	1.1	24.2	1.5	1.9	10.5	3.7	2.3	1.4

Redding Rancheria
21: Oak St & Balls Ferry Rd

Cumulative (2040) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕		↖		
Traffic Vol, veh/h	3	400	12	23	392	14	16	4	56	36	0	0
Future Vol, veh/h	3	400	12	23	392	14	16	4	56	36	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	435	13	25	426	15	17	4	61	39	0	0




















Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	441	0	0	448
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.14	-	-	4.14
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22
Pot Cap-1 Maneuver	1115	-	-	1109
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1115	-	-	1109
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.4	12.7	19.6
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	549	1115	-	-	1109	-	-	286
HCM Lane V/C Ratio	0.15	0.003	-	-	0.023	-	-	0.137
HCM Control Delay (s)	12.7	8.2	-	-	8.3	-	-	19.6
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.5

Redding Rancheria
22: I-5 SB On Ramp/Ventura St & Balls Ferry Rd

Cumulative (2040) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	431	64	513	413	27	0	0	0	24	83	9
Future Volume (veh/h)	4	431	64	513	413	27	0	0	0	24	83	9
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	4	468	70	558	449	29				26	90	10
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	9	549	82	1111	2825	1264				136	126	14
Arrive On Green	0.01	0.18	0.18	0.63	0.80	0.80				0.08	0.08	0.08
Sat Flow, veh/h	1774	3091	460	1774	3539	1583				1774	1647	183
Grp Volume(v), veh/h	4	267	271	558	449	29				26	0	100
Grp Sat Flow(s),veh/h/ln	1774	1770	1782	1774	1770	1583				1774	0	1830
Q Serve(g_s), s	0.2	14.6	14.8	17.2	2.9	0.4				1.4	0.0	5.3
Cycle Q Clear(g_c), s	0.2	14.6	14.8	17.2	2.9	0.4				1.4	0.0	5.3
Prop In Lane	1.00		0.26	1.00		1.00				1.00		0.10
Lane Grp Cap(c), veh/h	9	314	316	1111	2825	1264				136	0	140
V/C Ratio(X)	0.43	0.85	0.86	0.50	0.16	0.02				0.19	0.00	0.71
Avail Cap(c_a), veh/h	89	354	356	1111	2825	1264				550	0	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.77	0.77	0.77				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.6	39.8	39.9	10.2	2.3	2.1				43.3	0.0	45.1
Incr Delay (d2), s/veh	28.2	24.0	24.7	0.3	0.1	0.0				0.7	0.0	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	9.2	9.4	8.5	1.4	0.2				0.7	0.0	3.0
LnGrp Delay(d),s/veh	77.8	63.8	64.6	10.5	2.4	2.1				44.0	0.0	51.7
LnGrp LOS	E	E	E	B	A	A				D		D
Approach Vol, veh/h		542			1036						126	
Approach Delay, s/veh		64.3			6.8						50.1	
Approach LOS		E			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			66.6	21.7		11.6	4.5	83.8				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			37.0	20.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			19.2	16.8		7.3	2.2	4.9				
Green Ext Time (p_c), s			4.7	1.0		0.5	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay			28.3									
HCM 2010 LOS			C									

Redding Rancheria
 23: I-5 NB Off Ramp/McMurray Dr & Balls Ferry Rd

























Cumulative (2040) Conditions
 Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↗	↖	↗		↖
Traffic Volume (veh/h)	115	333	0	0	619	197	134	177	256	232	0	272
Future Volume (veh/h)	115	333	0	0	619	197	134	177	256	232	0	272
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	125	362	0	0	673	214	146	192	278	252	0	296
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	711	2516	0	0	713	227	371	390	331	0	0	0
Arrive On Green	0.80	1.00	0.00	0.00	0.27	0.27	0.21	0.21	0.21	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2737	840	1774	1863	1583		0	
Grp Volume(v), veh/h	125	362	0	0	450	437	146	192	278		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1714	1774	1863	1583			
Q Serve(g_s), s	1.6	0.0	0.0	0.0	24.9	24.9	7.1	9.1	16.8			
Cycle Q Clear(g_c), s	1.6	0.0	0.0	0.0	24.9	24.9	7.1	9.1	16.8			
Prop In Lane	1.00		0.00	0.00		0.49	1.00		1.00			
Lane Grp Cap(c), veh/h	711	2516	0	0	477	463	371	390	331			
V/C Ratio(X)	0.18	0.14	0.00	0.00	0.94	0.94	0.39	0.49	0.84			
Avail Cap(c_a), veh/h	711	2516	0	0	478	463	603	633	538			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.94	0.94	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	6.1	0.0	0.0	0.0	35.8	35.8	34.1	34.9	37.9			
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	29.2	30.0	0.7	1.0	6.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	0.0	16.0	15.6	3.6	4.8	7.9			
LnGrp Delay(d),s/veh	6.2	0.1	0.0	0.0	65.0	65.7	34.8	35.8	44.2			
LnGrp LOS	A	A			E	E	C	D	D			
Approach Vol, veh/h		487			887			616				
Approach Delay, s/veh		1.7			65.4			39.4				
Approach LOS		A			E			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		24.9		75.1			44.1	31.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+l1), s		18.8		2.0			3.6	26.9				
Green Ext Time (p_c), s		2.1		2.8			0.4	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				41.7								
HCM 2010 LOS				D								

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	412	63	160	35	458	307	266	461	10
Future Volume (veh/h)	0	54	63	412	63	160	35	458	307	266	461	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	448	148	121	38	498	334	289	501	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	328	147	660	658	559	358	1045	467	443	786	352
Arrive On Green	0.00	0.09	0.09	0.19	0.35	0.35	0.20	0.30	0.30	0.13	0.22	0.22
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	448	148	121	38	498	334	289	501	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.8	2.2	6.3	3.0	1.6	0.9	6.2	10.1	4.3	6.9	0.3
Cycle Q Clear(g_c), s	0.0	0.8	2.2	6.3	3.0	1.6	0.9	6.2	10.1	4.3	6.9	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	328	147	660	658	559	358	1045	467	443	786	352
V/C Ratio(X)	0.00	0.18	0.46	0.68	0.23	0.22	0.11	0.48	0.71	0.65	0.64	0.03
Avail Cap(c_a), veh/h	181	2665	1192	990	1732	1472	358	1987	889	1171	2830	1266
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	22.5	23.1	20.4	12.2	4.0	17.5	15.5	16.9	22.3	19.0	13.4
Incr Delay (d2), s/veh	0.0	0.3	2.3	1.2	0.2	0.2	0.1	0.3	2.1	1.6	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.1	3.2	1.6	1.2	0.5	3.1	4.6	2.1	3.4	0.1
LnGrp Delay(d),s/veh	0.0	22.8	25.4	21.6	12.4	4.2	17.6	15.9	19.0	23.9	19.8	13.4
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		127			717			870			801	
Approach Delay, s/veh		24.2			16.8			17.2			21.2	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	19.9	14.0	9.0	14.9	15.9	0.0	23.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.3	12.1	8.3	4.2	2.9	8.9	0.0	5.0				
Green Ext Time (p_c), s	0.7	3.7	1.7	0.5	0.3	3.0	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			18.7									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	751	10	15	838	132	15	20	15	137	0	29
Future Volume (veh/h)	23	751	10	15	838	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	816	11	16	911	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1857	25	36	1804	807	158	170	92	360	9	47
Arrive On Green	0.03	0.52	0.52	0.02	0.51	0.51	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3576	48	1774	3539	1583	271	940	510	1147	50	257
Grp Volume(v), veh/h	25	404	423	16	911	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1583	1721	0	0	1455	0	0
Q Serve(g_s), s	0.6	6.1	6.1	0.4	7.3	2.1	0.0	0.0	0.0	3.8	0.0	0.0
Cycle Q Clear(g_c), s	0.6	6.1	6.1	0.4	7.3	2.1	1.1	0.0	0.0	4.9	0.0	0.0
Prop In Lane	1.00		0.03	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	919	963	36	1804	807	420	0	0	416	0	0
V/C Ratio(X)	0.47	0.44	0.44	0.45	0.51	0.18	0.13	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	206	1318	1381	206	2636	1179	1663	0	0	1497	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.5	6.4	6.4	20.8	7.0	5.7	14.9	0.0	0.0	16.3	0.0	0.0
Incr Delay (d2), s/veh	6.3	0.3	0.3	8.4	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.0	3.1	0.3	3.6	0.9	0.6	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	26.8	6.8	6.7	29.2	7.2	5.8	15.0	0.0	0.0	17.0	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		852			1070			54			181	
Approach Delay, s/veh		7.3			7.3			15.0			17.0	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.8	4.9	26.3		11.8	5.3	25.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.1	2.4	8.1		6.9	2.6	9.3				
Green Ext Time (p_c), s		1.4	0.0	13.0		1.4	0.0	12.6				
Intersection Summary												
HCM 2010 Ctrl Delay				8.3								
HCM 2010 LOS				A								

Intersection

Int Delay, s/veh 9.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	133	285	355	39	73	231
Future Vol, veh/h	133	285	355	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	310	386	42	79	251

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	428	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1131	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1131	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	31.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1131	-	-	-	452
HCM Lane V/C Ratio	0.128	-	-	-	0.731
HCM Control Delay (s)	8.6	-	-	-	31.7
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	5.9

Redding Rancheria
 9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) Conditions
 Saturday PM Peak

Intersection

Int Delay, s/veh 7.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	265	107	116	30	22	256
Future Vol, veh/h	265	107	116	30	22	256
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	288	116	126	33	24	278

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	159	0	0	834	142
Stage 1	-	-	-	142	-
Stage 2	-	-	-	692	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1420	-	-	338	906
Stage 1	-	-	-	885	-
Stage 2	-	-	-	497	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1420	-	-	269	906
Mov Cap-2 Maneuver	-	-	-	269	-
Stage 1	-	-	-	885	-
Stage 2	-	-	-	396	-

Approach

	EB	WB	SB
HCM Control Delay, s	5.8	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	763
HCM Lane V/C Ratio	0.203	-	-	-	0.396
HCM Control Delay (s)	8.2	-	-	-	12.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	1.9
















Intersection

Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	15	12	6	80	101	26
Future Vol, veh/h	15	12	6	80	101	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	13	7	87	110	28

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	224	124	138	0	0
Stage 1	124	-	-	-	-
Stage 2	100	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	764	927	1446	-	-
Stage 1	902	-	-	-	-
Stage 2	924	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	760	927	1446	-	-
Mov Cap-2 Maneuver	760	-	-	-	-
Stage 1	902	-	-	-	-
Stage 2	919	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	826	-	-
HCM Lane V/C Ratio	0.005	-	0.036	-	-
HCM Control Delay (s)	7.5	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	 			 	 			
Traffic Volume (veh/h)	217	189	140	373	496	270		
Future Volume (veh/h)	217	189	140	373	496	270		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	236	205	152	405	539	293		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	710	327	198	2022	1234	552		
Arrive On Green	0.21	0.21	0.11	0.57	0.35	0.35		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	236	205	152	405	539	293		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	2.1	4.2	3.0	2.0	4.2	5.3		
Cycle Q Clear(g_c), s	2.1	4.2	3.0	2.0	4.2	5.3		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	710	327	198	2022	1234	552		
V/C Ratio(X)	0.33	0.63	0.77	0.20	0.44	0.53		
Avail Cap(c_a), veh/h	1722	792	493	3345	1967	880		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.2	13.0	15.5	3.7	9.0	9.4		
Incr Delay (d2), s/veh	0.3	2.0	6.1	0.0	0.2	0.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	3.8	1.8	1.0	2.1	2.4		
LnGrp Delay(d),s/veh	12.4	15.0	21.7	3.8	9.2	10.2		
LnGrp LOS	B	B	C	A	A	B		
Approach Vol, veh/h	441			557	832			
Approach Delay, s/veh	13.6			8.7	9.6			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		24.6		11.4	8.0	16.5		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		34.0		18.0	10.0	20.0		
Max Q Clear Time (g_c+I1), s		4.0		6.2	5.0	7.3		
Green Ext Time (p_c), s		7.2		1.3	0.1	5.2		
Intersection Summary								
HCM 2010 Ctrl Delay			10.3					
HCM 2010 LOS			B					



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	82	21	28	431	618	61		
Future Volume (veh/h)	82	21	28	431	618	61		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	89	23	30	468	672	66		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	189	169	66	2073	1397	625		
Arrive On Green	0.11	0.11	0.04	0.59	0.39	0.39		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	89	23	30	468	672	66		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	1.2	0.3	0.4	1.6	3.7	0.7		
Cycle Q Clear(g_c), s	1.2	0.3	0.4	1.6	3.7	0.7		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	189	169	66	2073	1397	625		
V/C Ratio(X)	0.47	0.14	0.45	0.23	0.48	0.11		
Avail Cap(c_a), veh/h	2523	2252	341	8163	6939	3104		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.9	10.5	12.3	2.6	5.9	5.0		
Incr Delay (d2), s/veh	1.8	0.4	4.7	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.3	0.8	1.8	0.3		
LnGrp Delay(d),s/veh	12.7	10.9	17.0	2.6	6.1	5.0		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	112			498	738			
Approach Delay, s/veh	12.4			3.5	6.0			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		19.2		6.8	5.0	14.3		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+l1), s		3.6		3.2	2.4	5.7		
Green Ext Time (p_c), s		2.9		0.3	0.7	4.6		
Intersection Summary								
HCM 2010 Ctrl Delay			5.6					
HCM 2010 LOS			A					

Redding Rancheria
13: SR-273 & Westside Rd/Girvan Rd

Cumulative (2040) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕↕	↕	↕	↕↕	↕
Traffic Volume (veh/h)	24	17	56	106	9	52	47	396	104	70	522	40
Future Volume (veh/h)	24	17	56	106	9	52	47	396	104	70	522	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	26	18	61	115	10	57	51	430	113	76	567	43
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	25	84	187	25	145	119	1405	629	119	1405	629
Arrive On Green	0.09	0.09	0.09	0.11	0.11	0.11	0.07	0.40	0.40	0.07	0.40	0.40
Sat Flow, veh/h	414	286	971	1774	242	1378	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	105	0	0	115	0	67	51	430	113	76	567	43
Grp Sat Flow(s),veh/h/ln	1671	0	0	1774	0	1620	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	2.9	0.0	0.0	2.9	0.0	1.8	1.3	3.9	2.2	1.9	5.4	0.8
Cycle Q Clear(g_c), s	2.9	0.0	0.0	2.9	0.0	1.8	1.3	3.9	2.2	1.9	5.4	0.8
Prop In Lane	0.25		0.58	1.00		0.85	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	0	0	187	0	171	119	1405	629	119	1405	629
V/C Ratio(X)	0.72	0.00	0.00	0.62	0.00	0.39	0.43	0.31	0.18	0.64	0.40	0.07
Avail Cap(c_a), veh/h	1327	0	0	704	0	643	190	1405	629	190	1405	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.7	0.0	0.0	19.9	0.0	19.5	20.9	9.6	9.1	21.2	10.1	8.7
Incr Delay (d2), s/veh	6.6	0.0	0.0	3.3	0.0	1.5	2.4	0.6	0.6	5.6	0.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	1.6	0.0	0.9	0.7	2.0	1.1	1.1	2.8	0.4
LnGrp Delay(d),s/veh	27.3	0.0	0.0	23.2	0.0	20.9	23.3	10.2	9.7	26.7	10.9	8.9
LnGrp LOS	C			C		C	C	B	A	C	B	A
Approach Vol, veh/h		105			182			594			686	
Approach Delay, s/veh		27.3			22.4			11.2			12.6	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	22.5		8.1	7.1	22.5		8.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.5			37.0	5.0	18.5		18.5				
Max Q Clear Time (g_c+I), s	5.9			4.9	3.3	7.4		4.9				
Green Ext Time (p_c), s	0.0	2.2		0.6	0.0	2.6		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				14.2								
HCM 2010 LOS				B								

Redding Rancheria
14: SR-273 & Canyon Rd

Cumulative (2040) Conditions
Saturday PM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	278	58	96	326	360	348		
Future Volume (veh/h)	278	58	96	326	360	348		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	361	0	104	354	391	0		
Adj No. of Lanes	2	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	686	312	173	1894	1070	842		
Arrive On Green	0.19	0.00	0.10	0.54	0.30	0.00		
Sat Flow, veh/h	3548	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	361	0	104	354	391	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	2.7	0.0	1.7	1.5	2.6	0.0		
Cycle Q Clear(g_c), s	2.7	0.0	1.7	1.5	2.6	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	686	312	173	1894	1070	842		
V/C Ratio(X)	0.53	0.00	0.60	0.19	0.37	0.00		
Avail Cap(c_a), veh/h	3613	1645	482	5046	3604	2838		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	10.7	0.0	12.8	3.5	8.1	0.0		
Incr Delay (d2), s/veh	0.6	0.0	3.4	0.0	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	0.0	1.0	0.7	1.3	0.0		
LnGrp Delay(d),s/veh	11.3	0.0	16.1	3.6	8.3	0.0		
LnGrp LOS	B		B	A	A			
Approach Vol, veh/h	361			458	391			
Approach Delay, s/veh	11.3			6.4	8.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		19.8		9.7	6.9	12.9		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		
Max Q Clear Time (g_c+l1), s		3.5		4.7	3.7	4.6		
Green Ext Time (p_c), s		4.6		1.3	0.1	4.4		
Intersection Summary								
HCM 2010 Ctrl Delay			8.5					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
15: Canyon Rd & Redding Rancheria Rd

Cumulative (2040) Conditions
Saturday PM Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	196	203	14	217	144	10		
Future Volume (veh/h)	196	203	14	217	144	10		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	213	0	0	246	165	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	374	333	308	523	487	256		
Arrive On Green	0.21	0.00	0.00	0.17	0.14	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	213	0	0	246	165	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	2.7	0.0	0.0	1.7	1.0	0.0		
Cycle Q Clear(g_c), s	2.7	0.0	0.0	1.7	1.0	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	374	333	308	523	487	256		
V/C Ratio(X)	0.57	0.00	0.00	0.47	0.34	0.00		
Avail Cap(c_a), veh/h	1497	1336	1406	2390	2678	1406		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	8.7	0.0	0.0	9.3	9.6	0.0		
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.7	0.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.8	0.5	0.0		
LnGrp Delay(d),s/veh	10.1	0.0	0.0	10.0	10.0	0.0		
LnGrp LOS	B			A	B			
Approach Vol, veh/h	213		246		165			
Approach Delay, s/veh	10.1		10.0		10.0			
Approach LOS	B		A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.1				7.4		9.2
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		18.6				18.6		20.8
Max Q Clear Time (g_c+I1), s		3.7				3.0		4.7
Green Ext Time (p_c), s		0.8				0.4		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			10.0					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	44	61	63	314	315	51		
Future Volume (veh/h)	44	61	63	314	315	51		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	48	66	68	341	342	55		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	77	105	134	1999	1157	518		
Arrive On Green	0.11	0.11	0.08	0.56	0.33	0.33		
Sat Flow, veh/h	693	953	1774	3632	3632	1583		
Grp Volume(v), veh/h	115	0	68	341	342	55		
Grp Sat Flow(s),veh/h/ln	660	0	1774	1770	1770	1583		
Q Serve(g_s), s	1.6	0.0	0.9	1.1	1.8	0.6		
Cycle Q Clear(g_c), s	1.6	0.0	0.9	1.1	1.8	0.6		
Prop In Lane	0.42	0.57	1.00			1.00		
Lane Grp Cap(c), veh/h	184	0	134	1999	1157	518		
V/C Ratio(X)	0.63	0.00	0.51	0.17	0.30	0.11		
Avail Cap(c_a), veh/h	2021	0	504	6752	5172	2314		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.5	0.0	10.9	2.6	6.2	5.8		
Incr Delay (d2), s/veh	3.5	0.0	3.0	0.0	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.5	0.5	0.9	0.3		
LnGrp Delay(d),s/veh	14.0	0.0	13.9	2.6	6.3	5.9		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	115			409	397			
Approach Delay, s/veh	14.0			4.5	6.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		17.9		6.7	5.9	12.1		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+l1), s		3.1		3.6	2.9	3.8		
Green Ext Time (p_c), s		4.4		0.3	0.0	4.3		
Intersection Summary								
HCM 2010 Ctrl Delay			6.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗	↖	↖	↗	↖
Traffic Volume (veh/h)	5	71	22	155	56	70	33	236	182	60	276	9
Future Volume (veh/h)	5	71	22	155	56	70	33	236	182	60	276	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	5	77	24	168	61	76	36	257	198	65	300	10
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	123	38	281	295	251	74	877	392	117	962	430
Arrive On Green	0.09	0.09	0.09	0.16	0.16	0.16	0.04	0.25	0.25	0.07	0.27	0.27
Sat Flow, veh/h	1774	1363	425	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	5	0	101	168	61	76	36	257	198	65	300	10
Grp Sat Flow(s),veh/h/ln	1774	0	1788	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.1	0.0	2.0	3.2	1.0	1.6	0.7	2.2	3.9	1.3	2.5	0.2
Cycle Q Clear(g_c), s	0.1	0.0	2.0	3.2	1.0	1.6	0.7	2.2	3.9	1.3	2.5	0.2
Prop In Lane	1.00		0.24	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	160	0	161	281	295	251	74	877	392	117	962	430
V/C Ratio(X)	0.03	0.00	0.63	0.60	0.21	0.30	0.48	0.29	0.50	0.55	0.31	0.02
Avail Cap(c_a), veh/h	1747	0	1760	873	917	779	291	1839	823	291	1839	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.2	0.0	16.0	14.3	13.4	13.6	17.1	11.2	11.8	16.6	10.6	9.8
Incr Delay (d2), s/veh	0.1	0.0	4.0	2.0	0.3	0.7	4.8	0.2	1.0	4.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.2	1.7	0.6	0.7	0.4	1.1	1.8	0.8	1.2	0.1
LnGrp Delay(d),s/veh	15.3	0.0	20.0	16.3	13.7	14.3	22.0	11.3	12.8	20.6	10.8	9.8
LnGrp LOS	B		B	B	B	B	C	B	B	C	B	A
Approach Vol, veh/h		106			305			491			375	
Approach Delay, s/veh		19.8			15.3			12.7			12.4	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	13.1		7.3	5.5	13.9		9.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	19.0			36.0	6.0	19.0		18.0				
Max Q Clear Time (g_c+I), s	5.9			4.0	2.7	4.5		5.2				
Green Ext Time (p_c), s	0.0	3.1		0.6	0.0	3.3		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay				13.8								
HCM 2010 LOS				B								

Redding Rancheria
18: Oak St & North St

Cumulative (2040) Conditions
Saturday PM Peak

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	12	261	2	10	266	31	4	3	13	51	12	9
Future Vol, veh/h	12	261	2	10	266	31	4	3	13	51	12	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	284	2	11	289	34	4	3	14	55	13	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	323	0	0	286	0	0	484	656	285	648	640	161
Stage 1	-	-	-	-	-	-	311	311	-	328	328	-
Stage 2	-	-	-	-	-	-	173	345	-	320	312	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1235	-	-	1275	-	-	479	384	753	369	393	856
Stage 1	-	-	-	-	-	-	699	658	-	660	646	-
Stage 2	-	-	-	-	-	-	812	635	-	691	657	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1235	-	-	1275	-	-	455	377	753	354	386	856
Mov Cap-2 Maneuver	-	-	-	-	-	-	455	377	-	354	386	-
Stage 1	-	-	-	-	-	-	692	651	-	653	640	-
Stage 2	-	-	-	-	-	-	780	630	-	668	650	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.3			11.4			16.6		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	588	1235	-	-	1275	-	-	388
HCM Lane V/C Ratio	0.037	0.011	-	-	0.009	-	-	0.202
HCM Control Delay (s)	11.4	7.9	-	-	7.8	-	-	16.6
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.7

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	0	347	203	0	136	155
Future Vol, veh/h	0	347	203	0	136	155
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	377	221	0	148	168
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	9.2	8.6	10.3
HCM LOS	A	A	B

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	174	174	102	102	136	155
LT Vol	0	0	0	0	136	0
Through Vol	174	174	102	102	0	0
RT Vol	0	0	0	0	0	155
Lane Flow Rate	189	189	110	110	148	168
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.294	0.202	0.177	0.123	0.262	0.242
Departure Headway (Hd)	5.613	3.861	5.762	4.007	6.38	5.171
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	634	915	616	878	566	699
Service Time	3.401	1.647	3.562	1.806	4.08	2.871
HCM Lane V/C Ratio	0.298	0.207	0.179	0.125	0.261	0.24
HCM Control Delay	10.8	7.6	9.8	7.4	11.3	9.5
HCM Lane LOS	B	A	A	A	B	A
HCM 95th-tile Q	1.2	0.8	0.6	0.4	1	0.9

Redding Rancheria
 20: McMurray Dr/I-5 NB On Ramp & North St

Cumulative (2040) Conditions
 Saturday PM Peak

Intersection												
Intersection Delay, s/veh	18.8											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖		↖			
Traffic Vol, veh/h	73	165	212	161	144	48	62	146	218	0	0	0
Future Vol, veh/h	73	165	212	161	144	48	62	146	218	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	79	179	230	175	157	52	67	159	237	0	0	0
Number of Lanes	1	2	0	1	2	0	1	0	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	15.7	14.1	25.9
HCM LOS	C	B	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	40%	0%	100%	21%	0%	100%	50%
Vol Right, %	0%	60%	0%	0%	79%	0%	0%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	364	73	110	267	161	96	96
LT Vol	62	0	73	0	0	161	0	0
Through Vol	0	146	0	110	55	0	96	48
RT Vol	0	218	0	0	212	0	0	48
Lane Flow Rate	67	396	79	120	290	175	104	104
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.147	0.759	0.175	0.247	0.554	0.396	0.221	0.211
Departure Headway (Hd)	7.831	6.908	7.956	7.442	6.871	8.14	7.625	7.265
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	458	522	451	482	525	443	471	494
Service Time	5.575	4.652	5.705	5.191	4.619	5.891	5.376	5.015
HCM Lane V/C Ratio	0.146	0.759	0.175	0.249	0.552	0.395	0.221	0.211
HCM Control Delay	11.9	28.3	12.4	12.6	17.9	16.2	12.5	12
HCM Lane LOS	B	D	B	B	C	C	B	B
HCM 95th-tile Q	0.5	6.6	0.6	1	3.3	1.9	0.8	0.8

Redding Rancheria
21: Oak St & Balls Ferry Rd

Cumulative (2040) Conditions
Saturday PM Peak

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕		↖		
Traffic Vol, veh/h	3	227	4	39	308	6	13	5	35	19	0	0
Future Vol, veh/h	3	227	4	39	308	6	13	5	35	19	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	247	4	42	335	7	14	5	38	21	0	0




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	341	0	0	251	0	0	507	681	126	556	-	-
Stage 1	-	-	-	-	-	-	255	255	-	423	-	-
Stage 2	-	-	-	-	-	-	252	426	-	133	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	-
Pot Cap-1 Maneuver	1215	-	-	1311	-	-	449	371	901	414	0	0
Stage 1	-	-	-	-	-	-	727	695	-	579	0	0
Stage 2	-	-	-	-	-	-	730	584	-	857	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1215	-	-	1311	-	-	437	358	901	382	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	437	358	-	382	-	-
Stage 1	-	-	-	-	-	-	725	693	-	578	-	-
Stage 2	-	-	-	-	-	-	707	565	-	812	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.9			11.2			15		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	642	1215	-	-	1311	-	-	382
HCM Lane V/C Ratio	0.09	0.003	-	-	0.032	-	-	0.054
HCM Control Delay (s)	11.2	8	-	-	7.8	-	-	15
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.2

Redding Rancheria
 22: I-5 SB On Ramp/Ventura St & Balls Ferry Rd

Cumulative (2040) Conditions
 Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	234	47	430	335	21	0	0	0	15	52	27
Future Volume (veh/h)	3	234	47	430	335	21	0	0	0	15	52	27
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	3	254	51	467	364	23				16	57	29
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	7	342	68	1234	2859	1279				121	79	40
Arrive On Green	0.00	0.12	0.12	0.70	0.81	0.81				0.07	0.07	0.07
Sat Flow, veh/h	1774	2947	582	1774	3539	1583				1774	1165	593
Grp Volume(v), veh/h	3	151	154	467	364	23				16	0	86
Grp Sat Flow(s),veh/h/ln	1774	1770	1760	1774	1770	1583				1774	0	1758
Q Serve(g_s), s	0.2	8.2	8.5	10.9	2.2	0.3				0.8	0.0	4.8
Cycle Q Clear(g_c), s	0.2	8.2	8.5	10.9	2.2	0.3				0.8	0.0	4.8
Prop In Lane	1.00		0.33	1.00		1.00				1.00		0.34
Lane Grp Cap(c), veh/h	7	205	204	1234	2859	1279				121	0	120
V/C Ratio(X)	0.42	0.74	0.76	0.38	0.13	0.02				0.13	0.00	0.72
Avail Cap(c_a), veh/h	89	354	352	1234	2859	1279				550	0	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.89	0.89	0.89				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.7	42.7	42.8	6.3	2.1	1.9				43.8	0.0	45.6
Incr Delay (d2), s/veh	35.4	20.8	22.6	0.2	0.1	0.0				0.5	0.0	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.2	5.4	5.4	1.1	0.1				0.4	0.0	2.6
LnGrp Delay(d),s/veh	85.1	63.5	65.4	6.4	2.1	1.9				44.3	0.0	53.4
LnGrp LOS	F	E	E	A	A	A				D		D
Approach Vol, veh/h		308			854						102	
Approach Delay, s/veh		64.6			4.5						52.0	
Approach LOS		E			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			73.6	15.6		10.8	4.4	84.8				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			37.0	20.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			12.9	10.5		6.8	2.2	4.2				
Green Ext Time (p_c), s			4.0	1.1		0.5	0.0	4.3				
Intersection Summary												
HCM 2010 Ctrl Delay			23.0									
HCM 2010 LOS			C									

Redding Rancheria
 23: I-5 NB Off Ramp/McMurray Dr & Balls Ferry Rd

Cumulative (2040) Conditions
 Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↗	↖	↗		↖
Traffic Volume (veh/h)	61	177	0	0	496	137	90	132	148	162	0	233
Future Volume (veh/h)	61	177	0	0	496	137	90	132	148	162	0	233
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	66	192	0	0	539	149	98	143	161	176	0	253
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	917	2787	0	0	632	174	235	247	210	0	0	0
Arrive On Green	1.00	1.00	0.00	0.00	0.23	0.23	0.13	0.13	0.13	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2837	755	1774	1863	1583		0	
Grp Volume(v), veh/h	66	192	0	0	347	341	98	143	161		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1729	1774	1863	1583			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	18.8	18.9	5.1	7.2	9.8			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	18.8	18.9	5.1	7.2	9.8			
Prop In Lane	1.00		0.00	0.00		0.44	1.00		1.00			
Lane Grp Cap(c), veh/h	917	2787	0	0	408	399	235	247	210			
V/C Ratio(X)	0.07	0.07	0.00	0.00	0.85	0.86	0.42	0.58	0.77			
Avail Cap(c_a), veh/h	917	2787	0	0	478	467	603	633	538			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.99	0.99	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	36.8	36.9	39.8	40.7	41.9			
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	19.5	20.4	1.2	2.1	5.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	11.4	11.3	2.6	3.8	4.6			
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	56.3	57.3	41.0	42.9	47.7			
LnGrp LOS	A	A			E	E	D	D	D			
Approach Vol, veh/h		258			688			402				
Approach Delay, s/veh		0.0			56.8			44.3				
Approach LOS		A			E			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		17.3		82.7			55.7	27.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+l1), s		11.8		2.0			2.0	20.9				
Green Ext Time (p_c), s		1.4		1.4			0.4	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				42.2								
HCM 2010 LOS				D								

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 70 veh/h
Opposing direction volume, Vo 81 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	78 pc/h	90 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.7	mi/h
Average travel speed, ATSD	51.0	mi/h
Percent Free Flow Speed, PFFS	92.7	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	76	88	pc/h
Base percent time-spent-following,(note-4) BPTSFD	9.0	%	
Adjustment for no-passing zones, fnp	52.9		
Percent time-spent-following, PTSFD	33.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	14	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.0	mi/h
Percent time-spent-following, PTSFD (from above)	33.5	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	76.1
Effective width of outside lane, We	35.70
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.69
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 81 veh/h
Opposing direction volume, Vo 70 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	90 pc/h	78 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.7	mi/h
Average travel speed, ATSD	51.0	mi/h
Percent Free Flow Speed, PFFS	92.7	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	88	76	pc/h
Base percent time-spent-following, (note-4) BPTSFD	10.3	%	
Adjustment for no-passing zones, fnp	52.9		
Percent time-spent-following, PTSFD	38.7	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	16	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.0	mi/h
Percent time-spent-following, PTSFD (from above)	38.7	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	88.0
Effective width of outside lane, We	34.71
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.26
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/7/2017
Analysis Time Period Friday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 721 veh/h
Opposing direction volume, Vo 594 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	786 pc/h	648 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	1.8	mi/h
Average travel speed, ATSD	45.8	mi/h
Percent Free Flow Speed, PFFS	77.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	784	646	pc/h
Base percent time-spent-following, (note-4) BPTSFD	67.3	%	
Adjustment for no-passing zones, fnp	27.5		
Percent time-spent-following, PTSFD	82.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.46	
Peak 15-min vehicle-miles of travel, VMT15	39	veh-mi
Peak-hour vehicle-miles of travel, VMT60	144	veh-mi
Peak 15-min total travel time, TT15	0.9	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	45.8	mi/h
Percent time-spent-following, PTSFD (from above)	82.4	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	783.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.99
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
 E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
 Agency/Co.
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Church Creek Road (WB)
 From/To e/o Alrose Ln
 Jurisdiction
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 594 veh/h
 Opposing direction volume, Vo 721 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	648 pc/h	786 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	1.4	mi/h
Average travel speed, ATSD	46.2	mi/h
Percent Free Flow Speed, PFFS	78.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	646	784	pc/h
Base percent time-spent-following,(note-4) BPTSFd	62.6	%	
Adjustment for no-passing zones, fnp	27.5		
Percent time-spent-following, PTSFd	75.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.38	
Peak 15-min vehicle-miles of travel, VMT15	32	veh-mi
Peak-hour vehicle-miles of travel, VMT60	119	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	46.2	mi/h
Percent time-spent-following, PTSFd (from above)	75.0	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	645.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.89
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed _____
 Analysis Time Period Friday PM Peak-Hour
 Highway Smith Road (EB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 19 veh/h
 Opposing direction volume, Vo 39 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	21 pc/h	44 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	56.4	mi/h
Percent Free Flow Speed, PFFS	98.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	21	43	pc/h
Base percent time-spent-following, (note-4) BPTSFD	2.7	%	
Adjustment for no-passing zones, fnp	10.2		
Percent time-spent-following, PTSFD	6.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.01	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	11	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	56.4	mi/h
Percent time-spent-following, PTSFD (from above)	6.0	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	20.7
Effective width of outside lane, We	40.29
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-4.08
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Smith Road (WB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 39 veh/h
 Opposing direction volume, Vo 19 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	44 pc/h	21 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	56.4	mi/h
Percent Free Flow Speed, PFFS	98.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	43	21	pc/h
Base percent time-spent-following,(note-4) BPTSFD	5.3	%	
Adjustment for no-passing zones, fnp	10.2		
Percent time-spent-following, PTSFD	12.2	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	6	veh-mi
Peak-hour vehicle-miles of travel, VMT60	23	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	56.4	mi/h
Percent time-spent-following, PTSFD (from above)	12.2	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	42.4
Effective width of outside lane, We	38.49
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.02
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Bechelli Lane (NB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 40 veh/h
 Opposing direction volume, Vo 53 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	45 pc/h	59 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.7	mi/h
Average travel speed, ATSD	51.5	mi/h
Percent Free Flow Speed, PFFS	93.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	44 pc/h	58 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	5.4	%	
Adjustment for no-passing zones, fnp	53.2		
Percent time-spent-following, PTSFD	28.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	8	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.5	mi/h
Percent time-spent-following, PTSFD (from above)	28.3	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	43.5
Effective width of outside lane, We	38.40
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.98
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Bechelli Lane (SB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 53 veh/h
 Opposing direction volume, Vo 40 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	59 pc/h	45 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.7	mi/h
Average travel speed, ATSD	51.5	mi/h
Percent Free Flow Speed, PFFS	93.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)		
PCE for trucks, ET	1.1	1.1		
PCE for RVs, ER	1.0	1.0		
Heavy-vehicle adjustment factor, fHV	0.997	0.997		
Grade adjustment factor,(note-1) fg	1.00	1.00		
Directional flow rate,(note-2) vi	58	44	pc/h	pc/h
Base percent time-spent-following,(note-4) BPTSFD	7.0	%		
Adjustment for no-passing zones, fnp	53.2			
Percent time-spent-following, PTSFD	37.3	%		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A		
Volume to capacity ratio, v/c	0.03		
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi	
Peak-hour vehicle-miles of travel, VMT60	11	veh-mi	
Peak 15-min total travel time, TT15	0.1	veh-h	
Capacity from ATS, CdATS	1656	veh/h	
Capacity from PTSF, CdPTSF	1695	veh/h	
Directional Capacity	1656	veh/h	

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.5	mi/h
Percent time-spent-following, PTSFD (from above)	37.3	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	57.6
Effective width of outside lane, We	37.23
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.38
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Church Creek Road (EB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 400 veh/h
 Opposing direction volume, Vo 416 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.991	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	439 pc/h	455 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	3.2	mi/h
Average travel speed, ATSD	48.6	mi/h
Percent Free Flow Speed, PFFS	82.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	435 pc/h	452 pc/h
Base percent time-spent-following, (note-4) BPTSFD	46.5 %	
Adjustment for no-passing zones, fnp	43.5	
Percent time-spent-following, PTSFD	67.8 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.26	
Peak 15-min vehicle-miles of travel, VMT15	22	veh-mi
Peak-hour vehicle-miles of travel, VMT60	80	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.6	mi/h
Percent time-spent-following, PTSFD (from above)	67.8	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	434.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.69
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Church Creek Road (WB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 416 veh/h
 Opposing direction volume, Vo 400 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.991
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	455 pc/h	439 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	3.3	mi/h
Average travel speed, ATSD	48.5	mi/h
Percent Free Flow Speed, PFFS	82.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	452 pc/h	435 pc/h
Base percent time-spent-following, (note-4) BPTSFD	47.3 %	
Adjustment for no-passing zones, fnp	43.5	
Percent time-spent-following, PTSFD	69.5 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	23	veh-mi
Peak-hour vehicle-miles of travel, VMT60	83	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1685	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.5	mi/h
Percent time-spent-following, PTSFD (from above)	69.5	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	452.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.71
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Smith Road (EB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 19 veh/h
 Opposing direction volume, Vo 23 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	21 pc/h	26 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATSD	55.5	mi/h
Percent Free Flow Speed, PFFS	94.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	21	25	pc/h
Base percent time-spent-following,(note-4) BPTSFD	2.7	%	
Adjustment for no-passing zones, fnp	53.0		
Percent time-spent-following, PTSFD	26.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.01	
Peak 15-min vehicle-miles of travel, VMT15	1	veh-mi
Peak-hour vehicle-miles of travel, VMT60	4	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	55.5	mi/h
Percent time-spent-following, PTSFD (from above)	26.9	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	20.7
Effective width of outside lane, We	40.29
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-4.08
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Smith Road (WB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 23 veh/h
 Opposing direction volume, Vo 19 veh/h

----- Average Travel Speed -----

Direction	Analysis (d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	26 pc/h	21 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATSD	55.5	mi/h
Percent Free Flow Speed, PFFS	94.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	25 pc/h	21 pc/h
Base percent time-spent-following, (note-4) BPTSFD	3.2 %	
Adjustment for no-passing zones, fnp	53.0	
Percent time-spent-following, PTSFD	32.0 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	1	veh-mi
Peak-hour vehicle-miles of travel, VMT60	5	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	55.5	mi/h
Percent time-spent-following, PTSFD (from above)	32.0	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	25.0
Effective width of outside lane, We	39.93
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.85
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_FRI_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1502	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	17.0	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1342	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1342	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	751	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	751	pc/h/l n
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	17.0	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 14:16:31

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_FRI_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1562	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	17.7	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1395	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	1395	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	781	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	781	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	17.7	pc/mi/ln
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 14:17:09

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_SAT_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	889	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	10.1	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	794	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	794	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	444	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	444	pc/h/l n
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	10.1	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:19:40

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_SAT_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1104	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	12.5	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	986	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	986	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	552	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	552	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	12.5	pc/mi/ln
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 14:20:04

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway North St, e/o Oak St (EB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 483 veh/h
 Opposing direction volume, Vo 435 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	528 pc/h	476 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.9	mi/h
Average travel speed, ATSD	41.3	mi/h
Percent Free Flow Speed, PFFS	82.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	525	473	pc/h
Base percent time-spent-following,(note-4) BPTSFD	52.7	%	
Adjustment for no-passing zones, fnp	14.3		
Percent time-spent-following, PTSFD	60.2	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.31	
Peak 15-min vehicle-miles of travel, VMT15	26	veh-mi
Peak-hour vehicle-miles of travel, VMT60	97	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	41.3	mi/h
Percent time-spent-following, PTSFD (from above)	60.2	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	525.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.79
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway North St, e/o Oak St (WB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 435 veh/h
 Opposing direction volume, Vo 483 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	476 pc/h	528 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.8	mi/h
Average travel speed, ATSD	41.4	mi/h
Percent Free Flow Speed, PFFS	82.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	473	525	pc/h
Base percent time-spent-following, (note-4) BPTSFD	50.2	%	
Adjustment for no-passing zones, fnp	14.3		
Percent time-spent-following, PTSFD	57.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.28	
Peak 15-min vehicle-miles of travel, VMT15	24	veh-mi
Peak-hour vehicle-miles of travel, VMT60	87	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	41.4	mi/h
Percent time-spent-following, PTSFD (from above)	57.0	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	472.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.73
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway North St, e/o Oak St (EB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 265 veh/h
 Opposing direction volume, Vo 297 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.988	0.988
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	292 pc/h	327 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSD	44.1	mi/h
Percent Free Flow Speed, PFFS	88.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	289	324	pc/h
Base percent time-spent-following, (note-4) BPTSFD	32.7	%	
Adjustment for no-passing zones, fnp	15.5		
Percent time-spent-following, PTSFD	40.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.17	
Peak 15-min vehicle-miles of travel, VMT15	14	veh-mi
Peak-hour vehicle-miles of travel, VMT60	53	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.1	mi/h
Percent time-spent-following, PTSFD (from above)	40.0	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	288.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.48
Bicycle LOS	B

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway North St, e/o Oak St (WB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 297 veh/h
 Opposing direction volume, Vo 265 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.988	0.988
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	327 pc/h	292 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSD	44.0	mi/h
Percent Free Flow Speed, PFFS	88.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	324	289	pc/h
Base percent time-spent-following,(note-4) BPTSFD	35.6	%	
Adjustment for no-passing zones, fnp	15.5		
Percent time-spent-following, PTSFD	43.8	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.19	
Peak 15-min vehicle-miles of travel, VMT15	16	veh-mi
Peak-hour vehicle-miles of travel, VMT60	59	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.0	mi/h
Percent time-spent-following, PTSFD (from above)	43.8	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	322.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.54
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway North Road, w/o Oak St (EB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 369 veh/h
 Opposing direction volume, Vo 442 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.991	0.994
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	405 pc/h	483 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.9	mi/h
Average travel speed, ATSD	42.2	mi/h
Percent Free Flow Speed, PFFS	84.4	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	401	480	pc/h
Base percent time-spent-following,(note-4) BPTSFd	44.0	%	
Adjustment for no-passing zones, fnp	14.5		
Percent time-spent-following, PTSFd	50.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.24	
Peak 15-min vehicle-miles of travel, VMT15	20	veh-mi
Peak-hour vehicle-miles of travel, VMT60	74	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	42.2	mi/h
Percent time-spent-following, PTSFd (from above)	50.6	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	401.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.65
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway North Road, w/o Oak St (WB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 442 veh/h
 Opposing direction volume, Vo 369 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.991
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	483 pc/h	405 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSD	42.0	mi/h
Percent Free Flow Speed, PFFS	84.0	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	480 pc/h	401 pc/h
Base percent time-spent-following, (note-4) BPTSFD	48.1 %	
Adjustment for no-passing zones, fnp	14.5	
Percent time-spent-following, PTSFD	56.0 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.28	
Peak 15-min vehicle-miles of travel, VMT15	24	veh-mi
Peak-hour vehicle-miles of travel, VMT60	88	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1685	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	42.0	mi/h
Percent time-spent-following, PTSFD (from above)	56.0	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	480.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.74
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, w/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 234 veh/h
Opposing direction volume, Vo 238 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.988	0.988
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	257 pc/h	262 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSD	44.8	mi/h
Percent Free Flow Speed, PFFS	89.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	255	259	pc/h
Base percent time-spent-following,(note-4) BPTSFD	27.6	%	
Adjustment for no-passing zones, fnp	15.9		
Percent time-spent-following, PTSFD	35.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	47	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.8	mi/h
Percent time-spent-following, PTSFD (from above)	35.5	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	254.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.42
Bicycle LOS	B

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, w/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 238 veh/h
Opposing direction volume, Vo 234 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.988	0.988
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	262 pc/h	257 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSD	44.8	mi/h
Percent Free Flow Speed, PFFS	89.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	259	255	pc/h
Base percent time-spent-following,(note-4) BPTSFD	28.1	%	
Adjustment for no-passing zones, fnp	15.9		
Percent time-spent-following, PTSFD	36.1	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	48	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.8	mi/h
Percent time-spent-following, PTSFD (from above)	36.1	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	258.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.43
Bicycle LOS	B

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Oak St, n/o North St (EB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 70 veh/h
 Opposing direction volume, Vo 56 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	78 pc/h	62 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.2	mi/h
Average travel speed, ATSD	48.7	mi/h
Percent Free Flow Speed, PFFS	97.4	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	76	61	pc/h
Base percent time-spent-following,(note-4) BPTSFD	9.0	%	
Adjustment for no-passing zones, fnp	10.1		
Percent time-spent-following, PTSFD	14.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	14	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.7	mi/h
Percent time-spent-following, PTSFD (from above)	14.6	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	76.1
Effective width of outside lane, We	35.70
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.69
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Oak St, n/o North St (WB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 56 veh/h
 Opposing direction volume, Vo 70 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	62 pc/h	78 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.2	mi/h
Average travel speed, ATSD	48.7	mi/h
Percent Free Flow Speed, PFFS	97.4	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	61	76	pc/h
Base percent time-spent-following,(note-4) BPTSFD	7.4	%	
Adjustment for no-passing zones, fnp	10.1		
Percent time-spent-following, PTSFD	11.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	11	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.7	mi/h
Percent time-spent-following, PTSFD (from above)	11.9	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	60.9
Effective width of outside lane, We	36.96
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.26
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Oak St, n/o North St (EB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 44 veh/h
 Opposing direction volume, Vo 67 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	49 pc/h	75 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.2	mi/h
Average travel speed, ATSD	48.8	mi/h
Percent Free Flow Speed, PFFS	97.7	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	48	73	pc/h
Base percent time-spent-following, (note-4) BPTSFD	5.9	%	
Adjustment for no-passing zones, fnp	11.0		
Percent time-spent-following, PTSFD	10.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	9	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.8	mi/h
Percent time-spent-following, PTSFD (from above)	10.3	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	47.8
Effective width of outside lane, We	38.04
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.78
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Oak St, n/o North St (WB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 67 veh/h
 Opposing direction volume, Vo 44 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	75 pc/h	49 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.2	mi/h
Average travel speed, ATSD	48.8	mi/h
Percent Free Flow Speed, PFFS	97.7	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)		
PCE for trucks, ET	1.1	1.1		
PCE for RVs, ER	1.0	1.0		
Heavy-vehicle adjustment factor, fHV	0.997	0.997		
Grade adjustment factor,(note-1) fg	1.00	1.00		
Directional flow rate,(note-2) vi	73	48	pc/h	pc/h
Base percent time-spent-following,(note-4) BPTSFD	8.7	%		
Adjustment for no-passing zones, fnp	11.0			
Percent time-spent-following, PTSFD	15.3	%		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A		
Volume to capacity ratio, v/c	0.04		
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi	
Peak-hour vehicle-miles of travel, VMT60	13	veh-mi	
Peak 15-min total travel time, TT15	0.1	veh-h	
Capacity from ATS, CdATS	1656	veh/h	
Capacity from PTSF, CdPTSF	1695	veh/h	
Directional Capacity	1656	veh/h	

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.8	mi/h
Percent time-spent-following, PTSFD (from above)	15.3	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	72.8
Effective width of outside lane, We	35.97
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.80
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, s/o North St (NB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 26 veh/h
Opposing direction volume, Vo 30 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	29 pc/h	33 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	56.9	mi/h
Percent Free Flow Speed, PFFS	98.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	28	33	pc/h
Base percent time-spent-following, (note-4) BPTSFD	3.5	%	
Adjustment for no-passing zones, fnp	29.7		
Percent time-spent-following, PTSFD	17.1	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	8	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	56.9	mi/h
Percent time-spent-following, PTSFD (from above)	17.1	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	28.3
Effective width of outside lane, We	39.66
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.69
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Oak St, s/o North St (SB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 30 veh/h
 Opposing direction volume, Vo 26 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	33 pc/h	29 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	56.9	mi/h
Percent Free Flow Speed, PFFS	98.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	33	28	pc/h
Base percent time-spent-following, (note-4) BPTSFD	4.1	%	
Adjustment for no-passing zones, fnp	29.7		
Percent time-spent-following, PTSFD	20.2	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	9	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	56.9	mi/h
Percent time-spent-following, PTSFD (from above)	20.2	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	32.6
Effective width of outside lane, We	39.30
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.46
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Oak St, s/o North St (NB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 19 veh/h
 Opposing direction volume, Vo 16 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	21 pc/h	18 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	57.1	mi/h
Percent Free Flow Speed, PFFS	98.4	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	21	17	pc/h
Base percent time-spent-following, (note-4) BPTSFD	2.7	%	
Adjustment for no-passing zones, fnp	29.8		
Percent time-spent-following, PTSFD	19.2	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.01	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	6	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	57.1	mi/h
Percent time-spent-following, PTSFD (from above)	19.2	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	20.7
Effective width of outside lane, We	40.29
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-4.08
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Oak St, s/o North St (SB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 16 veh/h
 Opposing direction volume, Vo 19 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	18 pc/h	21 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	57.1	mi/h
Percent Free Flow Speed, PFFS	98.4	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	17	21	pc/h
Base percent time-spent-following, (note-4) BPTSFD	2.2	%	
Adjustment for no-passing zones, fnp	29.8		
Percent time-spent-following, PTSFD	15.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.01	
Peak 15-min vehicle-miles of travel, VMT15	1	veh-mi
Peak-hour vehicle-miles of travel, VMT60	5	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	57.1	mi/h
Percent time-spent-following, PTSFD (from above)	15.5	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	17.4
Effective width of outside lane, We	40.56
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-4.30
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Friday PM Peak-Hour
Highway Canyon Road (NB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 231 veh/h
Opposing direction volume, Vo 363 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.977	0.982
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	257 pc/h	402 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	3.9	mi/h
Average travel speed, ATSD	51.0	mi/h
Percent Free Flow Speed, PFFS	85.0	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	253 pc/h	397 pc/h
Base percent time-spent-following,(note-4) BPTSFD	30.6 %	
Adjustment for no-passing zones, fnp	50.5	
Percent time-spent-following, PTSFD	50.3 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	46	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1669	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1669	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.0	mi/h
Percent time-spent-following, PTSFD (from above)	50.3	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	251.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.29
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
 E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
 Agency/Co.
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Canyon Road (SB)
 From/To
 Jurisdiction
 Analysis Year Opening Year (2025)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 363 veh/h
 Opposing direction volume, Vo 231 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.982	0.977
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	402 pc/h	257 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	4.1	mi/h
Average travel speed, ATSD	50.8	mi/h
Percent Free Flow Speed, PFFS	84.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	0.994	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	397	253	pc/h
Base percent time-spent-following, (note-4) BPTSFD	39.3	%	
Adjustment for no-passing zones, fnp	50.5		
Percent time-spent-following, PTSFD	70.1	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.24	
Peak 15-min vehicle-miles of travel, VMT15	20	veh-mi
Peak-hour vehicle-miles of travel, VMT60	73	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1661	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1661	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	50.8	mi/h
Percent time-spent-following, PTSFD (from above)	70.1	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	394.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.52
Bicycle LOS	D

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Canyon Road (NB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 223 veh/h
Opposing direction volume, Vo 205 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.971	0.971
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	250 pc/h	229 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	4.2	mi/h
Average travel speed, ATSD	52.1	mi/h
Percent Free Flow Speed, PFFS	86.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	244 pc/h	224 pc/h
Base percent time-spent-following, (note-4) BPTSFD	26.3 %	
Adjustment for no-passing zones, fnp	61.3	
Percent time-spent-following, PTSFD	58.3 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	12	veh-mi
Peak-hour vehicle-miles of travel, VMT60	45	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1651	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1651	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	52.1	mi/h
Percent time-spent-following, PTSFD (from above)	58.3	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	242.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.27
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period Saturday PM Peak-Hour
Highway Canyon Road (SB)
From/To
Jurisdiction
Analysis Year Opening Year (2025)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 205 veh/h
Opposing direction volume, Vo 223 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.971	0.971
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	229 pc/h	250 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	4.1	mi/h
Average travel speed, ATSD	52.2	mi/h
Percent Free Flow Speed, PFFS	86.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	224 pc/h	244 pc/h
Base percent time-spent-following, (note-4) BPTSFD	25.3 %	
Adjustment for no-passing zones, fnp	61.3	
Percent time-spent-following, PTSFD	54.6 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.13	
Peak 15-min vehicle-miles of travel, VMT15	11	veh-mi
Peak-hour vehicle-miles of travel, VMT60	41	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1651	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1651	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	52.2	mi/h
Percent time-spent-following, PTSFD (from above)	54.6	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	222.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.23
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	852	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	7.1	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	801	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	801	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	426	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	426	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	7.1	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:18:17

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	1059	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	8.8	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	995	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	995	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	530	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	530	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	8.8	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:19:02

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	590	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	4.9	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	555	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	555	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	295	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	295	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	4.9	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:21:29

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	695	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.8	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	653	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	653	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	348	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	348	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	5.8	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:21:52

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	589	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	4.9	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	554	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	554	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	294	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	294	pc/h/l n
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	4.9	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:22:36

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	657	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.5	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	618	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	618	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	328	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	328	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	5.5	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:22:53

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	373	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	3.1	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	351	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	351	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	186	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	186	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	3.1	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:23:27

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	377	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	3.1	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	354	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	354	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	188	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	188	pc/h/l n
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	3.1	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:23:42

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 95 veh/h
Opposing direction volume, Vo 96 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	106 pc/h	107 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.8	mi/h
Average travel speed, ATSD	50.5	mi/h
Percent Free Flow Speed, PFFS	91.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	104 pc/h	105 pc/h
Base percent time-spent-following, (note-4) BPTSFD	12.1 %	
Adjustment for no-passing zones, fnp	53.2	
Percent time-spent-following, PTSFD	38.6 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.06	
Peak 15-min vehicle-miles of travel, VMT15	5	veh-mi
Peak-hour vehicle-miles of travel, VMT60	19	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	50.5	mi/h
Percent time-spent-following, PTSFD (from above)	38.6	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	103.3
Effective width of outside lane, We	33.45
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-0.76
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 96 veh/h
Opposing direction volume, Vo 95 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	107 pc/h	106 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.8	mi/h
Average travel speed, ATSD	50.6	mi/h
Percent Free Flow Speed, PFFS	91.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	105	104	pc/h
Base percent time-spent-following, (note-4) BPTSFD	12.2	%	
Adjustment for no-passing zones, fnp	53.2		
Percent time-spent-following, PTSFD	38.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.06	
Peak 15-min vehicle-miles of travel, VMT15	5	veh-mi
Peak-hour vehicle-miles of travel, VMT60	19	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	50.6	mi/h
Percent time-spent-following, PTSFD (from above)	38.9	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	104.3
Effective width of outside lane, We	33.36
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-0.72
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

HCS7 Multi Lane Highway Segments Text Report

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_FRI_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	187	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	2.1	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	167	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	167	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	94	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	94	pc/h/l n
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	2.1	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:03:53

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_FRI_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1836	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	20.8	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1640	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	1640	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	918	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	918	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	20.8	pc/mi/ln
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/30/2018 10:04:49

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 6/7/2017
 Analysis Time Period Friday PM Peak-Hour
 Highway Church Creek Road (EB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Cumulative (2040)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 876 veh/h
 Opposing direction volume, Vo 779 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	952 pc/h	849 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSD	43.4	mi/h
Percent Free Flow Speed, PFFS	73.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	952	847	pc/h
Base percent time-spent-following,(note-4) BPTSFd	74.9	%	
Adjustment for no-passing zones, fnp	21.7		
Percent time-spent-following, PTSFd	86.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.56	
Peak 15-min vehicle-miles of travel, VMT15	48	veh-mi
Peak-hour vehicle-miles of travel, VMT60	175	veh-mi
Peak 15-min total travel time, TT15	1.1	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	43.4	mi/h
Percent time-spent-following, PTSFd (from above)	86.4	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	952.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.09
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
 E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
 Agency/Co.
 Date Performed 5/28/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Church Creek Road (WB)
 From/To e/o Alrose Ln
 Jurisdiction
 Analysis Year Cumulative (2040)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 779 veh/h
 Opposing direction volume, Vo 876 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	849 pc/h	952 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSD	43.5	mi/h
Percent Free Flow Speed, PFFS	74.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	847 pc/h	952 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	72.5	%	
Adjustment for no-passing zones, fnp	21.7		
Percent time-spent-following, PTSFD	82.7	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.50	
Peak 15-min vehicle-miles of travel, VMT15	42	veh-mi
Peak-hour vehicle-miles of travel, VMT60	156	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	43.5	mi/h
Percent time-spent-following, PTSFD (from above)	82.7	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	846.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.03
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
 E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
 Agency/Co.
 Date Performed 5/28/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Smith Road (EB)
 From/To w/o Churn Creek Road
 Jurisdiction
 Analysis Year Cumulative (2040)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 26 veh/h
 Opposing direction volume, Vo 53 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	29 pc/h	59 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	56.2	mi/h
Percent Free Flow Speed, PFFS	97.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	28	58	pc/h
Base percent time-spent-following,(note-4) BPTSFD	3.5	%	
Adjustment for no-passing zones, fnp	10.2		
Percent time-spent-following, PTSFD	6.8	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	16	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	56.2	mi/h
Percent time-spent-following, PTSFD (from above)	6.8	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	28.3
Effective width of outside lane, We	39.66
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.69
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 53 veh/h
Opposing direction volume, Vo 26 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	59 pc/h	29 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	56.2	mi/h
Percent Free Flow Speed, PFFS	97.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	58	28	pc/h
Base percent time-spent-following, (note-4) BPTSFD	7.0	%	
Adjustment for no-passing zones, fnp	10.2		
Percent time-spent-following, PTSFD	13.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	9	veh-mi
Peak-hour vehicle-miles of travel, VMT60	32	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	56.2	mi/h
Percent time-spent-following, PTSFD (from above)	13.9	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	57.6
Effective width of outside lane, We	37.23
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.38
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Bechelli Lane (NB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Cumulative (2040)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 52 veh/h
 Opposing direction volume, Vo 60 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	58 pc/h	67 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.7	mi/h
Average travel speed, ATSD	51.3	mi/h
Percent Free Flow Speed, PFFS	93.3	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	57	65	pc/h
Base percent time-spent-following,(note-4) BPTSFD	6.9	%	
Adjustment for no-passing zones, fnp	52.9		
Percent time-spent-following, PTSFD	31.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	10	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.3	mi/h
Percent time-spent-following, PTSFD (from above)	31.6	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	56.5
Effective width of outside lane, We	37.32
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.42
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Bechelli Lane (SB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Cumulative (2040)
 Description Redding Rancheria

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 60 veh/h
 Opposing direction volume, Vo 52 veh/h

----- Average Travel Speed -----

Direction	Analysis (d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	67 pc/h	58 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.7	mi/h
Average travel speed, ATSD	51.3	mi/h
Percent Free Flow Speed, PFFS	93.3	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	65	57	pc/h
Base percent time-spent-following,(note-4) BPTSFD	7.8	%	
Adjustment for no-passing zones, fnp	52.9		
Percent time-spent-following, PTSFD	36.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	12	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.3	mi/h
Percent time-spent-following, PTSFD (from above)	36.0	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	65.2
Effective width of outside lane, We	36.60
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.09
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_SAT_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1058	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	12.0	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	945	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	945	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	529	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	529	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	12.0	pc/mi/ln
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/30/2018 10:17:01

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_SAT_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1281	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	14.5	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1144	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	1144	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	640	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	640	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	14.5	pc/mi/ln
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/30/2018 10:18:38

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Church Creek Road (EB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Cumulative (2040)
 Description Redding Rancheria

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 487 veh/h
 Opposing direction volume, Vo 544 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	533 pc/h	593 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.0	mi/h
Average travel speed, ATSD	48.0	mi/h
Percent Free Flow Speed, PFFS	81.7	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	529	591	pc/h
Base percent time-spent-following, (note-4) BPTSFD	54.3	%	
Adjustment for no-passing zones, fnp	36.1		
Percent time-spent-following, PTSFD	71.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.31	
Peak 15-min vehicle-miles of travel, VMT15	26	veh-mi
Peak-hour vehicle-miles of travel, VMT60	97	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.0	mi/h
Percent time-spent-following, PTSFD (from above)	71.4	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	529.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.79
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (WB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 544 veh/h
Opposing direction volume, Vo 487 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	593 pc/h	533 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.5	mi/h
Average travel speed, ATSD	47.5	mi/h
Percent Free Flow Speed, PFFS	80.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	591	529	pc/h
Base percent time-spent-following,(note-4) BPTSFD	57.0	%	
Adjustment for no-passing zones, fnp	36.1		
Percent time-spent-following, PTSFD	76.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	30	veh-mi
Peak-hour vehicle-miles of travel, VMT60	109	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	47.5	mi/h
Percent time-spent-following, PTSFD (from above)	76.0	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	591.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.85
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Smith Road (EB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Cumulative (2040)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 27 veh/h
 Opposing direction volume, Vo 32 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	30 pc/h	36 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATSD	55.4	mi/h
Percent Free Flow Speed, PFFS	94.3	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	29	35	pc/h
Base percent time-spent-following,(note-4) BPTSFD	3.6	%	
Adjustment for no-passing zones, fnp	53.0		
Percent time-spent-following, PTSFD	27.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	1	veh-mi
Peak-hour vehicle-miles of travel, VMT60	5	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	55.4	mi/h
Percent time-spent-following, PTSFD (from above)	27.6	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	29.3
Effective width of outside lane, We	39.57
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.63
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Smith Road (WB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Cumulative (2040)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 32 veh/h
 Opposing direction volume, Vo 27 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	36 pc/h	30 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATSD	55.4	mi/h
Percent Free Flow Speed, PFFS	94.3	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	35	29	pc/h
Base percent time-spent-following, (note-4) BPTSFD	4.4	%	
Adjustment for no-passing zones, fnp	53.0		
Percent time-spent-following, PTSFD	33.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	6	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	55.4	mi/h
Percent time-spent-following, PTSFD (from above)	33.4	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	34.8
Effective width of outside lane, We	39.12
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.36
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/29/18
Analysis Time Period Friday PM Peak-Hour
Highway North St, e/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 561 veh/h
Opposing direction volume, Vo 508 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	612 pc/h	554 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.7	mi/h
Average travel speed, ATSD	40.2	mi/h
Percent Free Flow Speed, PFFS	80.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	610	552	pc/h
Base percent time-spent-following,(note-4) BPTSFD	57.9	%	
Adjustment for no-passing zones, fnp	13.6		
Percent time-spent-following, PTSFD	65.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.36	
Peak 15-min vehicle-miles of travel, VMT15	30	veh-mi
Peak-hour vehicle-miles of travel, VMT60	112	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	40.2	mi/h
Percent time-spent-following, PTSFD (from above)	65.0	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	609.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.86
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway North St, e/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 508 veh/h
Opposing direction volume, Vo 561 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	554 pc/h	612 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	40.4	mi/h
Percent Free Flow Speed, PFFS	80.7	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	552 pc/h	610 pc/h	
Base percent time-spent-following, (note-4) BPTSFD	55.8	%	
Adjustment for no-passing zones, fnp	13.6		
Percent time-spent-following, PTSFD	62.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.33	
Peak 15-min vehicle-miles of travel, VMT15	28	veh-mi
Peak-hour vehicle-miles of travel, VMT60	102	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	40.4	mi/h
Percent time-spent-following, PTSFD (from above)	62.3	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	552.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.81
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/30/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway North St, e/o Oak St (EB)
 From/To _____
 Jurisdiction _____
 Analysis Year Cumulative (2040)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 307 veh/h
 Opposing direction volume, Vo 347 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.988	0.991
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	338 pc/h	381 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSD	43.3	mi/h
Percent Free Flow Speed, PFFS	86.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	335	378	pc/h
Base percent time-spent-following,(note-4) BPTSFd	37.1	%	
Adjustment for no-passing zones, fnp	15.3		
Percent time-spent-following, PTSFd	44.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.20	
Peak 15-min vehicle-miles of travel, VMT15	17	veh-mi
Peak-hour vehicle-miles of travel, VMT60	61	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1685	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	43.3	mi/h
Percent time-spent-following, PTSFd (from above)	44.3	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	333.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.56
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/30/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway North St, e/o Oak St (WB)
 From/To _____
 Jurisdiction _____
 Analysis Year Cumulative (2040)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 347 veh/h
 Opposing direction volume, Vo 307 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.991	0.988
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	381 pc/h	338 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSD	43.3	mi/h
Percent Free Flow Speed, PFFS	86.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	378 pc/h	335 pc/h
Base percent time-spent-following,(note-4) BPTSFD	39.4 %	
Adjustment for no-passing zones, fnp	15.3	
Percent time-spent-following, PTSFD	47.5 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.22	
Peak 15-min vehicle-miles of travel, VMT15	19	veh-mi
Peak-hour vehicle-miles of travel, VMT60	69	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	43.3	mi/h
Percent time-spent-following, PTSFD (from above)	47.5	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	377.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.62
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
 E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
 Agency/Co.
 Date Performed 5/30/18
 Analysis Time Period Friday PM Peak-Hour
 Highway North Road, w/o Oak St (EB)
 From/To
 Jurisdiction
 Analysis Year Cumulative (2040)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 433 veh/h
 Opposing direction volume, Vo 519 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	473 pc/h	566 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.7	mi/h
Average travel speed, ATSD	41.3	mi/h
Percent Free Flow Speed, PFFS	82.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	471	564	pc/h
Base percent time-spent-following,(note-4) BPTSFD	50.2	%	
Adjustment for no-passing zones, fnp	13.8		
Percent time-spent-following, PTSFD	56.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.28	
Peak 15-min vehicle-miles of travel, VMT15	24	veh-mi
Peak-hour vehicle-miles of travel, VMT60	87	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	41.3	mi/h
Percent time-spent-following, PTSFD (from above)	56.5	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	470.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.73
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway North Road, w/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 519 veh/h
Opposing direction volume, Vo 433 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	566 pc/h	473 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.9	mi/h
Average travel speed, ATSD	41.0	mi/h
Percent Free Flow Speed, PFFS	82.0	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	564	471	pc/h
Base percent time-spent-following,(note-4) BPTSFd	55.0	%	
Adjustment for no-passing zones, fnp	13.8		
Percent time-spent-following, PTSFd	62.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.33	
Peak 15-min vehicle-miles of travel, VMT15	28	veh-mi
Peak-hour vehicle-miles of travel, VMT60	104	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	41.0	mi/h
Percent time-spent-following, PTSFd (from above)	62.5	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	564.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.82
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, w/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 275 veh/h
Opposing direction volume, Vo 279 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.988	0.988
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	303 pc/h	307 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSD	44.1	mi/h
Percent Free Flow Speed, PFFS	88.2	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	300 pc/h	304 pc/h
Base percent time-spent-following, (note-4) BPTSFD	32.9 %	
Adjustment for no-passing zones, fnp	15.8	
Percent time-spent-following, PTSFD	40.7 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.18	
Peak 15-min vehicle-miles of travel, VMT15	15	veh-mi
Peak-hour vehicle-miles of travel, VMT60	55	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.1	mi/h
Percent time-spent-following, PTSFD (from above)	40.7	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	298.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.50
Bicycle LOS	B

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, w/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 279 veh/h
Opposing direction volume, Vo 275 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.988	0.988
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	307 pc/h	303 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSD	44.1	mi/h
Percent Free Flow Speed, PFFS	88.2	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	304 pc/h	300 pc/h
Base percent time-spent-following, (note-4) BPTSFD	33.4 %	
Adjustment for no-passing zones, fnp	15.8	
Percent time-spent-following, PTSFD	41.4 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.18	
Peak 15-min vehicle-miles of travel, VMT15	15	veh-mi
Peak-hour vehicle-miles of travel, VMT60	56	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.1	mi/h
Percent time-spent-following, PTSFD (from above)	41.4	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	303.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.51
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, n/o North St (EB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 72 veh/h
Opposing direction volume, Vo 59 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	80 pc/h	66 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.2	mi/h
Average travel speed, ATSD	48.7	mi/h
Percent Free Flow Speed, PFFS	97.3	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)		
PCE for trucks, ET	1.1	1.1		
PCE for RVs, ER	1.0	1.0		
Heavy-vehicle adjustment factor, fHV	0.997	0.997		
Grade adjustment factor, (note-1) fg	1.00	1.00		
Directional flow rate, (note-2) vi	78	64	pc/h	pc/h
Base percent time-spent-following, (note-4) BPTSFD	9.3	%		
Adjustment for no-passing zones, fnp	10.0			
Percent time-spent-following, PTSFD	14.8	%		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A		
Volume to capacity ratio, v/c	0.05		
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi	
Peak-hour vehicle-miles of travel, VMT60	14	veh-mi	
Peak 15-min total travel time, TT15	0.1	veh-h	
Capacity from ATS, CdATS	1656	veh/h	
Capacity from PTSF, CdPTSF	1695	veh/h	
Directional Capacity	1656	veh/h	

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.7	mi/h
Percent time-spent-following, PTSFD (from above)	14.8	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	78.3
Effective width of outside lane, We	35.52
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.61
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/30/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Oak St, n/o North St (WB)
 From/To _____
 Jurisdiction _____
 Analysis Year Cumulative (2040)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 59 veh/h
 Opposing direction volume, Vo 72 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	66 pc/h	80 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.2	mi/h
Average travel speed, ATSD	48.7	mi/h
Percent Free Flow Speed, PFFS	97.3	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	64	78	pc/h
Base percent time-spent-following, (note-4) BPTSFD	7.7	%	
Adjustment for no-passing zones, fnp	10.0		
Percent time-spent-following, PTSFD	12.2	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	12	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.7	mi/h
Percent time-spent-following, PTSFD (from above)	12.2	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	64.1
Effective width of outside lane, We	36.69
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.13
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/30/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Oak St, n/o North St (EB)
 From/To _____
 Jurisdiction _____
 Analysis Year Cumulative (2040)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 46 veh/h
 Opposing direction volume, Vo 72 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	51 pc/h	80 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.2	mi/h
Average travel speed, ATSD	48.8	mi/h
Percent Free Flow Speed, PFFS	97.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	50	78	pc/h
Base percent time-spent-following,(note-4) BPTSFD	6.1	%	
Adjustment for no-passing zones, fnp	10.9		
Percent time-spent-following, PTSFD	10.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	9	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.8	mi/h
Percent time-spent-following, PTSFD (from above)	10.4	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	50.0
Effective width of outside lane, We	37.86
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.69
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/30/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Oak St, n/o North St (WB)
 From/To _____
 Jurisdiction _____
 Analysis Year Cumulative (2040)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 72 veh/h
 Opposing direction volume, Vo 46 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	80 pc/h	51 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.2	mi/h
Average travel speed, ATSD	48.8	mi/h
Percent Free Flow Speed, PFFS	97.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	78	50	pc/h
Base percent time-spent-following,(note-4) BPTSFD	9.3	%	
Adjustment for no-passing zones, fnp	10.9		
Percent time-spent-following, PTSFD	15.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	14	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.8	mi/h
Percent time-spent-following, PTSFD (from above)	15.9	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	78.3
Effective width of outside lane, We	35.52
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.61
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Oak St, s/o North St (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 27 veh/h
Opposing direction volume, Vo 36 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	30 pc/h	40 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	56.8	mi/h
Percent Free Flow Speed, PFFS	98.0	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	29 pc/h	39 pc/h
Base percent time-spent-following,(note-4) BPTSFD	3.6 %	
Adjustment for no-passing zones, fnp	30.2	
Percent time-spent-following, PTSFD	16.5 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	8	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	56.8	mi/h
Percent time-spent-following, PTSFD (from above)	16.5	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	29.3
Effective width of outside lane, We	39.57
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.63
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
 E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
 Agency/Co.
 Date Performed 5/30/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Oak St, s/o North St (SB)
 From/To
 Jurisdiction
 Analysis Year Cumulative (2040)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 36 veh/h
 Opposing direction volume, Vo 27 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	40 pc/h	30 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	56.8	mi/h
Percent Free Flow Speed, PFFS	98.0	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	39 pc/h	29 pc/h
Base percent time-spent-following,(note-4) BPTSFD	4.8 %	
Adjustment for no-passing zones, fnp	30.2	
Percent time-spent-following, PTSFD	22.1 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	11	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	56.8	mi/h
Percent time-spent-following, PTSFD (from above)	22.1	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	39.1
Effective width of outside lane, We	38.76
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.16
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, s/o North St (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 20 veh/h
Opposing direction volume, Vo 19 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	22 pc/h	21 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	57.0	mi/h
Percent Free Flow Speed, PFFS	98.4	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	22	21	pc/h
Base percent time-spent-following,(note-4) BPTSFD	2.8	%	
Adjustment for no-passing zones, fnp	29.4		
Percent time-spent-following, PTSFD	17.8	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.01	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	6	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	57.0	mi/h
Percent time-spent-following, PTSFD (from above)	17.8	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	21.7
Effective width of outside lane, We	40.20
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-4.02
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, s/o North St (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 19 veh/h
Opposing direction volume, Vo 20 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	21 pc/h	22 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	57.0	mi/h
Percent Free Flow Speed, PFFS	98.4	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	21	22	pc/h
Base percent time-spent-following,(note-4) BPTSFD	2.7	%	
Adjustment for no-passing zones, fnp	29.4		
Percent time-spent-following, PTSFD	17.1	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.01	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	6	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	57.0	mi/h
Percent time-spent-following, PTSFD (from above)	17.1	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	20.7
Effective width of outside lane, We	40.29
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-4.08
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	941	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	7.8	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	885	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	885	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	470	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	470	pc/h/l n
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	7.8	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:20:21

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	1163	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	9.7	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1093	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1093	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	582	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	582	pc/h/l n
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	9.7	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:21:14

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	643	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.4	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	604	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	604	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	322	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	322	pc/h/l n
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	5.4	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:22:02

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	753	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	6.3	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	708	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	708	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	376	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	376	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	6.3	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:22:34

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	703	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.9	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	661	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	661	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	352	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	352	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	5.9	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:23:17

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	778	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	6.5	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	731	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	731	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	389	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	389	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	6.5	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:23:39

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	449	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	3.7	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	422	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	422	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	224	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	224	pc/h/l n
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	3.7	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:24:58

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	445	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	3.7	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	418	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	418	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	222	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	222	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	3.7	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 10:25:16

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Canyon Road (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 238 veh/h
Opposing direction volume, Vo 366 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.977	0.982
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	265 pc/h	405 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	3.9	mi/h
Average travel speed, ATSD	50.9	mi/h
Percent Free Flow Speed, PFFS	84.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	260 pc/h	400 pc/h
Base percent time-spent-following, (note-4) BPTSFD	31.1 %	
Adjustment for no-passing zones, fnp	50.2	
Percent time-spent-following, PTSFD	50.9 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.16	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	48	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1669	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1669	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	50.9	mi/h
Percent time-spent-following, PTSFD (from above)	50.9	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	258.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.30
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
 E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
 Agency/Co.
 Date Performed 5/30/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Canyon Road (SB)
 From/To
 Jurisdiction
 Analysis Year Cumulative (2040)
 Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 366 veh/h
 Opposing direction volume, Vo 238 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.982	0.977
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	405 pc/h	265 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	4.1	mi/h
Average travel speed, ATSD	50.7	mi/h
Percent Free Flow Speed, PFFS	84.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	0.994	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	400	260	pc/h
Base percent time-spent-following, (note-4) BPTSFD	39.2	%	
Adjustment for no-passing zones, fnp	50.2		
Percent time-spent-following, PTSFD	69.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.24	
Peak 15-min vehicle-miles of travel, VMT15	20	veh-mi
Peak-hour vehicle-miles of travel, VMT60	73	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1661	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1661	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	50.7	mi/h
Percent time-spent-following, PTSFD (from above)	69.6	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	397.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.52
Bicycle LOS	D

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Canyon Road (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 231 veh/h
Opposing direction volume, Vo 206 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.977	0.971
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	257 pc/h	231 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	4.2	mi/h
Average travel speed, ATSD	52.1	mi/h
Percent Free Flow Speed, PFFS	86.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	253 pc/h	225 pc/h
Base percent time-spent-following, (note-4) BPTSFD	27.1 %	
Adjustment for no-passing zones, fnp	60.4	
Percent time-spent-following, PTSFD	59.1 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	46	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1651	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1651	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	52.1	mi/h
Percent time-spent-following, PTSFD (from above)	59.1	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	251.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.29
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Canyon Road (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040)
Description Redding Rancheria

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 206 veh/h
Opposing direction volume, Vo 231 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.971	0.977
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	231 pc/h	257 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	4.1	mi/h
Average travel speed, ATSD	52.1	mi/h
Percent Free Flow Speed, PFFS	86.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	0.994	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	225	253	pc/h
Base percent time-spent-following, (note-4) BPTSFD	25.2	%	
Adjustment for no-passing zones, fnp	60.4		
Percent time-spent-following, PTSFD	53.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.14	
Peak 15-min vehicle-miles of travel, VMT15	11	veh-mi
Peak-hour vehicle-miles of travel, VMT60	41	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1661	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1661	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	52.1	mi/h
Percent time-spent-following, PTSFD (from above)	53.6	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	223.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.23
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Segment Inputs				2025														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
	Length (ft)	Number of Lanes (N)	Interchange Density (I/mi)	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
Northbound	Deschutes Rd to Balls Ferry Rd	200	2	3.00	2,384	1,800	1334.52	67.3	65	64.9392	20.55	C	1007.609	67.3	65	62.8167	16.0	B
	Balls Ferry Rd Off to North St On	4000	2	3.00	1,823	1,427	1020.48	67.3	65	62.9576	16.209	B	798.8098	67.3	65	59.8749	13.341	B
	North St to Riverside Ave	200	2	3.00	2,194	1,661	1228.16	67.3	65	64.5813	19.017	C	929.7989	67.3	65	61.865	15.029	B
Southbound	Riverside Ave to North St	490	2	3.00	3,210	2,375	1796.9	67.3	65	62.7662	28.628	D	1329.484	67.3	65	64.9295	20.476	C
	North St Off to Balls Ferry On	4100	2	3.00	2,787	2,118	1560.11	67.3	65	64.6365	24.137	C	1185.62	67.3	65	64.3483	18.425	C
	Balls Ferry Rd to Deschutes Rd	130	2	3.00	3,270	2,504	1830.49	67.3	65	62.3721	29.348	D	1401.696	67.3	65	65	21.565	C
Universal Inputs:																		
PHF 0.92																		
(P _t) 6%																		
F _{HV} 0.970873786																		

Segment Inputs				2025																															
				Friday PM Flow Inputs			AM LOS Performance Measures										Saturday PM Flow Inputs			PM LOS Performance Measures															
Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L)	Ramp	Downstream Volume (D)	Upstream Volume (F)	Volume (R)	v_0	v_1	v_2	w_1/S_{20}	P_{20}	v_{12}	Capacity	v_3	v_{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Volume (R)	v_0	v_1	v_2	v_3	w_1/S_{20}	P_{20}	v_{12}	Capacity	v_3	v_{12a}	w/c	D	LOS	
(ft)	(ft)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	
2	1	300		2194	1823	371	2456	2041	415	58	1	2041	4800	0	1531	2041	0.5117	22.562	C	1661	1427	234	1860	1598	262	46	1	1597.6	4800	0	1198	1598	0.3874	17.978	B
2	1	300		3270	2787	483	3661	3120	541	89	1	3120.2	4800	0	2340	3120	0.7627	31.901	D	2504	2118	386	2803	2371	432	68	1	2371.2	4800	0	1778	2371	0.584	25.262	C

Length 1500 (ft)
 v_0 70 (mph)
 v_1 35 (mph)
 v_2 0.92
 P_{20} 0%
 P_{10} 0%
 P_{5} 0%

Segment Inputs				AM Flow Inputs															PM Flow Inputs			PM LOS Performance Measures												
	Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L _d)	Downstream Volume	Upstream Volume	Ramp Volume	V ₀	V ₁	V ₂	P _{TD}	V ₁₂	Capacity	V ₂	V _{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	P _{TD}	V ₁₂	Capacity	V ₂	V _{12a}	w/c	D	LOS			
							(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)				(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)
☒ Balls Ferry Rd Off	2	1	345	300	1823	2384	561	473.576	2669	628.08	1	2669	4800	0	2002	2669	0.5561	24.506	C	1427	1800	373	287.728	2015.2	417.6	1	2015.2	4800	0	1511	2015	0.4198	18.883	B
☒ North Rd Off	2	1	0	150	2787	3210	423	0	3593.8	473.58	1	3593.8	4800	0	2695	3594	0.7487	33.809	D	2118	2375	257	0	2659	287.73	1	2659	4800	0	1994	2659	0.554	25.769	C

kmg 1500
 L_d 75 (m)
 P_{TD} 0.92
 P_{TD} 0%
 P_{TD} 0.970872786

Segment Inputs				2040														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
	Length (ft)	Number of Lanes (N)	Interchange Density (I/mi)	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
Northbound	Deschutes Rd to Balls Ferry Rd	200	3	3.00	2,870	2,286	1071.05	67.3	65	63.4656	16.876	B	853.1087	67.3	65	60.7589	14.0	B
	Balls Ferry Rd Off to North St On	4000	3	3.00	2,205	1,844	822.88	67.3	65	60.2771	13.652	B	688.1594	67.3	65	57.8148	11.903	B
	North St to Riverside Ave	200	3	3.00	2,620	2,111	977.754	67.3	65	62.4718	15.651	B	787.8007	67.3	65	59.6855	13.199	B
Southbound	Riverside Ave to North St	490	3	3.00	3,882	3,061	1448.72	67.3	65	64.9663	22.3	C	1142.33	67.3	65	64.0585	17.833	B
	North St Off to Balls Ferry On	4100	3	3.00	3,405	2,770	1270.71	67.3	65	64.763	19.621	C	1033.732	67.3	65	63.0977	16.383	B
	Balls Ferry Rd to Deschutes Rd	130	3	3.00	4,065	3,299	1517.01	67.3	65	64.8059	23.409	C	1231.149	67.3	65	64.5957	19.059	C
Universal Inputs:																		
PHF 0.92																		
(P _t) 6%																		
FHV 0.970873786																		

Segment Inputs				2040																															
				Friday PM Flow Inputs			AM LOS Performance Measures										Saturday PM Flow Inputs			PM LOS Performance Measures															
Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L _a)	Ramp	Downstream Volume (D)	Upstream Volume (F)	Volume (R)	v ₀	v ₁	v ₂	w ₁ /S ₂₀	P ₂₀	v ₁₂	Capacity	v ₁	v ₁₂	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Volume (R)	v ₀	v ₁	v ₂	w ₁ /S ₂₀	P ₂₀	v ₁₂	Capacity	v ₁	v ₁₂	w/c	D	LOS		
(ft)	(ft)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	
3	1	300		2620	2205	415	2933	2469	465	71	0.5859	1446.4	7200	511	1085	1446	0.4074	18.286	B	2111	1844	267	2363	2064	299	59	0.5859	1209.6	7200	427	907	1210	0.3283	15.223	B
3	1	300		4065	3405	660	4551	3812	739	109	0.5859	2233.5	7200	789	1675	2234	0.6321	26.439	C	3299	2770	529	3693	3101	592	89	0.5859	1817	7200	642	1363	1817	0.513	22.114	C

Length 1500 (ft)
 v₀ 70 (mi/h)
 v₁ 35 (mi/h)
 v₂ 0.92 (mi/h)
 P₂₀ 0%
 P₅₀ 0%
 P₈₀ 0.970873786

Segment Inputs				2040																														
				AM Flow Inputs													PM Flow Inputs			PM LOS Performance Measures														
	Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L _d)	Downstream Volume	Upstream Volume	Ramp Volume	V ₀	V ₁	V ₂	P _D	V ₁₂	Capacity	V ₃	V _{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	P _D	V ₁₂	Capacity	V ₃	V _{12a}	w/c	D	LOS			
																																(ft)	(veh/h)	(veh/h)
Ball's Ferry Rd Off	3	1	422	300	2205	2870	665	534.033	3213.2	744.51	0.436	1820.8	7200	696	1366	1821	0.4463	17.211	B	1844	2286	442	325.793	2559.3	494.85	0.436	1395	7200	582	1046	1395	0.3555	13.549	B
North Rd Off	3	1	0	150	3405	3882	477	0	4346.2	534.03	0.436	2196.1	7200	2150	1647	0	0.6036	2.902	A	2770	3061	291	0	3427	325.79	0.436	1677.9	7200	1749	1258	0	0.476	2.902	A
Input Values: k=1500 (ft) v=75 (mph) f=35 (mph) p=0.92 g=32.2 (ft/s²) t=0.9708737186																																		

Segment Inputs				2025														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
	Length (ft)	Number of Lanes (N)	Interchange Density (I/mi)	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
Southbound Northbound	Smith Rd to Bonnyview Rd	2400	2	0.33	2,264	1,685	1267.35	74.12	75	74.2088	17.078	B	943.2337	74.12	75	74.9643	12.6	B
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	1,638	1,261	611.283	74.12	75	73.3273	8.3364	A	470.5906	74.12	75	71.8974	6.5453	A
	Bonnyview Rd to Cypress Ave	7000	3	0.33	2,593	1,908	967.678	74.12	75	74.9884	12.904	B	712.0435	74.12	75	74.0821	9.6115	A
	Cypress Ave to Bonnyview Rd	7000	3	0.33	3,205	2,360	1196.07	74.12	75	74.5744	16.039	B	880.7246	74.12	75	74.8425	11.768	B
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,292	1,741	855.348	74.12	75	74.7684	11.44	B	649.721	74.12	75	73.6418	8.8227	A
	Bonnyview Rd to Smith Rd	2600	2	0.33	3,183	2,221	1781.79	74.12	75	68.2341	26.113	D	1243.277	74.12	75	74.3448	16.723	B
Universal Inputs:																		
PHF 0.92																		
(P _t) 6%																		
F _{HV} 0.970873786																		

Segment Inputs				2025																															
				Friday PM Flow Inputs			AM LOS Performance Measures										Saturday PM Flow Inputs			PM LOS Performance Measures															
Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L _a)	Ramp	Downstream Volume (D)	Upstream Volume (F)	Volume (R)	V ₀	V ₁	V ₂	V ₃	V ₄ /S ₂₀	P ₂₀	V ₁₂	Capacity	V ₁	V _{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Volume (R)	V ₀	V ₁	V ₂	V ₃	V ₄ /S ₂₀	P ₂₀	V ₁₂	Capacity	V ₁	V _{12a}	w/c	D	LOS
(ft)	(ft)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)
3	1	430		3548	2593	955	3972	2903	1069	83	0.5895	1711.5	7200	596	1284	1711	0.5517	23.976	C	2555	1908	647	2860	2136	724	61	0.5895	1259.3	7200	438	945	1259	0.3973	17.919	B
3	1	380		4074	3183	891	4561	3564	998	102	0.5881	2095.9	7200	734	1572	2096	0.6335	26.762	C	2701	2221	480	3024	2487	537	71	0.5881	1462.4	7200	512	1097	1462	0.42	18.444	B

Length 1500 (ft)
 V₀ 70 (mi/h)
 V₁ 35 (mi/h)
 P₂₀ 0.92
 P₂₀ 0.96
 P₂₀ 0.970873786

Segment Inputs		2025																																
		AM Flow Inputs										PM Flow Inputs			PM LOS Performance Measures																			
Number of Lanes	Number of Ramp Lanes	L_{10}	Length of Deceleration Lane (L_d)	Downstream Volume	Upstream Volume	Ramp Volume	V_0	V_1	V_6	P_{10}	V_{12}	Capacity	V_5	V_{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V_0	V_1	V_6	P_{10}	V_{12}	Capacity	V_5	V_{12a}	w/c	D	LOS			
(N)	(N)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(veh/h)	(veh/h)	(veh/h)	(pc/mi/h)	(ft)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(veh/h)	(veh/h)	(veh/h)	(pc/mi/h)	(ft)	(ft)	(ft)	
Bonnyview Rd Off	3	1	832	180	1012	1638	626	1022.16	1833.8	700.85	0.436	1194.8	7200	320	896	1195	0.2547	12.908	B	837	1261	424	693.011	1411.8	474.7	0.436	883.26	7200	264	662	883	0.1961	10.228	B
Bonnyview Rd Off	3	1	-	180	1379	2292	913	-	2566	1022.2	0.6488	2023.9	7200	542	1518	2024	0.3564	20.037	C	1122	1741	619	-	1949.2	693.01	0.6794	1546.4	7200	403	1160	1546	0.2707	15.931	B

kmg 1500
 μ 75
 μ 35
 μ 0.92
 μ 0.8
 μ 0.970872786

Segment Inputs				2040														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
	Length (ft)	Number of Lanes (N)	Interchange Density (I/mi)	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
Southbound Northbound	Smith Rd to Bonnyview Rd	2400	3	0.33	2,724	2,156	1016.57	74.12	75	74.997	13.555	B	804.5942	74.12	75	74.5773	10.8	A
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	1,968	1,645	734.435	74.12	75	74.2193	9.8955	A	613.8949	74.12	75	73.3497	8.3694	A
	Bonnyview Rd to Cypress Ave	7000	3	0.33	3,108	2,423	1159.87	74.12	75	74.7171	15.523	B	904.2355	74.12	75	74.8985	12.073	B
	Cypress Ave to Bonnyview Rd	7000	3	0.33	3,854	3,009	1438.27	74.12	75	72.8737	19.736	C	1122.924	74.12	75	74.8327	15.006	B
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,861	2,334	1067.69	74.12	75	74.9493	14.246	B	871.0217	74.12	75	74.8158	11.642	B
	Bonnyview Rd to Smith Rd	2600	3	0.33	3,912	2,899	1459.91	74.12	75	72.6585	20.093	C	1081.873	74.12	75	74.9258	14.439	B
Universal Inputs:																		
PHF 0.92																		
(P _t) 6%																		
F _{HV} 0.970873786																		

Segment Inputs				2040																															
				Friday PM Flow Inputs					AM LOS Performance Measures								Saturday PM Flow Inputs					PM LOS Performance Measures													
	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_0	v_1	v_2	w/S_{20}	P_{20}	v_{12}	Capacity	v_1	v_{12}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_0	v_1	v_2	w/S_{20}	P_{20}	v_{12}	Capacity	v_1	v_{12}	w/c	D	LOS		
(ft)			(ft)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)		
Bonnyview Rd On Ramp	3	1	430	3864	2724	1140	4326	3050	1276	87	0.5895	1797.9	7200	626	1348	1798	0.6008	26.171	C	3201	2423	778	3584	2713	871	78	0.5895	1599.2	7200	557	1199	1599	0.4977	21.646	C
Bonnyview Rd On Ramp	3	1	380	4905	3854	1051	5491	4315	1177	123	0.5881	2537.7	7200	889	1903	2538	0.7627	31.523	D	3464	2899	565	3878	3246	633	93	0.5881	1908.9	7200	668	1432	1909	0.5386	22.625	C

Segment Inputs

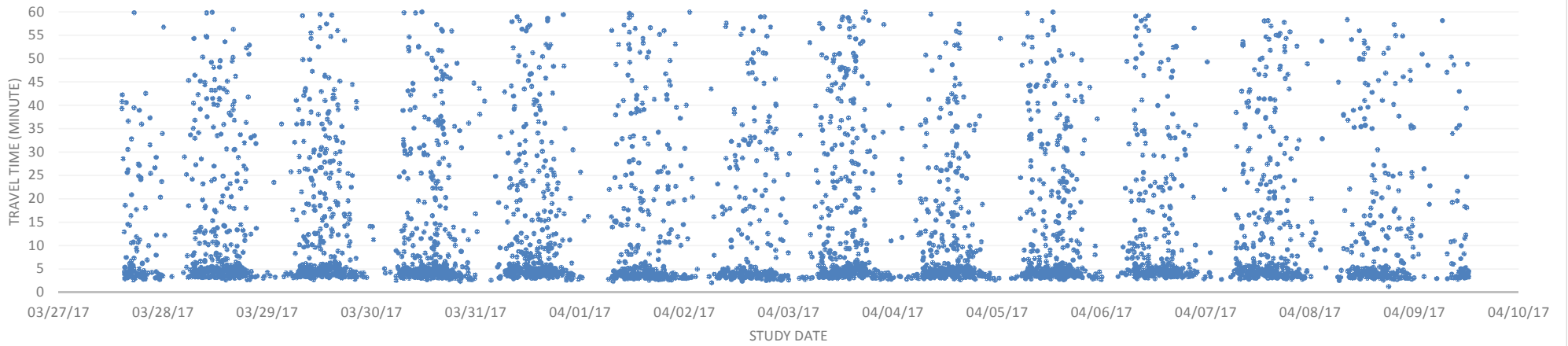
Length 1500 (ft)
 L₁ 70 (m/h)
 L₂ 35 (m/h)
 P₂₀ 0.92
 P₂₀ 0%
 P₂₀ 0.970873786

Segment Inputs				AM Flow Inputs																	PM Flow Inputs			PM LOS Performance Measures										
	Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L _d)	Downstream Volume	Upstream Volume	Ramp Volume	V ₀	V ₁	V ₂	P _{TD}	V ₁₂	Capacity	V ₃	V _{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	P _{TD}	V ₁₂	Capacity	V ₃	V _{12a}	w/c	D	LOS			
																																(ft)	(veh/h)	(veh/h)
Bonnyview Rd Off	3	1	1021	180	1968	2724	756	1111.73	3049.7	846.39	0.436	1807	7200	621	1355	1807	0.4236	18.172	B	1134	1645	511	755.707	1841.7	572.1	0.436	1125.6	7200	358	844	1126	0.2558	12.312	B
Bonnyview Rd Off	3	1	-	180	2861	3854	993	-	4314.8	1111.7	0.601	3036.7	7200	1278	2278	3037	0.5993	28.748	D	1659	2334	675	-	2613.1	755.71	0.6599	1981.4	7200	632	1486	1981	0.3629	19.672	B

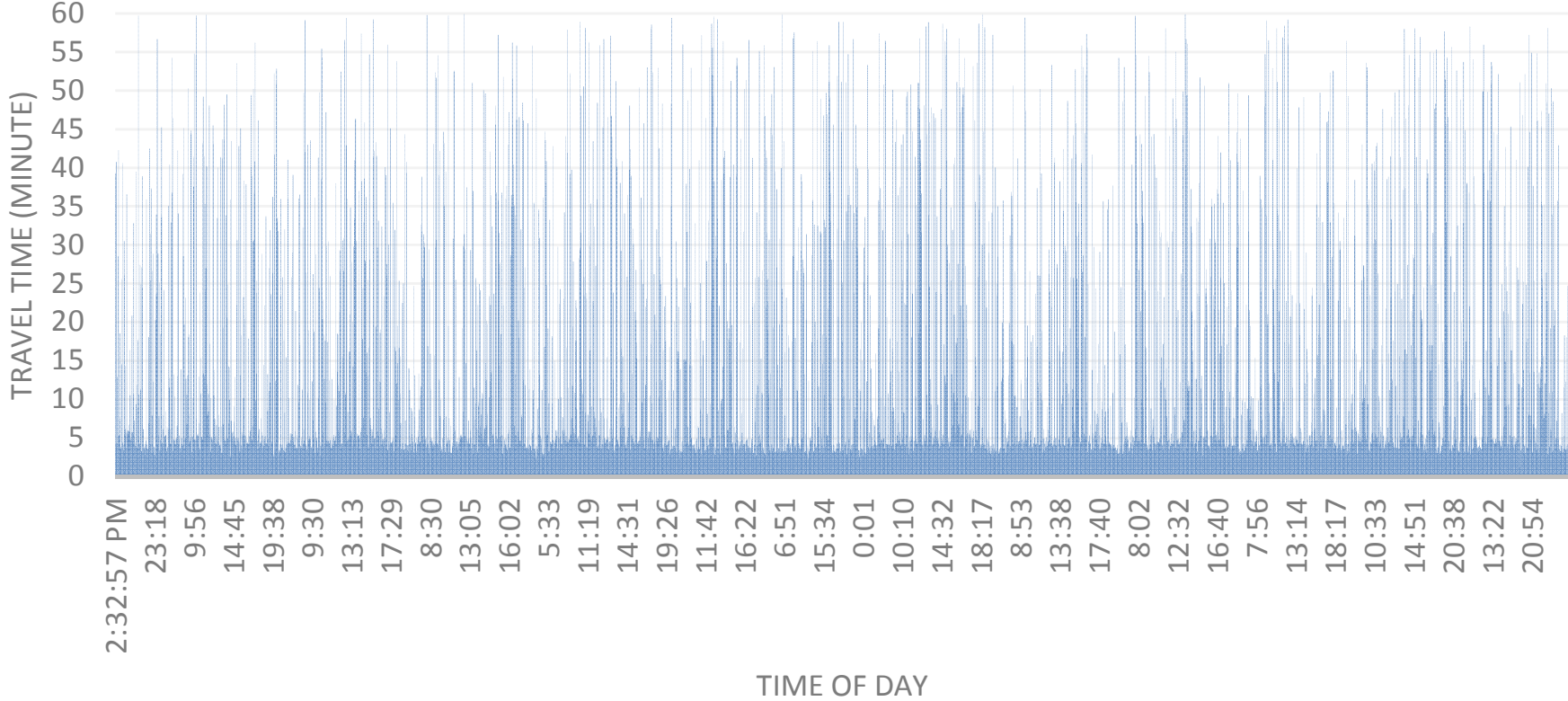
kmg 1500
 L_d 75
 P_{TD} 35
 P_{TD} 0.92
 P_{TD} 0%
 P_{TD} 0.970872786

ORIGIN DESTINATION RESULTS

Travel Time Plot By Date

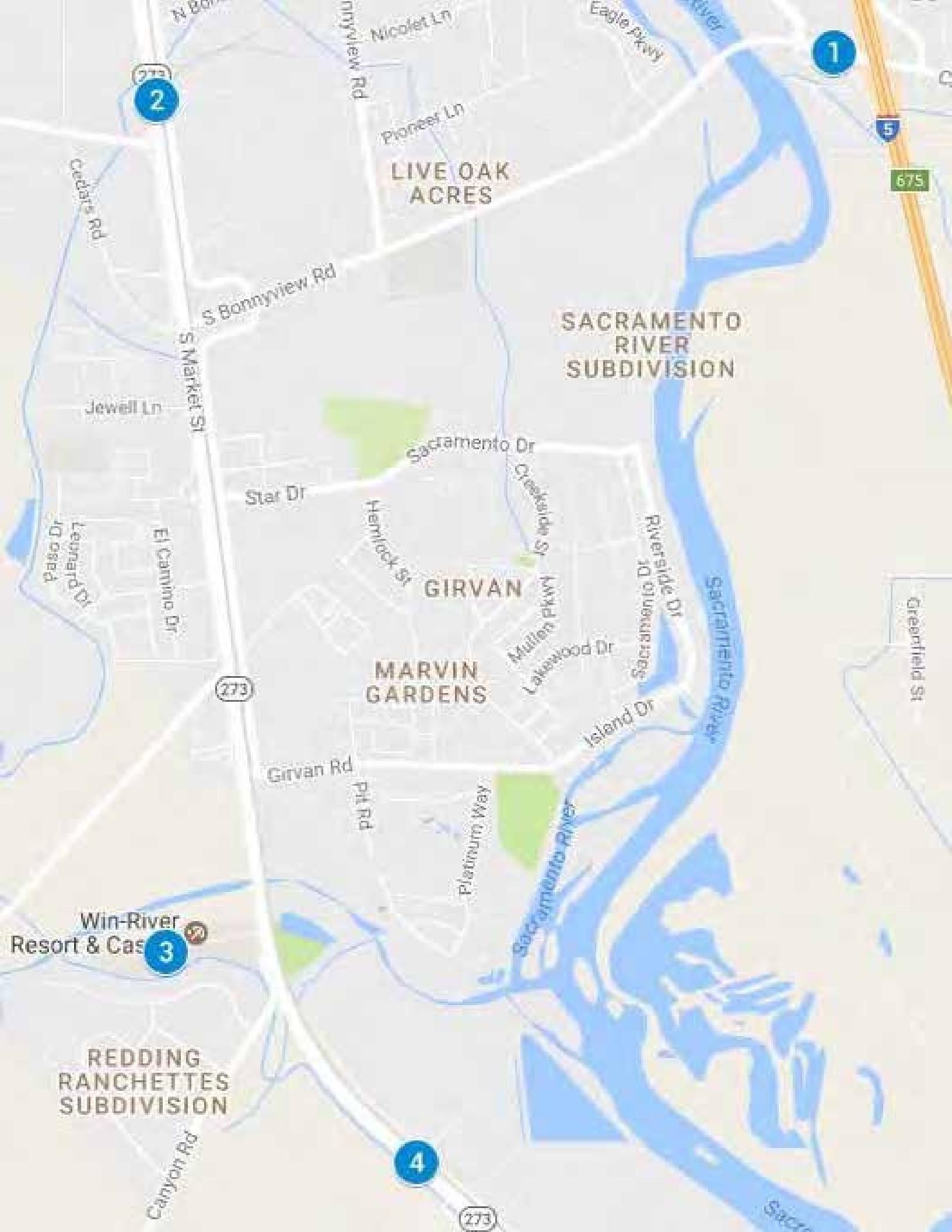


Travel Time Plot By Hour



Route Utilization

Route Information	Route Information		Travel Time (MM:SS)			
	Route Name	Volume	Share	Min	Mean	SD
From [1] To [2]	4352	97.3%	01:12	12:53	14:30	59:57
From [1] -> [4] To [2]	68	1.5%	11:14	38:32	12:37	59:37
From [1] -> [03A] To [2]	31	0.7%	11:14	32:20	13:05	59:43
From [1] -> [03B] To [2]	6	0.1%	14:37	36:08	17:28	56:02
From [1] -> [03A] -> [4] To [2]	5	0.1%	25:25	34:53	09:02	45:16
From [1] -> [03B] -> [03A] To [2]	5	0.1%	16:30	36:19	17:21	52:52
From [1] -> [03A] -> [03B] To [2]	3	0.1%	11:42	22:54	10:55	33:30
From [1] -> [4] -> [03B] -> [03A] To [2]	2	0.0%	25:25	25:37	00:17	25:49
From [1] -> [4] -> [03A] To [2]	1	0.0%	32:46	32:46	-	32:46



2

1

5

675

LIVE OAK ACRES

SACRAMENTO RIVER SUBDIVISION

GIRVAN

MARVIN GARDENS

REDDING RANCHETTES SUBDIVISION

3

4

273

273

Win-River Resort & Cas

2

Greenfield St

Canyon Rd

Pitt Rd

Platinum Way

Island Dr

Sacramento River

Sacramento River

Riverside Dr

Lakewood Dr

Mullen Pl

Crestside St

Sacramento Dr

Hemlock St

Star Dr

El Camino Dr

Paseo Dr

Leonard Dr

Jewell Ln

S Market St

S Bonnyview Rd

Pioneer Ln

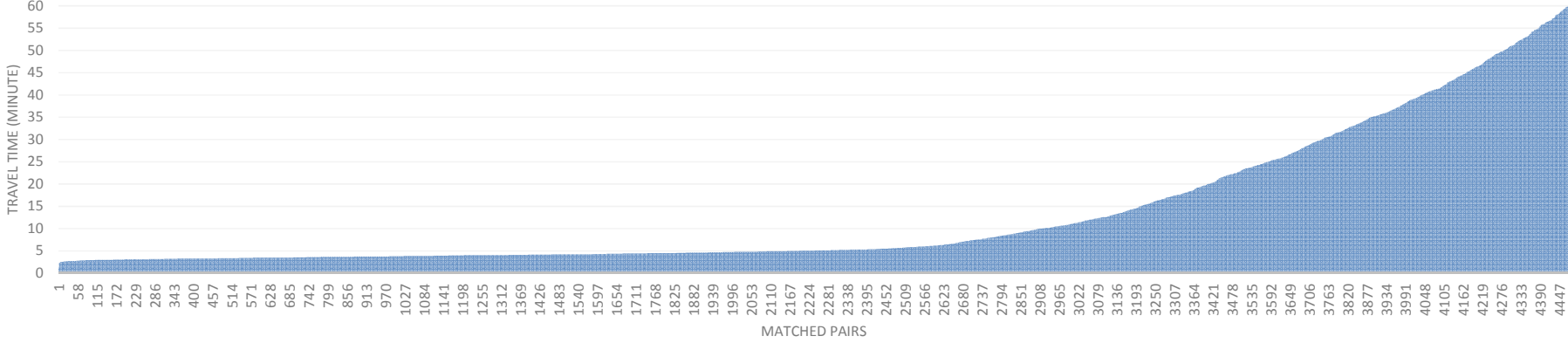
Nicolet Ln

Bonnyview Rd

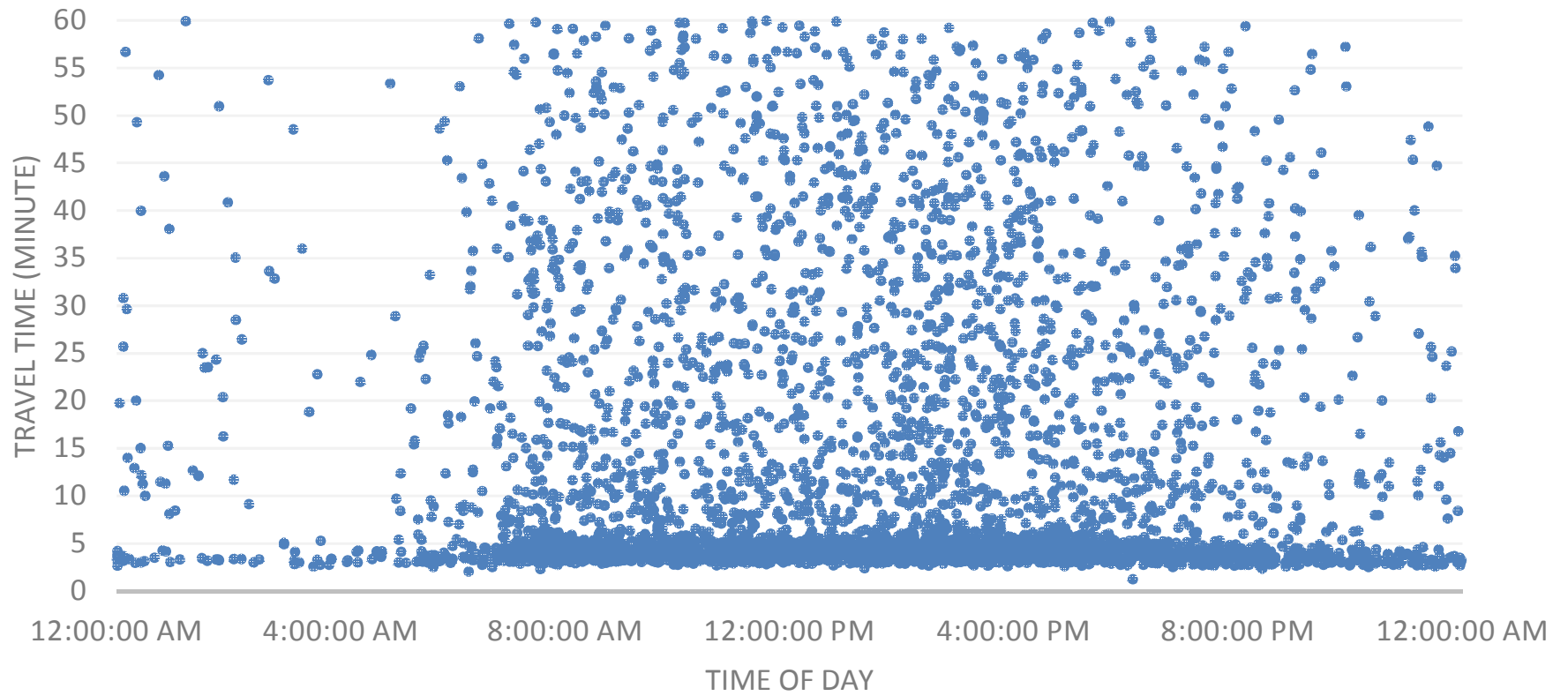
Eagle Pkwy

N Bonnyview Rd

Travel Time Frequency Plot



Travel Time Plot By Hour



OPENING YEAR (2025) PLUS PROJECT ANALYSIS

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	472	80	288	55	397	352	432	677	9
Future Volume (veh/h)	10	83	68	472	80	288	55	397	352	432	677	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	513	256	200	60	432	383	470	736	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	306	137	681	493	419	337	1073	480	602	1020	456
Arrive On Green	0.01	0.09	0.09	0.19	0.26	0.26	0.19	0.30	0.30	0.17	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	513	256	200	60	432	383	470	736	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.6	2.9	9.0	7.7	7.0	1.9	6.4	14.6	8.6	12.3	0.3
Cycle Q Clear(g_c), s	0.4	1.6	2.9	9.0	7.7	7.0	1.9	6.4	14.6	8.6	12.3	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	306	137	681	493	419	337	1073	480	602	1020	456
V/C Ratio(X)	0.45	0.29	0.54	0.75	0.52	0.48	0.18	0.40	0.80	0.78	0.72	0.02
Avail Cap(c_a), veh/h	148	2180	975	810	1417	1204	337	1696	759	890	2315	1036
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	28.1	28.8	25.1	20.6	20.3	22.3	18.2	21.1	25.9	21.0	16.8
Incr Delay (d2), s/veh	12.2	0.5	3.3	3.3	0.8	0.8	0.3	0.2	3.2	2.7	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.4	4.7	4.0	3.2	0.9	3.2	6.8	4.3	6.1	0.1
LnGrp Delay(d),s/veh	44.4	28.7	32.1	28.4	21.5	21.2	22.6	18.4	24.3	28.6	22.0	16.8
LnGrp LOS	D	C	C	C	C	C	C	B	C	C	C	B
Approach Vol, veh/h		175			969			875			1216	
Approach Delay, s/veh		31.1			25.1			21.3			24.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	23.9	16.6	9.7	16.5	23.0	4.9	21.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	10.6	16.6	11.0	4.9	3.9	14.3	2.4	9.7				
Green Ext Time (p_c), s	0.9	3.3	1.6	0.7	0.4	4.7	0.0	4.3				
Intersection Summary												
HCM 2010 Ctrl Delay			24.2									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1049	5	10	1105	216	10	15	10	341	5	39
Future Volume (veh/h)	45	1049	5	10	1105	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1140	5	11	1201	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1697	7	24	1554	695	205	289	174	529	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3614	16	1774	3539	1583	403	843	508	1257	17	142
Grp Volume(v), veh/h	49	558	587	11	1201	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1754	0	0	1416	0	0
Q Serve(g_s), s	1.9	16.8	16.8	0.4	19.9	6.7	0.0	0.0	0.0	17.9	0.0	0.0
Cycle Q Clear(g_c), s	1.9	16.8	16.8	0.4	19.9	6.7	1.0	0.0	0.0	18.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	78	831	873	24	1554	695	668	0	0	584	0	0
V/C Ratio(X)	0.63	0.67	0.67	0.45	0.77	0.34	0.06	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	129	831	873	129	1643	735	1073	0	0	937	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.4	14.2	14.2	33.7	16.4	12.7	15.2	0.0	0.0	21.0	0.0	0.0
Incr Delay (d2), s/veh	7.9	2.1	2.0	12.4	2.2	0.3	0.0	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.7	9.1	0.3	10.2	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	40.3	16.3	16.2	46.1	18.6	13.0	15.3	0.0	0.0	22.6	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h		1194			1447			38			418	
Approach Delay, s/veh		17.2			17.9			15.3			22.6	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.6	4.9	36.4		27.6	7.0	34.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.0	2.4	18.8		20.9	3.9	21.9				
Green Ext Time (p_c), s		3.1	0.0	11.0		2.7	0.0	8.4				
Intersection Summary												
HCM 2010 Ctrl Delay				18.3								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 15.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	198	443	399	73	75	157
Future Vol, veh/h	198	443	399	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	482	434	79	82	171

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	513	0	0	1385	473
Stage 1	-	-	-	473	-
Stage 2	-	-	-	912	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1052	-	-	158	591
Stage 1	-	-	-	627	-
Stage 2	-	-	-	392	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1052	-	-	126	591
Mov Cap-2 Maneuver	-	-	-	126	-
Stage 1	-	-	-	627	-
Stage 2	-	-	-	312	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	80.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1052	-	-	-	269
HCM Lane V/C Ratio	0.205	-	-	-	0.937
HCM Control Delay (s)	9.3	-	-	-	80.8
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	8.7

Intersection

Int Delay, s/veh 10.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	375	163	128	45	40	311
Future Vol, veh/h	375	163	128	45	40	311
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	408	177	139	49	43	338

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	188	0	0	1156	164
Stage 1	-	-	-	164	-
Stage 2	-	-	-	992	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1386	-	-	217	881
Stage 1	-	-	-	865	-
Stage 2	-	-	-	359	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1386	-	-	153	881
Mov Cap-2 Maneuver	-	-	-	153	-
Stage 1	-	-	-	865	-
Stage 2	-	-	-	253	-

Approach

	EB	WB	SB
HCM Control Delay, s	6	0	23.1
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	571
HCM Lane V/C Ratio	0.294	-	-	-	0.668
HCM Control Delay (s)	8.7	-	-	-	23.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.2	-	-	-	5

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	16	3	8	115	140	31
Future Vol, veh/h	16	3	8	115	140	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	3	9	125	152	34

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	311	169	186	0	0
Stage 1	169	-	-	-	-
Stage 2	142	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	681	875	1388	-	-
Stage 1	861	-	-	-	-
Stage 2	885	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	676	875	1388	-	-
Mov Cap-2 Maneuver	676	-	-	-	-
Stage 1	861	-	-	-	-
Stage 2	879	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1388	-	701	-	-
HCM Lane V/C Ratio	0.006	-	0.029	-	-
HCM Control Delay (s)	7.6	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions
Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	300	57	212	35	329	270	358	368	5
Future Volume (veh/h)	0	46	54	300	57	212	35	329	270	358	368	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	326	188	146	38	358	293	389	400	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	348	156	565	627	533	422	932	417	563	670	300
Arrive On Green	0.00	0.10	0.10	0.16	0.34	0.34	0.24	0.26	0.26	0.16	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	326	188	146	38	358	293	389	400	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.7	1.8	4.3	3.8	1.8	0.8	4.2	8.5	5.4	5.2	0.1
Cycle Q Clear(g_c), s	0.0	0.7	1.8	4.3	3.8	1.8	0.8	4.2	8.5	5.4	5.2	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	348	156	565	627	533	422	932	417	563	670	300
V/C Ratio(X)	0.00	0.14	0.38	0.58	0.30	0.27	0.09	0.38	0.70	0.69	0.60	0.02
Avail Cap(c_a), veh/h	192	2826	1264	1049	1837	1561	422	2198	983	1154	3001	1343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.9	21.4	19.7	12.4	3.3	15.1	15.3	16.9	20.0	18.8	13.6
Incr Delay (d2), s/veh	0.0	0.2	1.5	0.9	0.3	0.3	0.1	0.3	2.2	1.5	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.8	2.2	2.0	1.3	0.4	2.1	3.9	2.7	2.6	0.1
LnGrp Delay(d),s/veh	0.0	21.1	22.9	20.7	12.7	3.5	15.2	15.6	19.1	21.5	19.6	13.6
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			660			689			794	
Approach Delay, s/veh		22.1			14.6			17.0			20.5	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	17.3	12.1	9.0	16.0	13.6	0.0	21.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.4	10.5	6.3	3.8	2.8	7.2	0.0	5.8				
Green Ext Time (p_c), s	0.9	2.9	1.8	0.4	0.4	2.4	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			17.8									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	785	5	10	756	118	10	15	10	121	0	25
Future Volume (veh/h)	19	785	5	10	756	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	853	5	11	822	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1888	11	26	1811	810	157	156	80	354	5	39
Arrive On Green	0.03	0.52	0.52	0.01	0.51	0.51	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3607	21	1774	3539	1583	252	973	499	1174	33	247
Grp Volume(v), veh/h	21	418	440	11	822	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1724	0	0	1453	0	0
Q Serve(g_s), s	0.5	5.9	5.9	0.2	5.9	1.7	0.0	0.0	0.0	3.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	5.9	5.9	0.2	5.9	1.7	0.7	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	926	973	26	1811	810	393	0	0	399	0	0
V/C Ratio(X)	0.45	0.45	0.45	0.43	0.45	0.16	0.10	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	223	1426	1499	223	2853	1276	1803	0	0	1628	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.1	5.9	5.9	19.4	6.2	5.2	14.3	0.0	0.0	15.6	0.0	0.0
Incr Delay (d2), s/veh	6.8	0.3	0.3	11.1	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.9	3.0	0.2	2.8	0.8	0.4	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	25.9	6.3	6.2	30.5	6.3	5.2	14.4	0.0	0.0	16.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		879			961			38			159	
Approach Delay, s/veh		6.7			6.5			14.4			16.3	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.4	4.6	24.8		10.4	5.0	24.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		2.7	2.2	7.9		6.0	2.5	7.9				
Green Ext Time (p_c), s		1.2	0.0	12.4		1.2	0.0	12.4				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								

Intersection						
Int Delay, s/veh	5.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	124	235	305	32	52	163
Future Vol, veh/h	124	235	305	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	255	332	35	57	177

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	366	0	-	0	874 349
Stage 1	-	-	-	-	349 -
Stage 2	-	-	-	-	525 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1193	-	-	-	320 694
Stage 1	-	-	-	-	714 -
Stage 2	-	-	-	-	593 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1193	-	-	-	284 694
Mov Cap-2 Maneuver		-	-	-	284 -
Stage 1		-	-	-	714 -
Stage 2		-	-	-	526 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	17.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1193	-	-	-	514
HCM Lane V/C Ratio	0.113	-	-	-	0.455
HCM Control Delay (s)	8.4	-	-	-	17.7
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.3

Intersection

Int Delay, s/veh 6.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	219	82	86	27	22	223
Future Vol, veh/h	219	82	86	27	22	223
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	238	89	93	29	24	242

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	123	0	-	0	673
Stage 1	-	-	-	-	108
Stage 2	-	-	-	-	565
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1464	-	-	-	421
Stage 1	-	-	-	-	916
Stage 2	-	-	-	-	569
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1464	-	-	-	353
Mov Cap-2 Maneuver	-	-	-	-	353
Stage 1	-	-	-	-	916
Stage 2	-	-	-	-	476

Approach	EB	WB	SB
HCM Control Delay, s	5.8	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	822
HCM Lane V/C Ratio	0.163	-	-	-	0.324
HCM Control Delay (s)	7.9	-	-	-	11.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.4

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	12	7	3	68	84	20
Future Vol, veh/h	12	7	3	68	84	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	8	3	74	91	22

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	182	102	113	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	80	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	807	953	1476	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	943	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	805	953	1476	-	-	-
Mov Cap-2 Maneuver	805	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	941	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	854	-	-
HCM Lane V/C Ratio	0.002	-	0.024	-	-
HCM Control Delay (s)	7.4	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
 1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions
 Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	464	80	271	55	397	345	417	677	9
Future Volume (veh/h)	10	83	68	464	80	271	55	397	345	417	677	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	504	243	191	60	432	375	453	736	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	310	139	680	494	420	321	1063	475	589	1028	460
Arrive On Green	0.01	0.09	0.09	0.19	0.27	0.27	0.18	0.30	0.30	0.17	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	504	243	191	60	432	375	453	736	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.5	2.9	8.6	7.1	6.5	1.8	6.2	13.9	8.1	12.0	0.3
Cycle Q Clear(g_c), s	0.4	1.5	2.9	8.6	7.1	6.5	1.8	6.2	13.9	8.1	12.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	310	139	680	494	420	321	1063	475	589	1028	460
V/C Ratio(X)	0.45	0.29	0.53	0.74	0.49	0.45	0.19	0.41	0.79	0.77	0.72	0.02
Avail Cap(c_a), veh/h	152	2234	999	830	1452	1234	321	1738	777	912	2372	1061
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	27.4	28.0	24.4	19.9	19.7	22.3	17.9	20.6	25.4	20.4	16.3
Incr Delay (d2), s/veh	12.2	0.5	3.2	2.9	0.8	0.8	0.3	0.3	3.0	2.1	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.4	4.5	3.7	2.9	0.9	3.1	6.4	4.0	6.0	0.1
LnGrp Delay(d),s/veh	43.6	27.9	31.2	27.3	20.7	20.5	22.5	18.1	23.5	27.5	21.3	16.3
LnGrp LOS	D	C	C	C	C	C	C	B	C	C	C	B
Approach Vol, veh/h		175			938			867			1199	
Approach Delay, s/veh		30.3			24.2			20.8			23.6	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	23.3	16.3	9.6	15.6	22.6	4.9	21.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	10.1	15.9	10.6	4.9	3.8	14.0	2.4	9.1				
Green Ext Time (p_c), s	0.9	3.3	1.7	0.7	0.3	4.7	0.0	4.1				
Intersection Summary												
HCM 2010 Ctrl Delay			23.4									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1027	5	10	1080	216	10	15	10	341	5	39
Future Volume (veh/h)	45	1027	5	10	1080	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1116	5	11	1174	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1694	8	24	1552	694	206	289	174	530	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3613	16	1774	3539	1583	403	843	508	1257	17	142
Grp Volume(v), veh/h	49	547	574	11	1174	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1754	0	0	1416	0	0
Q Serve(g_s), s	1.9	16.3	16.3	0.4	19.2	6.7	0.0	0.0	0.0	17.8	0.0	0.0
Cycle Q Clear(g_c), s	1.9	16.3	16.3	0.4	19.2	6.7	1.0	0.0	0.0	18.8	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	78	830	872	24	1552	694	668	0	0	584	0	0
V/C Ratio(X)	0.62	0.66	0.66	0.45	0.76	0.34	0.06	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	129	830	872	129	1648	737	1076	0	0	940	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.3	14.0	14.0	33.6	16.2	12.7	15.2	0.0	0.0	20.9	0.0	0.0
Incr Delay (d2), s/veh	7.9	1.9	1.8	12.4	1.9	0.3	0.0	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.3	8.7	0.3	9.7	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	40.2	15.9	15.9	46.0	18.2	13.0	15.2	0.0	0.0	22.6	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h		1170			1420			38			418	
Approach Delay, s/veh		16.9			17.5			15.2			22.6	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.5	4.9	36.2		27.5	7.0	34.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.0	2.4	18.3		20.8	3.9	21.2				
Green Ext Time (p_c), s		3.1	0.0	11.2		2.7	0.0	9.0				
Intersection Summary												
HCM 2010 Ctrl Delay				17.9								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 15.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	198	439	395	73	75	157
Future Vol, veh/h	198	439	395	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	477	429	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	509	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1056	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1056	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	78.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1056	-	-	-	271
HCM Lane V/C Ratio	0.204	-	-	-	0.931
HCM Control Delay (s)	9.3	-	-	-	78.9
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	8.6

Intersection						
Int Delay, s/veh	10.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	371	163	128	45	40	307
Future Vol, veh/h	371	163	128	45	40	307
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	403	177	139	49	43	334

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	188	0	-	0	1148
Stage 1	-	-	-	-	164
Stage 2	-	-	-	-	984
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1386	-	-	-	220
Stage 1	-	-	-	-	865
Stage 2	-	-	-	-	362
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1386	-	-	-	156
Mov Cap-2 Maneuver	-	-	-	-	156
Stage 1	-	-	-	-	865
Stage 2	-	-	-	-	257

Approach	EB	WB	SB
HCM Control Delay, s	6	0	22.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	574
HCM Lane V/C Ratio	0.291	-	-	-	0.657
HCM Control Delay (s)	8.7	-	-	-	22.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.2	-	-	-	4.8

Intersection

Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	16	3	8	115	140	31
Future Vol, veh/h	16	3	8	115	140	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	3	9	125	152	34

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	311	169	186	0	0
Stage 1	169	-	-	-	-
Stage 2	142	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	681	875	1388	-	-
Stage 1	861	-	-	-	-
Stage 2	885	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	676	875	1388	-	-
Mov Cap-2 Maneuver	676	-	-	-	-
Stage 1	861	-	-	-	-
Stage 2	879	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1388	-	701	-	-
HCM Lane V/C Ratio	0.006	-	0.029	-	-
HCM Control Delay (s)	7.6	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions
Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	284	57	179	35	329	254	324	368	5
Future Volume (veh/h)	0	46	54	284	57	179	35	329	254	324	368	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	309	162	128	38	358	276	352	400	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	365	163	548	634	539	386	909	407	530	684	306
Arrive On Green	0.00	0.10	0.10	0.15	0.34	0.34	0.22	0.26	0.26	0.15	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	309	162	128	38	358	276	352	400	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.7	3.9	3.0	1.4	0.8	4.0	7.6	4.7	5.0	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.7	3.9	3.0	1.4	0.8	4.0	7.6	4.7	5.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	365	163	548	634	539	386	909	407	530	684	306
V/C Ratio(X)	0.00	0.14	0.36	0.56	0.26	0.24	0.10	0.39	0.68	0.66	0.59	0.02
Avail Cap(c_a), veh/h	202	2969	1328	1102	1929	1640	386	2309	1033	1212	3152	1410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	19.7	20.2	18.9	11.5	3.0	15.1	14.8	16.1	19.2	17.7	12.7
Incr Delay (d2), s/veh	0.0	0.2	1.3	0.9	0.2	0.2	0.1	0.3	2.0	1.4	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.8	2.0	1.6	1.1	0.4	2.0	3.5	2.3	2.5	0.1
LnGrp Delay(d),s/veh	0.0	19.9	21.5	19.8	11.7	3.3	15.2	15.1	18.1	20.7	18.5	12.7
LnGrp LOS		B	C	B	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			599			672			757	
Approach Delay, s/veh		20.8			14.1			16.4			19.5	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	16.4	11.5	9.0	14.5	13.3	0.0	20.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.7	9.6	5.9	3.7	2.8	7.0	0.0	5.0				
Green Ext Time (p_c), s	0.9	2.8	1.7	0.4	0.4	2.4	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			17.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	735	5	10	708	118	10	15	10	121	0	25
Future Volume (veh/h)	19	735	5	10	708	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	799	5	11	770	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1839	12	26	1763	789	163	156	80	362	5	40
Arrive On Green	0.03	0.51	0.51	0.01	0.50	0.50	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3606	23	1774	3539	1583	255	969	499	1176	30	247
Grp Volume(v), veh/h	21	392	412	11	770	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1724	0	0	1453	0	0
Q Serve(g_s), s	0.4	5.3	5.3	0.2	5.3	1.7	0.0	0.0	0.0	3.2	0.0	0.0
Cycle Q Clear(g_c), s	0.4	5.3	5.3	0.2	5.3	1.7	0.7	0.0	0.0	3.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	902	948	26	1763	789	399	0	0	407	0	0
V/C Ratio(X)	0.45	0.43	0.43	0.43	0.44	0.16	0.10	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	233	1485	1560	233	2970	1329	1876	0	0	1695	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.3	5.9	5.9	18.6	6.1	5.2	13.7	0.0	0.0	15.0	0.0	0.0
Incr Delay (d2), s/veh	6.7	0.3	0.3	11.0	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.6	2.7	0.2	2.6	0.7	0.3	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	25.0	6.2	6.2	29.6	6.3	5.3	13.8	0.0	0.0	15.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		825			909			38			159	
Approach Delay, s/veh		6.7			6.5			13.8			15.6	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.1	4.5	23.4		10.1	5.0	23.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		2.7	2.2	7.3		5.9	2.4	7.3				
Green Ext Time (p_c), s		1.2	0.0	11.7		1.2	0.0	11.7				
Intersection Summary												
HCM 2010 Ctrl Delay				7.4								
HCM 2010 LOS				A								

Intersection

Int Delay, s/veh	5.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	124	226	296	32	52	163
Future Vol, veh/h	124	226	296	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	246	322	35	57	177

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	357	0	0	854	339
Stage 1	-	-	-	339	-
Stage 2	-	-	-	515	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1202	-	-	329	703
Stage 1	-	-	-	722	-
Stage 2	-	-	-	600	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1202	-	-	292	703
Mov Cap-2 Maneuver	-	-	-	292	-
Stage 1	-	-	-	722	-
Stage 2	-	-	-	533	-

Approach	EB	WB	SB
HCM Control Delay, s	3	0	17.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1202	-	-	-	524
HCM Lane V/C Ratio	0.112	-	-	-	0.446
HCM Control Delay (s)	8.4	-	-	-	17.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.3

Intersection						
Int Delay, s/veh	6.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	210	82	86	27	22	214
Future Vol, veh/h	210	82	86	27	22	214
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	228	89	93	29	24	233

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	123	0	-	0	654 108
Stage 1	-	-	-	-	108 -
Stage 2	-	-	-	-	546 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1464	-	-	-	431 946
Stage 1	-	-	-	-	916 -
Stage 2	-	-	-	-	580 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1464	-	-	-	364 946
Mov Cap-2 Maneuver	-	-	-	-	364 -
Stage 1	-	-	-	-	916 -
Stage 2	-	-	-	-	490 -

Approach	EB	WB	SB
HCM Control Delay, s	5.7	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	823
HCM Lane V/C Ratio	0.156	-	-	-	0.312
HCM Control Delay (s)	7.9	-	-	-	11.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.3

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	12	7	3	68	84	20
Future Vol, veh/h	12	7	3	68	84	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	8	3	74	91	22

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	182	102	113	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	80	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	807	953	1476	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	943	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	805	953	1476	-	-	-
Mov Cap-2 Maneuver	805	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	941	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	854	-	-
HCM Lane V/C Ratio	0.002	-	0.024	-	-
HCM Control Delay (s)	7.4	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	467	80	278	55	397	347	422	677	9
Future Volume (veh/h)	10	83	68	467	80	278	55	397	347	422	677	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	508	248	194	60	432	377	459	736	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	309	138	681	494	420	326	1065	476	594	1025	459
Arrive On Green	0.01	0.09	0.09	0.19	0.27	0.27	0.18	0.30	0.30	0.17	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	508	248	194	60	432	377	459	736	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.5	2.9	8.7	7.3	4.0	1.8	6.3	14.1	8.2	12.1	0.2
Cycle Q Clear(g_c), s	0.4	1.5	2.9	8.7	7.3	4.0	1.8	6.3	14.1	8.2	12.1	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	309	138	681	494	420	326	1065	476	594	1025	459
V/C Ratio(X)	0.45	0.29	0.54	0.75	0.50	0.46	0.18	0.41	0.79	0.77	0.72	0.02
Avail Cap(c_a), veh/h	151	2216	991	823	1440	1224	326	1724	771	905	2353	1053
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	27.6	28.3	24.6	20.1	7.1	22.3	18.0	20.7	25.5	20.6	10.7
Incr Delay (d2), s/veh	12.2	0.5	3.2	3.0	0.8	0.8	0.3	0.2	3.0	2.3	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.4	4.5	3.8	2.6	0.9	3.1	6.5	4.1	6.0	0.1
LnGrp Delay(d),s/veh	43.8	28.2	31.5	27.7	20.9	7.9	22.6	18.3	23.7	27.8	21.6	10.7
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		175			950			869			1205	
Approach Delay, s/veh		30.5			21.9			20.9			23.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.2	23.5	16.4	9.6	15.9	22.7	4.9	21.2				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	10.2	16.1	10.7	4.9	3.8	14.1	2.4	9.3				
Green Ext Time (p_c), s	0.9	3.3	1.7	0.7	0.4	4.7	0.0	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			22.8									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1034	5	10	1090	216	10	15	10	341	5	39
Future Volume (veh/h)	45	1034	5	10	1090	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1124	5	11	1185	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1695	8	24	1553	695	205	289	174	530	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3613	16	1774	3539	1583	403	843	508	1257	17	142
Grp Volume(v), veh/h	49	550	579	11	1185	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1754	0	0	1416	0	0
Q Serve(g_s), s	1.9	16.5	16.5	0.4	19.4	6.7	0.0	0.0	0.0	17.9	0.0	0.0
Cycle Q Clear(g_c), s	1.9	16.5	16.5	0.4	19.4	6.7	1.0	0.0	0.0	18.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	78	830	873	24	1553	695	668	0	0	584	0	0
V/C Ratio(X)	0.63	0.66	0.66	0.45	0.76	0.34	0.06	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	129	830	873	129	1646	736	1075	0	0	939	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.3	14.1	14.1	33.7	16.3	12.7	15.2	0.0	0.0	20.9	0.0	0.0
Incr Delay (d2), s/veh	7.9	2.0	1.9	12.4	2.1	0.3	0.0	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.4	8.8	0.3	9.8	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	40.2	16.1	16.0	46.1	18.3	13.0	15.2	0.0	0.0	22.6	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h		1178			1431			38			418	
Approach Delay, s/veh		17.0			17.7			15.2			22.6	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.6	4.9	36.3		27.6	7.0	34.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.0	2.4	18.5		20.9	3.9	21.4				
Green Ext Time (p_c), s		3.1	0.0	11.1		2.7	0.0	8.8				
Intersection Summary												
HCM 2010 Ctrl Delay				18.1								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 15.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	198	440	396	73	75	157
Future Vol, veh/h	198	440	396	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	478	430	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	510	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1055	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1055	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	78.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1055	-	-	-	271
HCM Lane V/C Ratio	0.204	-	-	-	0.931
HCM Control Delay (s)	9.3	-	-	-	78.9
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	8.6

Intersection

Int Delay, s/veh	10.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	372	163	128	45	40	308
Future Vol, veh/h	372	163	128	45	40	308
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	404	177	139	49	43	335

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	188	0	0	1150	164
Stage 1	-	-	-	164	-
Stage 2	-	-	-	986	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1386	-	-	219	881
Stage 1	-	-	-	865	-
Stage 2	-	-	-	361	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1386	-	-	155	881
Mov Cap-2 Maneuver	-	-	-	155	-
Stage 1	-	-	-	865	-
Stage 2	-	-	-	256	-

Approach	EB	WB	SB
HCM Control Delay, s	6	0	22.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	573
HCM Lane V/C Ratio	0.292	-	-	-	0.66
HCM Control Delay (s)	8.7	-	-	-	22.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.2	-	-	-	4.9

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	16	3	8	115	140	31
Future Vol, veh/h	16	3	8	115	140	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	3	9	125	152	34

























Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	311	169	186	0	0
Stage 1	169	-	-	-	-
Stage 2	142	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	681	875	1388	-	-
Stage 1	861	-	-	-	-
Stage 2	885	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	676	875	1388	-	-
Mov Cap-2 Maneuver	676	-	-	-	-
Stage 1	861	-	-	-	-
Stage 2	879	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1388	-	701	-	-
HCM Lane V/C Ratio	0.006	-	0.029	-	-
HCM Control Delay (s)	7.6	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	297	57	205	35	329	265	346	368	5
Future Volume (veh/h)	0	46	54	297	57	205	35	329	265	346	368	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	323	183	142	38	358	288	376	400	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	353	158	563	631	536	410	925	414	551	674	301
Arrive On Green	0.00	0.10	0.10	0.16	0.34	0.34	0.23	0.26	0.26	0.16	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	323	183	142	38	358	288	376	400	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.7	4.2	3.6	1.7	0.8	4.2	8.2	5.2	5.2	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.7	4.2	3.6	1.7	0.8	4.2	8.2	5.2	5.2	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	353	158	563	631	536	410	925	414	551	674	301
V/C Ratio(X)	0.00	0.14	0.37	0.57	0.29	0.26	0.09	0.39	0.70	0.68	0.59	0.02
Avail Cap(c_a), veh/h	195	2867	1282	1064	1863	1583	410	2230	997	1170	3044	1362
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.6	21.0	19.5	12.1	3.2	15.1	15.2	16.7	19.8	18.5	13.4
Incr Delay (d2), s/veh	0.0	0.2	1.5	0.9	0.3	0.3	0.1	0.3	2.1	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.8	2.1	1.9	0.8	0.4	2.1	3.8	2.6	2.6	0.1
LnGrp Delay(d),s/veh	0.0	20.7	22.5	20.4	12.4	3.5	15.2	15.4	18.8	21.3	19.3	13.4
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			648			684			781	
Approach Delay, s/veh		21.7			14.4			16.8			20.2	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	17.1	11.9	9.0	15.6	13.5	0.0	20.9				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.2	10.2	6.2	3.7	2.8	7.2	0.0	5.6				
Green Ext Time (p_c), s	0.9	2.9	1.8	0.4	0.4	2.4	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			17.6									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	768	5	10	746	118	10	15	10	121	0	25
Future Volume (veh/h)	19	768	5	10	746	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	835	5	11	811	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1876	11	26	1799	805	159	156	80	356	5	40
Arrive On Green	0.03	0.52	0.52	0.01	0.51	0.51	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3607	22	1774	3539	1583	253	972	499	1174	32	247
Grp Volume(v), veh/h	21	410	430	11	811	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1724	0	0	1453	0	0
Q Serve(g_s), s	0.5	5.7	5.7	0.2	5.7	1.7	0.0	0.0	0.0	3.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	5.7	5.7	0.2	5.7	1.7	0.7	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	920	967	26	1799	805	394	0	0	401	0	0
V/C Ratio(X)	0.45	0.45	0.45	0.43	0.45	0.16	0.10	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	226	1441	1514	226	2882	1289	1821	0	0	1644	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.9	5.9	5.9	19.2	6.2	5.2	14.2	0.0	0.0	15.5	0.0	0.0
Incr Delay (d2), s/veh	6.8	0.3	0.3	11.0	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.8	3.0	0.2	2.7	0.8	0.4	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	25.7	6.2	6.2	30.3	6.3	5.3	14.3	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		861			950			38			159	
Approach Delay, s/veh		6.7			6.5			14.3			16.1	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.3	4.6	24.4		10.3	5.0	24.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		2.7	2.2	7.7		6.0	2.5	7.7				
Green Ext Time (p_c), s		1.2	0.0	12.3		1.2	0.0	12.2				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	124	233	302	32	52	163
Future Vol, veh/h	124	233	302	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	253	328	35	57	177

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	363	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1196	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1196	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	17.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1196	-	-	-	517
HCM Lane V/C Ratio	0.113	-	-	-	0.452
HCM Control Delay (s)	8.4	-	-	-	17.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.3

Intersection

Int Delay, s/veh 6.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	217	82	86	27	22	220
Future Vol, veh/h	217	82	86	27	22	220
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	236	89	93	29	24	239

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	123	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1464	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1464	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	5.8	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	822
HCM Lane V/C Ratio	0.161	-	-	-	0.32
HCM Control Delay (s)	7.9	-	-	-	11.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.4

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑		↑
Traffic Vol, veh/h	12	7	3	68	84	20
Future Vol, veh/h	12	7	3	68	84	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	8	3	74	91	22

























Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	182	102	113	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	80	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	807	953	1476	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	943	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	805	953	1476	-	-	-
Mov Cap-2 Maneuver	805	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	941	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	854	-	-
HCM Lane V/C Ratio	0.002	-	0.024	-	-
HCM Control Delay (s)	7.4	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	452	80	246	55	397	319	361	677	9
Future Volume (veh/h)	10	83	68	452	80	246	55	397	319	361	677	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	491	222	177	60	432	347	392	736	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	321	144	688	504	429	264	1025	459	539	1052	471
Arrive On Green	0.01	0.09	0.09	0.19	0.27	0.27	0.15	0.29	0.29	0.16	0.30	0.30
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	491	222	177	60	432	347	392	736	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.4	2.7	7.7	5.9	5.5	1.8	5.9	11.9	6.4	11.0	0.3
Cycle Q Clear(g_c), s	0.4	1.4	2.7	7.7	5.9	5.5	1.8	5.9	11.9	6.4	11.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	321	144	688	504	429	264	1025	459	539	1052	471
V/C Ratio(X)	0.44	0.28	0.52	0.71	0.44	0.41	0.23	0.42	0.76	0.73	0.70	0.02
Avail Cap(c_a), veh/h	164	2410	1078	895	1566	1331	264	1874	839	984	2559	1145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	25.2	25.8	22.4	18.0	17.8	22.3	17.1	19.2	23.9	18.5	14.8
Incr Delay (d2), s/veh	12.0	0.5	2.8	1.9	0.6	0.6	0.4	0.3	2.6	1.9	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.7	1.3	3.9	3.1	2.4	0.9	2.9	5.4	3.2	5.4	0.1
LnGrp Delay(d),s/veh	41.0	25.7	28.6	24.3	18.6	18.4	22.7	17.4	21.8	25.8	19.4	14.8
LnGrp LOS	D	C	C	C	B	B	C	B	C	C	B	B
Approach Vol, veh/h		175			890			839			1138	
Approach Delay, s/veh		27.9			21.7			19.6			21.6	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	21.2	15.5	9.4	12.9	21.7	4.8	20.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.4	13.9	9.7	4.7	3.8	13.0	2.4	7.9				
Green Ext Time (p_c), s	0.9	3.4	1.8	0.7	0.3	4.7	0.0	3.8				
Intersection Summary												
HCM 2010 Ctrl Delay			21.4									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	945	5	10	1044	216	10	15	10	341	5	39
Future Volume (veh/h)	45	945	5	10	1044	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1027	5	11	1135	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	1686	8	24	1544	691	206	290	174	531	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3612	18	1774	3539	1583	402	844	508	1257	17	142
Grp Volume(v), veh/h	49	503	529	11	1135	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1753	0	0	1416	0	0
Q Serve(g_s), s	1.8	14.4	14.4	0.4	18.1	6.7	0.0	0.0	0.0	17.7	0.0	0.0
Cycle Q Clear(g_c), s	1.8	14.4	14.4	0.4	18.1	6.7	1.0	0.0	0.0	18.7	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	79	826	868	24	1544	691	670	0	0	586	0	0
V/C Ratio(X)	0.62	0.61	0.61	0.45	0.73	0.34	0.06	0.00	0.00	0.71	0.00	0.00
Avail Cap(c_a), veh/h	130	831	873	130	1662	744	1085	0	0	948	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.0	13.5	13.5	33.3	15.9	12.7	15.0	0.0	0.0	20.7	0.0	0.0
Incr Delay (d2), s/veh	7.8	1.3	1.2	12.4	1.6	0.3	0.0	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.3	7.6	0.3	9.2	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	39.8	14.8	14.8	45.7	17.5	13.0	15.1	0.0	0.0	22.3	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h		1081			1381			38			418	
Approach Delay, s/veh		15.9			17.0			15.1			22.3	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.4	4.9	35.8		27.4	7.0	33.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.0	2.4	16.4		20.7	3.8	20.1				
Green Ext Time (p_c), s		3.1	0.0	12.0		2.7	0.0	9.6				
Intersection Summary												
HCM 2010 Ctrl Delay				17.3								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 13.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	198	432	380	73	75	157
Future Vol, veh/h	198	432	380	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	470	413	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	492	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1071	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1071	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	70.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1071	-	-	-	281
HCM Lane V/C Ratio	0.201	-	-	-	0.897
HCM Control Delay (s)	9.2	-	-	-	70.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.7	-	-	-	8.1

Intersection						
Int Delay, s/veh	9.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	364	163	128	45	40	292
Future Vol, veh/h	364	163	128	45	40	292
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	396	177	139	49	43	317

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	188	0	-	0	1132
Stage 1	-	-	-	-	164
Stage 2	-	-	-	-	968
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1386	-	-	-	225
Stage 1	-	-	-	-	865
Stage 2	-	-	-	-	368
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1386	-	-	-	161
Mov Cap-2 Maneuver	-	-	-	-	161
Stage 1	-	-	-	-	865
Stage 2	-	-	-	-	263

Approach	EB	WB	SB
HCM Control Delay, s	6	0	21.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	573
HCM Lane V/C Ratio	0.285	-	-	-	0.63
HCM Control Delay (s)	8.6	-	-	-	21.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.2	-	-	-	4.4

Intersection

Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	16	3	8	115	140	31
Future Vol, veh/h	16	3	8	115	140	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	3	9	125	152	34

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	311	169	186	0	0
Stage 1	169	-	-	-	-
Stage 2	142	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	681	875	1388	-	-
Stage 1	861	-	-	-	-
Stage 2	885	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	676	875	1388	-	-
Mov Cap-2 Maneuver	676	-	-	-	-
Stage 1	861	-	-	-	-
Stage 2	879	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1388	-	701	-	-
HCM Lane V/C Ratio	0.006	-	0.029	-	-
HCM Control Delay (s)	7.6	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions
Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	286	57	182	35	329	233	280	368	5
Future Volume (veh/h)	0	46	54	286	57	182	35	329	233	280	368	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	311	164	130	38	358	253	304	400	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	382	171	563	658	559	336	873	391	481	697	312
Arrive On Green	0.00	0.11	0.11	0.16	0.35	0.35	0.19	0.25	0.25	0.14	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	311	164	130	38	358	253	304	400	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.6	3.7	2.9	1.4	0.8	3.9	6.6	3.8	4.7	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.6	3.7	2.9	1.4	0.8	3.9	6.6	3.8	4.7	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	382	171	563	658	559	336	873	391	481	697	312
V/C Ratio(X)	0.00	0.13	0.35	0.55	0.25	0.23	0.11	0.41	0.65	0.63	0.57	0.02
Avail Cap(c_a), veh/h	212	3109	1391	1154	2020	1717	336	2418	1082	1269	3301	1477
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	18.6	19.1	17.9	10.6	2.8	15.5	14.6	15.6	18.7	16.8	11.9
Incr Delay (d2), s/veh	0.0	0.2	1.2	0.9	0.2	0.2	0.1	0.3	1.8	1.4	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.7	1.9	1.5	1.0	0.4	1.9	3.1	1.9	2.4	0.1
LnGrp Delay(d),s/veh	0.0	18.8	20.3	18.7	10.8	3.0	15.6	14.9	17.4	20.1	17.5	11.9
LnGrp LOS		B	C	B	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			605			649			709	
Approach Delay, s/veh		19.6			13.2			15.9			18.6	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	15.4	11.3	9.0	12.7	13.1	0.0	20.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	5.8	8.6	5.7	3.6	2.8	6.7	0.0	4.9				
Green Ext Time (p_c), s	0.7	2.8	1.7	0.4	0.3	2.4	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			16.2									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	670	5	10	712	118	10	15	10	121	0	25
Future Volume (veh/h)	19	670	5	10	712	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	728	5	11	774	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1816	12	26	1742	779	165	156	81	366	5	40
Arrive On Green	0.03	0.50	0.50	0.01	0.49	0.49	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3603	25	1774	3539	1583	257	968	499	1177	29	247
Grp Volume(v), veh/h	21	358	375	11	774	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	1774	1770	1583	1724	0	0	1452	0	0
Q Serve(g_s), s	0.4	4.7	4.7	0.2	5.3	1.7	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	0.4	4.7	4.7	0.2	5.3	1.7	0.7	0.0	0.0	3.8	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	892	937	26	1742	779	402	0	0	410	0	0
V/C Ratio(X)	0.45	0.40	0.40	0.43	0.44	0.16	0.09	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	237	1511	1587	237	3022	1352	1909	0	0	1724	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.0	5.8	5.8	18.3	6.2	5.3	13.5	0.0	0.0	14.7	0.0	0.0
Incr Delay (d2), s/veh	6.7	0.3	0.3	11.0	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.4	2.5	0.2	2.6	0.7	0.3	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	24.7	6.1	6.1	29.3	6.4	5.4	13.6	0.0	0.0	15.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		754			913			38			159	
Approach Delay, s/veh		6.6			6.5			13.6			15.3	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.0	4.5	22.9		10.0	5.0	22.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		2.7	2.2	6.7		5.8	2.4	7.3				
Green Ext Time (p_c), s		1.2	0.0	11.2		1.2	0.0	11.1				
Intersection Summary												
HCM 2010 Ctrl Delay				7.4								
HCM 2010 LOS				A								

Intersection						
Int Delay, s/veh	5.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	124	227	284	32	52	163
Future Vol, veh/h	124	227	284	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	247	309	35	57	177

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	343	0	-	0	842 326
Stage 1	-	-	-	-	326 -
Stage 2	-	-	-	-	516 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1216	-	-	-	334 715
Stage 1	-	-	-	-	731 -
Stage 2	-	-	-	-	599 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1216	-	-	-	297 715
Mov Cap-2 Maneuver	-	-	-	-	297 -
Stage 1	-	-	-	-	731 -
Stage 2	-	-	-	-	532 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1216	-	-	-	533
HCM Lane V/C Ratio	0.111	-	-	-	0.438
HCM Control Delay (s)	8.3	-	-	-	16.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.2

Intersection

Int Delay, s/veh 6.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	211	82	86	27	22	202
Future Vol, veh/h	211	82	86	27	22	202
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	229	89	93	29	24	220

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	123	0	-	0	656
Stage 1	-	-	-	-	108
Stage 2	-	-	-	-	548
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1464	-	-	-	430
Stage 1	-	-	-	-	916
Stage 2	-	-	-	-	579
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1464	-	-	-	363
Mov Cap-2 Maneuver	-	-	-	-	363
Stage 1	-	-	-	-	916
Stage 2	-	-	-	-	488

Approach	EB	WB	SB
HCM Control Delay, s	5.7	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	817
HCM Lane V/C Ratio	0.157	-	-	-	0.298
HCM Control Delay (s)	7.9	-	-	-	11.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.3

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	12	7	3	68	84	20
Future Vol, veh/h	12	7	3	68	84	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	8	3	74	91	22

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	182	102	113	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	80	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	807	953	1476	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	943	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	805	953	1476	-	-	-
Mov Cap-2 Maneuver	805	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	941	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	854	-	-
HCM Lane V/C Ratio	0.002	-	0.024	-	-
HCM Control Delay (s)	7.4	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	472	80	288	55	397	352	432	677	9
Future Volume (veh/h)	10	83	68	472	80	288	55	397	352	432	677	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	513	256	200	60	432	383	470	736	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	306	137	681	493	419	337	1073	480	602	1020	456
Arrive On Green	0.01	0.09	0.09	0.19	0.26	0.26	0.19	0.30	0.30	0.17	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	513	256	200	60	432	383	470	736	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.6	2.9	9.0	7.7	4.2	1.9	6.4	14.6	8.6	12.3	0.2
Cycle Q Clear(g_c), s	0.4	1.6	2.9	9.0	7.7	4.2	1.9	6.4	14.6	8.6	12.3	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	306	137	681	493	419	337	1073	480	602	1020	456
V/C Ratio(X)	0.45	0.29	0.54	0.75	0.52	0.48	0.18	0.40	0.80	0.78	0.72	0.02
Avail Cap(c_a), veh/h	148	2180	975	810	1417	1204	337	1696	759	890	2315	1036
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	28.1	28.8	25.1	20.6	7.2	22.3	18.2	21.1	25.9	21.0	11.0
Incr Delay (d2), s/veh	12.2	0.5	3.3	3.3	0.8	0.8	0.3	0.2	3.2	2.7	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.4	4.7	4.0	2.7	0.9	3.2	6.8	4.3	6.1	0.1
LnGrp Delay(d),s/veh	44.4	28.7	32.1	28.4	21.5	8.1	22.6	18.4	24.3	28.6	22.0	11.0
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		175			969			875			1216	
Approach Delay, s/veh		31.1			22.4			21.3			24.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	23.9	16.6	9.7	16.5	23.0	4.9	21.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	10.6	16.6	11.0	4.9	3.9	14.3	2.4	9.7				
Green Ext Time (p_c), s	0.9	3.3	1.6	0.7	0.4	4.7	0.0	4.3				
Intersection Summary												
HCM 2010 Ctrl Delay			23.3									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1049	5	10	1105	216	10	15	10	341	5	39
Future Volume (veh/h)	45	1049	5	10	1105	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1140	5	11	1201	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1697	7	24	1554	695	205	289	174	529	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3614	16	1774	3539	1583	403	843	508	1257	17	142
Grp Volume(v), veh/h	49	558	587	11	1201	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1754	0	0	1416	0	0
Q Serve(g_s), s	1.9	16.8	16.8	0.4	19.9	6.7	0.0	0.0	0.0	17.9	0.0	0.0
Cycle Q Clear(g_c), s	1.9	16.8	16.8	0.4	19.9	6.7	1.0	0.0	0.0	18.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	78	831	873	24	1554	695	668	0	0	584	0	0
V/C Ratio(X)	0.63	0.67	0.67	0.45	0.77	0.34	0.06	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	129	831	873	129	1643	735	1073	0	0	937	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.4	14.2	14.2	33.7	16.4	12.7	15.2	0.0	0.0	21.0	0.0	0.0
Incr Delay (d2), s/veh	7.9	2.1	2.0	12.4	2.2	0.3	0.0	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.7	9.1	0.3	10.2	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	40.3	16.3	16.2	46.1	18.6	13.0	15.3	0.0	0.0	22.6	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h		1194			1447			38			418	
Approach Delay, s/veh		17.2			17.9			15.3			22.6	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.6	4.9	36.4		27.6	7.0	34.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.0	2.4	18.8		20.9	3.9	21.9				
Green Ext Time (p_c), s		3.1	0.0	11.0		2.7	0.0	8.4				
Intersection Summary												
HCM 2010 Ctrl Delay				18.3								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 15.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	198	443	399	73	75	157
Future Vol, veh/h	198	443	399	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	482	434	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	513	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1052	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1052	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	80.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1052	-	-	-	269
HCM Lane V/C Ratio	0.205	-	-	-	0.937
HCM Control Delay (s)	9.3	-	-	-	80.8
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	8.7

Intersection

Int Delay, s/veh 10.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	375	163	128	45	40	311
Future Vol, veh/h	375	163	128	45	40	311
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	408	177	139	49	43	338

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	188	0	0	1156	164
Stage 1	-	-	-	164	-
Stage 2	-	-	-	992	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1386	-	-	217	881
Stage 1	-	-	-	865	-
Stage 2	-	-	-	359	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1386	-	-	153	881
Mov Cap-2 Maneuver	-	-	-	153	-
Stage 1	-	-	-	865	-
Stage 2	-	-	-	253	-

Approach

	EB	WB	SB
HCM Control Delay, s	6	0	23.1
HCM LOS			C




Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	571
HCM Lane V/C Ratio	0.294	-	-	-	0.668
HCM Control Delay (s)	8.7	-	-	-	23.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.2	-	-	-	5

Intersection

Int Delay, s/veh 5.1

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	16	131	197	115	140	31
Future Vol, veh/h	16	131	197	115	140	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	142	214	125	152	34

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	722	169	186	0	-	0
Stage 1	169	-	-	-	-	-
Stage 2	553	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	394	875	1388	-	-	-
Stage 1	861	-	-	-	-	-
Stage 2	576	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	329	875	1388	-	-	-
Mov Cap-2 Maneuver	329	-	-	-	-	-
Stage 1	861	-	-	-	-	-
Stage 2	480	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	11.2	5.1	0
HCM LOS	B		

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1388	-	741	-	-
HCM Lane V/C Ratio	0.154	-	0.216	-	-
HCM Control Delay (s)	8.1	-	11.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.8	-	-

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	12	24	189	128	0
Future Vol, veh/h	0	12	24	189	128	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	26	205	139	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	232	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1336	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1336	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1336	-	-	-	851
HCM Lane V/C Ratio	-	-	-	-	0.163
HCM Control Delay (s)	0	-	-	-	10.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions
Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	300	57	212	35	329	270	358	368	5
Future Volume (veh/h)	0	46	54	300	57	212	35	329	270	358	368	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	326	188	146	38	358	293	389	400	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	348	156	565	627	533	422	932	417	563	670	300
Arrive On Green	0.00	0.10	0.10	0.16	0.34	0.34	0.24	0.26	0.26	0.16	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	326	188	146	38	358	293	389	400	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.7	1.8	4.3	3.8	1.8	0.8	4.2	8.5	5.4	5.2	0.1
Cycle Q Clear(g_c), s	0.0	0.7	1.8	4.3	3.8	1.8	0.8	4.2	8.5	5.4	5.2	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	348	156	565	627	533	422	932	417	563	670	300
V/C Ratio(X)	0.00	0.14	0.38	0.58	0.30	0.27	0.09	0.38	0.70	0.69	0.60	0.02
Avail Cap(c_a), veh/h	192	2826	1264	1049	1837	1561	422	2198	983	1154	3001	1343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.9	21.4	19.7	12.4	3.3	15.1	15.3	16.9	20.0	18.8	13.6
Incr Delay (d2), s/veh	0.0	0.2	1.5	0.9	0.3	0.3	0.1	0.3	2.2	1.5	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.8	2.2	2.0	1.3	0.4	2.1	3.9	2.7	2.6	0.1
LnGrp Delay(d),s/veh	0.0	21.1	22.9	20.7	12.7	3.5	15.2	15.6	19.1	21.5	19.6	13.6
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			660			689			794	
Approach Delay, s/veh		22.1			14.6			17.0			20.5	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	17.3	12.1	9.0	16.0	13.6	0.0	21.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.4	10.5	6.3	3.8	2.8	7.2	0.0	5.8				
Green Ext Time (p_c), s	0.9	2.9	1.8	0.4	0.4	2.4	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			17.8									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	785	5	10	756	118	10	15	10	121	0	25
Future Volume (veh/h)	19	785	5	10	756	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	853	5	11	822	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1888	11	26	1811	810	157	156	80	354	5	39
Arrive On Green	0.03	0.52	0.52	0.01	0.51	0.51	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3607	21	1774	3539	1583	252	973	499	1174	33	247
Grp Volume(v), veh/h	21	418	440	11	822	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1724	0	0	1453	0	0
Q Serve(g_s), s	0.5	5.9	5.9	0.2	5.9	1.7	0.0	0.0	0.0	3.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	5.9	5.9	0.2	5.9	1.7	0.7	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	926	973	26	1811	810	393	0	0	399	0	0
V/C Ratio(X)	0.45	0.45	0.45	0.43	0.45	0.16	0.10	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	223	1426	1499	223	2853	1276	1803	0	0	1628	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.1	5.9	5.9	19.4	6.2	5.2	14.3	0.0	0.0	15.6	0.0	0.0
Incr Delay (d2), s/veh	6.8	0.3	0.3	11.1	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.9	3.0	0.2	2.8	0.8	0.4	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	25.9	6.3	6.2	30.5	6.3	5.2	14.4	0.0	0.0	16.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		879			961			38			159	
Approach Delay, s/veh		6.7			6.5			14.4			16.3	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.4	4.6	24.8		10.4	5.0	24.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		2.7	2.2	7.9		6.0	2.5	7.9				
Green Ext Time (p_c), s		1.2	0.0	12.4		1.2	0.0	12.4				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	124	235	305	32	52	163
Future Vol, veh/h	124	235	305	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	255	332	35	57	177

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	366	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1193	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1193	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	17.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1193	-	-	-	514
HCM Lane V/C Ratio	0.113	-	-	-	0.455
HCM Control Delay (s)	8.4	-	-	-	17.7
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.3

Intersection

Int Delay, s/veh 6.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	219	82	86	27	22	223
Future Vol, veh/h	219	82	86	27	22	223
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	238	89	93	29	24	242

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	123	0	-	0	673
Stage 1	-	-	-	-	108
Stage 2	-	-	-	-	565
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1464	-	-	-	421
Stage 1	-	-	-	-	916
Stage 2	-	-	-	-	569
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1464	-	-	-	353
Mov Cap-2 Maneuver	-	-	-	-	353
Stage 1	-	-	-	-	916
Stage 2	-	-	-	-	476

Approach	EB	WB	SB
HCM Control Delay, s	5.8	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	822
HCM Lane V/C Ratio	0.163	-	-	-	0.324
HCM Control Delay (s)	7.9	-	-	-	11.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.4

Intersection						
Int Delay, s/veh	6.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔↔			↑	↑	
Traffic Vol, veh/h	12	144	243	68	84	20
Future Vol, veh/h	12	144	243	68	84	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	157	264	74	91	22

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	704	102	113	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	403	953	1476	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	328	953	1476	-	-	-
Mov Cap-2 Maneuver	328	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	445	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	6.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	831	-	-
HCM Lane V/C Ratio	0.179	-	0.204	-	-
HCM Control Delay (s)	8	-	10.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.7	-	0.8	-	-

Intersection

Int Delay, s/veh 3.5

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	0	14	16	240	137	0
Future Vol, veh/h	0	14	16	240	137	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	17	261	149	0

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	278	0	-	0	163	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1285	-	-	-	828	899
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	1008	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1285	-	-	-	828	899
Mov Cap-2 Maneuver	-	-	-	-	828	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	1008	-

Approach EB WB SB

HCM Control Delay, s	0	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1285	-	-	-	828
HCM Lane V/C Ratio	-	-	-	-	0.18
HCM Control Delay (s)	0	-	-	-	10.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	464	80	271	55	397	345	417	677	9
Future Volume (veh/h)	10	83	68	464	80	271	55	397	345	417	677	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	504	243	191	60	432	375	453	736	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	310	139	680	494	420	321	1063	475	589	1028	460
Arrive On Green	0.01	0.09	0.09	0.19	0.27	0.27	0.18	0.30	0.30	0.17	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	504	243	191	60	432	375	453	736	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.5	2.9	8.6	7.1	3.9	1.8	6.2	13.9	8.1	12.0	0.2
Cycle Q Clear(g_c), s	0.4	1.5	2.9	8.6	7.1	3.9	1.8	6.2	13.9	8.1	12.0	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	310	139	680	494	420	321	1063	475	589	1028	460
V/C Ratio(X)	0.45	0.29	0.53	0.74	0.49	0.45	0.19	0.41	0.79	0.77	0.72	0.02
Avail Cap(c_a), veh/h	152	2234	999	830	1452	1234	321	1738	777	912	2372	1061
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	27.4	28.0	24.4	19.9	7.0	22.3	17.9	20.6	25.4	20.4	10.5
Incr Delay (d2), s/veh	12.2	0.5	3.2	2.9	0.8	0.8	0.3	0.3	3.0	2.1	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.4	4.5	3.7	2.5	0.9	3.1	6.4	4.0	6.0	0.1
LnGrp Delay(d),s/veh	43.6	27.9	31.2	27.3	20.7	7.8	22.5	18.1	23.5	27.5	21.3	10.5
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		175			938			867			1199	
Approach Delay, s/veh		30.3			21.6			20.8			23.6	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	23.3	16.3	9.6	15.6	22.6	4.9	21.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	10.1	15.9	10.6	4.9	3.8	14.0	2.4	9.1				
Green Ext Time (p_c), s	0.9	3.3	1.7	0.7	0.3	4.7	0.0	4.1				
Intersection Summary												
HCM 2010 Ctrl Delay			22.6									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1027	5	10	1080	216	10	15	10	341	5	39
Future Volume (veh/h)	45	1027	5	10	1080	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1116	5	11	1174	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1694	8	24	1552	694	206	289	174	530	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3613	16	1774	3539	1583	403	843	508	1257	17	142
Grp Volume(v), veh/h	49	547	574	11	1174	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1754	0	0	1416	0	0
Q Serve(g_s), s	1.9	16.3	16.3	0.4	19.2	6.7	0.0	0.0	0.0	17.8	0.0	0.0
Cycle Q Clear(g_c), s	1.9	16.3	16.3	0.4	19.2	6.7	1.0	0.0	0.0	18.8	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	78	830	872	24	1552	694	668	0	0	584	0	0
V/C Ratio(X)	0.62	0.66	0.66	0.45	0.76	0.34	0.06	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	129	830	872	129	1648	737	1076	0	0	940	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.3	14.0	14.0	33.6	16.2	12.7	15.2	0.0	0.0	20.9	0.0	0.0
Incr Delay (d2), s/veh	7.9	1.9	1.8	12.4	1.9	0.3	0.0	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.3	8.7	0.3	9.7	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	40.2	15.9	15.9	46.0	18.2	13.0	15.2	0.0	0.0	22.6	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h		1170			1420			38			418	
Approach Delay, s/veh		16.9			17.5			15.2			22.6	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.5	4.9	36.2		27.5	7.0	34.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.0	2.4	18.3		20.8	3.9	21.2				
Green Ext Time (p_c), s		3.1	0.0	11.2		2.7	0.0	9.0				
Intersection Summary												
HCM 2010 Ctrl Delay				17.9								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 15.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	198	439	395	73	75	157
Future Vol, veh/h	198	439	395	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	477	429	79	82	171

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	509	0	0	1377	469
Stage 1	-	-	-	469	-
Stage 2	-	-	-	908	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1056	-	-	160	594
Stage 1	-	-	-	630	-
Stage 2	-	-	-	393	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1056	-	-	127	594
Mov Cap-2 Maneuver	-	-	-	127	-
Stage 1	-	-	-	630	-
Stage 2	-	-	-	313	-

Approach

	EB	WB	SB
HCM Control Delay, s	2.9	0	78.9
HCM LOS			F

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1056	-	-	-	271
HCM Lane V/C Ratio	0.204	-	-	-	0.931
HCM Control Delay (s)	9.3	-	-	-	78.9
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	8.6

Intersection

Int Delay, s/veh	10.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	371	163	128	45	40	307
Future Vol, veh/h	371	163	128	45	40	307
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	403	177	139	49	43	334

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	188	0	-	0	1148
Stage 1	-	-	-	-	164
Stage 2	-	-	-	-	984
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1386	-	-	-	220
Stage 1	-	-	-	-	865
Stage 2	-	-	-	-	362
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1386	-	-	-	156
Mov Cap-2 Maneuver	-	-	-	-	156
Stage 1	-	-	-	-	865
Stage 2	-	-	-	-	257

Approach	EB	WB	SB
HCM Control Delay, s	6	0	22.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	574
HCM Lane V/C Ratio	0.291	-	-	-	0.657
HCM Control Delay (s)	8.7	-	-	-	22.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.2	-	-	-	4.8

Intersection						
Int Delay, s/veh	4.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	16	97	166	115	140	31
Future Vol, veh/h	16	97	166	115	140	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	105	180	125	152	34

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	655	169	186	0	0
Stage 1	169	-	-	-	-
Stage 2	486	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	431	875	1388	-	-
Stage 1	861	-	-	-	-
Stage 2	618	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	371	875	1388	-	-
Mov Cap-2 Maneuver	371	-	-	-	-
Stage 1	861	-	-	-	-
Stage 2	532	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	4.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1388	-	734	-	-
HCM Lane V/C Ratio	0.13	-	0.167	-	-
HCM Control Delay (s)	8	-	10.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.6	-	-

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	12	24	158	94	0
Future Vol, veh/h	0	12	24	158	94	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	26	172	102	0

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	198	0	0	125	112
Stage 1	-	-	-	112	-
Stage 2	-	-	-	13	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1375	-	-	870	941
Stage 1	-	-	-	913	-
Stage 2	-	-	-	1010	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1375	-	-	870	941
Mov Cap-2 Maneuver	-	-	-	870	-
Stage 1	-	-	-	913	-
Stage 2	-	-	-	1010	-

Approach

	EB	WB	SB
HCM Control Delay, s	0	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1375	-	-	-	870
HCM Lane V/C Ratio	-	-	-	-	0.117
HCM Control Delay (s)	0	-	-	-	9.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions
Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	284	57	179	35	329	254	324	368	5
Future Volume (veh/h)	0	46	54	284	57	179	35	329	254	324	368	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	309	162	128	38	358	276	352	400	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	365	163	548	634	539	386	909	407	530	684	306
Arrive On Green	0.00	0.10	0.10	0.15	0.34	0.34	0.22	0.26	0.26	0.15	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	309	162	128	38	358	276	352	400	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.7	3.9	3.0	1.4	0.8	4.0	7.6	4.7	5.0	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.7	3.9	3.0	1.4	0.8	4.0	7.6	4.7	5.0	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	365	163	548	634	539	386	909	407	530	684	306
V/C Ratio(X)	0.00	0.14	0.36	0.56	0.26	0.24	0.10	0.39	0.68	0.66	0.59	0.02
Avail Cap(c_a), veh/h	202	2969	1328	1102	1929	1640	386	2309	1033	1212	3152	1410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	19.7	20.2	18.9	11.5	3.0	15.1	14.8	16.1	19.2	17.7	12.7
Incr Delay (d2), s/veh	0.0	0.2	1.3	0.9	0.2	0.2	0.1	0.3	2.0	1.4	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.8	2.0	1.6	1.1	0.4	2.0	3.5	2.3	2.5	0.1
LnGrp Delay(d),s/veh	0.0	19.9	21.5	19.8	11.7	3.3	15.2	15.1	18.1	20.7	18.5	12.7
LnGrp LOS		B	C	B	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			599			672			757	
Approach Delay, s/veh		20.8			14.1			16.4			19.5	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	16.4	11.5	9.0	14.5	13.3	0.0	20.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	6.7	9.6	5.9	3.7	2.8	7.0	0.0	5.0				
Green Ext Time (p_c), s	0.9	2.8	1.7	0.4	0.4	2.4	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			17.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	735	5	10	708	118	10	15	10	121	0	25
Future Volume (veh/h)	19	735	5	10	708	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	799	5	11	770	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1839	12	26	1763	789	163	156	80	362	5	40
Arrive On Green	0.03	0.51	0.51	0.01	0.50	0.50	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3606	23	1774	3539	1583	255	969	499	1176	30	247
Grp Volume(v), veh/h	21	392	412	11	770	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1724	0	0	1453	0	0
Q Serve(g_s), s	0.4	5.3	5.3	0.2	5.3	1.7	0.0	0.0	0.0	3.2	0.0	0.0
Cycle Q Clear(g_c), s	0.4	5.3	5.3	0.2	5.3	1.7	0.7	0.0	0.0	3.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	902	948	26	1763	789	399	0	0	407	0	0
V/C Ratio(X)	0.45	0.43	0.43	0.43	0.44	0.16	0.10	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	233	1485	1560	233	2970	1329	1876	0	0	1695	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.3	5.9	5.9	18.6	6.1	5.2	13.7	0.0	0.0	15.0	0.0	0.0
Incr Delay (d2), s/veh	6.7	0.3	0.3	11.0	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.6	2.7	0.2	2.6	0.7	0.3	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	25.0	6.2	6.2	29.6	6.3	5.3	13.8	0.0	0.0	15.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		825			909			38			159	
Approach Delay, s/veh		6.7			6.5			13.8			15.6	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.1	4.5	23.4		10.1	5.0	23.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		2.7	2.2	7.3		5.9	2.4	7.3				
Green Ext Time (p_c), s		1.2	0.0	11.7		1.2	0.0	11.7				
Intersection Summary												
HCM 2010 Ctrl Delay				7.4								
HCM 2010 LOS				A								

Intersection

Int Delay, s/veh	5.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	124	226	296	32	52	163
Future Vol, veh/h	124	226	296	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	246	322	35	57	177

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	357	0	0	854	339
Stage 1	-	-	-	339	-
Stage 2	-	-	-	515	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1202	-	-	329	703
Stage 1	-	-	-	722	-
Stage 2	-	-	-	600	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1202	-	-	292	703
Mov Cap-2 Maneuver	-	-	-	292	-
Stage 1	-	-	-	722	-
Stage 2	-	-	-	533	-

Approach	EB	WB	SB
HCM Control Delay, s	3	0	17.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1202	-	-	-	524
HCM Lane V/C Ratio	0.112	-	-	-	0.446
HCM Control Delay (s)	8.4	-	-	-	17.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.3

Intersection

Int Delay, s/veh 6.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	210	82	86	27	22	214
Future Vol, veh/h	210	82	86	27	22	214
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	228	89	93	29	24	233

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	123	0	0	654	108
Stage 1	-	-	-	108	-
Stage 2	-	-	-	546	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1464	-	-	431	946
Stage 1	-	-	-	916	-
Stage 2	-	-	-	580	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1464	-	-	364	946
Mov Cap-2 Maneuver	-	-	-	364	-
Stage 1	-	-	-	916	-
Stage 2	-	-	-	490	-

Approach

	EB	WB	SB
HCM Control Delay, s	5.7	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	823
HCM Lane V/C Ratio	0.156	-	-	-	0.312
HCM Control Delay (s)	7.9	-	-	-	11.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.3

Intersection						
Int Delay, s/veh	5.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑		↑
Traffic Vol, veh/h	12	78	175	68	84	20
Future Vol, veh/h	12	78	175	68	84	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	85	190	74	91	22

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	556	102	113	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	454	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	492	953	1476	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	640	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	426	953	1476	-	-	-
Mov Cap-2 Maneuver	426	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	554	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	5.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	818	-	-
HCM Lane V/C Ratio	0.129	-	0.12	-	-
HCM Control Delay (s)	7.8	-	10	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.4	-	-

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	14	16	172	71	0
Future Vol, veh/h	0	14	16	172	71	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	17	187	77	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	204	0	0	126	111
Stage 1	-	-	-	111	-
Stage 2	-	-	-	15	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1368	-	-	869	942
Stage 1	-	-	-	914	-
Stage 2	-	-	-	1008	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1368	-	-	869	942
Mov Cap-2 Maneuver	-	-	-	869	-
Stage 1	-	-	-	914	-
Stage 2	-	-	-	1008	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1368	-	-	-	869
HCM Lane V/C Ratio	-	-	-	-	0.089
HCM Control Delay (s)	0	-	-	-	9.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	467	80	278	55	397	347	422	677	9
Future Volume (veh/h)	10	83	68	467	80	278	55	397	347	422	677	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	508	248	194	60	432	377	459	736	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	309	138	681	494	420	326	1065	476	594	1025	459
Arrive On Green	0.01	0.09	0.09	0.19	0.27	0.27	0.18	0.30	0.30	0.17	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	508	248	194	60	432	377	459	736	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.5	2.9	8.7	7.3	4.0	1.8	6.3	14.1	8.2	12.1	0.2
Cycle Q Clear(g_c), s	0.4	1.5	2.9	8.7	7.3	4.0	1.8	6.3	14.1	8.2	12.1	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	309	138	681	494	420	326	1065	476	594	1025	459
V/C Ratio(X)	0.45	0.29	0.54	0.75	0.50	0.46	0.18	0.41	0.79	0.77	0.72	0.02
Avail Cap(c_a), veh/h	151	2216	991	823	1440	1224	326	1724	771	905	2353	1053
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	27.6	28.3	24.6	20.1	7.1	22.3	18.0	20.7	25.5	20.6	10.7
Incr Delay (d2), s/veh	12.2	0.5	3.2	3.0	0.8	0.8	0.3	0.2	3.0	2.3	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.4	4.5	3.8	2.6	0.9	3.1	6.5	4.1	6.0	0.1
LnGrp Delay(d),s/veh	43.8	28.2	31.5	27.7	20.9	7.9	22.6	18.3	23.7	27.8	21.6	10.7
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		175			950			869			1205	
Approach Delay, s/veh		30.5			21.9			20.9			23.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.2	23.5	16.4	9.6	15.9	22.7	4.9	21.2				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	10.2	16.1	10.7	4.9	3.8	14.1	2.4	9.3				
Green Ext Time (p_c), s	0.9	3.3	1.7	0.7	0.4	4.7	0.0	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			22.8									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1034	5	10	1090	216	10	15	10	341	5	39
Future Volume (veh/h)	45	1034	5	10	1090	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1124	5	11	1185	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1695	8	24	1553	695	205	289	174	530	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3613	16	1774	3539	1583	403	843	508	1257	17	142
Grp Volume(v), veh/h	49	550	579	11	1185	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1754	0	0	1416	0	0
Q Serve(g_s), s	1.9	16.5	16.5	0.4	19.4	6.7	0.0	0.0	0.0	17.9	0.0	0.0
Cycle Q Clear(g_c), s	1.9	16.5	16.5	0.4	19.4	6.7	1.0	0.0	0.0	18.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	78	830	873	24	1553	695	668	0	0	584	0	0
V/C Ratio(X)	0.63	0.66	0.66	0.45	0.76	0.34	0.06	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	129	830	873	129	1646	736	1075	0	0	939	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.3	14.1	14.1	33.7	16.3	12.7	15.2	0.0	0.0	20.9	0.0	0.0
Incr Delay (d2), s/veh	7.9	2.0	1.9	12.4	2.1	0.3	0.0	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.4	8.8	0.3	9.8	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	40.2	16.1	16.0	46.1	18.3	13.0	15.2	0.0	0.0	22.6	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h		1178			1431			38			418	
Approach Delay, s/veh		17.0			17.7			15.2			22.6	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.6	4.9	36.3		27.6	7.0	34.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.0	2.4	18.5		20.9	3.9	21.4				
Green Ext Time (p_c), s		3.1	0.0	11.1		2.7	0.0	8.8				
Intersection Summary												
HCM 2010 Ctrl Delay				18.1								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 15.1

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	198	440	396	73	75	157
Future Vol, veh/h	198	440	396	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	478	430	79	82	171

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	510	0	-	0	1379	470
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	909	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1055	-	-	-	159	594
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	393	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1055	-	-	-	127	594
Mov Cap-2 Maneuver	-	-	-	-	127	-
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	313	-

Approach EB WB SB

HCM Control Delay, s	2.9	0	78.9
HCM LOS			F

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1055	-	-	-	271
HCM Lane V/C Ratio	0.204	-	-	-	0.931
HCM Control Delay (s)	9.3	-	-	-	78.9
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	8.6

Intersection						
Int Delay, s/veh	10.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	372	163	128	45	40	308
Future Vol, veh/h	372	163	128	45	40	308
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	404	177	139	49	43	335

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	188	0	-	0	1150
Stage 1	-	-	-	-	164
Stage 2	-	-	-	-	986
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1386	-	-	-	219
Stage 1	-	-	-	-	865
Stage 2	-	-	-	-	361
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1386	-	-	-	155
Mov Cap-2 Maneuver	-	-	-	-	155
Stage 1	-	-	-	-	865
Stage 2	-	-	-	-	256

Approach	EB	WB	SB
HCM Control Delay, s	6	0	22.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	573
HCM Lane V/C Ratio	0.292	-	-	-	0.66
HCM Control Delay (s)	8.7	-	-	-	22.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.2	-	-	-	4.9

Intersection						
Int Delay, s/veh	4.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	16	110	176	115	140	31
Future Vol, veh/h	16	110	176	115	140	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	120	191	125	152	34

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	677	169	186	0	0
Stage 1	169	-	-	-	-
Stage 2	508	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	418	875	1388	-	-
Stage 1	861	-	-	-	-
Stage 2	604	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	356	875	1388	-	-
Mov Cap-2 Maneuver	356	-	-	-	-
Stage 1	861	-	-	-	-
Stage 2	515	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	4.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1388	-	738	-	-
HCM Lane V/C Ratio	0.138	-	0.186	-	-
HCM Control Delay (s)	8	-	11	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.7	-	-

Intersection

Int Delay, s/veh 3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	12	24	168	107	0
Future Vol, veh/h	0	12	24	168	107	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	26	183	116	0

























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	209	0	0 130 117
Stage 1	-	-	- 117 -
Stage 2	-	-	- 13 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1362	-	- 864 935
Stage 1	-	-	- 908 -
Stage 2	-	-	- 1010 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1362	-	- 864 935
Mov Cap-2 Maneuver	-	-	- 864 -
Stage 1	-	-	- 908 -
Stage 2	-	-	- 1010 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1362	-	-	-	864
HCM Lane V/C Ratio	-	-	-	-	0.135
HCM Control Delay (s)	0	-	-	-	9.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	297	57	205	35	329	265	346	368	5
Future Volume (veh/h)	0	46	54	297	57	205	35	329	265	346	368	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	323	183	142	38	358	288	376	400	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	353	158	563	631	536	410	925	414	551	674	301
Arrive On Green	0.00	0.10	0.10	0.16	0.34	0.34	0.23	0.26	0.26	0.16	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	323	183	142	38	358	288	376	400	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.7	4.2	3.6	1.7	0.8	4.2	8.2	5.2	5.2	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.7	4.2	3.6	1.7	0.8	4.2	8.2	5.2	5.2	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	353	158	563	631	536	410	925	414	551	674	301
V/C Ratio(X)	0.00	0.14	0.37	0.57	0.29	0.26	0.09	0.39	0.70	0.68	0.59	0.02
Avail Cap(c_a), veh/h	195	2867	1282	1064	1863	1583	410	2230	997	1170	3044	1362
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.6	21.0	19.5	12.1	3.2	15.1	15.2	16.7	19.8	18.5	13.4
Incr Delay (d2), s/veh	0.0	0.2	1.5	0.9	0.3	0.3	0.1	0.3	2.1	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.8	2.1	1.9	0.8	0.4	2.1	3.8	2.6	2.6	0.1
LnGrp Delay(d),s/veh	0.0	20.7	22.5	20.4	12.4	3.5	15.2	15.4	18.8	21.3	19.3	13.4
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			648			684			781	
Approach Delay, s/veh		21.7			14.4			16.8			20.2	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	17.1	11.9	9.0	15.6	13.5	0.0	20.9				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.2	10.2	6.2	3.7	2.8	7.2	0.0	5.6				
Green Ext Time (p_c), s	0.9	2.9	1.8	0.4	0.4	2.4	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			17.6									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	768	5	10	746	118	10	15	10	121	0	25
Future Volume (veh/h)	19	768	5	10	746	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	835	5	11	811	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1876	11	26	1799	805	159	156	80	356	5	40
Arrive On Green	0.03	0.52	0.52	0.01	0.51	0.51	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3607	22	1774	3539	1583	253	972	499	1174	32	247
Grp Volume(v), veh/h	21	410	430	11	811	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1724	0	0	1453	0	0
Q Serve(g_s), s	0.5	5.7	5.7	0.2	5.7	1.7	0.0	0.0	0.0	3.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	5.7	5.7	0.2	5.7	1.7	0.7	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	920	967	26	1799	805	394	0	0	401	0	0
V/C Ratio(X)	0.45	0.45	0.45	0.43	0.45	0.16	0.10	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	226	1441	1514	226	2882	1289	1821	0	0	1644	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.9	5.9	5.9	19.2	6.2	5.2	14.2	0.0	0.0	15.5	0.0	0.0
Incr Delay (d2), s/veh	6.8	0.3	0.3	11.0	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.8	3.0	0.2	2.7	0.8	0.4	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	25.7	6.2	6.2	30.3	6.3	5.3	14.3	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		861			950			38			159	
Approach Delay, s/veh		6.7			6.5			14.3			16.1	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.3	4.6	24.4		10.3	5.0	24.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		2.7	2.2	7.7		6.0	2.5	7.7				
Green Ext Time (p_c), s		1.2	0.0	12.3		1.2	0.0	12.2				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	124	233	302	32	52	163
Future Vol, veh/h	124	233	302	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	253	328	35	57	177

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	363	0	0	869	346
Stage 1	-	-	-	346	-
Stage 2	-	-	-	523	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1196	-	-	322	697
Stage 1	-	-	-	716	-
Stage 2	-	-	-	595	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1196	-	-	286	697
Mov Cap-2 Maneuver	-	-	-	286	-
Stage 1	-	-	-	716	-
Stage 2	-	-	-	528	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	17.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1196	-	-	-	517
HCM Lane V/C Ratio	0.113	-	-	-	0.452
HCM Control Delay (s)	8.4	-	-	-	17.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.3

Intersection						
Int Delay, s/veh	6.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	217	82	86	27	22	220
Future Vol, veh/h	217	82	86	27	22	220
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	236	89	93	29	24	239

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	123	0	-	0	669 108
Stage 1	-	-	-	-	108 -
Stage 2	-	-	-	-	561 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1464	-	-	-	423 946
Stage 1	-	-	-	-	916 -
Stage 2	-	-	-	-	571 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1464	-	-	-	355 946
Mov Cap-2 Maneuver	-	-	-	-	355 -
Stage 1	-	-	-	-	916 -
Stage 2	-	-	-	-	479 -

Approach	EB	WB	SB
HCM Control Delay, s	5.8	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	822
HCM Lane V/C Ratio	0.161	-	-	-	0.32
HCM Control Delay (s)	7.9	-	-	-	11.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.4

Intersection						
Int Delay, s/veh	6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	12	129	220	68	84	20
Future Vol, veh/h	12	129	220	68	84	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	140	239	74	91	22

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	654	102	113	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	552	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	431	953	1476	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	358	953	1476	-	-	-
Mov Cap-2 Maneuver	358	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	479	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	835	-	-
HCM Lane V/C Ratio	0.162	-	0.184	-	-
HCM Control Delay (s)	7.9	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0.7	-	-

Intersection

Int Delay, s/veh 3.3

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	0	14	16	217	122	0
Future Vol, veh/h	0	14	16	217	122	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	17	236	133	0

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	253	0	-	0	150	135
Stage 1	-	-	-	-	135	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1312	-	-	-	842	914
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	1008	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1312	-	-	-	842	914
Mov Cap-2 Maneuver	-	-	-	-	842	-
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	1008	-

Approach EB WB SB

HCM Control Delay, s	0	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1312	-	-	-	842
HCM Lane V/C Ratio	-	-	-	-	0.157
HCM Control Delay (s)	0	-	-	-	10.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	452	80	246	55	397	319	361	677	9
Future Volume (veh/h)	10	83	68	452	80	246	55	397	319	361	677	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	491	222	177	60	432	347	392	736	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	321	144	688	504	429	264	1025	459	539	1052	471
Arrive On Green	0.01	0.09	0.09	0.19	0.27	0.27	0.15	0.29	0.29	0.16	0.30	0.30
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	491	222	177	60	432	347	392	736	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.4	2.7	7.7	5.9	3.3	1.8	5.9	11.9	6.4	11.0	0.2
Cycle Q Clear(g_c), s	0.4	1.4	2.7	7.7	5.9	3.3	1.8	5.9	11.9	6.4	11.0	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	321	144	688	504	429	264	1025	459	539	1052	471
V/C Ratio(X)	0.44	0.28	0.52	0.71	0.44	0.41	0.23	0.42	0.76	0.73	0.70	0.02
Avail Cap(c_a), veh/h	164	2410	1078	895	1566	1331	264	1874	839	984	2559	1145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	25.2	25.8	22.4	18.0	6.4	22.3	17.1	19.2	23.9	18.5	9.2
Incr Delay (d2), s/veh	12.0	0.5	2.8	1.9	0.6	0.6	0.4	0.3	2.6	1.9	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.7	1.3	3.9	3.1	2.1	0.9	2.9	5.5	3.2	5.4	0.1
LnGrp Delay(d),s/veh	41.0	25.7	28.6	24.3	18.6	7.1	22.7	17.4	21.8	25.8	19.4	9.2
LnGrp LOS	D	C	C	C	B	A	C	B	C	C	B	A
Approach Vol, veh/h		175			890			839			1138	
Approach Delay, s/veh		27.9			19.4			19.6			21.5	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	21.2	15.5	9.4	12.9	21.7	4.8	20.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.4	13.9	9.7	4.7	3.8	13.0	2.4	7.9				
Green Ext Time (p_c), s	0.9	3.4	1.8	0.7	0.3	4.7	0.0	3.8				
Intersection Summary												
HCM 2010 Ctrl Delay			20.7									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	945	5	10	1044	216	10	15	10	341	5	39
Future Volume (veh/h)	45	945	5	10	1044	216	10	15	10	341	5	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1027	5	11	1135	235	11	16	11	371	5	42
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	1686	8	24	1544	691	206	290	174	531	6	49
Arrive On Green	0.04	0.47	0.47	0.01	0.44	0.44	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1774	3612	18	1774	3539	1583	402	844	508	1257	17	142
Grp Volume(v), veh/h	49	503	529	11	1135	235	38	0	0	418	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1753	0	0	1416	0	0
Q Serve(g_s), s	1.8	14.4	14.4	0.4	18.1	6.7	0.0	0.0	0.0	17.7	0.0	0.0
Cycle Q Clear(g_c), s	1.8	14.4	14.4	0.4	18.1	6.7	1.0	0.0	0.0	18.7	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.89		0.10
Lane Grp Cap(c), veh/h	79	826	868	24	1544	691	670	0	0	586	0	0
V/C Ratio(X)	0.62	0.61	0.61	0.45	0.73	0.34	0.06	0.00	0.00	0.71	0.00	0.00
Avail Cap(c_a), veh/h	130	831	873	130	1662	744	1085	0	0	948	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.0	13.5	13.5	33.3	15.9	12.7	15.0	0.0	0.0	20.7	0.0	0.0
Incr Delay (d2), s/veh	7.8	1.3	1.2	12.4	1.6	0.3	0.0	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.3	7.6	0.3	9.2	3.0	0.5	0.0	0.0	7.6	0.0	0.0
LnGrp Delay(d),s/veh	39.8	14.8	14.8	45.7	17.5	13.0	15.1	0.0	0.0	22.3	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h		1081			1381			38			418	
Approach Delay, s/veh		15.9			17.0			15.1			22.3	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.4	4.9	35.8		27.4	7.0	33.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.0	2.4	16.4		20.7	3.8	20.1				
Green Ext Time (p_c), s		3.1	0.0	12.0		2.7	0.0	9.6				
Intersection Summary												
HCM 2010 Ctrl Delay				17.3								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 13.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	198	432	380	73	75	157
Future Vol, veh/h	198	432	380	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	470	413	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	492	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1071	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1071	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	70.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1071	-	-	-	281
HCM Lane V/C Ratio	0.201	-	-	-	0.897
HCM Control Delay (s)	9.2	-	-	-	70.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.7	-	-	-	8.1

Intersection						
Int Delay, s/veh	9.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	364	163	128	45	40	292
Future Vol, veh/h	364	163	128	45	40	292
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	396	177	139	49	43	317

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	188	0	-	0	1132
Stage 1	-	-	-	-	164
Stage 2	-	-	-	-	968
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1386	-	-	-	225
Stage 1	-	-	-	-	865
Stage 2	-	-	-	-	368
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1386	-	-	-	161
Mov Cap-2 Maneuver	-	-	-	-	161
Stage 1	-	-	-	-	865
Stage 2	-	-	-	-	263

Approach	EB	WB	SB
HCM Control Delay, s	6	0	21.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	573
HCM Lane V/C Ratio	0.285	-	-	-	0.63
HCM Control Delay (s)	8.6	-	-	-	21.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.2	-	-	-	4.4

Intersection

Int Delay, s/veh 2.6

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	16	48	54	115	140	31
Future Vol, veh/h	16	48	54	115	140	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	52	59	125	152	34

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	411	169	186	0	-	0
Stage 1	169	-	-	-	-	-
Stage 2	242	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	597	875	1388	-	-	-
Stage 1	861	-	-	-	-	-
Stage 2	798	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	570	875	1388	-	-	-
Mov Cap-2 Maneuver	570	-	-	-	-	-
Stage 1	861	-	-	-	-	-
Stage 2	761	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	10.1	2.5	0
HCM LOS	B		

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1388	-	772	-	-
HCM Lane V/C Ratio	0.042	-	0.09	-	-
HCM Control Delay (s)	7.7	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	12	24	46	45	0
Future Vol, veh/h	0	12	24	46	45	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	26	50	49	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	76	0	64
Stage 1	-	-	51
Stage 2	-	-	13
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1523	-	942
Stage 1	-	-	971
Stage 2	-	-	1010
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1523	-	942
Mov Cap-2 Maneuver	-	-	942
Stage 1	-	-	971
Stage 2	-	-	1010

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1523	-	-	-	942
HCM Lane V/C Ratio	-	-	-	-	0.052
HCM Control Delay (s)	0	-	-	-	9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions
Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	286	57	182	35	329	233	280	368	5
Future Volume (veh/h)	0	46	54	286	57	182	35	329	233	280	368	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	311	164	130	38	358	253	304	400	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	382	171	563	658	559	336	873	391	481	697	312
Arrive On Green	0.00	0.11	0.11	0.16	0.35	0.35	0.19	0.25	0.25	0.14	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	311	164	130	38	358	253	304	400	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.6	3.7	2.9	1.4	0.8	3.9	6.6	3.8	4.7	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.6	3.7	2.9	1.4	0.8	3.9	6.6	3.8	4.7	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	382	171	563	658	559	336	873	391	481	697	312
V/C Ratio(X)	0.00	0.13	0.35	0.55	0.25	0.23	0.11	0.41	0.65	0.63	0.57	0.02
Avail Cap(c_a), veh/h	212	3109	1391	1154	2020	1717	336	2418	1082	1269	3301	1477
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	18.6	19.1	17.9	10.6	2.8	15.5	14.6	15.6	18.7	16.8	11.9
Incr Delay (d2), s/veh	0.0	0.2	1.2	0.9	0.2	0.2	0.1	0.3	1.8	1.4	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.7	1.9	1.5	1.0	0.4	1.9	3.1	1.9	2.4	0.1
LnGrp Delay(d),s/veh	0.0	18.8	20.3	18.7	10.8	3.0	15.6	14.9	17.4	20.1	17.5	11.9
LnGrp LOS		B	C	B	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			605			649			709	
Approach Delay, s/veh		19.6			13.2			15.9			18.6	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	15.4	11.3	9.0	12.7	13.1	0.0	20.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	5.8	8.6	5.7	3.6	2.8	6.7	0.0	4.9				
Green Ext Time (p_c), s	0.7	2.8	1.7	0.4	0.3	2.4	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			16.2									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	670	5	10	712	118	10	15	10	121	0	25
Future Volume (veh/h)	19	670	5	10	712	118	10	15	10	121	0	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	728	5	11	774	128	11	16	11	132	0	27
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1816	12	26	1742	779	165	156	81	366	5	40
Arrive On Green	0.03	0.50	0.50	0.01	0.49	0.49	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1774	3603	25	1774	3539	1583	257	968	499	1177	29	247
Grp Volume(v), veh/h	21	358	375	11	774	128	38	0	0	159	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	1774	1770	1583	1724	0	0	1452	0	0
Q Serve(g_s), s	0.4	4.7	4.7	0.2	5.3	1.7	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	0.4	4.7	4.7	0.2	5.3	1.7	0.7	0.0	0.0	3.8	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.29		0.29	0.83		0.17
Lane Grp Cap(c), veh/h	46	892	937	26	1742	779	402	0	0	410	0	0
V/C Ratio(X)	0.45	0.40	0.40	0.43	0.44	0.16	0.09	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	237	1511	1587	237	3022	1352	1909	0	0	1724	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.0	5.8	5.8	18.3	6.2	5.3	13.5	0.0	0.0	14.7	0.0	0.0
Incr Delay (d2), s/veh	6.7	0.3	0.3	11.0	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.4	2.5	0.2	2.6	0.7	0.3	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	24.7	6.1	6.1	29.3	6.4	5.4	13.6	0.0	0.0	15.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		754			913			38			159	
Approach Delay, s/veh		6.6			6.5			13.6			15.3	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.0	4.5	22.9		10.0	5.0	22.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		2.7	2.2	6.7		5.8	2.4	7.3				
Green Ext Time (p_c), s		1.2	0.0	11.2		1.2	0.0	11.1				
Intersection Summary												
HCM 2010 Ctrl Delay				7.4								
HCM 2010 LOS				A								

Intersection

Int Delay, s/veh	5.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	124	227	284	32	52	163
Future Vol, veh/h	124	227	284	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	247	309	35	57	177

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	343	0	0	842	326
Stage 1	-	-	-	326	-
Stage 2	-	-	-	516	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1216	-	-	334	715
Stage 1	-	-	-	731	-
Stage 2	-	-	-	599	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1216	-	-	297	715
Mov Cap-2 Maneuver	-	-	-	297	-
Stage 1	-	-	-	731	-
Stage 2	-	-	-	532	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1216	-	-	-	533
HCM Lane V/C Ratio	0.111	-	-	-	0.438
HCM Control Delay (s)	8.3	-	-	-	16.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.2

Intersection

Int Delay, s/veh 6.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	211	82	86	27	22	202
Future Vol, veh/h	211	82	86	27	22	202
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	229	89	93	29	24	220

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	123	0	-	0	656 108
Stage 1	-	-	-	-	108 -
Stage 2	-	-	-	-	548 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1464	-	-	-	430 946
Stage 1	-	-	-	-	916 -
Stage 2	-	-	-	-	579 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1464	-	-	-	363 946
Mov Cap-2 Maneuver	-	-	-	-	363 -
Stage 1	-	-	-	-	916 -
Stage 2	-	-	-	-	488 -

Approach	EB	WB	SB
HCM Control Delay, s	5.7	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	817
HCM Lane V/C Ratio	0.157	-	-	-	0.298
HCM Control Delay (s)	7.9	-	-	-	11.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.3

Intersection						
Int Delay, s/veh	4.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	12	83	86	68	84	20
Future Vol, veh/h	12	83	86	68	84	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	90	93	74	91	22

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	363	102	113	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	261	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	636	953	1476	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	594	953	1476	-	-	-
Mov Cap-2 Maneuver	594	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	731	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	4.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1476	-	885	-	-
HCM Lane V/C Ratio	0.063	-	0.117	-	-
HCM Control Delay (s)	7.6	-	9.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	14	16	83	76	0
Future Vol, veh/h	0	14	16	83	76	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	17	90	83	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	108	0	-	0	78 63
Stage 1	-	-	-	-	63 -
Stage 2	-	-	-	-	15 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1483	-	-	-	925 1002
Stage 1	-	-	-	-	960 -
Stage 2	-	-	-	-	1008 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1483	-	-	-	925 1002
Mov Cap-2 Maneuver		-	-	-	925 -
Stage 1		-	-	-	960 -
Stage 2		-	-	-	1008 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1483	-	-	-	925
HCM Lane V/C Ratio	-	-	-	-	0.089
HCM Control Delay (s)	0	-	-	-	9.3
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	88	60	464	73	321	61	381	376	438	675	8
Future Volume (veh/h)	8	88	60	464	73	321	61	381	376	438	675	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	9	96	65	504	0	402	66	414	409	476	734	9
Adj No. of Lanes	1	2	1	2	0	2	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	286	128	663	0	811	365	1119	501	606	1014	454
Arrive On Green	0.01	0.08	0.08	0.19	0.00	0.26	0.21	0.32	0.32	0.18	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	0	3167	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	9	96	65	504	0	402	66	414	409	476	734	9
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	0	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.3	1.7	2.6	9.0	0.0	4.3	2.0	6.0	15.9	8.8	12.4	0.2
Cycle Q Clear(g_c), s	0.3	1.7	2.6	9.0	0.0	4.3	2.0	6.0	15.9	8.8	12.4	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	20	286	128	663	0	811	365	1119	501	606	1014	454
V/C Ratio(X)	0.44	0.34	0.51	0.76	0.00	0.50	0.18	0.37	0.82	0.79	0.72	0.02
Avail Cap(c_a), veh/h	146	2152	963	799	0	2377	365	1674	749	878	2285	1022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	28.9	29.4	25.7	0.0	7.6	21.8	17.6	21.0	26.2	21.4	11.3
Incr Delay (d2), s/veh	14.2	0.7	3.1	3.5	0.0	0.5	0.2	0.2	4.4	3.0	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.9	1.3	4.7	0.0	1.9	1.0	3.0	7.5	4.4	6.2	0.1
LnGrp Delay(d),s/veh	46.9	29.6	32.5	29.2	0.0	8.1	22.1	17.8	25.4	29.2	22.4	11.4
LnGrp LOS	D	C	C	C		A	C	B	C	C	C	B
Approach Vol, veh/h		170			906			889			1219	
Approach Delay, s/veh		31.6			19.8			21.6			25.0	
Approach LOS		C			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	25.1	16.4	9.4	17.7	23.1	4.8	21.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	10.8	17.9	11.0	4.6	4.0	14.4	2.3	6.3				
Green Ext Time (p_c), s	0.9	3.2	1.5	0.8	0.3	4.6	0.0	3.7				
Intersection Summary												
HCM 2010 Ctrl Delay			22.9									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	1075	5	9	1114	222	10	15	13	313	3	41
Future Volume (veh/h)	44	1075	5	9	1114	222	10	15	13	313	3	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	48	1168	5	10	1211	241	11	16	14	340	3	45
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1751	7	22	1603	717	182	257	192	502	4	53
Arrive On Green	0.04	0.48	0.48	0.01	0.45	0.45	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	3614	15	1774	3539	1583	353	796	596	1242	11	164
Grp Volume(v), veh/h	48	572	601	10	1211	241	41	0	0	388	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1745	0	0	1418	0	0
Q Serve(g_s), s	1.8	16.4	16.4	0.4	19.0	6.5	0.0	0.0	0.0	15.8	0.0	0.0
Cycle Q Clear(g_c), s	1.8	16.4	16.4	0.4	19.0	6.5	1.1	0.0	0.0	16.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.27		0.34	0.88		0.12
Lane Grp Cap(c), veh/h	78	857	901	22	1603	717	632	0	0	559	0	0
V/C Ratio(X)	0.61	0.67	0.67	0.44	0.76	0.34	0.06	0.00	0.00	0.69	0.00	0.00
Avail Cap(c_a), veh/h	133	857	901	133	1699	760	1101	0	0	968	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.3	13.1	13.1	32.7	15.2	11.8	15.6	0.0	0.0	20.9	0.0	0.0
Incr Delay (d2), s/veh	7.5	2.0	1.9	13.1	1.9	0.3	0.0	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.4	8.8	0.3	9.5	2.9	0.5	0.0	0.0	6.8	0.0	0.0
LnGrp Delay(d),s/veh	38.8	15.1	15.0	45.8	17.0	12.0	15.7	0.0	0.0	22.4	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h		1221			1462			41			388	
Approach Delay, s/veh		16.0			16.4			15.7			22.4	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.5	4.8	36.3		25.5	6.9	34.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.1	2.4	18.4		18.9	3.8	21.0				
Green Ext Time (p_c), s		2.9	0.0	11.4		2.6	0.0	9.2				
Intersection Summary												
HCM 2010 Ctrl Delay				17.0								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 8.8

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	180	400	343	77	73	137
Future Vol, veh/h	180	400	343	77	73	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	196	435	373	84	79	149

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	457	0	-	0	1241	415
Stage 1	-	-	-	-	415	-
Stage 2	-	-	-	-	826	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1104	-	-	-	193	637
Stage 1	-	-	-	-	666	-
Stage 2	-	-	-	-	430	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1104	-	-	-	159	637
Mov Cap-2 Maneuver	-	-	-	-	159	-
Stage 1	-	-	-	-	666	-
Stage 2	-	-	-	-	354	-

Approach EB WB SB

HCM Control Delay, s	2.8	0	42.8
HCM LOS			E

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1104	-	-	-	311
HCM Lane V/C Ratio	0.177	-	-	-	0.734
HCM Control Delay (s)	9	-	-	-	42.8
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.6	-	-	-	5.4

Intersection

Int Delay, s/veh 11.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	354	131	109	59	55	281
Future Vol, veh/h	354	131	109	59	55	281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	385	142	118	64	60	305

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	183	0	0	1063	151
Stage 1	-	-	-	151	-
Stage 2	-	-	-	912	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1392	-	-	247	895
Stage 1	-	-	-	877	-
Stage 2	-	-	-	392	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1392	-	-	179	895
Mov Cap-2 Maneuver	-	-	-	179	-
Stage 1	-	-	-	877	-
Stage 2	-	-	-	284	-

Approach

	EB	WB	SB
HCM Control Delay, s	6.3	0	24.4
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1392	-	-	-	541
HCM Lane V/C Ratio	0.276	-	-	-	0.675
HCM Control Delay (s)	8.6	-	-	-	24.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.1	-	-	-	5.1

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑		↑
Traffic Vol, veh/h	17	14	34	109	116	27
Future Vol, veh/h	17	14	34	109	116	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	15	37	118	126	29

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	333	141	155	0	0
Stage 1	141	-	-	-	-
Stage 2	192	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	662	907	1425	-	-
Stage 1	886	-	-	-	-
Stage 2	841	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	643	907	1425	-	-
Mov Cap-2 Maneuver	643	-	-	-	-
Stage 1	886	-	-	-	-
Stage 2	817	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	1.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1425	-	740	-	-
HCM Lane V/C Ratio	0.026	-	0.046	-	-
HCM Control Delay (s)	7.6	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection						
Int Delay, s/veh	14.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	15	29	670	468	0
Future Vol, veh/h	0	15	29	670	468	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	32	728	509	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	760	0	-	0	412 396
Stage 1	-	-	-	-	396 -
Stage 2	-	-	-	-	16 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	852	-	-	-	596 653
Stage 1	-	-	-	-	680 -
Stage 2	-	-	-	-	1007 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	852	-	-	-	596 653
Mov Cap-2 Maneuver	-	-	-	-	596 -
Stage 1	-	-	-	-	680 -
Stage 2	-	-	-	-	1007 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	36.4
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	852	-	-	-	596
HCM Lane V/C Ratio	-	-	-	-	0.854
HCM Control Delay (s)	0	-	-	-	36.4
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	9.4

Intersection

Int Delay, s/veh 8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔	
Traffic Vol, veh/h	151	332	0	0	258	2	0	0	0	5	0	442
Future Vol, veh/h	151	332	0	0	258	2	0	0	0	5	0	442
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	164	361	0	0	280	2	0	0	0	5	0	480

Major/Minor	Major1			Major2			Minor2				
Conflicting Flow All	283	0	0	361	0	0			971	971	282
Stage 1	-	-	-	-	-	-			282	282	-
Stage 2	-	-	-	-	-	-			689	689	-
Critical Hdwy	4.12	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	1279	-	-	1198	-	-			280	253	757
Stage 1	-	-	-	-	-	-			766	678	-
Stage 2	-	-	-	-	-	-			498	446	-
Platoon blocked, %		-	-		-	-					
Mov Cap-1 Maneuver	1279	-	-	1198	-	-			235	0	757
Mov Cap-2 Maneuver	-	-	-	-	-	-			235	0	-
Stage 1	-	-	-	-	-	-			766	0	-
Stage 2	-	-	-	-	-	-			418	0	-

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	18.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1279	-	-	1198	-	-	739
HCM Lane V/C Ratio	0.128	-	-	-	-	-	0.657
HCM Control Delay (s)	8.2	-	-	0	-	-	18.7
HCM Lane LOS	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	0	-	-	5

Intersection												
Int Delay, s/veh	21.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	306	31	0	0	47	4	212	0	2	0	0	0
Future Vol, veh/h	306	31	0	0	47	4	212	0	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	333	34	0	0	51	4	230	0	2	0	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	55	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1550	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1550	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	7.2	0	49.9
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	297	1550	-	-	-
HCM Lane V/C Ratio	0.783	0.215	-	-	-
HCM Control Delay (s)	49.9	8	0	-	-
HCM Lane LOS	E	A	A	-	-
HCM 95th %tile Q(veh)	6.1	0.8	-	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions
Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	49	47	295	52	233	39	316	287	362	367	5
Future Volume (veh/h)	0	49	47	295	52	233	39	316	287	362	367	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	53	51	321	0	291	42	343	312	393	399	5
Adj No. of Lanes	1	2	1	2	0	2	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	344	154	543	0	1040	442	965	432	566	666	298
Arrive On Green	0.00	0.10	0.10	0.15	0.00	0.33	0.25	0.27	0.27	0.16	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	0	3167	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	53	51	321	0	291	42	343	312	393	399	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	0	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.7	1.5	4.3	0.0	1.8	0.9	4.0	9.1	5.5	5.3	0.1
Cycle Q Clear(g_c), s	0.0	0.7	1.5	4.3	0.0	1.8	0.9	4.0	9.1	5.5	5.3	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	344	154	543	0	1040	442	965	432	566	666	298
V/C Ratio(X)	0.00	0.15	0.33	0.59	0.00	0.28	0.10	0.36	0.72	0.69	0.60	0.02
Avail Cap(c_a), veh/h	191	2800	1252	1039	0	3092	442	2177	974	1143	2972	1330
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.2	21.6	20.2	0.0	3.5	14.8	15.0	16.9	20.2	19.0	13.8
Incr Delay (d2), s/veh	0.0	0.2	1.2	1.0	0.0	0.1	0.1	0.2	2.3	1.5	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.7	2.2	0.0	0.8	0.5	2.0	4.2	2.7	2.6	0.1
LnGrp Delay(d),s/veh	0.0	21.4	22.8	21.2	0.0	3.6	14.9	15.2	19.2	21.7	19.9	13.8
LnGrp LOS		C	C	C		A	B	B	B	C	B	B
Approach Vol, veh/h		104			612			697			797	
Approach Delay, s/veh		22.1			12.8			17.0			20.8	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	18.0	11.8	9.0	16.7	13.6	0.0	20.8				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.5	11.1	6.3	3.5	2.9	7.3	0.0	3.8				
Green Ext Time (p_c), s	0.9	2.8	1.6	0.4	0.4	2.4	0.0	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			17.4									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	803	5	9	762	121	10	15	13	111	0	27
Future Volume (veh/h)	18	803	5	9	762	121	10	15	13	111	0	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	20	873	5	10	828	132	11	16	14	121	0	29
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	1915	11	23	1837	822	152	135	89	339	6	43
Arrive On Green	0.02	0.53	0.53	0.01	0.52	0.52	0.15	0.15	0.15	0.15	0.00	0.15
Sat Flow, veh/h	1774	3608	21	1774	3539	1583	241	888	586	1141	37	282
Grp Volume(v), veh/h	20	428	450	10	828	132	41	0	0	150	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1715	0	0	1461	0	0
Q Serve(g_s), s	0.4	5.9	5.9	0.2	5.8	1.7	0.0	0.0	0.0	2.9	0.0	0.0
Cycle Q Clear(g_c), s	0.4	5.9	5.9	0.2	5.8	1.7	0.8	0.0	0.0	3.7	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.27		0.34	0.81		0.19
Lane Grp Cap(c), veh/h	44	939	987	23	1837	822	377	0	0	387	0	0
V/C Ratio(X)	0.45	0.46	0.46	0.43	0.45	0.16	0.11	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	225	1433	1506	225	2867	1283	1805	0	0	1636	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.0	5.7	5.7	19.3	6.0	5.0	14.5	0.0	0.0	15.7	0.0	0.0
Incr Delay (d2), s/veh	7.0	0.3	0.3	11.9	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.9	3.1	0.2	2.8	0.8	0.4	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	26.0	6.1	6.1	31.3	6.1	5.1	14.7	0.0	0.0	16.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		898			970			41			150	
Approach Delay, s/veh		6.5			6.3			14.7			16.3	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.0	4.5	25.0		10.0	5.0	24.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		2.8	2.2	7.9		5.7	2.4	7.8				
Green Ext Time (p_c), s		1.1	0.0	12.7		1.1	0.0	12.7				
Intersection Summary												
HCM 2010 Ctrl Delay				7.3								
HCM 2010 LOS				A								

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	113	204	250	34	51	142
Future Vol, veh/h	113	204	250	34	51	142
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	222	272	37	55	154

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	309	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1252	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1252	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1252	-	-	-	567
HCM Lane V/C Ratio	0.098	-	-	-	0.37
HCM Control Delay (s)	8.2	-	-	-	15
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	1.7

Intersection

Int Delay, s/veh 7.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	199	66	73	43	49	188
Future Vol, veh/h	199	66	73	43	49	188
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	216	72	79	47	53	204

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	126	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1460	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1460	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1460	-	-	-	735
HCM Lane V/C Ratio	0.148	-	-	-	0.35
HCM Control Delay (s)	7.9	-	-	-	12.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1.6

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	18	32	13	65	69	33
Future Vol, veh/h	18	32	13	65	69	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	35	14	71	75	36

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	192	93	111	0	-	0
Stage 1	93	-	-	-	-	-
Stage 2	99	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	797	964	1479	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	789	964	1479	-	-	-
Mov Cap-2 Maneuver	789	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	916	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1479	-	893	-	-
HCM Lane V/C Ratio	0.01	-	0.061	-	-
HCM Control Delay (s)	7.5	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection

Int Delay, s/veh 28.3

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	18	22	862	501	0
Future Vol, veh/h	0	18	22	862	501	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	937	545	0

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	961	0	-	0	512	492
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	716	-	-	-	~ 522	577
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	716	-	-	-	~ 522	577
Mov Cap-2 Maneuver	-	-	-	-	~ 522	-
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	1003	-

Approach EB WB SB

HCM Control Delay, s	0	0	79.3
HCM LOS			F

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	716	-	-	-	522
HCM Lane V/C Ratio	-	-	-	-	1.043
HCM Control Delay (s)	0	-	-	-	79.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	15.8

Notes

-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 20.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔	
Traffic Vol, veh/h	161	358	0	0	319	2	0	0	0	11	0	565
Future Vol, veh/h	161	358	0	0	319	2	0	0	0	11	0	565
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	175	389	0	0	347	2	0	0	0	12	0	614

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	349	0	0	389	0	0	1087	1087	348
Stage 1	-	-	-	-	-	-	348	348	-
Stage 2	-	-	-	-	-	-	739	739	-
Critical Hdwy	4.12	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1210	-	-	1170	-	-	239	216	695
Stage 1	-	-	-	-	-	-	715	634	-
Stage 2	-	-	-	-	-	-	472	424	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1210	-	-	1170	-	-	195	0	695
Mov Cap-2 Maneuver	-	-	-	-	-	-	195	0	-
Stage 1	-	-	-	-	-	-	715	0	-
Stage 2	-	-	-	-	-	-	385	0	-

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	47.5
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1210	-	-	1170	-	-	663
HCM Lane V/C Ratio	0.145	-	-	-	-	-	0.944
HCM Control Delay (s)	8.5	-	-	0	-	-	47.5
HCM Lane LOS	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.5	-	-	0	-	-	13.2

Intersection												
Int Delay, s/veh	55											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	327	40	0	0	47	4	274	0	4	0	0	0
Future Vol, veh/h	327	40	0	0	47	4	274	0	4	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	355	43	0	0	51	4	298	0	4	0	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	55	0	- - - 0 807 809 43
Stage 1	-	-	- - - 754 754 -
Stage 2	-	-	- - - 53 55 -
Critical Hdwy	4.12	-	- - - 6.42 6.52 6.22
Critical Hdwy Stg 1	-	-	- - - 5.42 5.52 -
Critical Hdwy Stg 2	-	-	- - - 5.42 5.52 -
Follow-up Hdwy	2.218	-	- - - 3.518 4.018 3.318
Pot Cap-1 Maneuver	1550	- 0 0	- - - 351 314 1027
Stage 1	-	- 0 0	- - - 465 417 -
Stage 2	-	- 0 0	- - - 970 849 -
Platoon blocked, %	-	-	- - -
Mov Cap-1 Maneuver	1550	- - -	- - - 269 0 1027
Mov Cap-2 Maneuver	-	- - -	- - - 269 0 -
Stage 1	-	- - -	- - - 356 0 -
Stage 2	-	- - -	- - - 970 0 -

Approach	EB	WB	NB
HCM Control Delay, s	7.1	0	128.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	272	1550	-	-	-
HCM Lane V/C Ratio	1.111	0.229	-	-	-
HCM Control Delay (s)	128.3	8	0	-	-
HCM Lane LOS	F	A	A	-	-
HCM 95th %tile Q(veh)	12.7	0.9	-	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	88	60	456	73	304	61	381	369	423	675	8
Future Volume (veh/h)	8	88	60	456	73	304	61	381	369	423	675	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	9	96	65	496	267	204	66	414	401	460	734	9
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	288	129	671	482	410	350	1107	495	593	1019	456
Arrive On Green	0.01	0.08	0.08	0.19	0.26	0.26	0.20	0.31	0.31	0.17	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	9	96	65	496	267	204	66	414	401	460	734	9
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.3	1.7	2.6	8.6	8.1	4.3	2.0	6.0	15.3	8.4	12.2	0.2
Cycle Q Clear(g_c), s	0.3	1.7	2.6	8.6	8.1	4.3	2.0	6.0	15.3	8.4	12.2	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	20	288	129	671	482	410	350	1107	495	593	1019	456
V/C Ratio(X)	0.44	0.33	0.50	0.74	0.55	0.50	0.19	0.37	0.81	0.78	0.72	0.02
Avail Cap(c_a), veh/h	149	2189	979	813	1423	1209	350	1703	762	894	2325	1040
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	28.4	28.8	25.0	21.0	7.5	21.9	17.5	20.7	25.9	20.9	11.0
Incr Delay (d2), s/veh	14.1	0.7	3.0	2.9	1.0	0.9	0.3	0.2	3.8	2.5	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.8	1.2	4.5	4.3	2.8	1.0	2.9	7.1	4.2	6.1	0.1
LnGrp Delay(d),s/veh	46.3	29.1	31.8	27.9	22.0	8.4	22.2	17.7	24.5	28.3	21.9	11.0
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		170			967			881			1203	
Approach Delay, s/veh		31.0			22.2			21.1			24.3	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.3	24.5	16.4	9.3	16.9	22.9	4.8	21.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	10.4	17.3	10.6	4.6	4.0	14.2	2.3	10.1				
Green Ext Time (p_c), s	0.9	3.2	1.8	0.8	0.3	4.7	0.0	4.3				
Intersection Summary												
HCM 2010 Ctrl Delay			23.1									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	1053	5	9	1089	222	10	15	13	313	3	41
Future Volume (veh/h)	44	1053	5	9	1089	222	10	15	13	313	3	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	48	1145	5	10	1184	241	11	16	14	340	3	45
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1748	8	22	1601	716	183	257	192	503	4	53
Arrive On Green	0.04	0.48	0.48	0.01	0.45	0.45	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	3614	16	1774	3539	1583	353	797	596	1242	11	164
Grp Volume(v), veh/h	48	561	589	10	1184	241	41	0	0	388	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1745	0	0	1418	0	0
Q Serve(g_s), s	1.8	15.9	15.9	0.4	18.3	6.5	0.0	0.0	0.0	15.8	0.0	0.0
Cycle Q Clear(g_c), s	1.8	15.9	15.9	0.4	18.3	6.5	1.1	0.0	0.0	16.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.27		0.34	0.88		0.12
Lane Grp Cap(c), veh/h	78	856	900	22	1601	716	632	0	0	559	0	0
V/C Ratio(X)	0.61	0.65	0.65	0.44	0.74	0.34	0.06	0.00	0.00	0.69	0.00	0.00
Avail Cap(c_a), veh/h	133	856	900	133	1704	763	1104	0	0	971	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.2	13.0	13.0	32.6	15.0	11.8	15.6	0.0	0.0	20.8	0.0	0.0
Incr Delay (d2), s/veh	7.5	1.8	1.7	13.1	1.6	0.3	0.0	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.1	8.5	0.3	9.2	2.9	0.5	0.0	0.0	6.8	0.0	0.0
LnGrp Delay(d),s/veh	38.7	14.8	14.7	45.7	16.6	12.0	15.6	0.0	0.0	22.4	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h		1198			1435			41			388	
Approach Delay, s/veh		15.7			16.1			15.6			22.4	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.5	4.8	36.1		25.5	6.9	34.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.1	2.4	17.9		18.9	3.8	20.3				
Green Ext Time (p_c), s		2.9	0.0	11.6		2.6	0.0	9.8				
Intersection Summary												
HCM 2010 Ctrl Delay				16.7								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 8.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	180	400	343	77	73	137
Future Vol, veh/h	180	400	343	77	73	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	196	435	373	84	79	149

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	457	0	0	1241	415
Stage 1	-	-	-	415	-
Stage 2	-	-	-	826	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1104	-	-	193	637
Stage 1	-	-	-	666	-
Stage 2	-	-	-	430	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1104	-	-	159	637
Mov Cap-2 Maneuver	-	-	-	159	-
Stage 1	-	-	-	666	-
Stage 2	-	-	-	354	-

Approach

	EB	WB	SB
HCM Control Delay, s	2.8	0	42.8
HCM LOS			E

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1104	-	-	-	311
HCM Lane V/C Ratio	0.177	-	-	-	0.734
HCM Control Delay (s)	9	-	-	-	42.8
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.6	-	-	-	5.4

Intersection

Int Delay, s/veh 10.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	354	131	109	55	51	281
Future Vol, veh/h	354	131	109	55	51	281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	385	142	118	60	55	305

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	178	0	0	1060	148
Stage 1	-	-	-	148	-
Stage 2	-	-	-	912	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1398	-	-	248	899
Stage 1	-	-	-	880	-
Stage 2	-	-	-	392	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1398	-	-	180	899
Mov Cap-2 Maneuver	-	-	-	180	-
Stage 1	-	-	-	880	-
Stage 2	-	-	-	284	-

Approach

	EB	WB	SB
HCM Control Delay, s	6.2	0	22.6
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1398	-	-	-	557
HCM Lane V/C Ratio	0.275	-	-	-	0.648
HCM Control Delay (s)	8.6	-	-	-	22.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.1	-	-	-	4.6

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	13	14	34	109	116	23
Future Vol, veh/h	13	14	34	109	116	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	15	37	118	126	25

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	331	139	151	0	0
Stage 1	139	-	-	-	-
Stage 2	192	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	664	909	1430	-	-
Stage 1	888	-	-	-	-
Stage 2	841	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	645	909	1430	-	-
Mov Cap-2 Maneuver	645	-	-	-	-
Stage 1	888	-	-	-	-
Stage 2	817	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1430	-	759	-	-
HCM Lane V/C Ratio	0.026	-	0.039	-	-
HCM Control Delay (s)	7.6	-	9.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection

Int Delay, s/veh 6.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	15	29	556	344	0
Future Vol, veh/h	0	15	29	556	344	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	32	604	374	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	636	0	350
Stage 1	-	-	334
Stage 2	-	-	16
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	947	-	647
Stage 1	-	-	725
Stage 2	-	-	1007
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	947	-	647
Mov Cap-2 Maneuver	-	-	647
Stage 1	-	-	725
Stage 2	-	-	1007

Approach	EB	WB	SB
HCM Control Delay, s	0	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	947	-	-	-	647
HCM Lane V/C Ratio	-	-	-	-	0.578
HCM Control Delay (s)	0	-	-	-	17.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	3.7

Intersection

Int Delay, s/veh 6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔	
Traffic Vol, veh/h	111	248	0	0	217	2	0	0	0	5	0	368
Future Vol, veh/h	111	248	0	0	217	2	0	0	0	5	0	368
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	121	270	0	0	236	2	0	0	0	5	0	400

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	238	0	0	270	0	0		748	748	237
Stage 1	-	-	-	-	-	-		237	237	-
Stage 2	-	-	-	-	-	-		511	511	-
Critical Hdwy	4.12	-	-	4.12	-	-		6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-		5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-		3.518	4.018	3.318
Pot Cap-1 Maneuver	1329	-	-	1293	-	-		380	341	802
Stage 1	-	-	-	-	-	-		802	709	-
Stage 2	-	-	-	-	-	-		602	537	-
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	1329	-	-	1293	-	-		339	0	802
Mov Cap-2 Maneuver	-	-	-	-	-	-		339	0	-
Stage 1	-	-	-	-	-	-		802	0	-
Stage 2	-	-	-	-	-	-		538	0	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1329	-	-	1293	-	-	788
HCM Lane V/C Ratio	0.091	-	-	-	-	-	0.515
HCM Control Delay (s)	8	-	-	0	-	-	14.3
HCM Lane LOS	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	0	-	-	3

Intersection

Int Delay, s/veh 11.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕				
Traffic Vol, veh/h	226	27	0	0	43	4	176	0	2	0	0	0
Future Vol, veh/h	226	27	0	0	43	4	176	0	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	246	29	0	0	47	4	191	0	2	0	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	51	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1555	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1555	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	6.9	0	21.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	408	1555	-	-	-
HCM Lane V/C Ratio	0.474	0.158	-	-	-
HCM Control Delay (s)	21.5	7.7	0	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	2.5	0.6	-	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions
Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	49	47	279	52	200	39	316	271	328	367	5
Future Volume (veh/h)	0	49	47	279	52	200	39	316	271	328	367	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	53	51	303	177	137	42	343	295	357	399	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	359	160	543	625	531	406	940	420	533	677	303
Arrive On Green	0.00	0.10	0.10	0.15	0.34	0.34	0.23	0.27	0.27	0.15	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	53	51	303	177	137	42	343	295	357	399	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.7	1.5	3.9	3.4	1.6	0.9	3.9	8.3	4.8	5.1	0.1
Cycle Q Clear(g_c), s	0.0	0.7	1.5	3.9	3.4	1.6	0.9	3.9	8.3	4.8	5.1	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	359	160	543	625	531	406	940	420	533	677	303
V/C Ratio(X)	0.00	0.15	0.32	0.56	0.28	0.26	0.10	0.36	0.70	0.67	0.59	0.02
Avail Cap(c_a), veh/h	198	2915	1304	1082	1894	1610	406	2267	1014	1190	3094	1384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.2	20.5	19.3	12.0	3.2	15.0	14.7	16.3	19.6	18.1	13.1
Incr Delay (d2), s/veh	0.0	0.2	1.1	0.9	0.2	0.3	0.1	0.2	2.1	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.7	2.0	1.8	1.2	0.5	1.9	3.9	2.4	2.5	0.1
LnGrp Delay(d),s/veh	0.0	20.3	21.6	20.2	12.2	3.5	15.1	14.9	18.4	21.1	18.9	13.1
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		104			617			680			761	
Approach Delay, s/veh		21.0			14.2			16.5			19.9	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	17.1	11.5	9.0	15.3	13.4	0.0	20.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.8	10.3	5.9	3.5	2.9	7.1	0.0	5.4				
Green Ext Time (p_c), s	0.9	2.8	1.8	0.4	0.4	2.4	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay				17.2								
HCM 2010 LOS				B								
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	753	5	9	714	121	10	15	13	111	0	27
Future Volume (veh/h)	18	753	5	9	714	121	10	15	13	111	0	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	20	818	5	10	776	132	11	16	14	121	0	29
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	1866	11	23	1789	800	158	136	90	347	5	43
Arrive On Green	0.03	0.52	0.52	0.01	0.51	0.51	0.15	0.15	0.15	0.15	0.00	0.15
Sat Flow, veh/h	1774	3606	22	1774	3539	1583	244	885	585	1144	34	282
Grp Volume(v), veh/h	20	401	422	10	776	132	41	0	0	150	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1715	0	0	1461	0	0
Q Serve(g_s), s	0.4	5.4	5.4	0.2	5.3	1.7	0.0	0.0	0.0	2.8	0.0	0.0
Cycle Q Clear(g_c), s	0.4	5.4	5.4	0.2	5.3	1.7	0.8	0.0	0.0	3.6	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.27		0.34	0.81		0.19
Lane Grp Cap(c), veh/h	44	916	962	23	1789	800	383	0	0	395	0	0
V/C Ratio(X)	0.45	0.44	0.44	0.43	0.43	0.16	0.11	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	234	1492	1567	234	2984	1335	1877	0	0	1702	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.2	5.7	5.7	18.6	5.9	5.1	13.9	0.0	0.0	15.1	0.0	0.0
Incr Delay (d2), s/veh	7.0	0.3	0.3	11.9	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.6	2.8	0.2	2.5	0.8	0.4	0.0	0.0	1.5	0.0	0.0
LnGrp Delay(d),s/veh	25.2	6.0	6.0	30.5	6.1	5.2	14.1	0.0	0.0	15.7	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		843			918			41			150	
Approach Delay, s/veh		6.5			6.2			14.1			15.7	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.8	4.5	23.6		9.8	5.0	23.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		2.8	2.2	7.4		5.6	2.4	7.3				
Green Ext Time (p_c), s		1.1	0.0	11.9		1.1	0.0	11.9				
Intersection Summary												
HCM 2010 Ctrl Delay				7.2								
HCM 2010 LOS				A								

Intersection

Int Delay, s/veh 4.8

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	113	204	250	34	51	142
Future Vol, veh/h	113	204	250	34	51	142
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	222	272	37	55	154

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	309	0	-	0	757	290
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	467	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1252	-	-	-	375	749
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	631	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1252	-	-	-	338	749
Mov Cap-2 Maneuver	-	-	-	-	338	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	569	-

Approach EB WB SB

HCM Control Delay, s	2.9	0	15
HCM LOS			C

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1252	-	-	-	567
HCM Lane V/C Ratio	0.098	-	-	-	0.37
HCM Control Delay (s)	8.2	-	-	-	15
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	1.7

Intersection

Int Delay, s/veh 7.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	199	66	73	34	40	188
Future Vol, veh/h	199	66	73	34	40	188
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	216	72	79	37	43	204

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	116	0	-	0	602 98
Stage 1	-	-	-	-	98 -
Stage 2	-	-	-	-	504 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1473	-	-	-	463 958
Stage 1	-	-	-	-	926 -
Stage 2	-	-	-	-	607 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1473	-	-	-	395 958
Mov Cap-2 Maneuver		-	-	-	395 -
Stage 1		-	-	-	926 -
Stage 2		-	-	-	518 -

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1473	-	-	-	766
HCM Lane V/C Ratio	0.147	-	-	-	0.324
HCM Control Delay (s)	7.9	-	-	-	11.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1.4

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	9	32	13	65	69	24
Future Vol, veh/h	9	32	13	65	69	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	35	14	71	75	26

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	187	88	101	0	0
Stage 1	88	-	-	-	-
Stage 2	99	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	802	970	1491	-	-
Stage 1	935	-	-	-	-
Stage 2	925	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	794	970	1491	-	-
Mov Cap-2 Maneuver	794	-	-	-	-
Stage 1	935	-	-	-	-
Stage 2	916	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1491	-	925	-	-
HCM Lane V/C Ratio	0.009	-	0.048	-	-
HCM Control Delay (s)	7.4	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection

Int Delay, s/veh 4.3

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	0	18	22	607	256	0
Future Vol, veh/h	0	18	22	607	256	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	660	278	0

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	684	0	-	0	374	354
Stage 1	-	-	-	-	354	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	909	-	-	-	627	690
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	909	-	-	-	627	690
Mov Cap-2 Maneuver	-	-	-	-	627	-
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	1003	-

Approach EB WB SB

HCM Control Delay, s	0	0	15.2
HCM LOS			C

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	909	-	-	-	627
HCM Lane V/C Ratio	-	-	-	-	0.444
HCM Control Delay (s)	0	-	-	-	15.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	2.3

Intersection

Int Delay, s/veh 7.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔	
Traffic Vol, veh/h	83	191	0	0	228	2	0	0	0	11	0	401
Future Vol, veh/h	83	191	0	0	228	2	0	0	0	11	0	401
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	90	208	0	0	248	2	0	0	0	12	0	436

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	250	0	0	208	0	0		637	637	249
Stage 1	-	-	-	-	-	-		249	249	-
Stage 2	-	-	-	-	-	-		388	388	-
Critical Hdwy	4.12	-	-	4.12	-	-		6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-		5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-		3.518	4.018	3.318
Pot Cap-1 Maneuver	1316	-	-	1363	-	-		441	395	790
Stage 1	-	-	-	-	-	-		792	701	-
Stage 2	-	-	-	-	-	-		686	609	-
Platoon blocked, %		-	-	-	-	-				
Mov Cap-1 Maneuver	1316	-	-	1363	-	-		407	0	790
Mov Cap-2 Maneuver	-	-	-	-	-	-		407	0	-
Stage 1	-	-	-	-	-	-		792	0	-
Stage 2	-	-	-	-	-	-		633	0	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	15.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1316	-	-	1363	-	-	771
HCM Lane V/C Ratio	0.069	-	-	-	-	-	0.581
HCM Control Delay (s)	7.9	-	-	0	-	-	15.9
HCM Lane LOS	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	0	-	-	3.8

Intersection												
Int Delay, s/veh	10.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	170	31	0	0	38	4	192	0	4	0	0	0
Future Vol, veh/h	170	31	0	0	38	4	192	0	4	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	185	34	0	0	41	4	209	0	4	0	0	0

























Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	46	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1562	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1562	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	6.4	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	506	1562	-	-	-
HCM Lane V/C Ratio	0.421	0.118	-	-	-
HCM Control Delay (s)	17.2	7.6	0	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	2.1	0.4	-	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	88	60	459	73	311	61	381	371	428	675	8
Future Volume (veh/h)	8	88	60	459	73	311	61	381	371	428	675	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	9	96	65	499	273	208	66	414	403	465	734	9
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	287	128	672	482	410	354	1109	496	597	1017	455
Arrive On Green	0.01	0.08	0.08	0.19	0.26	0.26	0.20	0.31	0.31	0.17	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	9	96	65	499	273	208	66	414	403	465	734	9
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.3	1.7	2.6	8.7	8.4	4.5	2.0	6.0	15.5	8.5	12.3	0.2
Cycle Q Clear(g_c), s	0.3	1.7	2.6	8.7	8.4	4.5	2.0	6.0	15.5	8.5	12.3	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	20	287	128	672	482	410	354	1109	496	597	1017	455
V/C Ratio(X)	0.44	0.33	0.51	0.74	0.57	0.51	0.19	0.37	0.81	0.78	0.72	0.02
Avail Cap(c_a), veh/h	148	2174	973	807	1413	1201	354	1691	756	887	2308	1033
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	28.6	29.0	25.2	21.2	7.6	21.9	17.6	20.8	26.0	21.1	11.1
Incr Delay (d2), s/veh	14.2	0.7	3.1	3.0	1.0	1.0	0.3	0.2	4.0	2.6	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.9	1.2	4.6	4.5	2.8	1.0	3.0	7.3	4.2	6.2	0.1
LnGrp Delay(d),s/veh	46.5	29.3	32.1	28.2	22.3	8.5	22.2	17.8	24.8	28.7	22.1	11.2
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		170			980			883			1208	
Approach Delay, s/veh		31.3			22.4			21.3			24.6	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	24.7	16.5	9.3	17.2	22.9	4.8	21.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	10.5	17.5	10.7	4.6	4.0	14.3	2.3	10.4				
Green Ext Time (p_c), s	0.9	3.2	1.7	0.8	0.3	4.6	0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay			23.4									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	1060	5	9	1099	222	10	15	13	313	3	41
Future Volume (veh/h)	44	1060	5	9	1099	222	10	15	13	313	3	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	48	1152	5	10	1195	241	11	16	14	340	3	45
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	1749	8	22	1602	717	182	257	192	503	4	53
Arrive On Green	0.04	0.48	0.48	0.01	0.45	0.45	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	3614	16	1774	3539	1583	353	796	596	1242	11	164
Grp Volume(v), veh/h	48	564	593	10	1195	241	41	0	0	388	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1745	0	0	1418	0	0
Q Serve(g_s), s	1.8	16.1	16.1	0.4	18.6	6.5	0.0	0.0	0.0	15.8	0.0	0.0
Cycle Q Clear(g_c), s	1.8	16.1	16.1	0.4	18.6	6.5	1.1	0.0	0.0	16.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.27		0.34	0.88		0.12
Lane Grp Cap(c), veh/h	78	857	900	22	1602	717	632	0	0	559	0	0
V/C Ratio(X)	0.61	0.66	0.66	0.44	0.75	0.34	0.06	0.00	0.00	0.69	0.00	0.00
Avail Cap(c_a), veh/h	133	857	900	133	1702	762	1103	0	0	970	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.2	13.0	13.0	32.6	15.1	11.8	15.6	0.0	0.0	20.8	0.0	0.0
Incr Delay (d2), s/veh	7.5	1.9	1.8	13.1	1.7	0.3	0.0	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.3	8.7	0.3	9.3	2.9	0.5	0.0	0.0	6.8	0.0	0.0
LnGrp Delay(d),s/veh	38.7	14.9	14.8	45.8	16.8	12.0	15.7	0.0	0.0	22.4	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h		1205			1446			41			388	
Approach Delay, s/veh		15.8			16.2			15.7			22.4	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.5	4.8	36.2		25.5	6.9	34.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.1	2.4	18.1		18.9	3.8	20.6				
Green Ext Time (p_c), s		2.9	0.0	11.5		2.6	0.0	9.5				
Intersection Summary												
HCM 2010 Ctrl Delay				16.8								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 8.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	180	400	343	77	73	137
Future Vol, veh/h	180	400	343	77	73	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	196	435	373	84	79	149

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	457	0	0	1241	415
Stage 1	-	-	-	415	-
Stage 2	-	-	-	826	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1104	-	-	193	637
Stage 1	-	-	-	666	-
Stage 2	-	-	-	430	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1104	-	-	159	637
Mov Cap-2 Maneuver	-	-	-	159	-
Stage 1	-	-	-	666	-
Stage 2	-	-	-	354	-

Approach

	EB	WB	SB
HCM Control Delay, s	2.8	0	42.8
HCM LOS			E

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1104	-	-	-	311
HCM Lane V/C Ratio	0.177	-	-	-	0.734
HCM Control Delay (s)	9	-	-	-	42.8
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.6	-	-	-	5.4

Intersection

Int Delay, s/veh 10.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	354	131	109	56	52	281
Future Vol, veh/h	354	131	109	56	52	281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	385	142	118	61	57	305

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	179	0	0	1061	149
Stage 1	-	-	-	149	-
Stage 2	-	-	-	912	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1397	-	-	248	898
Stage 1	-	-	-	879	-
Stage 2	-	-	-	392	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1397	-	-	180	898
Mov Cap-2 Maneuver	-	-	-	180	-
Stage 1	-	-	-	879	-
Stage 2	-	-	-	284	-

Approach

	EB	WB	SB
HCM Control Delay, s	6.2	0	23
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1397	-	-	-	553
HCM Lane V/C Ratio	0.275	-	-	-	0.655
HCM Control Delay (s)	8.6	-	-	-	23
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.1	-	-	-	4.7

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑		↑
Traffic Vol, veh/h	14	14	34	109	116	24
Future Vol, veh/h	14	14	34	109	116	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	15	37	118	126	26

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	331	139	152	0	0
Stage 1	139	-	-	-	-
Stage 2	192	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	664	909	1429	-	-
Stage 1	888	-	-	-	-
Stage 2	841	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	645	909	1429	-	-
Mov Cap-2 Maneuver	645	-	-	-	-
Stage 1	888	-	-	-	-
Stage 2	817	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	1.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1429	-	755	-	-
HCM Lane V/C Ratio	0.026	-	0.04	-	-
HCM Control Delay (s)	7.6	-	10	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection

Int Delay, s/veh 8.3

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	15	29	595	393	0
Future Vol, veh/h	0	15	29	595	393	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	32	647	427	0

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	678	0	-	0	371	355
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	914	-	-	-	630	689
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	914	-	-	-	630	689
Mov Cap-2 Maneuver	-	-	-	-	630	-
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	1007	-

Approach EB WB SB

HCM Control Delay, s	0	0	21.9
HCM LOS			C

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	914	-	-	-	630
HCM Lane V/C Ratio	-	-	-	-	0.678
HCM Control Delay (s)	0	-	-	-	21.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	5.2

Intersection

Int Delay, s/veh 6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔	
Traffic Vol, veh/h	127	281	0	0	231	2	0	0	0	5	0	393
Future Vol, veh/h	127	281	0	0	231	2	0	0	0	5	0	393
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	138	305	0	0	251	2	0	0	0	5	0	427

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	253	0	0	305	0	0		834	834	252
Stage 1	-	-	-	-	-	-		252	252	-
Stage 2	-	-	-	-	-	-		582	582	-
Critical Hdwy	4.12	-	-	4.12	-	-		6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-		5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-		3.518	4.018	3.318
Pot Cap-1 Maneuver	1312	-	-	1256	-	-		338	304	787
Stage 1	-	-	-	-	-	-		790	698	-
Stage 2	-	-	-	-	-	-		559	499	-
Platoon blocked, %		-	-	-	-	-				
Mov Cap-1 Maneuver	1312	-	-	1256	-	-		295	0	787
Mov Cap-2 Maneuver	-	-	-	-	-	-		295	0	-
Stage 1	-	-	-	-	-	-		790	0	-
Stage 2	-	-	-	-	-	-		488	0	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1312	-	-	1256	-	-	771
HCM Lane V/C Ratio	0.105	-	-	-	-	-	0.561
HCM Control Delay (s)	8.1	-	-	0	-	-	15.5
HCM Lane LOS	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	0	-	-	3.5

Intersection

Int Delay, s/veh 13.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	258	28	0	0	44	4	188	0	2	0	0	0
Future Vol, veh/h	258	28	0	0	44	4	188	0	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	280	30	0	0	48	4	204	0	2	0	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	52	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1554	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1554	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	7.1	0	27.5
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	361	1554	-	-	-
HCM Lane V/C Ratio	0.572	0.18	-	-	-
HCM Control Delay (s)	27.5	7.8	0	-	-
HCM Lane LOS	D	A	A	-	-
HCM 95th %tile Q(veh)	3.4	0.7	-	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions
Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	49	47	292	52	226	39	316	282	350	367	5
Future Volume (veh/h)	0	49	47	292	52	226	39	316	282	350	367	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	53	51	317	199	152	42	343	307	380	399	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	347	155	558	622	529	429	956	428	552	667	299
Arrive On Green	0.00	0.10	0.10	0.16	0.33	0.33	0.24	0.27	0.27	0.16	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	53	51	317	199	152	42	343	307	380	399	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.7	1.5	4.2	4.1	1.9	0.9	4.0	8.9	5.3	5.3	0.1
Cycle Q Clear(g_c), s	0.0	0.7	1.5	4.2	4.1	1.9	0.9	4.0	8.9	5.3	5.3	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	347	155	558	622	529	429	956	428	552	667	299
V/C Ratio(X)	0.00	0.15	0.33	0.57	0.32	0.29	0.10	0.36	0.72	0.69	0.60	0.02
Avail Cap(c_a), veh/h	192	2814	1259	1045	1829	1554	429	2189	979	1149	2988	1337
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.0	21.4	19.9	12.7	3.4	15.0	15.0	16.8	20.2	18.9	13.7
Incr Delay (d2), s/veh	0.0	0.2	1.2	0.9	0.3	0.3	0.1	0.2	2.3	1.5	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.7	2.1	2.1	1.4	0.5	2.0	4.1	2.6	2.6	0.1
LnGrp Delay(d),s/veh	0.0	21.2	22.6	20.8	12.9	3.7	15.1	15.3	19.1	21.7	19.8	13.7
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		104			668			692			784	
Approach Delay, s/veh		21.9			14.6			17.0			20.7	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.2	17.8	12.0	9.0	16.3	13.6	0.0	21.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.3	10.9	6.2	3.5	2.9	7.3	0.0	6.1				
Green Ext Time (p_c), s	0.9	2.8	1.9	0.4	0.4	2.4	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			17.8									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	786	5	9	752	121	10	15	13	111	0	27
Future Volume (veh/h)	18	786	5	9	752	121	10	15	13	111	0	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	20	854	5	10	817	132	11	16	14	121	0	29
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	1903	11	23	1825	816	154	135	89	341	6	43
Arrive On Green	0.02	0.53	0.53	0.01	0.52	0.52	0.15	0.15	0.15	0.15	0.00	0.15
Sat Flow, veh/h	1774	3608	21	1774	3539	1583	242	887	586	1142	36	282
Grp Volume(v), veh/h	20	419	440	10	817	132	41	0	0	150	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1859	1774	1770	1583	1715	0	0	1461	0	0
Q Serve(g_s), s	0.4	5.7	5.7	0.2	5.7	1.7	0.0	0.0	0.0	2.9	0.0	0.0
Cycle Q Clear(g_c), s	0.4	5.7	5.7	0.2	5.7	1.7	0.8	0.0	0.0	3.7	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.27		0.34	0.81		0.19
Lane Grp Cap(c), veh/h	44	933	980	23	1825	816	378	0	0	389	0	0
V/C Ratio(X)	0.45	0.45	0.45	0.43	0.45	0.16	0.11	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	227	1448	1521	227	2896	1296	1823	0	0	1652	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.8	5.7	5.7	19.1	6.0	5.0	14.4	0.0	0.0	15.5	0.0	0.0
Incr Delay (d2), s/veh	7.0	0.3	0.3	11.9	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.8	2.9	0.2	2.8	0.8	0.4	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	25.8	6.1	6.0	31.1	6.1	5.1	14.5	0.0	0.0	16.2	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		879			959			41			150	
Approach Delay, s/veh		6.5			6.3			14.5			16.2	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.0	4.5	24.6		10.0	5.0	24.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		2.8	2.2	7.7		5.7	2.4	7.7				
Green Ext Time (p_c), s		1.1	0.0	12.5		1.1	0.0	12.5				
Intersection Summary												
HCM 2010 Ctrl Delay				7.3								
HCM 2010 LOS				A								

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	113	204	250	34	51	142
Future Vol, veh/h	113	204	250	34	51	142
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	222	272	37	55	154

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	309	0	-	0	757 290
Stage 1	-	-	-	-	290 -
Stage 2	-	-	-	-	467 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1252	-	-	-	375 749
Stage 1	-	-	-	-	759 -
Stage 2	-	-	-	-	631 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1252	-	-	-	338 749
Mov Cap-2 Maneuver	-	-	-	-	338 -
Stage 1	-	-	-	-	759 -
Stage 2	-	-	-	-	569 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1252	-	-	-	567
HCM Lane V/C Ratio	0.098	-	-	-	0.37
HCM Control Delay (s)	8.2	-	-	-	15
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	1.7

Intersection

Int Delay, s/veh 7.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	199	66	73	41	46	188
Future Vol, veh/h	199	66	73	41	46	188
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	216	72	79	45	50	204

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	124	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1463	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1463	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1463	-	-	-	744
HCM Lane V/C Ratio	0.148	-	-	-	0.342
HCM Control Delay (s)	7.9	-	-	-	12.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1.5

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	16	32	13	65	69	30
Future Vol, veh/h	16	32	13	65	69	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	35	14	71	75	33

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	190	91	108	0	0
Stage 1	91	-	-	-	-
Stage 2	99	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	799	967	1483	-	-
Stage 1	933	-	-	-	-
Stage 2	925	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	791	967	1483	-	-
Mov Cap-2 Maneuver	791	-	-	-	-
Stage 1	933	-	-	-	-
Stage 2	916	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1483	-	900	-	-
HCM Lane V/C Ratio	0.01	-	0.058	-	-
HCM Control Delay (s)	7.5	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection

Int Delay, s/veh 14.6

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	18	22	775	448	0
Future Vol, veh/h	0	18	22	775	448	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	842	487	0

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	866	0	-	0	465	445
Stage 1	-	-	-	-	445	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	777	-	-	-	556	613
Stage 1	-	-	-	-	646	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	777	-	-	-	556	613
Mov Cap-2 Maneuver	-	-	-	-	556	-
Stage 1	-	-	-	-	646	-
Stage 2	-	-	-	-	1003	-

Approach EB WB SB

HCM Control Delay, s	0	0	41.3
HCM LOS			E

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	777	-	-	-	556
HCM Lane V/C Ratio	-	-	-	-	0.876
HCM Control Delay (s)	0	-	-	-	41.3
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	9.9

Intersection

Int Delay, s/veh 12.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻						↻	
Traffic Vol, veh/h	144	321	0	0	288	2	0	0	0	11	0	509
Future Vol, veh/h	144	321	0	0	288	2	0	0	0	11	0	509
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	157	349	0	0	313	2	0	0	0	12	0	553

Major/Minor	Major1			Major2			Minor2				
Conflicting Flow All	315	0	0	349	0	0			976	976	314
Stage 1	-	-	-	-	-	-			314	314	-
Stage 2	-	-	-	-	-	-			662	662	-
Critical Hdwy	4.12	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	1245	-	-	1210	-	-			279	251	726
Stage 1	-	-	-	-	-	-			741	656	-
Stage 2	-	-	-	-	-	-			513	459	-
Platoon blocked, %		-	-		-	-					
Mov Cap-1 Maneuver	1245	-	-	1210	-	-			235	0	726
Mov Cap-2 Maneuver	-	-	-	-	-	-			235	0	-
Stage 1	-	-	-	-	-	-			741	0	-
Stage 2	-	-	-	-	-	-			433	0	-

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	28.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1245	-	-	1210	-	-	695
HCM Lane V/C Ratio	0.126	-	-	-	-	-	0.813
HCM Control Delay (s)	8.3	-	-	0	-	-	28.7
HCM Lane LOS	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	0	-	-	8.6

Intersection												
Int Delay, s/veh	28.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	293	38	0	0	44	4	246	0	4	0	0	0
Future Vol, veh/h	293	38	0	0	44	4	246	0	4	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	318	41	0	0	48	4	267	0	4	0	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	52	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1554	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1554	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	7	0	61.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	311	1554	-	-	-
HCM Lane V/C Ratio	0.874	0.205	-	-	-
HCM Control Delay (s)	61.4	7.9	0	-	-
HCM Lane LOS	F	A	A	-	-
HCM 95th %tile Q(veh)	7.9	0.8	-	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	88	60	444	73	279	61	381	343	367	675	8
Future Volume (veh/h)	8	88	60	444	73	279	61	381	343	367	675	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	9	96	65	483	247	191	66	414	373	399	734	9
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	299	134	680	493	419	293	1070	479	543	1043	466
Arrive On Green	0.01	0.08	0.08	0.19	0.26	0.26	0.17	0.30	0.30	0.16	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	9	96	65	483	247	191	66	414	373	399	734	9
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.3	1.5	2.4	7.7	6.8	3.7	2.0	5.6	13.1	6.7	11.2	0.2
Cycle Q Clear(g_c), s	0.3	1.5	2.4	7.7	6.8	3.7	2.0	5.6	13.1	6.7	11.2	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	21	299	134	680	493	419	293	1070	479	543	1043	466
V/C Ratio(X)	0.44	0.32	0.49	0.71	0.50	0.46	0.22	0.39	0.78	0.73	0.70	0.02
Avail Cap(c_a), veh/h	161	2362	1057	877	1535	1305	293	1837	822	964	2508	1122
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	26.1	26.5	22.9	18.9	6.9	22.0	16.7	19.3	24.3	19.0	9.6
Incr Delay (d2), s/veh	13.9	0.6	2.7	1.9	0.8	0.8	0.4	0.2	2.8	2.0	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.8	1.1	3.9	3.6	2.4	1.0	2.7	6.0	3.3	5.5	0.1
LnGrp Delay(d),s/veh	43.7	26.7	29.2	24.8	19.7	7.6	22.3	17.0	22.1	26.3	19.9	9.7
LnGrp LOS	D	C	C	C	B	A	C	B	C	C	B	A
Approach Vol, veh/h		170			921			853			1142	
Approach Delay, s/veh		28.6			19.9			19.6			22.1	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	22.3	15.6	9.1	14.0	21.9	4.7	20.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.7	15.1	9.7	4.4	4.0	13.2	2.3	8.8				
Green Ext Time (p_c), s	0.9	3.3	1.9	0.8	0.3	4.7	0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay			21.1									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	971	5	9	1053	222	10	15	13	313	3	41
Future Volume (veh/h)	44	971	5	9	1053	222	10	15	13	313	3	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	48	1055	5	10	1145	241	11	16	14	340	3	45
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	1739	8	23	1591	712	183	258	193	505	4	53
Arrive On Green	0.04	0.48	0.48	0.01	0.45	0.45	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	3612	17	1774	3539	1583	352	797	596	1242	11	164
Grp Volume(v), veh/h	48	517	543	10	1145	241	41	0	0	388	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1583	1744	0	0	1418	0	0
Q Serve(g_s), s	1.7	14.1	14.1	0.4	17.3	6.5	0.0	0.0	0.0	15.6	0.0	0.0
Cycle Q Clear(g_c), s	1.7	14.1	14.1	0.4	17.3	6.5	1.1	0.0	0.0	16.7	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.27		0.34	0.88		0.12
Lane Grp Cap(c), veh/h	79	852	895	23	1591	712	634	0	0	561	0	0
V/C Ratio(X)	0.61	0.61	0.61	0.44	0.72	0.34	0.06	0.00	0.00	0.69	0.00	0.00
Avail Cap(c_a), veh/h	135	861	905	135	1722	770	1114	0	0	980	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.9	12.5	12.5	32.2	14.7	11.7	15.4	0.0	0.0	20.6	0.0	0.0
Incr Delay (d2), s/veh	7.4	1.2	1.2	13.1	1.4	0.3	0.0	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.0	7.4	0.3	8.7	2.9	0.5	0.0	0.0	6.7	0.0	0.0
LnGrp Delay(d),s/veh	38.3	13.7	13.6	45.3	16.1	12.0	15.5	0.0	0.0	22.1	0.0	0.0
LnGrp LOS	D	B	B	D	B	B	B			C		
Approach Vol, veh/h		1108			1396			41			388	
Approach Delay, s/veh		14.7			15.6			15.5			22.1	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.3	4.8	35.7		25.3	6.9	33.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.1	2.4	16.1		18.7	3.7	19.3				
Green Ext Time (p_c), s		2.9	0.0	12.4		2.6	0.0	10.3				
Intersection Summary												
HCM 2010 Ctrl Delay				16.1								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 8.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	180	400	343	77	73	137
Future Vol, veh/h	180	400	343	77	73	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	196	435	373	84	79	149

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	457	0	0	1241	415
Stage 1	-	-	-	415	-
Stage 2	-	-	-	826	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1104	-	-	193	637
Stage 1	-	-	-	666	-
Stage 2	-	-	-	430	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1104	-	-	159	637
Mov Cap-2 Maneuver	-	-	-	159	-
Stage 1	-	-	-	666	-
Stage 2	-	-	-	354	-

Approach

	EB	WB	SB
HCM Control Delay, s	2.8	0	42.8
HCM LOS			E

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1104	-	-	-	311
HCM Lane V/C Ratio	0.177	-	-	-	0.734
HCM Control Delay (s)	9	-	-	-	42.8
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.6	-	-	-	5.4

Intersection

Int Delay, s/veh 9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	354	131	109	48	36	281
Future Vol, veh/h	354	131	109	48	36	281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	385	142	118	52	39	305

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	171	0	0	1057	145
Stage 1	-	-	-	145	-
Stage 2	-	-	-	912	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1406	-	-	249	902
Stage 1	-	-	-	882	-
Stage 2	-	-	-	392	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1406	-	-	181	902
Mov Cap-2 Maneuver	-	-	-	181	-
Stage 1	-	-	-	882	-
Stage 2	-	-	-	285	-

Approach

	EB	WB	SB
HCM Control Delay, s	6.2	0	17.8
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1406	-	-	-	621
HCM Lane V/C Ratio	0.274	-	-	-	0.555
HCM Control Delay (s)	8.5	-	-	-	17.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	1.1	-	-	-	3.4

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	14	34	109	116	8
Future Vol, veh/h	6	14	34	109	116	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	15	37	118	126	9

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	322	130	135	0	0
Stage 1	130	-	-	-	-
Stage 2	192	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	672	920	1449	-	-
Stage 1	896	-	-	-	-
Stage 2	841	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	654	920	1449	-	-
Mov Cap-2 Maneuver	654	-	-	-	-
Stage 1	896	-	-	-	-
Stage 2	818	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1449	-	820	-	-
HCM Lane V/C Ratio	0.026	-	0.027	-	-
HCM Control Delay (s)	7.5	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection

Int Delay, s/veh 4.6

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	15	29	180	176	0
Future Vol, veh/h	0	15	29	180	176	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	32	196	191	0

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	227	0	-	0	145	129
Stage 1	-	-	-	-	129	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1341	-	-	-	847	921
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1341	-	-	-	847	921
Mov Cap-2 Maneuver	-	-	-	-	847	-
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	1007	-

Approach EB WB SB

HCM Control Delay, s	0	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1341	-	-	-	847
HCM Lane V/C Ratio	-	-	-	-	0.226
HCM Control Delay (s)	0	-	-	-	10.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Intersection

Int Delay, s/veh 4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↶			↷						↷	
Traffic Vol, veh/h	60	131	0	0	88	2	0	0	0	5	0	120
Future Vol, veh/h	60	131	0	0	88	2	0	0	0	5	0	120
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	142	0	0	96	2	0	0	0	5	0	130

Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	98	0	0	142	0	0				370	370	97
Stage 1	-	-	-	-	-	-				97	97	-
Stage 2	-	-	-	-	-	-				273	273	-
Critical Hdwy	4.12	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	1495	-	-	1441	-	-				630	560	959
Stage 1	-	-	-	-	-	-				927	815	-
Stage 2	-	-	-	-	-	-				773	684	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1495	-	-	1441	-	-				600	0	959
Mov Cap-2 Maneuver	-	-	-	-	-	-				600	0	-
Stage 1	-	-	-	-	-	-				927	0	-
Stage 2	-	-	-	-	-	-				737	0	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1495	-	-	1441	-	-	937
HCM Lane V/C Ratio	0.044	-	-	-	-	-	0.145
HCM Control Delay (s)	7.5	-	-	0	-	-	9.5
HCM Lane LOS	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-	-	0.5

Intersection

Int Delay, s/veh 6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	116	20	0	0	28	4	62	0	2	0	0	0
Future Vol, veh/h	116	20	0	0	28	4	62	0	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	126	22	0	0	30	4	67	0	2	0	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	35	0	0
Stage 1	-	-	274
Stage 2	-	-	33
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1576	0	685
Stage 1	-	0	772
Stage 2	-	0	989
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1576	-	630
Mov Cap-2 Maneuver	-	-	630
Stage 1	-	-	709
Stage 2	-	-	989

Approach	EB	WB	NB
HCM Control Delay, s	6.4	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	638	1576	-	-	-
HCM Lane V/C Ratio	0.109	0.08	-	-	-
HCM Control Delay (s)	11.3	7.5	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.4	0.3	-	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions
Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	49	47	281	52	203	39	316	250	284	367	5
Future Volume (veh/h)	0	49	47	281	52	203	39	316	250	284	367	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	53	51	305	180	139	42	343	272	309	399	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	375	168	558	649	552	357	903	404	485	690	309
Arrive On Green	0.00	0.11	0.11	0.16	0.35	0.35	0.20	0.26	0.26	0.14	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	53	51	305	180	139	42	343	272	309	399	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.4	3.7	3.3	1.5	0.9	3.8	7.3	4.0	4.8	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.4	3.7	3.3	1.5	0.9	3.8	7.3	4.0	4.8	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	375	168	558	649	552	357	903	404	485	690	309
V/C Ratio(X)	0.00	0.14	0.30	0.55	0.28	0.25	0.12	0.38	0.67	0.64	0.58	0.02
Avail Cap(c_a), veh/h	208	3053	1366	1134	1984	1686	357	2375	1062	1246	3242	1450
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	19.0	19.4	18.2	11.0	3.0	15.4	14.4	15.7	19.0	17.1	12.2
Incr Delay (d2), s/veh	0.0	0.2	1.0	0.8	0.2	0.2	0.1	0.3	2.0	1.4	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.7	1.9	1.7	1.2	0.5	1.8	3.4	2.0	2.4	0.0
LnGrp Delay(d),s/veh	0.0	19.2	20.4	19.1	11.3	3.2	15.5	14.7	17.7	20.4	17.9	12.2
LnGrp LOS		B	C	B	B	A	B	B	B	C	B	B
Approach Vol, veh/h		104			624			657			713	
Approach Delay, s/veh		19.8			13.3			16.0			19.0	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	16.0	11.4	9.0	13.4	13.2	0.0	20.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.0	9.3	5.7	3.4	2.9	6.8	0.0	5.3				
Green Ext Time (p_c), s	0.8	2.7	1.8	0.4	0.3	2.4	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			16.4									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	688	5	9	718	121	10	15	13	111	0	27
Future Volume (veh/h)	18	688	5	9	718	121	10	15	13	111	0	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	20	748	5	10	780	132	11	16	14	121	0	29
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	45	1844	12	23	1769	791	160	136	90	350	5	43
Arrive On Green	0.03	0.51	0.51	0.01	0.50	0.50	0.15	0.15	0.15	0.15	0.00	0.15
Sat Flow, veh/h	1774	3604	24	1774	3539	1583	246	883	585	1146	32	282
Grp Volume(v), veh/h	20	367	386	10	780	132	41	0	0	150	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	1774	1770	1583	1714	0	0	1460	0	0
Q Serve(g_s), s	0.4	4.8	4.8	0.2	5.3	1.7	0.0	0.0	0.0	2.8	0.0	0.0
Cycle Q Clear(g_c), s	0.4	4.8	4.8	0.2	5.3	1.7	0.8	0.0	0.0	3.5	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.27		0.34	0.81		0.19
Lane Grp Cap(c), veh/h	45	905	951	23	1769	791	386	0	0	399	0	0
V/C Ratio(X)	0.45	0.41	0.41	0.43	0.44	0.17	0.11	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	238	1518	1594	238	3035	1358	1910	0	0	1731	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.9	5.6	5.6	18.3	6.0	5.1	13.7	0.0	0.0	14.8	0.0	0.0
Incr Delay (d2), s/veh	6.9	0.3	0.3	11.8	0.2	0.1	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.3	2.4	0.2	2.5	0.8	0.4	0.0	0.0	1.5	0.0	0.0
LnGrp Delay(d),s/veh	24.9	5.9	5.9	30.1	6.2	5.2	13.8	0.0	0.0	15.4	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		773			922			41			150	
Approach Delay, s/veh		6.4			6.3			13.8			15.4	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.7	4.5	23.1		9.7	4.9	22.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		2.8	2.2	6.8		5.5	2.4	7.3				
Green Ext Time (p_c), s		1.1	0.0	11.5		1.1	0.0	11.4				
Intersection Summary												
HCM 2010 Ctrl Delay				7.2								
HCM 2010 LOS				A								

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	113	204	250	34	51	142
Future Vol, veh/h	113	204	250	34	51	142
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	222	272	37	55	154

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	309	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1252	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1252	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1252	-	-	-	567
HCM Lane V/C Ratio	0.098	-	-	-	0.37
HCM Control Delay (s)	8.2	-	-	-	15
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	1.7

Intersection

Int Delay, s/veh 6.8

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	199	66	73	35	28	188
Future Vol, veh/h	199	66	73	35	28	188
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	216	72	79	38	30	204

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	117	0	-	0	602	98
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	504	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1471	-	-	-	463	958
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	607	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1471	-	-	-	395	958
Mov Cap-2 Maneuver	-	-	-	-	395	-
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	518	-

Approach EB WB SB

HCM Control Delay, s	5.9	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1471	-	-	-	809
HCM Lane V/C Ratio	0.147	-	-	-	0.29
HCM Control Delay (s)	7.9	-	-	-	11.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1.2

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	10	32	13	65	69	12
Future Vol, veh/h	10	32	13	65	69	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	35	14	71	75	13

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	181	82	88	0	-	0
Stage 1	82	-	-	-	-	-
Stage 2	99	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	808	978	1508	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	800	978	1508	-	-	-
Mov Cap-2 Maneuver	800	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	916	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1508	-	929	-	-
HCM Lane V/C Ratio	0.009	-	0.049	-	-
HCM Control Delay (s)	7.4	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection

Int Delay, s/veh 5.9

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	18	22	327	300	0
Future Vol, veh/h	0	18	22	327	300	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	355	326	0

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	379	0	-	0	222	202
Stage 1	-	-	-	-	202	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1179	-	-	-	766	839
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1179	-	-	-	766	839
Mov Cap-2 Maneuver	-	-	-	-	766	-
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	1003	-

Approach EB WB SB

HCM Control Delay, s	0	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1179	-	-	-	766
HCM Lane V/C Ratio	-	-	-	-	0.426
HCM Control Delay (s)	0	-	-	-	13.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	2.1

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔	
Traffic Vol, veh/h	101	217	0	0	135	2	0	0	0	11	0	214
Future Vol, veh/h	101	217	0	0	135	2	0	0	0	11	0	214
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	236	0	0	147	2	0	0	0	12	0	233

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	149	0	0	236	0	0		603	603	148
Stage 1	-	-	-	-	-	-		148	148	-
Stage 2	-	-	-	-	-	-		455	455	-
Critical Hdwy	4.12	-	-	4.12	-	-		6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-		5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-		3.518	4.018	3.318
Pot Cap-1 Maneuver	1432	-	-	1331	-	-		462	413	899
Stage 1	-	-	-	-	-	-		880	775	-
Stage 2	-	-	-	-	-	-		639	569	-
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	1432	-	-	1331	-	-		421	0	899
Mov Cap-2 Maneuver	-	-	-	-	-	-		421	0	-
Stage 1	-	-	-	-	-	-		880	0	-
Stage 2	-	-	-	-	-	-		583	0	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1432	-	-	1331	-	-	852
HCM Lane V/C Ratio	0.077	-	-	-	-	-	0.287
HCM Control Delay (s)	7.7	-	-	0	-	-	10.9
HCM Lane LOS	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	0	-	-	1.2

Intersection

Int Delay, s/veh 8.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↗			↕				
Traffic Vol, veh/h	195	32	0	0	26	4	111	0	4	0	0	0
Future Vol, veh/h	195	32	0	0	26	4	111	0	4	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	212	35	0	0	28	4	121	0	4	0	0	0























Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	33	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1579	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1579	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	6.6	0	15.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	473	1579	-	-	-
HCM Lane V/C Ratio	0.264	0.134	-	-	-
HCM Control Delay (s)	15.3	7.6	0	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	1.1	0.5	-	-	-

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	163	543	1102	306	119	32	388	756	45	265
Future Volume (veh/h)	208	989	163	543	1102	306	119	32	388	756	45	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1075	177	590	1198	333	129	35	422	857	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	1076	177	84	1218	545	246	67	276	972	0	434
Arrive On Green	0.06	0.35	0.35	0.05	0.34	0.34	0.17	0.17	0.17	0.27	0.00	0.27
Sat Flow, veh/h	1774	3044	500	1774	3539	1583	1410	382	1583	3548	0	1583
Grp Volume(v), veh/h	226	624	628	590	1198	333	164	0	422	857	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1774	1774	1770	1583	1792	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	37.3	37.5	5.0	35.6	18.5	8.8	0.0	18.5	24.5	0.0	17.1
Cycle Q Clear(g_c), s	6.0	37.3	37.5	5.0	35.6	18.5	8.8	0.0	18.5	24.5	0.0	17.1
Prop In Lane	1.00		0.28	1.00		1.00	0.79		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	100	626	627	84	1218	545	313	0	276	972	0	434
V/C Ratio(X)	2.25	1.00	1.00	7.05	0.98	0.61	0.52	0.00	1.53	0.88	0.00	0.66
Avail Cap(c_a), veh/h	100	626	627	84	1218	545	313	0	276	1104	0	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.0	34.2	34.3	50.5	34.5	28.9	39.8	0.0	43.8	36.9	0.0	34.2
Incr Delay (d2), s/veh	593.9	35.2	36.2	2749.1	21.8	2.0	1.6	0.0	255.1	7.8	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.5	24.3	24.6	66.3	21.0	8.4	4.5	0.0	27.7	13.1	0.0	7.8
LnGrp Delay(d),s/veh	643.9	69.4	70.4	2799.6	56.3	30.9	41.4	0.0	298.9	44.7	0.0	37.0
LnGrp LOS	F	E	F	F	E	C	D		F	D		D
Approach Vol, veh/h		1478			2121			586			1145	
Approach Delay, s/veh		157.7			815.4			226.8			42.7	
Approach LOS		F			F			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	9.0	41.5		33.1	10.0	40.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		20.5	7.0	39.5		26.5	8.0	37.6				
Green Ext Time (p_c), s		0.0	0.0	0.0		2.5	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			402.3									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	1418	715	300	1097	0	0	0	0	285	1	855
Future Volume (veh/h)	0	1418	715	300	1097	0	0	0	0	285	1	855
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1541	777	326	1192	0				310	1	929
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1110	519	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1541	777	326	1192	0				311	0	929
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	24.7	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	24.7	0.0				11.3	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.39	1.50	0.98	0.60	0.00				0.52	0.00	1.75
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.44	0.44	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	24.2	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	175.1	225.2	27.6	0.6	0.0				0.8	0.0	345.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	39.2	43.8	9.8	12.3	0.0				5.7	0.0	62.6
LnGrp Delay(d),s/veh	0.0	202.0	252.1	64.9	24.8	0.0				22.3	0.0	372.5
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2318			1518						1240	
Approach Delay, s/veh		218.8			33.4						284.7	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.7	28.2		28.8		26.7				
Green Ext Time (p_c), s			0.0	0.0		0.0		17.5				
Intersection Summary												
HCM 2010 Ctrl Delay			179.4									
HCM 2010 LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	815	889	0	0	844	285	552	5	255	0	0	0
Future Volume (veh/h)	815	889	0	0	844	285	552	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	886	966	0	0	917	310	600	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	407	3	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1760	15	1583			
Grp Volume(v), veh/h	886	966	0	0	917	310	605	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.8	0.0	0.0	15.6	9.3	18.5	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.8	0.0	0.0	15.6	9.3	18.5	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.66	0.41	0.00	0.00	0.81	0.61	1.47	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.36	0.36	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.7	11.6	30.8	0.0	28.7			
Incr Delay (d2), s/veh	299.9	0.0	0.0	0.0	2.4	2.0	226.2	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	56.0	1.6	0.0	0.0	7.8	4.2	34.8	0.0	6.6			
LnGrp Delay(d),s/veh	323.9	1.7	0.0	0.0	15.1	13.6	257.0	0.0	37.4			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h		1852			1227			882				
Approach Delay, s/veh		155.9			14.7			188.0				
Approach LOS		F			B			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		20.5		5.8			26.0	17.6				
Green Ext Time (p_c), s		0.0		22.6			0.0	6.5				
Intersection Summary												
HCM 2010 Ctrl Delay				119.3								
HCM 2010 LOS				F								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (1A) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔	↑↑			↔	↔		↔	↔
Traffic Volume (veh/h)	418	646	80	35	521	130	125	10	25	145	15	483
Future Volume (veh/h)	418	646	80	35	521	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	702	87	38	566	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1024	458	63	632	157	402	32	386	374	38	366
Arrive On Green	0.20	0.58	0.58	0.04	0.22	0.22	0.24	0.24	0.24	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2811	698	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	702	87	38	356	351	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1740	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	11.1	2.1	1.7	15.6	15.7	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	11.1	2.1	1.7	15.6	15.7	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1024	458	63	398	391	434	0	386	412	0	366
V/C Ratio(X)	1.32	0.69	0.19	0.60	0.89	0.90	0.34	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1024	458	111	409	402	434	0	386	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.3	12.4	38.0	30.1	30.1	24.9	0.0	23.3	26.2	0.0	30.8
Incr Delay (d2), s/veh	160.9	1.7	0.2	8.8	21.0	22.0	2.1	0.0	0.4	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.5	0.9	1.0	9.9	9.9	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	192.9	16.0	12.6	46.8	51.0	52.1	27.0	0.0	23.6	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h		1243			745			174			699	
Approach Delay, s/veh		80.4			51.3			26.5			187.8	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.5	6.9	27.1		22.5	12.0	22.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.4	3.7	13.1		20.5	10.0	17.7				
Green Ext Time (p_c), s		0.5	0.0	5.3		0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay					95.8							
HCM 2010 LOS					F							

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	711	591	30	25	95
Future Vol, veh/h	105	711	591	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	773	642	33	27	103

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	675	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	912	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	912	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	912	-	-	-	124	658
HCM Lane V/C Ratio	0.125	-	-	-	0.219	0.157
HCM Control Delay (s)	9.5	-	-	-	42	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions
Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	201	669	783	174	122	23	396	271	44	112
Future Volume (veh/h)	113	721	201	669	783	174	122	23	396	271	44	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	218	727	851	189	133	25	430	329	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	1078	300	107	1351	604	335	63	353	464	0	207
Arrive On Green	0.07	0.39	0.39	0.06	0.38	0.38	0.22	0.22	0.22	0.13	0.00	0.13
Sat Flow, veh/h	1774	2737	761	1774	3539	1583	1505	283	1583	3548	0	1583
Grp Volume(v), veh/h	123	507	495	727	851	189	158	0	430	329	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1728	1774	1770	1583	1788	0	1583	1774	0	1583
Q Serve(g_s), s	5.7	20.2	20.2	5.0	16.3	7.0	6.3	0.0	18.5	7.4	0.0	6.0
Cycle Q Clear(g_c), s	5.7	20.2	20.2	5.0	16.3	7.0	6.3	0.0	18.5	7.4	0.0	6.0
Prop In Lane	1.00		0.44	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	697	681	107	1351	604	398	0	353	464	0	207
V/C Ratio(X)	0.96	0.73	0.73	6.81	0.63	0.31	0.40	0.00	1.22	0.71	0.00	0.59
Avail Cap(c_a), veh/h	128	799	780	107	1555	696	398	0	353	1410	0	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.4	21.4	21.4	39.0	20.9	18.0	27.5	0.0	32.3	34.6	0.0	34.0
Incr Delay (d2), s/veh	66.9	2.9	2.9	2633.3	0.7	0.3	0.6	0.0	121.8	2.0	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	10.4	10.2	80.5	8.0	3.1	3.1	0.0	20.0	3.7	0.0	2.8
LnGrp Delay(d),s/veh	105.3	24.3	24.3	2672.4	21.6	18.3	28.2	0.0	154.0	36.6	0.0	36.7
LnGrp LOS	F	C	C	F	C	B	C		F	D		D
Approach Vol, veh/h		1125			1767			588			451	
Approach Delay, s/veh		33.2			1111.8			120.2			36.6	
Approach LOS		C			F			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	9.0	36.7		14.9	10.0	35.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		20.5	7.0	22.2		9.4	7.7	18.3				
Green Ext Time (p_c), s		0.0	0.0	10.5		1.5	0.0	11.9				
Intersection Summary												
HCM 2010 Ctrl Delay			531.5									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	947	440	178	895	0	0	0	0	176	1	732
Future Volume (veh/h)	0	947	440	178	895	0	0	0	0	176	1	732
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1029	478	193	973	0				191	1	796
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1296	602	237	2000	0				591	3	530
Arrive On Green	0.00	0.38	0.38	0.04	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3564	1578	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	1027	480	193	973	0				192	0	796
Grp Sat Flow(s),veh/h/ln	0	1695	1584	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	21.5	21.5	8.6	19.7	0.0				6.5	0.0	26.8
Cycle Q Clear(g_c), s	0.0	21.5	21.5	8.6	19.7	0.0				6.5	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1294	605	237	2000	0				594	0	530
V/C Ratio(X)	0.00	0.79	0.79	0.82	0.49	0.00				0.32	0.00	1.50
Avail Cap(c_a), veh/h	0	1294	605	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.52	0.52	0.67	0.67	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.9	21.9	37.3	22.2	0.0				19.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	2.7	5.6	7.1	0.6	0.0				0.3	0.0	235.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.5	10.3	4.7	9.8	0.0				3.2	0.0	46.3
LnGrp Delay(d),s/veh	0.0	24.6	27.5	44.4	22.7	0.0				20.1	0.0	261.7
LnGrp LOS		C	C	D	C					C		F
Approach Vol, veh/h		1507			1166						988	
Approach Delay, s/veh		25.6			26.3						214.7	
Approach LOS		C			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	34.5		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	23.5		28.8		21.7				
Green Ext Time (p_c), s			0.2	2.5		0.0		17.9				
Intersection Summary												
HCM 2010 Ctrl Delay			76.9									
HCM 2010 LOS			E									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	592	531	0	0	603	222	470	3	255	0	0	0
Future Volume (veh/h)	592	531	0	0	603	222	470	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	643	577	0	0	655	241	511	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	408	2	366			
Arrive On Green	0.50	1.00	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1764	10	1583			
Grp Volume(v), veh/h	643	577	0	0	655	241	514	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	8.5	6.3	18.5	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	8.5	6.3	18.5	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.21	0.24	0.00	0.00	0.58	0.48	1.25	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.44	0.44	0.00	0.00	0.68	0.68	1.00	0.00	1.00			
Uniform Delay (d), s/veh	20.0	0.0	0.0	0.0	11.4	11.0	30.8	0.0	28.7			
Incr Delay (d2), s/veh	101.6	0.1	0.0	0.0	1.5	2.2	132.3	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	26.3	0.0	0.0	0.0	4.2	3.0	24.1	0.0	6.6			
LnGrp Delay(d),s/veh	121.5	0.1	0.0	0.0	12.9	13.2	163.1	0.0	37.4			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h		1220			896			791				
Approach Delay, s/veh		64.1			13.0			119.1				
Approach LOS		E			B			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		20.5		2.0			26.0	10.5				
Green Ext Time (p_c), s		0.0		11.9			0.0	7.6				
Intersection Summary												
HCM 2010 Ctrl Delay				63.3								
HCM 2010 LOS				E								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (1A) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑			↖	↖		↖	↖
Traffic Volume (veh/h)	333	349	104	35	347	110	175	5	50	129	0	303
Future Volume (veh/h)	333	349	104	35	347	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	379	113	38	377	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	914	409	63	514	162	481	13	440	405	0	361
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2652	833	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	379	113	38	250	247	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1716	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.9	3.7	1.7	10.6	10.8	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.9	3.7	1.7	10.6	10.8	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.49	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	914	409	63	343	333	493	0	440	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.73	0.74	0.40	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	397	493	0	440	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.6	17.9	38.0	30.3	30.4	23.4	0.0	21.6	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.7	0.3	0.3	8.8	5.3	6.0	2.4	0.0	0.6	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.6	1.0	5.6	5.7	3.8	0.0	1.0	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.1	18.8	18.3	46.8	35.5	36.4	25.8	0.0	22.2	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	D	D	C		C	C		E
Approach Vol, veh/h		854			535			249			469	
Approach Delay, s/veh		51.1			36.7			25.0			47.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.2	6.9	24.7		22.3	12.0	19.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+l1), s		9.1	3.7	7.9		18.2	10.0	12.8				
Green Ext Time (p_c), s		0.8	0.0	4.7		0.1	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			43.5									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	451	418	30	10	74
Future Vol, veh/h	77	451	418	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	490	454	33	11	80























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	487	0	0	884	243
Stage 1	-	-	-	471	-
Stage 2	-	-	-	413	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1072	-	-	285	758
Stage 1	-	-	-	594	-
Stage 2	-	-	-	636	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1072	-	-	254	758
Mov Cap-2 Maneuver	-	-	-	254	-
Stage 1	-	-	-	594	-
Stage 2	-	-	-	567	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1072	-	-	-	254	758
HCM Lane V/C Ratio	0.078	-	-	-	0.043	0.106
HCM Control Delay (s)	8.6	-	-	-	19.8	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	141	455	1102	306	94	28	292	756	41	265
Future Volume (veh/h)	208	989	141	455	1102	306	94	28	292	756	41	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1075	153	495	1198	333	102	30	317	854	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	1101	157	84	1219	545	242	71	276	970	0	433
Arrive On Green	0.06	0.35	0.35	0.05	0.34	0.34	0.17	0.17	0.17	0.27	0.00	0.27
Sat Flow, veh/h	1774	3112	442	1774	3539	1583	1386	408	1583	3548	0	1583
Grp Volume(v), veh/h	226	611	617	495	1198	333	132	0	317	854	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1785	1774	1770	1583	1793	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	36.1	36.2	5.0	35.5	18.5	6.9	0.0	18.5	24.4	0.0	17.1
Cycle Q Clear(g_c), s	6.0	36.1	36.2	5.0	35.5	18.5	6.9	0.0	18.5	24.4	0.0	17.1
Prop In Lane	1.00		0.25	1.00		1.00	0.77		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	100	626	632	84	1219	545	313	0	276	970	0	433
V/C Ratio(X)	2.25	0.97	0.98	5.91	0.98	0.61	0.42	0.00	1.15	0.88	0.00	0.67
Avail Cap(c_a), veh/h	100	626	632	84	1219	545	313	0	276	1105	0	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.0	33.8	33.8	50.5	34.4	28.8	39.0	0.0	43.7	36.8	0.0	34.2
Incr Delay (d2), s/veh	593.0	29.6	30.1	2236.4	21.6	2.0	0.9	0.0	99.7	7.7	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.5	22.8	23.1	54.4	21.0	8.3	3.5	0.0	15.8	13.0	0.0	7.8
LnGrp Delay(d),s/veh	643.0	63.4	63.9	2286.9	56.0	30.8	39.9	0.0	143.4	44.6	0.0	37.0
LnGrp LOS	F	E	E	F	E	C	D		F	D		D
Approach Vol, veh/h		1454			2026			449			1142	
Approach Delay, s/veh		153.7			596.9			113.0			42.7	
Approach LOS		F			F			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	9.0	41.5		33.0	10.0	40.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		20.5	7.0	38.2		26.4	8.0	37.5				
Green Ext Time (p_c), s		0.0	0.0	0.0		2.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			302.2									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	1362	675	300	1056	0	0	0	0	285	1	808
Future Volume (veh/h)	0	1362	675	300	1056	0	0	0	0	285	1	808
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1480	734	326	1148	0				310	1	878
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1110	519	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1480	734	326	1148	0				311	0	878
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	23.6	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	23.6	0.0				11.3	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.33	1.42	0.98	0.57	0.00				0.52	0.00	1.66
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.16	0.16	0.44	0.44	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	23.8	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	150.9	188.9	27.7	0.5	0.0				0.8	0.0	303.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	35.4	38.6	9.8	11.7	0.0				5.7	0.0	56.3
LnGrp Delay(d),s/veh	0.0	177.8	215.8	65.1	24.3	0.0				22.3	0.0	329.8
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2214			1474						1189	
Approach Delay, s/veh		190.4			33.3						249.4	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.7	28.2		28.8		25.6				
Green Ext Time (p_c), s			0.0	0.0		0.0		18.2				
Intersection Summary												
HCM 2010 Ctrl Delay			157.3									
HCM 2010 LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	764	885	0	0	840	285	516	5	255	0	0	0
Future Volume (veh/h)	764	885	0	0	840	285	516	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	830	962	0	0	913	310	561	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	407	4	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1759	16	1583			
Grp Volume(v), veh/h	830	962	0	0	913	310	566	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.8	0.0	0.0	15.5	9.3	18.5	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.8	0.0	0.0	15.5	9.3	18.5	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.56	0.41	0.00	0.00	0.81	0.61	1.38	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.36	0.36	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.7	11.6	30.8	0.0	28.7			
Incr Delay (d2), s/veh	252.6	0.0	0.0	0.0	2.4	2.0	185.3	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	49.0	1.6	0.0	0.0	7.5	4.2	30.1	0.0	6.6			
LnGrp Delay(d),s/veh	276.7	1.7	0.0	0.0	15.1	13.6	216.0	0.0	37.4			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h		1792			1223			843				
Approach Delay, s/veh		129.1			14.7			157.3				
Approach LOS		F			B			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		20.5		5.8			26.0	17.5				
Green Ext Time (p_c), s		0.0		22.5			0.0	6.5				
Intersection Summary												
HCM 2010 Ctrl Delay				99.0								
HCM 2010 LOS				F								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (1B) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	642	80	35	517	130	125	10	25	145	15	483
Future Volume (veh/h)	418	642	80	35	517	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	698	87	38	562	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1021	457	63	629	157	403	33	387	374	38	366
Arrive On Green	0.20	0.58	0.58	0.04	0.22	0.22	0.24	0.24	0.24	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2807	702	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	698	87	38	354	349	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1739	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	11.0	2.1	1.7	15.5	15.6	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	11.0	2.1	1.7	15.5	15.6	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1021	457	63	397	390	435	0	387	412	0	366
V/C Ratio(X)	1.32	0.68	0.19	0.60	0.89	0.90	0.34	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1021	457	111	409	402	435	0	387	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.4	12.5	38.0	30.1	30.1	24.9	0.0	23.2	26.2	0.0	30.8
Incr Delay (d2), s/veh	160.9	1.7	0.2	8.8	20.6	21.6	2.1	0.0	0.3	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.5	0.9	1.0	9.8	9.8	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	192.9	16.1	12.7	46.8	50.7	51.7	27.0	0.0	23.6	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h		1239			741			174			699	
Approach Delay, s/veh		80.6			51.0			26.4			187.8	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.6	6.9	27.1		22.5	12.0	21.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.4	3.7	13.0		20.5	10.0	17.6				
Green Ext Time (p_c), s		0.5	0.0	5.3		0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay					95.9							
HCM 2010 LOS					F							

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	707	587	30	25	95
Future Vol, veh/h	105	707	587	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	768	638	33	27	103

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	671	0	0	1267	335
Stage 1	-	-	-	654	-
Stage 2	-	-	-	613	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	915	-	-	161	661
Stage 1	-	-	-	479	-
Stage 2	-	-	-	503	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	915	-	-	126	661
Mov Cap-2 Maneuver	-	-	-	126	-
Stage 1	-	-	-	479	-
Stage 2	-	-	-	394	-

Approach























	EB	WB	SB
HCM Control Delay, s	1.2	0	17.7
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	126	661
HCM Lane V/C Ratio	0.125	-	-	-	0.216	0.156
HCM Control Delay (s)	9.5	-	-	-	41.3	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	151	474	783	174	74	14	208	271	35	112
Future Volume (veh/h)	113	721	151	474	783	174	74	14	208	271	35	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	164	515	851	189	80	15	226	322	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1191	249	120	1398	625	261	49	274	473	0	211
Arrive On Green	0.08	0.41	0.41	0.07	0.39	0.39	0.17	0.17	0.17	0.13	0.00	0.13
Sat Flow, veh/h	1774	2915	610	1774	3539	1583	1505	282	1583	3548	0	1583
Grp Volume(v), veh/h	123	476	472	515	851	189	95	0	226	322	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1755	1774	1770	1583	1787	0	1583	1774	0	1583
Q Serve(g_s), s	5.0	16.0	16.0	5.0	14.1	6.0	3.4	0.0	10.2	6.4	0.0	5.3
Cycle Q Clear(g_c), s	5.0	16.0	16.0	5.0	14.1	6.0	3.4	0.0	10.2	6.4	0.0	5.3
Prop In Lane	1.00		0.35	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	723	717	120	1398	625	310	0	274	473	0	211
V/C Ratio(X)	0.85	0.66	0.66	4.28	0.61	0.30	0.31	0.00	0.82	0.68	0.00	0.58
Avail Cap(c_a), veh/h	144	900	893	120	1752	784	448	0	397	1588	0	709
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.4	17.6	17.6	34.4	17.8	15.3	26.6	0.0	29.4	30.5	0.0	30.0
Incr Delay (d2), s/veh	35.9	1.2	1.3	1496.0	0.4	0.3	0.6	0.0	8.9	1.7	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	8.0	8.0	52.4	6.9	2.7	1.7	0.0	5.1	3.2	0.0	2.5
LnGrp Delay(d),s/veh	69.3	18.9	18.9	1530.3	18.2	15.6	27.2	0.0	38.3	32.2	0.0	32.5
LnGrp LOS	E	B	B	F	B	B	C		D	C		C
Approach Vol, veh/h		1071			1555			321			444	
Approach Delay, s/veh		24.7			518.7			35.0			32.3	
Approach LOS		C			F			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.8	9.0	34.1		13.8	10.0	33.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		12.2	7.0	18.0		8.4	7.0	16.1				
Green Ext Time (p_c), s		0.6	0.0	12.1		1.5	0.0	12.5				
Intersection Summary												
HCM 2010 Ctrl Delay			253.2									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	838	362	178	804	0	0	0	0	176	1	627
Future Volume (veh/h)	0	838	362	178	804	0	0	0	0	176	1	627
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	911	393	193	874	0				191	1	682
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1330	573	237	2000	0				591	3	530
Arrive On Green	0.00	0.38	0.38	0.04	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3654	1502	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	886	418	193	874	0				192	0	682
Grp Sat Flow(s),veh/h/ln	0	1695	1598	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	17.5	17.5	8.6	17.5	0.0				6.5	0.0	26.8
Cycle Q Clear(g_c), s	0.0	17.5	17.5	8.6	17.5	0.0				6.5	0.0	26.8
Prop In Lane	0.00		0.94	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1294	610	237	2000	0				594	0	530
V/C Ratio(X)	0.00	0.68	0.69	0.82	0.44	0.00				0.32	0.00	1.29
Avail Cap(c_a), veh/h	0	1294	610	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.67	0.67	0.68	0.68	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.7	20.7	37.3	21.3	0.0				19.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	2.0	4.2	7.2	0.5	0.0				0.3	0.0	142.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.5	8.4	4.7	8.7	0.0				3.2	0.0	32.6
LnGrp Delay(d),s/veh	0.0	22.7	24.9	44.4	21.7	0.0				20.1	0.0	169.0
LnGrp LOS		C	C	D	C					C		F
Approach Vol, veh/h		1304			1067						874	
Approach Delay, s/veh		23.4			25.8						136.3	
Approach LOS		C			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	34.5		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	19.5		28.8		19.5				
Green Ext Time (p_c), s			0.2	5.6		0.0		16.9				
Intersection Summary												
HCM 2010 Ctrl Delay			54.6									
HCM 2010 LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	492	522	0	0	594	222	388	3	255	0	0	0
Future Volume (veh/h)	492	522	0	0	594	222	388	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	535	567	0	0	646	241	422	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	407	3	366			
Arrive On Green	0.60	1.00	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1762	13	1583			
Grp Volume(v), veh/h	535	567	0	0	646	241	425	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	8.3	6.3	18.5	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	8.3	6.3	18.5	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.01	0.24	0.00	0.00	0.57	0.48	1.04	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.58	0.58	0.00	0.00	0.68	0.68	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.0	0.0	0.0	0.0	11.4	11.0	30.8	0.0	28.7			
Incr Delay (d2), s/veh	30.9	0.1	0.0	0.0	1.4	2.2	53.9	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	15.8	0.0	0.0	0.0	4.2	3.0	15.2	0.0	6.6			
LnGrp Delay(d),s/veh	46.9	0.1	0.0	0.0	12.8	13.2	84.7	0.0	37.4			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h		1102			887			702				
Approach Delay, s/veh		22.8			12.9			66.0				
Approach LOS		C			B			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		20.5		2.0			26.0	10.3				
Green Ext Time (p_c), s		0.0		11.7			0.0	7.6				
Intersection Summary												
HCM 2010 Ctrl Delay				30.8								
HCM 2010 LOS				C								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (1B) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑↑	↖	↖	↑↑			↖	↖		↖	↖
Traffic Volume (veh/h)	333	340	104	35	338	110	175	5	50	129	0	303
Future Volume (veh/h)	333	340	104	35	338	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	370	113	38	367	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	906	405	63	505	163	485	13	443	405	0	361
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2633	849	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	370	113	38	245	242	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1713	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.8	3.7	1.7	10.4	10.6	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.8	3.7	1.7	10.4	10.6	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.50	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	906	405	63	339	328	497	0	443	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.72	0.74	0.39	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	396	497	0	443	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.7	18.1	38.0	30.3	30.4	23.3	0.0	21.5	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.8	0.3	0.4	8.8	4.9	5.7	2.3	0.0	0.6	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.7	1.0	5.5	5.6	3.8	0.0	0.9	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.1	19.0	18.4	46.8	35.3	36.2	25.6	0.0	22.0	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	D	D	C		C	C		E
Approach Vol, veh/h		845			525			249			469	
Approach Delay, s/veh		51.5			36.5			24.8			47.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.4	6.9	24.5		22.3	12.0	19.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		9.1	3.7	7.8		18.2	10.0	12.6				
Green Ext Time (p_c), s		0.8	0.0	4.6		0.1	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			43.6									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	442	409	30	10	74
Future Vol, veh/h	77	442	409	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	480	445	33	11	80

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	477	0	0	869	239
Stage 1	-	-	-	461	-
Stage 2	-	-	-	408	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1082	-	-	291	762
Stage 1	-	-	-	601	-
Stage 2	-	-	-	640	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1082	-	-	260	762
Mov Cap-2 Maneuver	-	-	-	260	-
Stage 1	-	-	-	601	-
Stage 2	-	-	-	572	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1082	-	-	-	260	762
HCM Lane V/C Ratio	0.077	-	-	-	0.042	0.106
HCM Control Delay (s)	8.6	-	-	-	19.4	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	148	485	1102	306	104	29	330	756	42	265
Future Volume (veh/h)	208	989	148	485	1102	306	104	29	330	756	42	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1075	161	527	1198	333	113	32	359	855	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	1093	163	84	1219	545	244	69	276	970	0	433
Arrive On Green	0.06	0.35	0.35	0.05	0.34	0.34	0.17	0.17	0.17	0.27	0.00	0.27
Sat Flow, veh/h	1774	3089	462	1774	3539	1583	1397	396	1583	3548	0	1583
Grp Volume(v), veh/h	226	615	621	527	1198	333	145	0	359	855	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1781	1774	1770	1583	1793	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	36.5	36.7	5.0	35.6	18.5	7.7	0.0	18.5	24.4	0.0	17.1
Cycle Q Clear(g_c), s	6.0	36.5	36.7	5.0	35.6	18.5	7.7	0.0	18.5	24.4	0.0	17.1
Prop In Lane	1.00		0.26	1.00		1.00	0.78		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	100	626	630	84	1219	545	313	0	276	970	0	433
V/C Ratio(X)	2.25	0.98	0.99	6.30	0.98	0.61	0.46	0.00	1.30	0.88	0.00	0.67
Avail Cap(c_a), veh/h	100	626	630	84	1219	545	313	0	276	1105	0	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.0	33.9	34.0	50.5	34.4	28.8	39.3	0.0	43.7	36.8	0.0	34.2
Incr Delay (d2), s/veh	593.3	31.4	32.0	2409.0	21.7	2.0	1.1	0.0	158.6	7.7	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.5	23.2	23.6	58.4	21.0	8.3	3.9	0.0	20.3	13.0	0.0	7.8
LnGrp Delay(d),s/veh	643.3	65.3	66.0	2459.5	56.1	30.8	40.4	0.0	202.3	44.6	0.0	37.0
LnGrp LOS	F	E	E	F	E	C	D		F	D		D
Approach Vol, veh/h		1462			2058			504			1143	
Approach Delay, s/veh		154.9			667.5			155.7			42.7	
Approach LOS		F			F			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	9.0	41.5		33.0	10.0	40.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		20.5	7.0	38.7		26.4	8.0	37.6				
Green Ext Time (p_c), s		0.0	0.0	0.0		2.5	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			334.3									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	1384	691	300	1070	0	0	0	0	285	1	824
Future Volume (veh/h)	0	1384	691	300	1070	0	0	0	0	285	1	824
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1504	751	326	1163	0				310	1	896
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1110	519	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1504	751	326	1163	0				311	0	896
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	24.0	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	24.0	0.0				11.3	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.35	1.45	0.98	0.58	0.00				0.52	0.00	1.69
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.10	0.10	0.44	0.44	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	23.9	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	160.2	202.8	27.7	0.5	0.0				0.8	0.0	318.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	36.9	40.6	9.8	11.9	0.0				5.7	0.0	58.5
LnGrp Delay(d),s/veh	0.0	187.1	229.7	65.1	24.5	0.0				22.3	0.0	344.9
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2255			1489						1207	
Approach Delay, s/veh		201.3			33.4						261.7	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.7	28.2		28.8		26.0				
Green Ext Time (p_c), s			0.0	0.0		0.0		18.0				
Intersection Summary												
HCM 2010 Ctrl Delay			165.5									
HCM 2010 LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	784	886	0	0	841	285	528	5	255	0	0	0
Future Volume (veh/h)	784	886	0	0	841	285	528	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	852	963	0	0	914	310	574	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	407	4	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1759	15	1583			
Grp Volume(v), veh/h	852	963	0	0	914	310	579	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.8	0.0	0.0	15.5	9.3	18.5	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.8	0.0	0.0	15.5	9.3	18.5	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.60	0.41	0.00	0.00	0.81	0.61	1.41	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.36	0.36	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.7	11.6	30.8	0.0	28.7			
Incr Delay (d2), s/veh	271.2	0.0	0.0	0.0	2.4	2.0	198.8	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	1.7	1.6	0.0	0.0	7.5	4.2	31.7	0.0	6.6			
LnGrp Delay(d),s/veh	295.2	1.7	0.0	0.0	15.1	13.6	229.6	0.0	37.4			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h		1815			1224			856				
Approach Delay, s/veh		139.5			14.7			167.4				
Approach LOS		F			B			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		20.5		5.8			26.0	17.5				
Green Ext Time (p_c), s		0.0		22.5			0.0	6.5				
Intersection Summary												
HCM 2010 Ctrl Delay				106.4								
HCM 2010 LOS				F								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (1C) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑↑	↖	↖	↑↑			↖	↖		↖	↖
Traffic Volume (veh/h)	418	643	80	35	518	130	125	10	25	145	15	483
Future Volume (veh/h)	418	643	80	35	518	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	699	87	38	563	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1022	457	63	630	157	403	33	387	374	38	366
Arrive On Green	0.20	0.58	0.58	0.04	0.22	0.22	0.24	0.24	0.24	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2808	701	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	699	87	38	354	350	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1739	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	11.0	2.1	1.7	15.5	15.6	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	11.0	2.1	1.7	15.5	15.6	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1022	457	63	397	390	435	0	387	412	0	366
V/C Ratio(X)	1.32	0.68	0.19	0.60	0.89	0.90	0.34	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1022	457	111	409	402	435	0	387	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.4	12.5	38.0	30.1	30.1	24.9	0.0	23.2	26.2	0.0	30.8
Incr Delay (d2), s/veh	160.9	1.7	0.2	8.8	20.7	21.7	2.1	0.0	0.3	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.5	0.9	1.0	9.9	9.8	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	192.9	16.1	12.6	46.8	50.8	51.8	27.0	0.0	23.6	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h		1240			742			174			699	
Approach Delay, s/veh		80.6			51.1			26.5			187.8	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.5	6.9	27.1		22.5	12.0	22.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.4	3.7	13.0		20.5	10.0	17.6				
Green Ext Time (p_c), s		0.5	0.0	5.3		0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay					95.9							
HCM 2010 LOS					F							

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	708	588	30	25	95
Future Vol, veh/h	105	708	588	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	770	639	33	27	103

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	672	0	0	1268	336
Stage 1	-	-	-	655	-
Stage 2	-	-	-	613	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	915	-	-	160	660
Stage 1	-	-	-	479	-
Stage 2	-	-	-	503	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	915	-	-	125	660
Mov Cap-2 Maneuver	-	-	-	125	-
Stage 1	-	-	-	479	-
Stage 2	-	-	-	393	-

Approach























	EB	WB	SB
HCM Control Delay, s	1.2	0	17.8
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	125	660
HCM Lane V/C Ratio	0.125	-	-	-	0.217	0.156
HCM Control Delay (s)	9.5	-	-	-	41.6	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	184	603	783	174	112	21	355	271	41	112
Future Volume (veh/h)	113	721	184	603	783	174	112	21	355	271	41	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	200	655	851	189	122	23	386	327	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	1093	279	107	1342	600	337	64	355	462	0	206
Arrive On Green	0.07	0.39	0.39	0.06	0.38	0.38	0.22	0.22	0.22	0.13	0.00	0.13
Sat Flow, veh/h	1774	2794	713	1774	3539	1583	1504	284	1583	3548	0	1583
Grp Volume(v), veh/h	123	497	487	655	851	189	145	0	386	327	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1737	1774	1770	1583	1788	0	1583	1774	0	1583
Q Serve(g_s), s	5.7	19.6	19.6	5.0	16.2	6.9	5.7	0.0	18.5	7.3	0.0	6.0
Cycle Q Clear(g_c), s	5.7	19.6	19.6	5.0	16.2	6.9	5.7	0.0	18.5	7.3	0.0	6.0
Prop In Lane	1.00		0.41	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	129	692	680	107	1342	600	400	0	355	462	0	206
V/C Ratio(X)	0.95	0.72	0.72	6.10	0.63	0.31	0.36	0.00	1.09	0.71	0.00	0.59
Avail Cap(c_a), veh/h	129	804	789	107	1564	700	400	0	355	1418	0	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.2	21.3	21.3	38.8	20.9	18.1	27.1	0.0	32.0	34.4	0.0	33.8
Incr Delay (d2), s/veh	65.0	2.6	2.6	2313.7	0.7	0.3	0.6	0.0	73.5	2.0	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	10.0	9.8	71.5	8.0	3.1	2.8	0.0	15.3	3.7	0.0	2.8
LnGrp Delay(d),s/veh	103.2	23.9	23.9	2352.5	21.6	18.4	27.6	0.0	105.5	36.4	0.0	36.5
LnGrp LOS	F	C	C	F	C	B	C		F	D		D
Approach Vol, veh/h		1107			1695			531			449	
Approach Delay, s/veh		32.7			922.0			84.2			36.4	
Approach LOS		C			F			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	9.0	36.3		14.8	10.0	35.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		20.5	7.0	21.6		9.3	7.7	18.2				
Green Ext Time (p_c), s		0.0	0.0	10.7		1.5	0.0	11.8				
Intersection Summary												
HCM 2010 Ctrl Delay			438.9									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	923	423	178	864	0	0	0	0	176	1	696
Future Volume (veh/h)	0	923	423	178	864	0	0	0	0	176	1	696
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1003	460	193	939	0				191	1	757
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1302	597	237	2000	0				591	3	530
Arrive On Green	0.00	0.38	0.38	0.04	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3580	1565	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	997	466	193	939	0				192	0	757
Grp Sat Flow(s),veh/h/ln	0	1695	1587	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	20.6	20.6	8.6	18.9	0.0				6.5	0.0	26.8
Cycle Q Clear(g_c), s	0.0	20.6	20.6	8.6	18.9	0.0				6.5	0.0	26.8
Prop In Lane	0.00		0.99	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1294	605	237	2000	0				594	0	530
V/C Ratio(X)	0.00	0.77	0.77	0.82	0.47	0.00				0.32	0.00	1.43
Avail Cap(c_a), veh/h	0	1294	605	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.56	0.56	0.67	0.67	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.7	21.7	37.3	21.9	0.0				19.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	2.5	5.3	7.1	0.5	0.0				0.3	0.0	203.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.0	9.8	4.7	9.4	0.0				3.2	0.0	41.5
LnGrp Delay(d),s/veh	0.0	24.2	27.0	44.4	22.4	0.0				20.1	0.0	229.6
LnGrp LOS		C	C	D	C					C		F
Approach Vol, veh/h		1463			1132						949	
Approach Delay, s/veh		25.1			26.1						187.2	
Approach LOS		C			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	34.5		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	22.6		28.8		20.9				
Green Ext Time (p_c), s			0.2	3.3		0.0		17.8				
Intersection Summary												
HCM 2010 Ctrl Delay			68.8									
HCM 2010 LOS			E									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	570	529	0	0	600	222	442	3	255	0	0	0
Future Volume (veh/h)	570	529	0	0	600	222	442	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	620	575	0	0	652	241	480	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	408	3	366			
Arrive On Green	0.50	1.00	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1764	11	1583			
Grp Volume(v), veh/h	620	575	0	0	652	241	483	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	8.5	6.3	18.5	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	8.5	6.3	18.5	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.16	0.24	0.00	0.00	0.58	0.48	1.18	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.47	0.47	0.00	0.00	0.68	0.68	1.00	0.00	1.00			
Uniform Delay (d), s/veh	20.0	0.0	0.0	0.0	11.4	11.0	30.8	0.0	28.7			
Incr Delay (d2), s/veh	84.0	0.1	0.0	0.0	1.5	2.2	102.3	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	23.8	0.0	0.0	0.0	4.2	3.0	20.7	0.0	6.6			
LnGrp Delay(d),s/veh	104.0	0.1	0.0	0.0	12.9	13.2	133.1	0.0	37.4			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h		1195			893			760				
Approach Delay, s/veh		54.0			13.0			98.2				
Approach LOS		D			B			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		20.5		2.0			26.0	10.5				
Green Ext Time (p_c), s		0.0		11.8			0.0	7.6				
Intersection Summary												
HCM 2010 Ctrl Delay				52.9								
HCM 2010 LOS				D								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (1C) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	347	104	35	344	110	175	5	50	129	0	303
Future Volume (veh/h)	333	347	104	35	344	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	377	113	38	374	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	912	408	63	512	162	482	13	441	405	0	361
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2646	838	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	377	113	38	248	246	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1715	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.9	3.7	1.7	10.5	10.8	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.9	3.7	1.7	10.5	10.8	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.49	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	912	408	63	342	332	494	0	441	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.73	0.74	0.39	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	397	494	0	441	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.6	18.0	38.0	30.3	30.4	23.4	0.0	21.6	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.7	0.3	0.3	8.8	5.1	5.9	2.3	0.0	0.6	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.6	1.0	5.6	5.7	3.8	0.0	1.0	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.1	18.9	18.3	46.8	35.4	36.3	25.7	0.0	22.1	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	D	D	C		C	C		E
Approach Vol, veh/h		852			532			249			469	
Approach Delay, s/veh		51.2			36.7			25.0			47.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.3	6.9	24.6		22.3	12.0	19.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		9.1	3.7	7.9		18.2	10.0	12.8				
Green Ext Time (p_c), s		0.8	0.0	4.7		0.1	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			43.5									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	449	415	30	10	74
Future Vol, veh/h	77	449	415	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	488	451	33	11	80

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	484	0	0	878	242
Stage 1	-	-	-	467	-
Stage 2	-	-	-	411	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1075	-	-	287	759
Stage 1	-	-	-	597	-
Stage 2	-	-	-	638	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1075	-	-	256	759
Mov Cap-2 Maneuver	-	-	-	256	-
Stage 1	-	-	-	597	-
Stage 2	-	-	-	570	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1075	-	-	-	256	759
HCM Lane V/C Ratio	0.078	-	-	-	0.042	0.106
HCM Control Delay (s)	8.6	-	-	-	19.7	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	59	176	1102	306	58	21	167	756	26	265
Future Volume (veh/h)	208	989	59	176	1102	306	58	21	167	756	26	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1075	64	191	1198	333	63	23	182	842	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	1277	76	89	1296	580	180	66	217	977	0	436
Arrive On Green	0.06	0.38	0.38	0.05	0.37	0.37	0.14	0.14	0.14	0.28	0.00	0.28
Sat Flow, veh/h	1774	3395	202	1774	3539	1583	1316	481	1583	3548	0	1583
Grp Volume(v), veh/h	226	560	579	191	1198	333	86	0	182	842	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1827	1774	1770	1583	1797	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	28.7	28.7	5.0	32.2	16.8	4.3	0.0	11.1	22.4	0.0	16.0
Cycle Q Clear(g_c), s	6.0	28.7	28.7	5.0	32.2	16.8	4.3	0.0	11.1	22.4	0.0	16.0
Prop In Lane	1.00		0.11	1.00		1.00	0.73		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	107	666	687	89	1296	580	246	0	217	977	0	436
V/C Ratio(X)	2.11	0.84	0.84	2.14	0.92	0.57	0.35	0.00	0.84	0.86	0.00	0.66
Avail Cap(c_a), veh/h	107	668	690	89	1301	582	335	0	295	1179	0	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.6	28.3	28.3	47.1	30.1	25.3	38.9	0.0	41.8	34.2	0.0	31.9
Incr Delay (d2), s/veh	528.8	9.5	9.2	547.5	11.2	1.4	0.8	0.0	14.6	5.8	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.7	15.8	16.2	16.0	17.7	7.5	2.2	0.0	5.8	11.8	0.0	7.2
LnGrp Delay(d),s/veh	575.4	37.7	37.5	594.6	41.3	26.6	39.7	0.0	56.4	39.9	0.0	34.1
LnGrp LOS	F	D	D	F	D	C	D		E	D		C
Approach Vol, veh/h		1365			1722			268			1130	
Approach Delay, s/veh		126.6			99.9			51.0			38.5	
Approach LOS		F			F			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		17.6	9.0	41.4		31.4	10.0	40.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		13.1	7.0	30.7		24.4	8.0	34.2				
Green Ext Time (p_c), s		0.5	0.0	6.1		3.0	0.0	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			89.6									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	1288	624	300	927	0	0	0	0	285	1	658
Future Volume (veh/h)	0	1288	624	300	927	0	0	0	0	285	1	658
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1400	678	326	1008	0				310	1	715
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1110	519	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1400	678	326	1008	0				311	0	715
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	20.5	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	20.5	0.0				11.3	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.26	1.31	0.98	0.50	0.00				0.52	0.00	1.35
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.43	0.43	0.46	0.46	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	22.5	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	120.7	144.4	28.5	0.4	0.0				0.8	0.0	168.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	30.8	32.2	9.9	10.2	0.0				5.7	0.0	36.5
LnGrp Delay(d),s/veh	0.0	147.6	171.3	65.9	22.9	0.0				22.3	0.0	195.4
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2078			1334						1026	
Approach Delay, s/veh		155.3			33.4						142.9	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.7	28.2		28.8		22.5				
Green Ext Time (p_c), s			0.0	0.0		0.0		20.2				
Intersection Summary												
HCM 2010 Ctrl Delay			115.8									
HCM 2010 LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	696	878	0	0	825	285	402	5	255	0	0	0
Future Volume (veh/h)	696	878	0	0	825	285	402	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	757	954	0	0	897	310	437	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	406	5	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1755	20	1583			
Grp Volume(v), veh/h	757	954	0	0	897	310	442	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.7	0.0	0.0	14.9	9.3	18.5	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.7	0.0	0.0	14.9	9.3	18.5	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.42	0.40	0.00	0.00	0.80	0.61	1.08	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.38	0.38	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.6	11.6	30.8	0.0	28.7			
Incr Delay (d2), s/veh	191.1	0.0	0.0	0.0	2.3	2.1	66.5	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	39.9	1.6	0.0	0.0	7.3	4.3	16.6	0.0	6.6			
LnGrp Delay(d),s/veh	215.1	1.7	0.0	0.0	14.9	13.7	97.3	0.0	37.4			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h		1711			1207			719				
Approach Delay, s/veh		96.1			14.6			74.2				
Approach LOS		F			B			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		20.5		5.7			26.0	16.9				
Green Ext Time (p_c), s		0.0		22.1			0.0	6.9				
Intersection Summary												
HCM 2010 Ctrl Delay				64.7								
HCM 2010 LOS				E								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (1D) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	635	80	35	502	130	125	10	25	145	15	483
Future Volume (veh/h)	418	635	80	35	502	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	690	87	38	546	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1011	452	63	617	159	408	33	392	374	38	366
Arrive On Green	0.20	0.57	0.57	0.04	0.22	0.22	0.25	0.25	0.25	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2788	717	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	690	87	38	346	341	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1736	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	11.0	2.1	1.7	15.1	15.2	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	11.0	2.1	1.7	15.1	15.2	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.41	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1011	452	63	391	384	441	0	392	412	0	366
V/C Ratio(X)	1.32	0.68	0.19	0.60	0.88	0.89	0.33	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1011	452	111	409	401	441	0	392	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.6	12.7	38.0	30.2	30.2	24.7	0.0	23.0	26.2	0.0	30.8
Incr Delay (d2), s/veh	161.0	1.7	0.2	8.8	19.3	20.3	2.0	0.0	0.3	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.4	0.9	1.0	9.5	9.5	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	193.0	16.3	12.9	46.8	49.4	50.5	26.7	0.0	23.4	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h		1231			725			174			699	
Approach Delay, s/veh		81.2			49.8			26.2			187.8	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.8	6.9	26.8		22.5	12.0	21.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.4	3.7	13.0		20.5	10.0	17.2				
Green Ext Time (p_c), s		0.5	0.0	5.2		0.0	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay					96.1							
HCM 2010 LOS					F							

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	700	572	30	25	95
Future Vol, veh/h	105	700	572	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	761	622	33	27	103























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	654	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	929	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	929	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	929	-	-	-	131	669
HCM Lane V/C Ratio	0.123	-	-	-	0.207	0.154
HCM Control Delay (s)	9.4	-	-	-	39.5	11.4
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	86	271	783	174	78	15	247	271	23	112
Future Volume (veh/h)	113	721	86	271	783	174	78	15	247	271	23	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	93	295	851	189	85	16	268	313	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	1251	148	118	1342	600	297	56	313	461	0	206
Arrive On Green	0.08	0.39	0.39	0.07	0.38	0.38	0.20	0.20	0.20	0.13	0.00	0.13
Sat Flow, veh/h	1774	3188	378	1774	3539	1583	1504	283	1583	3548	0	1583
Grp Volume(v), veh/h	123	435	442	295	851	189	101	0	268	313	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1796	1774	1770	1583	1788	0	1583	1774	0	1583
Q Serve(g_s), s	5.1	14.9	14.9	5.0	14.7	6.3	3.6	0.0	12.3	6.3	0.0	5.4
Cycle Q Clear(g_c), s	5.1	14.9	14.9	5.0	14.7	6.3	3.6	0.0	12.3	6.3	0.0	5.4
Prop In Lane	1.00		0.21	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	142	695	705	118	1342	600	353	0	313	461	0	206
V/C Ratio(X)	0.87	0.63	0.63	2.50	0.63	0.31	0.29	0.00	0.86	0.68	0.00	0.59
Avail Cap(c_a), veh/h	142	885	898	118	1722	770	441	0	390	1561	0	696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.1	18.4	18.4	35.0	19.0	16.4	25.6	0.0	29.1	31.1	0.0	30.8
Incr Delay (d2), s/veh	39.4	0.9	0.9	697.3	0.5	0.3	0.4	0.0	14.3	1.8	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	7.4	7.5	25.3	7.3	2.8	1.8	0.0	6.6	3.2	0.0	2.5
LnGrp Delay(d),s/veh	73.6	19.3	19.3	732.3	19.5	16.7	26.0	0.0	43.4	32.9	0.0	33.5
LnGrp LOS	E	B	B	F	B	B	C		D	C		C
Approach Vol, veh/h		1000			1335			369			435	
Approach Delay, s/veh		26.0			176.6			38.6			33.1	
Approach LOS		C			F			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.8	9.0	33.5		13.7	10.0	32.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		14.3	7.0	16.9		8.3	7.1	16.7				
Green Ext Time (p_c), s		0.6	0.0	12.0		1.4	0.0	11.7				
Intersection Summary												
HCM 2010 Ctrl Delay			92.5									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	859	380	178	711	0	0	0	0	176	1	517
Future Volume (veh/h)	0	859	380	178	711	0	0	0	0	176	1	517
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	934	413	193	773	0				191	1	562
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1319	583	237	2000	0				591	3	530
Arrive On Green	0.00	0.38	0.38	0.04	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3624	1527	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	916	431	193	773	0				192	0	562
Grp Sat Flow(s),veh/h/ln	0	1695	1593	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	18.3	18.3	8.6	15.3	0.0				6.5	0.0	26.8
Cycle Q Clear(g_c), s	0.0	18.3	18.3	8.6	15.3	0.0				6.5	0.0	26.8
Prop In Lane	0.00		0.96	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1294	608	237	2000	0				594	0	530
V/C Ratio(X)	0.00	0.71	0.71	0.82	0.39	0.00				0.32	0.00	1.06
Avail Cap(c_a), veh/h	0	1294	608	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.71	0.71	0.71	0.71	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.0	21.0	37.3	20.4	0.0				19.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	2.3	4.9	7.5	0.4	0.0				0.3	0.0	55.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.9	8.8	4.7	7.6	0.0				3.2	0.0	19.9
LnGrp Delay(d),s/veh	0.0	23.3	25.9	44.8	20.8	0.0				20.1	0.0	82.4
LnGrp LOS		C	C	D	C					C		F
Approach Vol, veh/h		1347			966						754	
Approach Delay, s/veh		24.1			25.6						66.5	
Approach LOS		C			C						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	34.5		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+l1), s			10.6	20.3		28.8		17.3				
Green Ext Time (p_c), s			0.2	5.0		0.0		17.4				
Intersection Summary												
HCM 2010 Ctrl Delay			35.0									
HCM 2010 LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	511	523	0	0	582	222	307	3	255	0	0	0
Future Volume (veh/h)	511	523	0	0	582	222	307	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	555	568	0	0	633	241	334	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2421	0	0	1182	529	380	3	342			
Arrive On Green	0.60	1.00	0.00	0.00	0.67	0.67	0.22	0.22	0.22			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1759	16	1583			
Grp Volume(v), veh/h	555	568	0	0	633	241	337	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	7.4	5.8	14.7	0.0	13.3			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	7.4	5.8	14.7	0.0	13.3			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2421	0	0	1182	529	383	0	342			
V/C Ratio(X)	1.04	0.23	0.00	0.00	0.54	0.46	0.88	0.00	0.81			
Avail Cap(c_a), veh/h	532	2421	0	0	1182	529	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.66	0.66	0.00	0.00	0.69	0.69	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.0	0.0	0.0	0.0	10.1	9.8	30.4	0.0	29.8			
Incr Delay (d2), s/veh	43.4	0.2	0.0	0.0	1.2	2.0	18.4	0.0	12.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	17.7	0.1	0.0	0.0	3.7	2.7	9.2	0.0	6.9			
LnGrp Delay(d),s/veh	59.4	0.2	0.0	0.0	11.3	11.8	48.8	0.0	42.0			
LnGrp LOS	F	A			B	B	D		D			
Approach Vol, veh/h		1123			874			614				
Approach Delay, s/veh		29.4			11.4			45.7				
Approach LOS		C			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		21.3		58.7			28.0	30.7				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		16.7		2.0			26.0	9.4				
Green Ext Time (p_c), s		0.6		11.5			0.0	7.8				
Intersection Summary												
HCM 2010 Ctrl Delay				27.2								
HCM 2010 LOS				C								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (1D) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↖	↖	↖	↖↖			↖	↖		↖	↖
Traffic Volume (veh/h)	333	341	104	35	326	110	175	5	50	129	0	303
Future Volume (veh/h)	333	341	104	35	326	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	371	113	38	354	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	897	401	63	493	165	489	13	448	405	0	361
Arrive On Green	0.17	0.42	0.42	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2608	871	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	371	113	38	239	235	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1709	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.9	3.7	1.7	10.1	10.4	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.9	3.7	1.7	10.1	10.4	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.51	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	897	401	63	335	323	502	0	448	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.71	0.73	0.39	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	395	502	0	448	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.9	18.3	38.0	30.4	30.5	23.1	0.0	21.3	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	4.5	5.3	2.3	0.0	0.6	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.7	1.0	5.3	5.4	3.8	0.0	0.9	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.0	19.2	18.7	46.8	34.9	35.8	25.4	0.0	21.9	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	C	D	C		C	C		E
Approach Vol, veh/h		846			512			249			469	
Approach Delay, s/veh		51.6			36.2			24.6			47.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.6	6.9	24.3		22.3	12.0	19.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		9.1	3.7	7.9		18.2	10.0	12.4				
Green Ext Time (p_c), s		0.8	0.0	4.6		0.1	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			43.5									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	443	397	30	10	74
Future Vol, veh/h	77	443	397	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	482	432	33	11	80

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	464	0	856
Stage 1	-	-	448
Stage 2	-	-	408
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1094	-	297
Stage 1	-	-	611
Stage 2	-	-	640
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1094	-	266
Mov Cap-2 Maneuver	-	-	266
Stage 1	-	-	611
Stage 2	-	-	573

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1094	-	-	-	266	770
HCM Lane V/C Ratio	0.077	-	-	-	0.041	0.104
HCM Control Delay (s)	8.6	-	-	-	19.1	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	163	354	1102	306	119	32	260	756	45	265
Future Volume (veh/h)	208	989	163	354	1102	306	119	32	260	756	45	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1075	177	385	1198	333	129	35	283	857	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	1076	177	84	1218	545	246	67	276	972	0	434
Arrive On Green	0.06	0.35	0.35	0.05	0.34	0.34	0.17	0.17	0.17	0.27	0.00	0.27
Sat Flow, veh/h	1774	3044	500	1774	3539	1583	1410	382	1583	3548	0	1583
Grp Volume(v), veh/h	226	624	628	385	1198	333	164	0	283	857	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1774	1774	1770	1583	1792	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	37.3	37.5	5.0	35.6	18.5	8.8	0.0	18.5	24.5	0.0	17.1
Cycle Q Clear(g_c), s	6.0	37.3	37.5	5.0	35.6	18.5	8.8	0.0	18.5	24.5	0.0	17.1
Prop In Lane	1.00		0.28	1.00		1.00	0.79		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	100	626	627	84	1218	545	313	0	276	972	0	434
V/C Ratio(X)	2.25	1.00	1.00	4.60	0.98	0.61	0.52	0.00	1.02	0.88	0.00	0.66
Avail Cap(c_a), veh/h	100	626	627	84	1218	545	313	0	276	1104	0	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.0	34.2	34.3	50.5	34.5	28.9	39.8	0.0	43.8	36.9	0.0	34.2
Incr Delay (d2), s/veh	593.9	35.2	36.2	1648.4	21.8	2.0	1.6	0.0	60.6	7.8	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.5	24.3	24.6	40.7	21.0	8.4	4.5	0.0	12.7	13.1	0.0	7.8
LnGrp Delay(d),s/veh	643.9	69.4	70.4	1698.9	56.3	30.9	41.4	0.0	104.5	44.7	0.0	37.0
LnGrp LOS	F	E	F	F	E	C	D		F	D		D
Approach Vol, veh/h		1478			1916			447			1145	
Approach Delay, s/veh		157.7			381.9			81.3			42.7	
Approach LOS		F			F			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	9.0	41.5		33.1	10.0	40.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		20.5	7.0	39.5		26.5	8.0	37.6				
Green Ext Time (p_c), s		0.0	0.0	0.0		2.5	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			210.6									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	1418	587	300	908	0	0	0	0	285	1	855
Future Volume (veh/h)	0	1418	587	300	908	0	0	0	0	285	1	855
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1541	638	326	987	0				310	1	929
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1169	469	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3737	1431	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1461	718	326	987	0				311	0	929
Grp Sat Flow(s),veh/h/ln	0	1695	1610	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	20.0	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	20.0	0.0				11.3	0.0	26.8
Prop In Lane	0.00		0.89	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	527	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.32	1.36	0.98	0.49	0.00				0.52	0.00	1.75
Avail Cap(c_a), veh/h	0	1110	527	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.18	0.18	0.44	0.44	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	22.3	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	143.4	164.7	27.6	0.4	0.0				0.8	0.0	345.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	34.3	35.7	9.8	9.9	0.0				5.7	0.0	62.6
LnGrp Delay(d),s/veh	0.0	170.3	191.6	64.9	22.7	0.0				22.3	0.0	372.5
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2179			1313						1240	
Approach Delay, s/veh		177.3			33.2						284.7	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.7	28.2		28.8		22.0				
Green Ext Time (p_c), s			0.0	0.0		0.0		20.8				
Intersection Summary												
HCM 2010 Ctrl Delay			165.5									
HCM 2010 LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	815	889	0	0	844	285	364	5	255	0	0	0
Future Volume (veh/h)	815	889	0	0	844	285	364	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	886	966	0	0	917	310	396	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	405	5	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	22	1583			
Grp Volume(v), veh/h	886	966	0	0	917	310	401	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.8	0.0	0.0	15.6	9.3	17.9	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.8	0.0	0.0	15.6	9.3	17.9	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.66	0.41	0.00	0.00	0.81	0.61	0.98	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.36	0.36	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.7	11.6	30.5	0.0	28.7			
Incr Delay (d2), s/veh	299.9	0.0	0.0	0.0	2.4	2.0	38.2	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	56.0	1.6	0.0	0.0	7.8	4.2	13.2	0.0	6.6			
LnGrp Delay(d),s/veh	323.9	1.7	0.0	0.0	15.1	13.6	68.7	0.0	37.4			
LnGrp LOS	F	A			B	B	E		D			
Approach Vol, veh/h		1852			1227			678				
Approach Delay, s/veh		155.9			14.7			55.9				
Approach LOS		F			B			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		19.9		5.8			26.0	17.6				
Green Ext Time (p_c), s		0.0		22.6			0.0	6.5				
Intersection Summary												
HCM 2010 Ctrl Delay				91.7								
HCM 2010 LOS				F								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (2A) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖	↕↗			↖	↖		↖	↖
Traffic Volume (veh/h)	418	646	80	35	521	130	125	10	25	145	15	483
Future Volume (veh/h)	418	646	80	35	521	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	702	87	38	566	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1024	458	63	632	157	402	32	386	374	38	366
Arrive On Green	0.20	0.58	0.58	0.04	0.22	0.22	0.24	0.24	0.24	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2811	698	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	702	87	38	356	351	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1740	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	11.1	2.1	1.7	15.6	15.7	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	11.1	2.1	1.7	15.6	15.7	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1024	458	63	398	391	434	0	386	412	0	366
V/C Ratio(X)	1.32	0.69	0.19	0.60	0.89	0.90	0.34	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1024	458	111	409	402	434	0	386	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.3	12.4	38.0	30.1	30.1	24.9	0.0	23.3	26.2	0.0	30.8
Incr Delay (d2), s/veh	160.9	1.7	0.2	8.8	21.0	22.0	2.1	0.0	0.4	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.5	0.9	1.0	9.9	9.9	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	192.9	16.0	12.6	46.8	51.0	52.1	27.0	0.0	23.6	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h		1243			745			174			699	
Approach Delay, s/veh		80.4			51.3			26.5			187.8	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.5	6.9	27.1		22.5	12.0	22.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.4	3.7	13.1		20.5	10.0	17.7				
Green Ext Time (p_c), s		0.5	0.0	5.3		0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay					95.8							
HCM 2010 LOS					F							

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	711	591	30	25	95
Future Vol, veh/h	105	711	591	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	773	642	33	27	103

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	675	0	0	1274	338
Stage 1	-	-	-	659	-
Stage 2	-	-	-	615	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	912	-	-	159	658
Stage 1	-	-	-	476	-
Stage 2	-	-	-	502	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	912	-	-	124	658
Mov Cap-2 Maneuver	-	-	-	124	-
Stage 1	-	-	-	476	-
Stage 2	-	-	-	392	-

Approach























	EB	WB	SB
HCM Control Delay, s	1.2	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	912	-	-	-	124	658
HCM Lane V/C Ratio	0.125	-	-	-	0.219	0.157
HCM Control Delay (s)	9.5	-	-	-	42	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	201	429	783	174	122	23	259	271	44	112
Future Volume (veh/h)	113	721	201	429	783	174	122	23	259	271	44	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	218	466	851	189	133	25	282	329	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	1100	306	111	1379	617	307	58	323	469	0	209
Arrive On Green	0.07	0.40	0.40	0.06	0.39	0.39	0.20	0.20	0.20	0.13	0.00	0.13
Sat Flow, veh/h	1774	2737	761	1774	3539	1583	1505	283	1583	3548	0	1583
Grp Volume(v), veh/h	123	507	495	466	851	189	158	0	282	329	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1728	1774	1770	1583	1788	0	1583	1774	0	1583
Q Serve(g_s), s	5.5	19.2	19.2	5.0	15.5	6.6	6.2	0.0	13.8	7.1	0.0	5.8
Cycle Q Clear(g_c), s	5.5	19.2	19.2	5.0	15.5	6.6	6.2	0.0	13.8	7.1	0.0	5.8
Prop In Lane	1.00		0.44	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	133	711	695	111	1379	617	364	0	323	469	0	209
V/C Ratio(X)	0.93	0.71	0.71	4.21	0.62	0.31	0.43	0.00	0.87	0.70	0.00	0.58
Avail Cap(c_a), veh/h	133	828	809	111	1612	721	413	0	366	1461	0	652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.8	20.1	20.1	37.6	19.7	17.0	27.9	0.0	30.9	33.3	0.0	32.7
Incr Delay (d2), s/veh	55.9	2.4	2.5	1465.5	0.5	0.3	0.8	0.0	18.7	1.9	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	9.8	9.6	47.5	7.7	2.9	3.1	0.0	7.7	3.6	0.0	2.7
LnGrp Delay(d),s/veh	92.8	22.5	22.5	1503.1	20.2	17.2	28.7	0.0	49.6	35.2	0.0	35.3
LnGrp LOS	F	C	C	F	C	B	C		D	D		D
Approach Vol, veh/h		1125			1506			440			451	
Approach Delay, s/veh		30.2			478.7			42.1			35.2	
Approach LOS		C			F			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.3	9.0	36.2		14.6	10.0	35.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		15.8	7.0	21.2		9.1	7.5	17.5				
Green Ext Time (p_c), s		0.5	0.0	11.0		1.5	0.0	12.3				
Intersection Summary												
HCM 2010 Ctrl Delay			224.1									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2A) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	947	304	178	654	0	0	0	0	176	1	732
Future Volume (veh/h)	0	947	304	178	654	0	0	0	0	176	1	732
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1029	330	193	711	0				191	1	796
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1455	467	237	2000	0				591	3	530
Arrive On Green	0.00	0.38	0.38	0.04	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3982	1223	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	914	445	193	711	0				192	0	796
Grp Sat Flow(s),veh/h/ln	0	1695	1647	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	18.3	18.3	8.6	14.0	0.0				6.5	0.0	26.8
Cycle Q Clear(g_c), s	0.0	18.3	18.3	8.6	14.0	0.0				6.5	0.0	26.8
Prop In Lane	0.00		0.74	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1294	628	237	2000	0				594	0	530
V/C Ratio(X)	0.00	0.71	0.71	0.82	0.36	0.00				0.32	0.00	1.50
Avail Cap(c_a), veh/h	0	1294	628	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.62	0.62	0.67	0.67	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.0	21.0	37.3	19.9	0.0				19.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	2.0	4.1	7.1	0.3	0.0				0.3	0.0	235.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.9	9.0	4.7	6.9	0.0				3.2	0.0	46.3
LnGrp Delay(d),s/veh	0.0	23.0	25.1	44.4	20.2	0.0				20.1	0.0	261.7
LnGrp LOS		C	C	D	C					C		F
Approach Vol, veh/h		1359			904						988	
Approach Delay, s/veh		23.7			25.3						214.7	
Approach LOS		C			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	34.5		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	20.3		28.8		16.0				
Green Ext Time (p_c), s			0.2	4.9		0.0		17.3				
Intersection Summary												
HCM 2010 Ctrl Delay			82.2									
HCM 2010 LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	592	531	0	0	603	222	229	3	255	0	0	0
Future Volume (veh/h)	592	531	0	0	603	222	229	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	643	577	0	0	655	241	249	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2467	0	0	1228	549	356	4	321			
Arrive On Green	0.50	1.00	0.00	0.00	0.69	0.69	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1754	21	1583			
Grp Volume(v), veh/h	643	577	0	0	655	241	252	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	7.2	5.4	10.5	0.0	13.5			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	7.2	5.4	10.5	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2467	0	0	1228	549	360	0	321			
V/C Ratio(X)	1.21	0.23	0.00	0.00	0.53	0.44	0.70	0.00	0.86			
Avail Cap(c_a), veh/h	532	2467	0	0	1228	549	410	0	366			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.54	0.54	0.00	0.00	0.68	0.68	1.00	0.00	1.00			
Uniform Delay (d), s/veh	20.0	0.0	0.0	0.0	9.1	8.8	29.6	0.0	30.8			
Incr Delay (d2), s/veh	103.3	0.1	0.0	0.0	1.1	1.7	4.4	0.0	17.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	26.6	0.0	0.0	0.0	3.5	2.5	5.6	0.0	7.4			
LnGrp Delay(d),s/veh	123.3	0.1	0.0	0.0	10.2	10.5	34.0	0.0	47.7			
LnGrp LOS	F	A			B	B	C		D			
Approach Vol, veh/h		1220			896			529				
Approach Delay, s/veh		65.0			10.3			41.2				
Approach LOS		E			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.2		59.8			28.0	31.8				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		15.5		2.0			26.0	9.2				
Green Ext Time (p_c), s		0.7		11.9			0.0	8.0				
Intersection Summary												
HCM 2010 Ctrl Delay				41.7								
HCM 2010 LOS				D								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (2A) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	349	104	35	347	110	175	5	50	129	0	303
Future Volume (veh/h)	333	349	104	35	347	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	379	113	38	377	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	914	409	63	514	162	481	13	440	405	0	361
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2652	833	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	379	113	38	250	247	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1716	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.9	3.7	1.7	10.6	10.8	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.9	3.7	1.7	10.6	10.8	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.49	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	914	409	63	343	333	493	0	440	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.73	0.74	0.40	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	397	493	0	440	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.6	17.9	38.0	30.3	30.4	23.4	0.0	21.6	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.7	0.3	0.3	8.8	5.3	6.0	2.4	0.0	0.6	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.6	1.0	5.6	5.7	3.8	0.0	1.0	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.0	18.8	18.3	46.8	35.5	36.4	25.8	0.0	22.2	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	D	D	C		C	C		E
Approach Vol, veh/h		854			535			249			469	
Approach Delay, s/veh		51.0			36.7			25.0			47.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.2	6.9	24.7		22.3	12.0	19.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		9.1	3.7	7.9		18.2	10.0	12.8				
Green Ext Time (p_c), s		0.8	0.0	4.7		0.1	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			43.5									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	451	418	30	10	74
Future Vol, veh/h	77	451	418	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	490	454	33	11	80

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	487	0	884
Stage 1	-	-	471
Stage 2	-	-	413
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1072	-	285
Stage 1	-	-	594
Stage 2	-	-	636
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1072	-	254
Mov Cap-2 Maneuver	-	-	254
Stage 1	-	-	594
Stage 2	-	-	567

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1072	-	-	-	254	758
HCM Lane V/C Ratio	0.078	-	-	-	0.043	0.106
HCM Control Delay (s)	8.6	-	-	-	19.8	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	141	297	1102	306	94	28	198	756	41	265
Future Volume (veh/h)	208	989	141	297	1102	306	94	28	198	756	41	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1075	153	323	1198	333	102	30	215	854	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	1134	161	86	1255	561	216	64	247	978	0	436
Arrive On Green	0.06	0.36	0.36	0.05	0.35	0.35	0.16	0.16	0.16	0.28	0.00	0.28
Sat Flow, veh/h	1774	3112	442	1774	3539	1583	1386	408	1583	3548	0	1583
Grp Volume(v), veh/h	226	611	617	323	1198	333	132	0	215	854	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1785	1774	1770	1583	1793	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	34.4	34.6	5.0	34.0	17.7	6.9	0.0	13.6	23.6	0.0	16.6
Cycle Q Clear(g_c), s	6.0	34.4	34.6	5.0	34.0	17.7	6.9	0.0	13.6	23.6	0.0	16.6
Prop In Lane	1.00		0.25	1.00		1.00	0.77		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	103	645	650	86	1255	561	280	0	247	978	0	436
V/C Ratio(X)	2.18	0.95	0.95	3.75	0.95	0.59	0.47	0.00	0.87	0.87	0.00	0.66
Avail Cap(c_a), veh/h	103	645	651	86	1256	562	322	0	285	1138	0	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.4	31.7	31.8	48.9	32.4	27.1	39.6	0.0	42.4	35.5	0.0	33.0
Incr Delay (d2), s/veh	563.3	23.2	23.6	1263.7	15.8	1.7	1.2	0.0	22.0	6.9	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.1	20.9	21.2	32.7	19.4	7.9	3.5	0.0	7.5	12.4	0.0	7.5
LnGrp Delay(d),s/veh	611.8	54.9	55.4	1312.6	48.2	28.8	40.8	0.0	64.4	42.4	0.0	35.5
LnGrp LOS	F	D	E	F	D	C	D		E	D		D
Approach Vol, veh/h		1454			1854			347			1142	
Approach Delay, s/veh		141.7			265.0			55.4			40.7	
Approach LOS		F			F			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.0	9.0	41.5		32.4	10.0	40.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		15.6	7.0	36.6		25.6	8.0	36.0				
Green Ext Time (p_c), s		0.4	0.0	0.9		2.7	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			159.1									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	1362	581	300	898	0	0	0	0	285	1	808
Future Volume (veh/h)	0	1362	581	300	898	0	0	0	0	285	1	808
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1480	632	326	976	0				310	1	878
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1155	480	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3696	1466	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1421	691	326	976	0				311	0	878
Grp Sat Flow(s),veh/h/ln	0	1695	1604	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	19.7	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	19.7	0.0				11.3	0.0	26.8
Prop In Lane	0.00		0.91	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	525	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.28	1.32	0.98	0.49	0.00				0.52	0.00	1.66
Avail Cap(c_a), veh/h	0	1110	525	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.28	0.28	0.44	0.44	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	22.2	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	127.9	146.2	27.7	0.4	0.0				0.8	0.0	303.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	31.9	32.9	9.8	9.8	0.0				5.7	0.0	56.3
LnGrp Delay(d),s/veh	0.0	154.8	173.1	65.1	22.6	0.0				22.3	0.0	329.8
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2112			1302						1189	
Approach Delay, s/veh		160.8			33.2						249.4	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+l1), s			16.7	28.2		28.8		21.7				
Green Ext Time (p_c), s			0.0	0.0		0.0		20.7				
Intersection Summary												
HCM 2010 Ctrl Delay			147.6									
HCM 2010 LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	764	885	0	0	840	285	358	5	255	0	0	0
Future Volume (veh/h)	764	885	0	0	840	285	358	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	830	962	0	0	913	310	389	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	405	5	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	23	1583			
Grp Volume(v), veh/h	830	962	0	0	913	310	394	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.8	0.0	0.0	15.5	9.3	17.5	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.8	0.0	0.0	15.5	9.3	17.5	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.56	0.41	0.00	0.00	0.81	0.61	0.96	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.36	0.36	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.7	11.6	30.4	0.0	28.7			
Incr Delay (d2), s/veh	252.6	0.0	0.0	0.0	2.4	2.0	34.0	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	49.0	1.6	0.0	0.0	7.5	4.2	12.4	0.0	6.6			
LnGrp Delay(d),s/veh	276.7	1.7	0.0	0.0	15.1	13.6	64.4	0.0	37.4			
LnGrp LOS	F	A			B	B	E		D			
Approach Vol, veh/h		1792			1223			671				
Approach Delay, s/veh		129.1			14.7			53.3				
Approach LOS		F			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		19.5		5.8			26.0	17.5				
Green Ext Time (p_c), s		0.0		22.5			0.0	6.5				
Intersection Summary												
HCM 2010 Ctrl Delay				77.3								
HCM 2010 LOS				E								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (2B) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	642	80	35	517	130	125	10	25	145	15	483
Future Volume (veh/h)	418	642	80	35	517	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	698	87	38	562	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1021	457	63	629	157	403	33	387	374	38	366
Arrive On Green	0.20	0.58	0.58	0.04	0.22	0.22	0.24	0.24	0.24	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2807	702	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	698	87	38	354	349	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1739	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	11.0	2.1	1.7	15.5	15.6	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	11.0	2.1	1.7	15.5	15.6	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1021	457	63	397	390	435	0	387	412	0	366
V/C Ratio(X)	1.32	0.68	0.19	0.60	0.89	0.90	0.34	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1021	457	111	409	402	435	0	387	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.4	12.5	38.0	30.1	30.1	24.9	0.0	23.2	26.2	0.0	30.8
Incr Delay (d2), s/veh	160.9	1.7	0.2	8.8	20.6	21.6	2.1	0.0	0.3	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.5	0.9	1.0	9.8	9.8	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	192.9	16.1	12.7	46.8	50.7	51.7	27.0	0.0	23.6	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h		1239			741			174			699	
Approach Delay, s/veh		80.6			51.0			26.4			187.8	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.6	6.9	27.1		22.5	12.0	21.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.4	3.7	13.0		20.5	10.0	17.6				
Green Ext Time (p_c), s		0.5	0.0	5.3		0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay					95.9							
HCM 2010 LOS					F							

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	707	587	30	25	95
Future Vol, veh/h	105	707	587	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	768	638	33	27	103

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	671	0	0	1267	335
Stage 1	-	-	-	654	-
Stage 2	-	-	-	613	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	915	-	-	161	661
Stage 1	-	-	-	479	-
Stage 2	-	-	-	503	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	915	-	-	126	661
Mov Cap-2 Maneuver	-	-	-	126	-
Stage 1	-	-	-	479	-
Stage 2	-	-	-	394	-

Approach























	EB	WB	SB
HCM Control Delay, s	1.2	0	17.7
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	126	661
HCM Lane V/C Ratio	0.125	-	-	-	0.216	0.156
HCM Control Delay (s)	9.5	-	-	-	41.3	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	151	303	783	174	74	14	138	271	35	112
Future Volume (veh/h)	113	721	151	303	783	174	74	14	138	271	35	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	164	329	851	189	80	15	150	322	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	1244	260	130	1459	653	194	36	204	486	0	217
Arrive On Green	0.09	0.43	0.43	0.07	0.41	0.41	0.13	0.13	0.13	0.14	0.00	0.14
Sat Flow, veh/h	1774	2915	610	1774	3539	1583	1505	282	1583	3548	0	1583
Grp Volume(v), veh/h	123	476	472	329	851	189	95	0	150	322	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1755	1774	1770	1583	1787	0	1583	1774	0	1583
Q Serve(g_s), s	4.6	14.4	14.4	5.0	12.7	5.4	3.3	0.0	6.2	5.9	0.0	4.9
Cycle Q Clear(g_c), s	4.6	14.4	14.4	5.0	12.7	5.4	3.3	0.0	6.2	5.9	0.0	4.9
Prop In Lane	1.00		0.35	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	755	749	130	1459	653	230	0	204	486	0	217
V/C Ratio(X)	0.79	0.63	0.63	2.53	0.58	0.29	0.41	0.00	0.74	0.66	0.00	0.56
Avail Cap(c_a), veh/h	156	972	964	130	1893	847	485	0	429	1716	0	766
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.5	15.3	15.3	31.6	15.5	13.4	27.4	0.0	28.6	28.0	0.0	27.5
Incr Delay (d2), s/veh	23.3	0.9	0.9	711.3	0.4	0.2	1.2	0.0	5.1	1.6	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	7.2	7.1	28.1	6.2	2.4	1.7	0.0	3.0	3.0	0.0	2.3
LnGrp Delay(d),s/veh	53.8	16.2	16.2	743.0	15.9	13.6	28.6	0.0	33.7	29.5	0.0	29.8
LnGrp LOS	D	B	B	F	B	B	C		C	C		C
Approach Vol, veh/h		1071			1369			245			444	
Approach Delay, s/veh		20.5			190.3			31.7			29.6	
Approach LOS		C			F			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.8	9.0	33.1		13.3	10.0	32.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		8.2	7.0	16.4		7.9	6.6	14.7				
Green Ext Time (p_c), s		0.6	0.0	12.7		1.5	0.0	13.0				
Intersection Summary												
HCM 2010 Ctrl Delay			97.0									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	838	292	178	632	0	0	0	0	176	1	627
Future Volume (veh/h)	0	838	292	178	632	0	0	0	0	176	1	627
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	911	317	193	687	0				191	1	682
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1423	494	237	2000	0				591	3	530
Arrive On Green	0.00	0.38	0.38	0.04	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3898	1294	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	828	400	193	687	0				192	0	682
Grp Sat Flow(s),veh/h/ln	0	1695	1634	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	16.0	16.0	8.6	13.5	0.0				6.5	0.0	26.8
Cycle Q Clear(g_c), s	0.0	16.0	16.0	8.6	13.5	0.0				6.5	0.0	26.8
Prop In Lane	0.00		0.79	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1294	624	237	2000	0				594	0	530
V/C Ratio(X)	0.00	0.64	0.64	0.82	0.34	0.00				0.32	0.00	1.29
Avail Cap(c_a), veh/h	0	1294	624	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.68	0.68	0.78	0.78	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.2	20.3	37.3	19.6	0.0				19.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	1.7	3.4	8.2	0.4	0.0				0.3	0.0	142.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.8	7.8	4.8	6.7	0.0				3.2	0.0	32.6
LnGrp Delay(d),s/veh	0.0	21.9	23.7	45.4	20.0	0.0				20.1	0.0	169.0
LnGrp LOS		C	C	D	C					C		F
Approach Vol, veh/h		1228			880						874	
Approach Delay, s/veh		22.5			25.6						136.3	
Approach LOS		C			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	34.5		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	18.0		28.8		15.5				
Green Ext Time (p_c), s			0.2	6.3		0.0		16.0				
Intersection Summary												
HCM 2010 Ctrl Delay			56.8									
HCM 2010 LOS			E									

Redding Rancheria
5: I-5 NB & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	492	522	0	0	594	222	216	3	255	0	0	0
Future Volume (veh/h)	492	522	0	0	594	222	216	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	535	567	0	0	646	241	235	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2468	0	0	1229	550	355	5	321			
Arrive On Green	0.60	1.00	0.00	0.00	0.69	0.69	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	22	1583			
Grp Volume(v), veh/h	535	567	0	0	646	241	238	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	7.0	5.3	9.9	0.0	13.5			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	7.0	5.3	9.9	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2468	0	0	1229	550	360	0	321			
V/C Ratio(X)	1.01	0.23	0.00	0.00	0.53	0.44	0.66	0.00	0.86			
Avail Cap(c_a), veh/h	532	2468	0	0	1229	550	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.62	0.62	0.00	0.00	0.68	0.68	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.0	0.0	0.0	0.0	9.0	8.8	29.4	0.0	30.8			
Incr Delay (d2), s/veh	32.0	0.1	0.0	0.0	1.1	1.7	3.3	0.0	17.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	16.0	0.0	0.0	0.0	3.4	2.5	5.2	0.0	7.4			
LnGrp Delay(d),s/veh	48.1	0.1	0.0	0.0	10.2	10.5	32.6	0.0	47.9			
LnGrp LOS	F	A			B	B	C		D			
Approach Vol, veh/h		1102			887			515				
Approach Delay, s/veh		23.4			10.3			40.8				
Approach LOS		C			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.2		59.8			28.0	31.8				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		15.5		2.0			26.0	9.0				
Green Ext Time (p_c), s		0.7		11.7			0.0	7.9				
Intersection Summary												
HCM 2010 Ctrl Delay				22.3								
HCM 2010 LOS				C								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (2B) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	340	104	35	338	110	175	5	50	129	0	303
Future Volume (veh/h)	333	340	104	35	338	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	370	113	38	367	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	906	405	63	505	163	485	13	443	405	0	361
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2633	849	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	370	113	38	245	242	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1713	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.8	3.7	1.7	10.4	10.6	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.8	3.7	1.7	10.4	10.6	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.50	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	906	405	63	339	328	497	0	443	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.72	0.74	0.39	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	396	497	0	443	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.7	18.1	38.0	30.3	30.4	23.3	0.0	21.5	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	4.9	5.7	2.3	0.0	0.6	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.7	1.0	5.5	5.6	3.8	0.0	0.9	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.0	19.0	18.4	46.8	35.3	36.2	25.6	0.0	22.0	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	D	D	C		C	C		E
Approach Vol, veh/h		845			525			249			469	
Approach Delay, s/veh		51.5			36.5			24.8			47.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.4	6.9	24.5		22.3	12.0	19.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		9.1	3.7	7.8		18.2	10.0	12.6				
Green Ext Time (p_c), s		0.8	0.0	4.6		0.1	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			43.6									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	442	409	30	10	74
Future Vol, veh/h	77	442	409	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	480	445	33	11	80

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	477	0	0	869	239
Stage 1	-	-	-	461	-
Stage 2	-	-	-	408	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1082	-	-	291	762
Stage 1	-	-	-	601	-
Stage 2	-	-	-	640	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1082	-	-	260	762
Mov Cap-2 Maneuver	-	-	-	260	-
Stage 1	-	-	-	601	-
Stage 2	-	-	-	572	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1082	-	-	-	260	762
HCM Lane V/C Ratio	0.077	-	-	-	0.042	0.106
HCM Control Delay (s)	8.6	-	-	-	19.4	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	148	317	1102	306	104	29	223	756	42	265
Future Volume (veh/h)	208	989	148	317	1102	306	104	29	223	756	42	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1075	161	345	1198	333	113	32	242	855	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	1101	165	84	1228	549	238	67	269	973	0	434
Arrive On Green	0.06	0.36	0.36	0.05	0.35	0.35	0.17	0.17	0.17	0.27	0.00	0.27
Sat Flow, veh/h	1774	3089	462	1774	3539	1583	1397	396	1583	3548	0	1583
Grp Volume(v), veh/h	226	615	621	345	1198	333	145	0	242	855	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1781	1774	1770	1583	1793	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	36.1	36.3	5.0	35.2	18.3	7.7	0.0	15.8	24.3	0.0	17.0
Cycle Q Clear(g_c), s	6.0	36.1	36.3	5.0	35.2	18.3	7.7	0.0	15.8	24.3	0.0	17.0
Prop In Lane	1.00		0.26	1.00		1.00	0.78		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	101	631	635	84	1228	549	305	0	269	973	0	434
V/C Ratio(X)	2.23	0.98	0.98	4.09	0.98	0.61	0.48	0.00	0.90	0.88	0.00	0.66
Avail Cap(c_a), veh/h	101	631	635	84	1228	549	315	0	278	1113	0	497
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.6	33.4	33.5	50.1	33.9	28.4	39.4	0.0	42.8	36.5	0.0	33.9
Incr Delay (d2), s/veh	586.0	29.6	30.2	1419.6	20.1	1.9	1.2	0.0	28.9	7.5	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.4	22.8	23.1	35.7	20.6	8.2	3.9	0.0	9.0	12.9	0.0	7.7
LnGrp Delay(d),s/veh	635.6	63.0	63.7	1469.7	54.0	30.3	40.6	0.0	71.7	44.1	0.0	36.6
LnGrp LOS	F	E	E	F	D	C	D		E	D		D
Approach Vol, veh/h		1462			1876			387			1143	
Approach Delay, s/veh		151.8			310.1			60.1			42.2	
Approach LOS		F			F			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		21.9	9.0	41.5		32.8	10.0	40.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		17.8	7.0	38.3		26.3	8.0	37.2				
Green Ext Time (p_c), s		0.1	0.0	0.0		2.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			179.8									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	1384	584	300	902	0	0	0	0	285	1	824
Future Volume (veh/h)	0	1384	584	300	902	0	0	0	0	285	1	824
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1504	635	326	980	0				310	1	896
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1160	476	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3711	1453	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1437	702	326	980	0				311	0	896
Grp Sat Flow(s),veh/h/ln	0	1695	1606	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	19.8	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	19.8	0.0				11.3	0.0	26.8
Prop In Lane	0.00		0.90	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	526	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.29	1.33	0.98	0.49	0.00				0.52	0.00	1.69
Avail Cap(c_a), veh/h	0	1110	526	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.24	0.24	0.44	0.44	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	22.2	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	134.2	153.7	27.7	0.4	0.0				0.8	0.0	318.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	32.9	34.0	9.8	9.8	0.0				5.7	0.0	58.5
LnGrp Delay(d),s/veh	0.0	161.1	180.6	65.1	22.6	0.0				22.3	0.0	344.9
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2139			1306						1207	
Approach Delay, s/veh		167.5			33.2						261.7	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+l1), s			16.7	28.2		28.8		21.8				
Green Ext Time (p_c), s			0.0	0.0		0.0		20.8				
Intersection Summary												
HCM 2010 Ctrl Delay			154.2									
HCM 2010 LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	784	886	0	0	841	285	360	5	255	0	0	0
Future Volume (veh/h)	784	886	0	0	841	285	360	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	852	963	0	0	914	310	391	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	405	5	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	22	1583			
Grp Volume(v), veh/h	852	963	0	0	914	310	396	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.8	0.0	0.0	15.5	9.3	17.7	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.8	0.0	0.0	15.5	9.3	17.7	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.60	0.41	0.00	0.00	0.81	0.61	0.96	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.36	0.36	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.7	11.6	30.4	0.0	28.7			
Incr Delay (d2), s/veh	271.2	0.0	0.0	0.0	2.4	2.0	35.2	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	1.7	1.6	0.0	0.0	7.5	4.2	12.6	0.0	6.6			
LnGrp Delay(d),s/veh	295.2	1.7	0.0	0.0	15.1	13.6	65.6	0.0	37.4			
LnGrp LOS	F	A			B	B	E		D			
Approach Vol, veh/h		1815			1224			673				
Approach Delay, s/veh		139.5			14.7			54.0				
Approach LOS		F			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		19.7		5.8			26.0	17.5				
Green Ext Time (p_c), s		0.0		22.5			0.0	6.5				
Intersection Summary												
HCM 2010 Ctrl Delay				82.8								
HCM 2010 LOS				F								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (2C) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔	↑↑			↔	↔		↔	↔
Traffic Volume (veh/h)	418	643	80	35	518	130	125	10	25	145	15	483
Future Volume (veh/h)	418	643	80	35	518	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	699	87	38	563	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1022	457	63	630	157	403	33	387	374	38	366
Arrive On Green	0.20	0.58	0.58	0.04	0.22	0.22	0.24	0.24	0.24	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2808	701	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	699	87	38	354	350	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1739	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	11.0	2.1	1.7	15.5	15.6	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	11.0	2.1	1.7	15.5	15.6	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1022	457	63	397	390	435	0	387	412	0	366
V/C Ratio(X)	1.32	0.68	0.19	0.60	0.89	0.90	0.34	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1022	457	111	409	402	435	0	387	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.4	12.5	38.0	30.1	30.1	24.9	0.0	23.2	26.2	0.0	30.8
Incr Delay (d2), s/veh	160.9	1.7	0.2	8.8	20.7	21.7	2.1	0.0	0.3	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.5	0.9	1.0	9.9	9.8	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	192.9	16.1	12.6	46.8	50.8	51.8	27.0	0.0	23.6	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h		1240			742			174			699	
Approach Delay, s/veh		80.6			51.1			26.5			187.8	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.5	6.9	27.1		22.5	12.0	22.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+l1), s		7.4	3.7	13.0		20.5	10.0	17.6				
Green Ext Time (p_c), s		0.5	0.0	5.3		0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay					95.9							
HCM 2010 LOS					F							

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	708	588	30	25	95
Future Vol, veh/h	105	708	588	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	770	639	33	27	103

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	672	0	0	1268	336
Stage 1	-	-	-	655	-
Stage 2	-	-	-	613	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	915	-	-	160	660
Stage 1	-	-	-	479	-
Stage 2	-	-	-	503	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	915	-	-	125	660
Mov Cap-2 Maneuver	-	-	-	125	-
Stage 1	-	-	-	479	-
Stage 2	-	-	-	393	-

Approach























	EB	WB	SB
HCM Control Delay, s	1.2	0	17.8
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	125	660
HCM Lane V/C Ratio	0.125	-	-	-	0.217	0.156
HCM Control Delay (s)	9.5	-	-	-	41.6	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	184	386	783	174	112	21	233	271	41	112
Future Volume (veh/h)	113	721	184	386	783	174	112	21	233	271	41	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	200	420	851	189	122	23	253	327	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	1135	290	115	1392	623	284	54	299	472	0	211
Arrive On Green	0.08	0.41	0.41	0.06	0.39	0.39	0.19	0.19	0.19	0.13	0.00	0.13
Sat Flow, veh/h	1774	2794	713	1774	3539	1583	1504	284	1583	3548	0	1583
Grp Volume(v), veh/h	123	497	487	420	851	189	145	0	253	327	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1737	1774	1770	1583	1788	0	1583	1774	0	1583
Q Serve(g_s), s	5.3	17.9	17.9	5.0	14.8	6.4	5.5	0.0	11.9	6.8	0.0	5.6
Cycle Q Clear(g_c), s	5.3	17.9	17.9	5.0	14.8	6.4	5.5	0.0	11.9	6.8	0.0	5.6
Prop In Lane	1.00		0.41	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	719	706	115	1392	623	338	0	299	472	0	211
V/C Ratio(X)	0.89	0.69	0.69	3.66	0.61	0.30	0.43	0.00	0.85	0.69	0.00	0.58
Avail Cap(c_a), veh/h	138	859	843	115	1671	748	428	0	379	1515	0	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.3	18.9	18.9	36.1	18.7	16.1	27.7	0.0	30.3	32.0	0.0	31.5
Incr Delay (d2), s/veh	46.3	1.9	1.9	1218.1	0.5	0.3	0.9	0.0	13.3	1.8	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	9.1	8.9	41.3	7.3	2.8	2.8	0.0	6.3	3.4	0.0	2.6
LnGrp Delay(d),s/veh	81.7	20.8	20.8	1254.3	19.2	16.4	28.5	0.0	43.5	33.8	0.0	34.0
LnGrp LOS	F	C	C	F	B	B	C		D	C		C
Approach Vol, veh/h		1107			1460			398			449	
Approach Delay, s/veh		27.6			374.1			38.1			33.9	
Approach LOS		C			F			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.6	9.0	35.4		14.3	10.0	34.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		13.9	7.0	19.9		8.8	7.3	16.8				
Green Ext Time (p_c), s		0.7	0.0	11.5		1.5	0.0	12.4				
Intersection Summary												
HCM 2010 Ctrl Delay			177.8									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	923	301	178	647	0	0	0	0	176	1	696
Future Volume (veh/h)	0	923	301	178	647	0	0	0	0	176	1	696
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1003	327	193	703	0				191	1	757
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1449	472	237	2000	0				591	3	530
Arrive On Green	0.00	0.38	0.38	0.04	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3965	1237	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	895	435	193	703	0				192	0	757
Grp Sat Flow(s),veh/h/ln	0	1695	1644	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	17.8	17.8	8.6	13.8	0.0				6.5	0.0	26.8
Cycle Q Clear(g_c), s	0.0	17.8	17.8	8.6	13.8	0.0				6.5	0.0	26.8
Prop In Lane	0.00		0.75	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1294	627	237	2000	0				594	0	530
V/C Ratio(X)	0.00	0.69	0.69	0.82	0.35	0.00				0.32	0.00	1.43
Avail Cap(c_a), veh/h	0	1294	627	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.64	0.64	0.67	0.67	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.8	20.8	37.3	19.8	0.0				19.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	2.0	4.0	7.1	0.3	0.0				0.3	0.0	203.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.6	8.7	4.7	6.9	0.0				3.2	0.0	41.5
LnGrp Delay(d),s/veh	0.0	22.8	24.8	44.4	20.1	0.0				20.1	0.0	229.6
LnGrp LOS		C	C	D	C					C		F
Approach Vol, veh/h		1330			896						949	
Approach Delay, s/veh		23.4			25.3						187.2	
Approach LOS		C			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	34.5		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	19.8		28.8		15.8				
Green Ext Time (p_c), s			0.2	5.3		0.0		17.0				
Intersection Summary												
HCM 2010 Ctrl Delay			72.9									
HCM 2010 LOS			E									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	570	529	0	0	600	222	225	3	255	0	0	0
Future Volume (veh/h)	570	529	0	0	600	222	225	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	620	575	0	0	652	241	245	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2467	0	0	1228	550	356	4	321			
Arrive On Green	0.50	1.00	0.00	0.00	0.69	0.69	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1754	21	1583			
Grp Volume(v), veh/h	620	575	0	0	652	241	248	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	7.1	5.4	10.4	0.0	13.5			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	7.1	5.4	10.4	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2467	0	0	1228	550	360	0	321			
V/C Ratio(X)	1.16	0.23	0.00	0.00	0.53	0.44	0.69	0.00	0.86			
Avail Cap(c_a), veh/h	532	2467	0	0	1228	550	410	0	366			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.56	0.56	0.00	0.00	0.68	0.68	1.00	0.00	1.00			
Uniform Delay (d), s/veh	20.0	0.0	0.0	0.0	9.1	8.8	29.5	0.0	30.8			
Incr Delay (d2), s/veh	85.8	0.1	0.0	0.0	1.1	1.7	4.1	0.0	17.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	24.0	0.0	0.0	0.0	3.4	2.5	5.4	0.0	7.4			
LnGrp Delay(d),s/veh	105.7	0.1	0.0	0.0	10.2	10.5	33.6	0.0	47.8			
LnGrp LOS	F	A			B	B	C		D			
Approach Vol, veh/h		1195			893			525				
Approach Delay, s/veh		54.9			10.3			41.1				
Approach LOS		D			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.2		59.8			28.0	31.8				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		15.5		2.0			26.0	9.1				
Green Ext Time (p_c), s		0.7		11.8			0.0	8.0				
Intersection Summary												
HCM 2010 Ctrl Delay				36.9								
HCM 2010 LOS				D								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (2C) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	347	104	35	344	110	175	5	50	129	0	303
Future Volume (veh/h)	333	347	104	35	344	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	377	113	38	374	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	912	408	63	512	162	482	13	441	405	0	361
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2646	838	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	377	113	38	248	246	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1715	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.9	3.7	1.7	10.5	10.8	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.9	3.7	1.7	10.5	10.8	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.49	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	912	408	63	342	332	494	0	441	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.73	0.74	0.39	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	397	494	0	441	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.6	18.0	38.0	30.3	30.4	23.4	0.0	21.6	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.7	0.3	0.3	8.8	5.1	5.9	2.3	0.0	0.6	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.6	1.0	5.6	5.7	3.8	0.0	1.0	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.0	18.9	18.3	46.8	35.4	36.3	25.7	0.0	22.1	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	D	D	C		C	C		E
Approach Vol, veh/h		852			532			249			469	
Approach Delay, s/veh		51.1			36.7			25.0			47.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.3	6.9	24.6		22.3	12.0	19.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+l1), s		9.1	3.7	7.9		18.2	10.0	12.8				
Green Ext Time (p_c), s		0.8	0.0	4.7		0.1	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			43.5									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	449	415	30	10	74
Future Vol, veh/h	77	449	415	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	488	451	33	11	80

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	484	0	0	878	242
Stage 1	-	-	-	467	-
Stage 2	-	-	-	411	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1075	-	-	287	759
Stage 1	-	-	-	597	-
Stage 2	-	-	-	638	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1075	-	-	256	759
Mov Cap-2 Maneuver	-	-	-	256	-
Stage 1	-	-	-	597	-
Stage 2	-	-	-	570	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1075	-	-	-	256	759
HCM Lane V/C Ratio	0.078	-	-	-	0.042	0.106
HCM Control Delay (s)	8.6	-	-	-	19.7	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions

Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	59	130	1102	306	58	21	122	756	26	265
Future Volume (veh/h)	208	989	59	130	1102	306	58	21	122	756	26	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	226	1075	64	141	1198	333	63	23	133	842	0	288
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	1330	79	94	1349	603	142	52	171	990	0	442
Arrive On Green	0.06	0.39	0.39	0.05	0.38	0.38	0.11	0.11	0.11	0.28	0.00	0.28
Sat Flow, veh/h	1774	3395	202	1774	3539	1583	1316	481	1583	3548	0	1583
Grp Volume(v), veh/h	226	560	579	141	1198	333	86	0	133	842	0	288
Grp Sat Flow(s),veh/h/ln	1774	1770	1827	1774	1770	1583	1797	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	26.7	26.7	5.0	30.0	15.6	4.3	0.0	7.8	21.3	0.0	15.2
Cycle Q Clear(g_c), s	6.0	26.7	26.7	5.0	30.0	15.6	4.3	0.0	7.8	21.3	0.0	15.2
Prop In Lane	1.00		0.11	1.00		1.00	0.73		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	112	693	716	94	1349	603	194	0	171	990	0	442
V/C Ratio(X)	2.01	0.81	0.81	1.51	0.89	0.55	0.44	0.00	0.78	0.85	0.00	0.65
Avail Cap(c_a), veh/h	112	700	723	94	1363	610	351	0	309	1235	0	551
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.4	25.7	25.7	44.9	27.4	23.0	39.6	0.0	41.2	32.3	0.0	30.1
Incr Delay (d2), s/veh	485.7	7.0	6.8	275.5	7.5	1.1	1.6	0.0	7.5	4.8	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.0	14.3	14.7	9.6	16.0	7.0	2.2	0.0	3.7	11.1	0.0	6.8
LnGrp Delay(d),s/veh	530.1	32.6	32.5	320.4	34.9	24.0	41.2	0.0	48.6	37.2	0.0	32.0
LnGrp LOS	F	C	C	F	C	C	D		D	D		C
Approach Vol, veh/h		1365			1672			219			1130	
Approach Delay, s/veh		114.9			56.8			45.7			35.8	
Approach LOS		F			E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		14.2	9.0	41.1		30.4	10.0	40.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		9.8	7.0	28.7		23.3	8.0	32.0				
Green Ext Time (p_c), s		0.5	0.0	7.7		3.2	0.0	4.1				
Intersection Summary												
HCM 2010 Ctrl Delay			68.9									
HCM 2010 LOS			E									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	1288	579	300	882	0	0	0	0	285	1	658
Future Volume (veh/h)	0	1288	579	300	882	0	0	0	0	285	1	658
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1400	629	326	959	0				310	1	715
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1134	498	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3630	1522	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1370	659	326	959	0				311	0	715
Grp Sat Flow(s),veh/h/ln	0	1695	1594	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.7	19.4	0.0				11.3	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.7	19.4	0.0				11.3	0.0	26.8
Prop In Lane	0.00		0.95	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	522	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.23	1.26	0.98	0.48	0.00				0.52	0.00	1.35
Avail Cap(c_a), veh/h	0	1110	522	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.46	0.46	0.46	0.46	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.4	22.0	0.0				21.4	0.0	26.6
Incr Delay (d2), s/veh	0.0	109.2	125.0	28.5	0.4	0.0				0.8	0.0	168.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	29.0	29.6	9.9	9.6	0.0				5.7	0.0	36.5
LnGrp Delay(d),s/veh	0.0	136.1	151.9	65.9	22.4	0.0				22.3	0.0	195.4
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2029			1285						1026	
Approach Delay, s/veh		141.2			33.5						142.9	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+l1), s			16.7	28.2		28.8		21.4				
Green Ext Time (p_c), s			0.0	0.0		0.0		20.7				
Intersection Summary												
HCM 2010 Ctrl Delay			109.7									
HCM 2010 LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	696	878	0	0	825	285	356	5	255	0	0	0
Future Volume (veh/h)	696	878	0	0	825	285	356	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	757	954	0	0	897	310	387	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	405	5	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1752	23	1583			
Grp Volume(v), veh/h	757	954	0	0	897	310	392	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.7	0.0	0.0	14.9	9.3	17.4	0.0	13.0			
Cycle Q Clear(g_c), s	24.0	3.7	0.0	0.0	14.9	9.3	17.4	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.42	0.40	0.00	0.00	0.80	0.61	0.95	0.00	0.76			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.38	0.38	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.6	11.6	30.3	0.0	28.7			
Incr Delay (d2), s/veh	191.1	0.0	0.0	0.0	2.3	2.1	32.9	0.0	8.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	39.9	1.6	0.0	0.0	7.3	4.3	12.2	0.0	6.6			
LnGrp Delay(d),s/veh	215.1	1.7	0.0	0.0	14.9	13.7	63.3	0.0	37.4			
LnGrp LOS	F	A			B	B	E		D			
Approach Vol, veh/h		1711			1207			669				
Approach Delay, s/veh		96.1			14.6			52.6				
Approach LOS		F			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		19.4		5.7			26.0	16.9				
Green Ext Time (p_c), s		0.0		22.1			0.0	6.9				
Intersection Summary												
HCM 2010 Ctrl Delay				60.6								
HCM 2010 LOS				E								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (2D) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	418	635	80	35	502	130	125	10	25	145	15	483
Future Volume (veh/h)	418	635	80	35	502	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	690	87	38	546	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1011	452	63	617	159	408	33	392	374	38	366
Arrive On Green	0.20	0.57	0.57	0.04	0.22	0.22	0.25	0.25	0.25	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2788	717	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	690	87	38	346	341	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1736	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	11.0	2.1	1.7	15.1	15.2	5.4	0.0	1.0	6.7	0.0	18.5
Cycle Q Clear(g_c), s	8.0	11.0	2.1	1.7	15.1	15.2	5.4	0.0	1.0	6.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.41	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	1011	452	63	391	384	441	0	392	412	0	366
V/C Ratio(X)	1.32	0.68	0.19	0.60	0.88	0.89	0.33	0.00	0.07	0.42	0.00	1.43
Avail Cap(c_a), veh/h	344	1011	452	111	409	401	441	0	392	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	14.6	12.7	38.0	30.2	30.2	24.7	0.0	23.0	26.2	0.0	30.8
Incr Delay (d2), s/veh	161.0	1.7	0.2	8.8	19.3	20.3	2.0	0.0	0.3	0.7	0.0	210.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.4	0.9	1.0	9.5	9.5	2.9	0.0	0.5	3.4	0.0	29.5
LnGrp Delay(d),s/veh	193.0	16.3	12.9	46.8	49.4	50.5	26.7	0.0	23.4	26.9	0.0	241.1
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h		1231			725			174			699	
Approach Delay, s/veh		81.2			49.8			26.2			187.8	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.8	6.9	26.8		22.5	12.0	21.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+l1), s		7.4	3.7	13.0		20.5	10.0	17.2				
Green Ext Time (p_c), s		0.5	0.0	5.2		0.0	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				96.1								
HCM 2010 LOS				F								

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	700	572	30	25	95
Future Vol, veh/h	105	700	572	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	761	622	33	27	103

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	654	0	-	0	1247 327
Stage 1	-	-	-	-	638 -
Stage 2	-	-	-	-	609 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	929	-	-	-	166 669
Stage 1	-	-	-	-	488 -
Stage 2	-	-	-	-	505 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	929	-	-	-	131 669
Mov Cap-2 Maneuver	-	-	-	-	131 -
Stage 1	-	-	-	-	488 -
Stage 2	-	-	-	-	397 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	929	-	-	-	131	669
HCM Lane V/C Ratio	0.123	-	-	-	0.207	0.154
HCM Control Delay (s)	9.4	-	-	-	39.5	11.4
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions
Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	86	187	783	174	78	15	170	271	23	112
Future Volume (veh/h)	113	721	86	187	783	174	78	15	170	271	23	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	93	203	851	189	85	16	185	313	0	122
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	1313	156	128	1406	629	227	43	239	474	0	211
Arrive On Green	0.09	0.41	0.41	0.07	0.40	0.40	0.15	0.15	0.15	0.13	0.00	0.13
Sat Flow, veh/h	1774	3188	378	1774	3539	1583	1504	283	1583	3548	0	1583
Grp Volume(v), veh/h	123	435	442	203	851	189	101	0	185	313	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1796	1774	1770	1583	1788	0	1583	1774	0	1583
Q Serve(g_s), s	4.7	13.3	13.3	5.0	13.2	5.6	3.5	0.0	7.8	5.8	0.0	5.0
Cycle Q Clear(g_c), s	4.7	13.3	13.3	5.0	13.2	5.6	3.5	0.0	7.8	5.8	0.0	5.0
Prop In Lane	1.00		0.21	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	154	729	740	128	1406	629	269	0	239	474	0	211
V/C Ratio(X)	0.80	0.60	0.60	1.58	0.61	0.30	0.37	0.00	0.78	0.66	0.00	0.58
Avail Cap(c_a), veh/h	154	960	975	128	1870	836	479	0	424	1695	0	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.0	15.9	15.9	32.0	16.5	14.2	26.4	0.0	28.2	28.4	0.0	28.1
Incr Delay (d2), s/veh	24.9	0.8	0.8	295.4	0.4	0.3	0.9	0.0	5.3	1.6	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	6.6	6.7	13.0	6.5	2.5	1.8	0.0	3.7	2.9	0.0	2.3
LnGrp Delay(d),s/veh	55.8	16.6	16.6	327.4	16.9	14.5	27.3	0.0	33.5	30.0	0.0	30.6
LnGrp LOS	E	B	B	F	B	B	C		C	C		C
Approach Vol, veh/h		1000			1243			286			435	
Approach Delay, s/veh		21.5			67.3			31.3			30.2	
Approach LOS		C			E			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		14.4	9.0	32.5		13.2	10.0	31.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		9.8	7.0	15.3		7.8	6.7	15.2				
Green Ext Time (p_c), s		0.7	0.0	12.6		1.4	0.0	12.3				
Intersection Summary												
HCM 2010 Ctrl Delay			42.9									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	859	303	178	628	0	0	0	0	176	1	517
Future Volume (veh/h)	0	859	303	178	628	0	0	0	0	176	1	517
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	934	329	193	683	0				191	1	562
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1418	498	237	2000	0				591	3	530
Arrive On Green	0.00	0.38	0.38	0.04	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3884	1306	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	852	411	193	683	0				192	0	562
Grp Sat Flow(s),veh/h/ln	0	1695	1632	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	16.6	16.7	8.6	13.4	0.0				6.5	0.0	26.8
Cycle Q Clear(g_c), s	0.0	16.6	16.7	8.6	13.4	0.0				6.5	0.0	26.8
Prop In Lane	0.00		0.80	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1294	623	237	2000	0				594	0	530
V/C Ratio(X)	0.00	0.66	0.66	0.82	0.34	0.00				0.32	0.00	1.06
Avail Cap(c_a), veh/h	0	1294	623	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.73	0.73	0.75	0.75	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.4	20.4	37.3	19.6	0.0				19.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	1.9	4.0	7.9	0.4	0.0				0.3	0.0	55.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.0	8.1	4.8	6.7	0.0				3.2	0.0	19.9
LnGrp Delay(d),s/veh	0.0	22.4	24.5	45.1	20.0	0.0				20.1	0.0	82.4
LnGrp LOS		C	C	D	B					C		F
Approach Vol, veh/h		1263			876						754	
Approach Delay, s/veh		23.1			25.5						66.5	
Approach LOS		C			C						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	34.5		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	18.7		28.8		15.4				
Green Ext Time (p_c), s			0.2	5.9		0.0		16.3				
Intersection Summary												
HCM 2010 Ctrl Delay			35.1									
HCM 2010 LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	511	523	0	0	582	222	224	3	255	0	0	0
Future Volume (veh/h)	511	523	0	0	582	222	224	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	555	568	0	0	633	241	243	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2467	0	0	1228	550	356	4	321			
Arrive On Green	0.60	1.00	0.00	0.00	0.69	0.69	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	22	1583			
Grp Volume(v), veh/h	555	568	0	0	633	241	246	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	6.8	5.4	10.3	0.0	13.5			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	6.8	5.4	10.3	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2467	0	0	1228	550	360	0	321			
V/C Ratio(X)	1.04	0.23	0.00	0.00	0.52	0.44	0.68	0.00	0.86			
Avail Cap(c_a), veh/h	532	2467	0	0	1228	550	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.74	0.74	0.00	0.00	0.69	0.69	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.0	0.0	0.0	0.0	9.0	8.8	29.5	0.0	30.8			
Incr Delay (d2), s/veh	45.2	0.2	0.0	0.0	1.1	1.8	3.9	0.0	17.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7.9	0.1	0.0	0.0	3.3	2.5	5.4	0.0	7.4			
LnGrp Delay(d),s/veh	61.2	0.2	0.0	0.0	10.1	10.6	33.4	0.0	47.8			
LnGrp LOS	F	A			B	B	C		D			
Approach Vol, veh/h		1123			874			523				
Approach Delay, s/veh		30.3			10.2			41.0				
Approach LOS		C			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.2		59.8			28.0	31.8				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		15.5		2.0			26.0	8.8				
Green Ext Time (p_c), s		0.7		11.5			0.0	7.9				
Intersection Summary												
HCM 2010 Ctrl Delay				25.6								
HCM 2010 LOS				C								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (2D) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖	↕			↖	↗		↖	↗
Traffic Volume (veh/h)	333	341	104	35	326	110	175	5	50	129	0	303
Future Volume (veh/h)	333	341	104	35	326	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	371	113	38	354	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	897	401	63	493	165	489	13	448	405	0	361
Arrive On Green	0.17	0.42	0.42	0.04	0.19	0.19	0.28	0.28	0.28	0.23	0.00	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2608	871	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	371	113	38	239	235	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1709	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.9	3.7	1.7	10.1	10.4	7.1	0.0	2.0	5.3	0.0	16.2
Cycle Q Clear(g_c), s	8.0	5.9	3.7	1.7	10.1	10.4	7.1	0.0	2.0	5.3	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.51	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	897	401	63	335	323	502	0	448	405	0	361
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.71	0.73	0.39	0.00	0.12	0.35	0.00	0.91
Avail Cap(c_a), veh/h	344	951	426	111	409	395	502	0	448	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.9	18.3	38.0	30.4	30.5	23.1	0.0	21.3	25.9	0.0	30.1
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	4.5	5.3	2.3	0.0	0.6	0.5	0.0	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.7	1.0	5.3	5.4	3.8	0.0	0.9	2.7	0.0	9.6
LnGrp Delay(d),s/veh	95.0	19.2	18.7	46.8	34.9	35.8	25.4	0.0	21.9	26.4	0.0	55.9
LnGrp LOS	F	B	B	D	C	D	C		C	C		E
Approach Vol, veh/h		846			512			249			469	
Approach Delay, s/veh		51.6			36.2			24.6			47.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.6	6.9	24.3		22.3	12.0	19.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+l1), s		9.1	3.7	7.9		18.2	10.0	12.4				
Green Ext Time (p_c), s		0.8	0.0	4.6		0.1	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			43.5									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	443	397	30	10	74
Future Vol, veh/h	77	443	397	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	482	432	33	11	80

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	464	0	0	856	232
Stage 1	-	-	-	448	-
Stage 2	-	-	-	408	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1094	-	-	297	770
Stage 1	-	-	-	611	-
Stage 2	-	-	-	640	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1094	-	-	266	770
Mov Cap-2 Maneuver	-	-	-	266	-
Stage 1	-	-	-	611	-
Stage 2	-	-	-	573	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1094	-	-	-	266	770
HCM Lane V/C Ratio	0.077	-	-	-	0.041	0.104
HCM Control Delay (s)	8.6	-	-	-	19.1	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1142	15	42	1222	335	21	15	38	797	10	242
Future Volume (veh/h)	212	1142	15	42	1222	335	21	15	38	797	10	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	230	1241	16	46	1328	364	23	16	41	874	0	263
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	1565	20	68	1442	645	52	36	77	1038	0	463
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.05	0.05	0.05	0.29	0.00	0.29
Sat Flow, veh/h	1774	3578	46	1774	3539	1583	1067	742	1583	3548	0	1583
Grp Volume(v), veh/h	230	614	643	46	1328	364	39	0	41	874	0	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1809	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	26.2	26.2	2.2	31.2	15.5	1.8	0.0	2.2	20.3	0.0	12.3
Cycle Q Clear(g_c), s	6.0	26.2	26.2	2.2	31.2	15.5	1.8	0.0	2.2	20.3	0.0	12.3
Prop In Lane	1.00		0.02	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	121	774	811	68	1442	645	89	0	77	1038	0	463
V/C Ratio(X)	1.89	0.79	0.79	0.67	0.92	0.56	0.44	0.00	0.53	0.84	0.00	0.57
Avail Cap(c_a), veh/h	121	774	811	101	1475	660	382	0	334	1336	0	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.8	21.2	21.2	41.6	24.6	20.0	40.5	0.0	40.7	29.1	0.0	26.3
Incr Delay (d2), s/veh	431.1	5.7	5.4	11.0	9.7	1.1	3.4	0.0	5.5	4.0	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.5	13.8	14.4	1.3	17.1	7.0	1.0	0.0	1.1	10.4	0.0	5.5
LnGrp Delay(d),s/veh	471.9	26.9	26.6	52.6	34.3	21.0	43.9	0.0	46.2	33.1	0.0	27.4
LnGrp LOS	F	C	C	D	C	C	D		D	C		C
Approach Vol, veh/h		1487			1738			80			1137	
Approach Delay, s/veh		95.6			32.0			45.1			31.8	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.4	42.3		29.6	10.0	39.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.2	4.2	28.2		22.3	8.0	33.2				
Green Ext Time (p_c), s		0.2	0.0	8.5		3.4	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			53.5									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	1236	741	291	979	0	0	0	0	256	1	620
Future Volume (veh/h)	0	1236	741	291	979	0	0	0	0	256	1	620
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1343	805	316	1064	0				278	1	674
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1110	519	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1768	6	1583
Grp Volume(v), veh/h	0	1343	805	316	1064	0				279	0	674
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.2	21.7	0.0				9.9	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.2	21.7	0.0				9.9	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.21	1.55	0.95	0.53	0.00				0.47	0.00	1.27
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.47	0.47	0.49	0.49	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.2	23.0	0.0				21.0	0.0	26.6
Incr Delay (d2), s/veh	0.0	98.5	253.1	23.0	0.5	0.0				0.6	0.0	136.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	27.4	47.8	9.1	10.8	0.0				4.9	0.0	31.7
LnGrp Delay(d),s/veh	0.0	125.4	280.0	60.1	23.5	0.0				21.6	0.0	162.7
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2148			1380						953	
Approach Delay, s/veh		183.3			31.9						121.4	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+l1), s			16.2	28.2		28.8		23.7				
Green Ext Time (p_c), s			0.0	0.0		0.0		19.5				
Intersection Summary												
HCM 2010 Ctrl Delay			123.5									
HCM 2010 LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	641	851	0	0	798	261	472	5	249	0	0	0
Future Volume (veh/h)	641	851	0	0	798	261	472	5	249	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	697	925	0	0	867	284	513	5	271			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	406	4	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1758	17	1583			
Grp Volume(v), veh/h	697	925	0	0	867	284	518	0	271			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.5	0.0	0.0	13.9	8.1	18.5	0.0	12.7			
Cycle Q Clear(g_c), s	24.0	3.5	0.0	0.0	13.9	8.1	18.5	0.0	12.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.31	0.39	0.00	0.00	0.77	0.56	1.26	0.00	0.74			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.46	0.46	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.4	11.3	30.8	0.0	28.5			
Incr Delay (d2), s/veh	140.6	0.0	0.0	0.0	2.4	2.1	136.2	0.0	7.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	32.4	1.6	0.0	0.0	6.9	3.8	24.5	0.0	6.3			
LnGrp Delay(d),s/veh	164.6	1.7	0.0	0.0	14.8	13.4	167.0	0.0	36.3			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h		1622			1151			789				
Approach Delay, s/veh		71.7			14.4			122.1				
Approach LOS		E			B			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		20.5		5.5			26.0	15.9				
Green Ext Time (p_c), s		0.0		20.8			0.0	7.4				
Intersection Summary												
HCM 2010 Ctrl Delay				64.4								
HCM 2010 LOS				E								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (3A) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Future Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	459	650	87	38	501	122	136	11	27	154	16	514
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	977	437	63	599	145	423	34	407	373	39	366
Arrive On Green	0.20	0.55	0.55	0.04	0.21	0.21	0.26	0.26	0.26	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2827	685	1647	133	1583	1614	168	1583
Grp Volume(v), veh/h	459	650	87	38	313	310	147	0	27	170	0	514
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1742	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	10.4	2.2	1.7	13.5	13.7	5.3	0.0	1.0	6.5	0.0	18.5
Cycle Q Clear(g_c), s	8.0	10.4	2.2	1.7	13.5	13.7	5.3	0.0	1.0	6.5	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.39	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	977	437	63	375	369	458	0	407	412	0	366
V/C Ratio(X)	1.33	0.67	0.20	0.60	0.83	0.84	0.32	0.00	0.07	0.41	0.00	1.40
Avail Cap(c_a), veh/h	344	977	437	111	409	403	458	0	407	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	15.3	13.5	38.0	30.2	30.2	24.1	0.0	22.5	26.1	0.0	30.8
Incr Delay (d2), s/veh	167.2	1.6	0.2	8.8	13.0	13.9	1.9	0.0	0.3	0.7	0.0	197.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.1	1.0	1.0	8.0	8.0	2.8	0.0	0.5	3.2	0.0	28.2
LnGrp Delay(d),s/veh	199.2	16.9	13.7	46.8	43.2	44.1	25.9	0.0	22.8	26.8	0.0	228.2
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h		1196			661			174			684	
Approach Delay, s/veh		86.6			43.8			25.4			178.1	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.6	6.9	26.1		22.5	12.0	20.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.3	3.7	12.4		20.5	10.0	15.7				
Green Ext Time (p_c), s		0.5	0.0	5.1		0.0	0.0	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay					95.3							
HCM 2010 LOS					F							

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	106	659	515	26	24	93
Future Vol, veh/h	106	659	515	26	24	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	716	560	28	26	101

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	588	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	983	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	983	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	152	702
HCM Lane V/C Ratio	0.117	-	-	-	0.172	0.144
HCM Control Delay (s)	9.1	-	-	-	33.5	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6	0.5

Redding Rancheria
 3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions
 Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	910	15	18	882	199	18	5	16	309	6	102
Future Volume (veh/h)	115	910	15	18	882	199	18	5	16	309	6	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	125	989	16	20	959	216	20	5	17	341	0	111
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1887	31	42	1640	734	60	15	66	522	0	233
Arrive On Green	0.09	0.53	0.53	0.02	0.46	0.46	0.04	0.04	0.04	0.15	0.00	0.15
Sat Flow, veh/h	1774	3565	58	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	125	491	514	20	959	216	25	0	17	341	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1853	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	4.3	11.2	11.2	0.7	12.3	5.2	0.8	0.0	0.6	5.6	0.0	4.0
Cycle Q Clear(g_c), s	4.3	11.2	11.2	0.7	12.3	5.2	0.8	0.0	0.6	5.6	0.0	4.0
Prop In Lane	1.00		0.03	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	937	981	42	1640	734	74	0	66	522	0	233
V/C Ratio(X)	0.79	0.52	0.52	0.48	0.58	0.29	0.34	0.00	0.26	0.65	0.00	0.48
Avail Cap(c_a), veh/h	172	1072	1122	143	2086	933	535	0	473	1891	0	844
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.6	9.5	9.5	29.9	12.2	10.3	28.8	0.0	28.7	24.9	0.0	24.2
Incr Delay (d2), s/veh	19.9	0.5	0.4	8.3	0.3	0.2	2.6	0.0	2.0	1.4	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	5.6	5.8	0.4	6.1	2.3	0.5	0.0	0.3	2.8	0.0	1.8
LnGrp Delay(d),s/veh	47.5	9.9	9.9	38.2	12.6	10.5	31.5	0.0	30.8	26.3	0.0	25.7
LnGrp LOS	D	A	A	D	B	B	C		C	C		C
Approach Vol, veh/h		1130			1195			42			452	
Approach Delay, s/veh		14.1			12.6			31.2			26.2	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.6	5.5	36.8		13.1	9.5	32.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		2.8	2.7	13.2		7.6	6.3	14.3				
Green Ext Time (p_c), s		0.1	0.0	15.2		1.5	0.0	14.3				
Intersection Summary												
HCM 2010 Ctrl Delay			15.7									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	740	495	172	692	0	0	0	0	158	1	407
Future Volume (veh/h)	0	740	495	172	692	0	0	0	0	158	1	407
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	538	187	752	0				172	1	442
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1407	657	230	2106	0				538	3	483
Arrive On Green	0.00	0.42	0.42	0.04	0.20	0.00				0.31	0.31	0.31
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1764	10	1583
Grp Volume(v), veh/h	0	804	538	187	752	0				173	0	442
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	14.5	24.1	8.4	14.7	0.0				6.0	0.0	21.5
Cycle Q Clear(g_c), s	0.0	14.5	24.1	8.4	14.7	0.0				6.0	0.0	21.5
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1407	657	230	2106	0				541	0	483
V/C Ratio(X)	0.00	0.57	0.82	0.81	0.36	0.00				0.32	0.00	0.92
Avail Cap(c_a), veh/h	0	1407	657	333	2106	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.84	0.84	0.85	0.85	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.9	20.7	37.3	18.9	0.0				21.4	0.0	26.8
Incr Delay (d2), s/veh	0.0	1.4	9.3	8.1	0.4	0.0				0.3	0.0	19.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.1	12.2	4.6	7.4	0.0				3.0	0.0	12.0
LnGrp Delay(d),s/veh	0.0	19.4	30.0	45.5	19.3	0.0				21.7	0.0	46.4
LnGrp LOS		B	C	D	B					C		D
Approach Vol, veh/h		1342			939						615	
Approach Delay, s/veh		23.6			24.5						39.5	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.4	37.2		28.4		51.6				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.4	26.1		23.5		16.7				
Green Ext Time (p_c), s			0.2	0.1		0.9		17.5				
Intersection Summary												
HCM 2010 Ctrl Delay			27.3									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	500	0	0	536	257	328	3	255	0	0	0
Future Volume (veh/h)	398	500	0	0	536	257	328	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	433	543	0	0	583	279	357	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	462	2388	0	0	1290	577	397	3	357			
Arrive On Green	0.52	1.00	0.00	0.00	0.73	0.73	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1760	15	1583			
Grp Volume(v), veh/h	433	543	0	0	583	279	360	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	18.3	0.0	0.0	0.0	5.3	5.9	15.8	0.0	13.1			
Cycle Q Clear(g_c), s	18.3	0.0	0.0	0.0	5.3	5.9	15.8	0.0	13.1			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	462	2388	0	0	1290	577	400	0	357			
V/C Ratio(X)	0.94	0.23	0.00	0.00	0.45	0.48	0.90	0.00	0.78			
Avail Cap(c_a), veh/h	532	2388	0	0	1290	577	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.78	0.78	0.00	0.00	0.72	0.72	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.6	0.0	0.0	0.0	7.6	7.7	30.1	0.0	29.1			
Incr Delay (d2), s/veh	19.2	0.2	0.0	0.0	0.8	2.1	22.0	0.0	9.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.1	0.1	0.0	0.0	2.6	2.8	10.1	0.0	6.7			
LnGrp Delay(d),s/veh	37.7	0.2	0.0	0.0	8.4	9.8	52.1	0.0	39.0			
LnGrp LOS	D	A			A	A	D		D			
Approach Vol, veh/h		976			862		637					
Approach Delay, s/veh		16.8			8.9		46.4					
Approach LOS		B			A		D					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.0		58.0			24.8	33.2				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		17.8		2.0			20.3	7.9				
Green Ext Time (p_c), s		0.3		10.8			0.5	7.8				
Intersection Summary												
HCM 2010 Ctrl Delay				21.7								
HCM 2010 LOS				C								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (3A) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑			↖	↖		↖	↖
Traffic Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Future Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	365	342	113	38	350	75	190	5	54	137	0	322
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	848	379	63	509	108	519	14	475	399	0	356
Arrive On Green	0.17	0.40	0.40	0.04	0.18	0.18	0.30	0.30	0.30	0.22	0.00	0.22
Sat Flow, veh/h	3442	3539	1583	1774	2908	616	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	365	342	113	38	211	214	195	0	54	137	0	322
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1754	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.5	3.9	1.7	9.0	9.1	6.9	0.0	2.0	5.2	0.0	15.8
Cycle Q Clear(g_c), s	8.0	5.5	3.9	1.7	9.0	9.1	6.9	0.0	2.0	5.2	0.0	15.8
Prop In Lane	1.00		1.00	1.00		0.35	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	848	379	63	310	307	533	0	475	399	0	356
V/C Ratio(X)	1.06	0.40	0.30	0.60	0.68	0.69	0.37	0.00	0.11	0.34	0.00	0.90
Avail Cap(c_a), veh/h	344	951	426	111	409	406	533	0	475	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	19.9	19.4	38.0	30.9	31.0	22.0	0.0	20.3	26.1	0.0	30.2
Incr Delay (d2), s/veh	64.4	0.3	0.4	8.8	3.0	3.4	1.9	0.0	0.5	0.5	0.0	24.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	2.7	1.7	1.0	4.6	4.7	3.6	0.0	0.9	2.6	0.0	9.3
LnGrp Delay(d),s/veh	97.8	20.2	19.8	46.8	33.9	34.3	24.0	0.0	20.8	26.6	0.0	54.9
LnGrp LOS	F	C	B	D	C	C	C		C	C		D
Approach Vol, veh/h		820			463			249			459	
Approach Delay, s/veh		54.7			35.1			23.3			46.5	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.0	6.9	23.2		22.0	12.0	18.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	7.5		17.8	10.0	11.1				
Green Ext Time (p_c), s		0.8	0.0	4.2		0.1	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				44.3								
HCM 2010 LOS				D								

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	78	413	354	26	10	72
Future Vol, veh/h	78	413	354	26	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	449	385	28	11	78























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	413	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1142	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1142	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1142	-	-	-	294	799
HCM Lane V/C Ratio	0.074	-	-	-	0.037	0.098
HCM Control Delay (s)	8.4	-	-	-	17.7	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1120	15	42	1197	331	21	15	38	793	10	242
Future Volume (veh/h)	212	1120	15	42	1197	331	21	15	38	793	10	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	230	1217	16	46	1301	360	23	16	41	870	0	263
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	1566	21	68	1443	645	52	36	78	1035	0	462
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.05	0.05	0.05	0.29	0.00	0.29
Sat Flow, veh/h	1774	3577	47	1774	3539	1583	1067	742	1583	3548	0	1583
Grp Volume(v), veh/h	230	602	631	46	1301	360	39	0	41	870	0	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1583	1809	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	25.3	25.3	2.2	30.1	15.2	1.8	0.0	2.2	20.1	0.0	12.3
Cycle Q Clear(g_c), s	6.0	25.3	25.3	2.2	30.1	15.2	1.8	0.0	2.2	20.1	0.0	12.3
Prop In Lane	1.00		0.03	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	775	812	68	1443	645	89	0	78	1035	0	462
V/C Ratio(X)	1.89	0.78	0.78	0.67	0.90	0.56	0.44	0.00	0.53	0.84	0.00	0.57
Avail Cap(c_a), veh/h	122	775	812	101	1478	661	383	0	335	1340	0	598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.7	20.9	20.9	41.5	24.2	19.8	40.4	0.0	40.6	29.1	0.0	26.3
Incr Delay (d2), s/veh	429.2	5.0	4.8	11.0	7.9	1.0	3.4	0.0	5.5	3.9	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.4	13.5	14.1	1.3	16.2	6.8	1.0	0.0	1.1	10.4	0.0	5.5
LnGrp Delay(d),s/veh	469.9	25.9	25.7	52.4	32.1	20.8	43.8	0.0	46.1	33.0	0.0	27.4
LnGrp LOS	F	C	C	D	C	C	D		D	C		C
Approach Vol, veh/h		1463			1707			80			1133	
Approach Delay, s/veh		95.7			30.3			45.0			31.7	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.4	42.3		29.5	10.0	39.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.2	4.2	27.3		22.1	8.0	32.1				
Green Ext Time (p_c), s		0.2	0.0	9.1		3.4	0.0	3.5				
Intersection Summary												
HCM 2010 Ctrl Delay			52.7									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	1236	715	291	950	0	0	0	0	256	1	620
Future Volume (veh/h)	0	1236	715	291	950	0	0	0	0	256	1	620
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1343	777	316	1033	0				278	1	674
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1110	519	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1768	6	1583
Grp Volume(v), veh/h	0	1343	777	316	1033	0				279	0	674
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.2	21.0	0.0				9.9	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.2	21.0	0.0				9.9	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.21	1.50	0.95	0.52	0.00				0.47	0.00	1.27
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.49	0.49	0.49	0.49	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.2	22.7	0.0				21.0	0.0	26.6
Incr Delay (d2), s/veh	0.0	98.7	229.3	23.0	0.5	0.0				0.6	0.0	136.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	27.4	44.4	9.1	10.4	0.0				4.9	0.0	31.7
LnGrp Delay(d),s/veh	0.0	125.6	256.2	60.1	23.2	0.0				21.6	0.0	162.7
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2120			1349						953	
Approach Delay, s/veh		173.5			31.8						121.4	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.2	28.2		28.8		23.0				
Green Ext Time (p_c), s			0.0	0.0		0.0		19.9				
Intersection Summary												
HCM 2010 Ctrl Delay			119.0									
HCM 2010 LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	641	851	0	0	798	261	443	5	249	0	0	0
Future Volume (veh/h)	641	851	0	0	798	261	443	5	249	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	697	925	0	0	867	284	482	5	271			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	406	4	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1757	18	1583			
Grp Volume(v), veh/h	697	925	0	0	867	284	487	0	271			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.5	0.0	0.0	13.9	8.1	18.5	0.0	12.7			
Cycle Q Clear(g_c), s	24.0	3.5	0.0	0.0	13.9	8.1	18.5	0.0	12.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.31	0.39	0.00	0.00	0.77	0.56	1.19	0.00	0.74			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.46	0.46	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.4	11.3	30.8	0.0	28.5			
Incr Delay (d2), s/veh	140.6	0.0	0.0	0.0	2.4	2.1	106.0	0.0	7.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	32.4	1.6	0.0	0.0	6.9	3.8	21.1	0.0	6.3			
LnGrp Delay(d),s/veh	164.6	1.7	0.0	0.0	14.8	13.4	136.8	0.0	36.3			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h		1622			1151			758				
Approach Delay, s/veh		71.7			14.4			100.8				
Approach LOS		E			B			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		20.5		5.5			26.0	15.9				
Green Ext Time (p_c), s		0.0		20.8			0.0	7.4				
Intersection Summary												
HCM 2010 Ctrl Delay				59.3								
HCM 2010 LOS				E								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (3B) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖	↕↗			↖	↖		↖	↖
Traffic Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Future Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	459	650	87	38	501	122	136	11	27	154	16	514
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	977	437	63	599	145	423	34	407	373	39	366
Arrive On Green	0.20	0.55	0.55	0.04	0.21	0.21	0.26	0.26	0.26	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2827	685	1647	133	1583	1614	168	1583
Grp Volume(v), veh/h	459	650	87	38	313	310	147	0	27	170	0	514
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1742	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	10.4	2.2	1.7	13.5	13.7	5.3	0.0	1.0	6.5	0.0	18.5
Cycle Q Clear(g_c), s	8.0	10.4	2.2	1.7	13.5	13.7	5.3	0.0	1.0	6.5	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.39	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	977	437	63	375	369	458	0	407	412	0	366
V/C Ratio(X)	1.33	0.67	0.20	0.60	0.83	0.84	0.32	0.00	0.07	0.41	0.00	1.40
Avail Cap(c_a), veh/h	344	977	437	111	409	403	458	0	407	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	15.3	13.5	38.0	30.2	30.2	24.1	0.0	22.5	26.1	0.0	30.8
Incr Delay (d2), s/veh	167.2	1.6	0.2	8.8	13.0	13.9	1.9	0.0	0.3	0.7	0.0	197.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.1	1.0	1.0	8.0	8.0	2.8	0.0	0.5	3.2	0.0	28.2
LnGrp Delay(d),s/veh	199.2	16.9	13.7	46.8	43.2	44.1	25.9	0.0	22.8	26.8	0.0	228.2
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h		1196			661			174			684	
Approach Delay, s/veh		86.6			43.8			25.4			178.1	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.6	6.9	26.1		22.5	12.0	20.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+l1), s		7.3	3.7	12.4		20.5	10.0	15.7				
Green Ext Time (p_c), s		0.5	0.0	5.1		0.0	0.0	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			95.3									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	106	659	515	26	24	93
Future Vol, veh/h	106	659	515	26	24	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	716	560	28	26	101























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	588	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	983	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	983	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	152	702
HCM Lane V/C Ratio	0.117	-	-	-	0.172	0.144
HCM Control Delay (s)	9.1	-	-	-	33.5	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	860	15	18	834	190	18	5	16	300	6	102
Future Volume (veh/h)	115	860	15	18	834	190	18	5	16	300	6	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	125	935	16	20	907	207	20	5	17	331	0	111
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1855	32	42	1610	720	60	15	66	517	0	231
Arrive On Green	0.09	0.52	0.52	0.02	0.45	0.45	0.04	0.04	0.04	0.15	0.00	0.15
Sat Flow, veh/h	1774	3561	61	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	125	465	486	20	907	207	25	0	17	331	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1852	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	4.1	10.2	10.2	0.7	11.2	4.9	0.8	0.0	0.6	5.3	0.0	3.8
Cycle Q Clear(g_c), s	4.1	10.2	10.2	0.7	11.2	4.9	0.8	0.0	0.6	5.3	0.0	3.8
Prop In Lane	1.00		0.03	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	922	965	42	1610	720	75	0	66	517	0	231
V/C Ratio(X)	0.79	0.50	0.50	0.48	0.56	0.29	0.33	0.00	0.26	0.64	0.00	0.48
Avail Cap(c_a), veh/h	178	1110	1162	148	2161	967	554	0	490	1959	0	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.7	9.3	9.3	28.8	11.9	10.2	27.8	0.0	27.7	24.1	0.0	23.5
Incr Delay (d2), s/veh	18.6	0.4	0.4	8.2	0.3	0.2	2.6	0.0	2.0	1.3	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	5.0	5.2	0.4	5.5	2.2	0.5	0.0	0.3	2.7	0.0	1.8
LnGrp Delay(d),s/veh	45.3	9.7	9.7	37.0	12.3	10.4	30.4	0.0	29.7	25.4	0.0	25.0
LnGrp LOS	D	A	A	D	B	B	C		C	C		C
Approach Vol, veh/h		1076			1134			42			442	
Approach Delay, s/veh		13.8			12.4			30.1			25.3	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.5	5.4	35.1		12.7	9.4	31.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		2.8	2.7	12.2		7.3	6.1	13.2				
Green Ext Time (p_c), s		0.1	0.0	14.7		1.5	0.0	14.0				
Intersection Summary												
HCM 2010 Ctrl Delay			15.4									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3B) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	740	436	172	635	0	0	0	0	158	1	407
Future Volume (veh/h)	0	740	436	172	635	0	0	0	0	158	1	407
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	474	187	690	0				172	1	442
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1407	657	230	2106	0				538	3	483
Arrive On Green	0.00	0.42	0.42	0.04	0.20	0.00				0.31	0.31	0.31
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1764	10	1583
Grp Volume(v), veh/h	0	804	474	187	690	0				173	0	442
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	14.5	20.0	8.4	13.4	0.0				6.0	0.0	21.5
Cycle Q Clear(g_c), s	0.0	14.5	20.0	8.4	13.4	0.0				6.0	0.0	21.5
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1407	657	230	2106	0				541	0	483
V/C Ratio(X)	0.00	0.57	0.72	0.81	0.33	0.00				0.32	0.00	0.92
Avail Cap(c_a), veh/h	0	1407	657	333	2106	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.85	0.85	0.88	0.88	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.9	19.5	37.3	18.4	0.0				21.4	0.0	26.8
Incr Delay (d2), s/veh	0.0	1.4	5.8	8.4	0.4	0.0				0.3	0.0	19.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.1	9.7	4.7	6.7	0.0				3.0	0.0	12.0
LnGrp Delay(d),s/veh	0.0	19.4	25.3	45.7	18.8	0.0				21.7	0.0	46.4
LnGrp LOS		B	C	D	B					C		D
Approach Vol, veh/h		1278			877						615	
Approach Delay, s/veh		21.6			24.5						39.5	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.4	37.2		28.4		51.6				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+l1), s			10.4	22.0		23.5		15.4				
Green Ext Time (p_c), s			0.2	3.5		0.9		16.6				
Intersection Summary												
HCM 2010 Ctrl Delay			26.5									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	500	0	0	536	257	271	3	255	0	0	0
Future Volume (veh/h)	398	500	0	0	536	257	271	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	433	543	0	0	583	279	295	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	462	2463	0	0	1365	611	358	4	323			
Arrive On Green	0.52	1.00	0.00	0.00	0.77	0.77	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1757	18	1583			
Grp Volume(v), veh/h	433	543	0	0	583	279	298	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	18.3	0.0	0.0	0.0	4.5	5.0	12.8	0.0	13.5			
Cycle Q Clear(g_c), s	18.3	0.0	0.0	0.0	4.5	5.0	12.8	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	462	2463	0	0	1365	611	362	0	323			
V/C Ratio(X)	0.94	0.22	0.00	0.00	0.43	0.46	0.82	0.00	0.86			
Avail Cap(c_a), veh/h	532	2463	0	0	1365	611	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.82	0.82	0.00	0.00	0.72	0.72	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.6	0.0	0.0	0.0	6.1	6.2	30.5	0.0	30.7			
Incr Delay (d2), s/veh	19.9	0.2	0.0	0.0	0.7	1.8	11.5	0.0	16.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.2	0.1	0.0	0.0	2.2	2.3	7.5	0.0	7.3			
LnGrp Delay(d),s/veh	38.4	0.2	0.0	0.0	6.8	7.9	42.0	0.0	47.2			
LnGrp LOS	D	A			A	A	D		D			
Approach Vol, veh/h		976			862		575					
Approach Delay, s/veh		17.1			7.2		44.5					
Approach LOS		B			A		D					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.3		59.7			24.8	34.9				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		15.5		2.0			20.3	7.0				
Green Ext Time (p_c), s		0.8		10.8			0.5	8.0				
Intersection Summary												
HCM 2010 Ctrl Delay				20.1								
HCM 2010 LOS				C								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (3B) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑			↖	↖		↖	↖
Traffic Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Future Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	365	342	113	38	350	75	190	5	54	137	0	322
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	848	379	63	509	108	519	14	475	399	0	356
Arrive On Green	0.17	0.40	0.40	0.04	0.18	0.18	0.30	0.30	0.30	0.22	0.00	0.22
Sat Flow, veh/h	3442	3539	1583	1774	2908	616	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	365	342	113	38	211	214	195	0	54	137	0	322
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1754	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.5	3.9	1.7	9.0	9.1	6.9	0.0	2.0	5.2	0.0	15.8
Cycle Q Clear(g_c), s	8.0	5.5	3.9	1.7	9.0	9.1	6.9	0.0	2.0	5.2	0.0	15.8
Prop In Lane	1.00		1.00	1.00		0.35	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	848	379	63	310	307	533	0	475	399	0	356
V/C Ratio(X)	1.06	0.40	0.30	0.60	0.68	0.69	0.37	0.00	0.11	0.34	0.00	0.90
Avail Cap(c_a), veh/h	344	951	426	111	409	406	533	0	475	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	19.9	19.4	38.0	30.9	31.0	22.0	0.0	20.3	26.1	0.0	30.2
Incr Delay (d2), s/veh	64.4	0.3	0.4	8.8	3.0	3.4	1.9	0.0	0.5	0.5	0.0	24.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	2.7	1.7	1.0	4.6	4.7	3.6	0.0	0.9	2.6	0.0	9.3
LnGrp Delay(d),s/veh	97.7	20.2	19.8	46.8	33.9	34.3	24.0	0.0	20.8	26.6	0.0	54.9
LnGrp LOS	F	C	B	D	C	C	C		C	C		D
Approach Vol, veh/h		820			463			249			459	
Approach Delay, s/veh		54.7			35.1			23.3			46.5	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.0	6.9	23.2		22.0	12.0	18.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	7.5		17.8	10.0	11.1				
Green Ext Time (p_c), s		0.8	0.0	4.2		0.1	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				44.3								
HCM 2010 LOS				D								

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	78	413	354	26	10	72
Future Vol, veh/h	78	413	354	26	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	449	385	28	11	78























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	413	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1142	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1142	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1142	-	-	-	294	799
HCM Lane V/C Ratio	0.074	-	-	-	0.037	0.098
HCM Control Delay (s)	8.4	-	-	-	17.7	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1128	15	42	1207	332	21	15	38	794	10	242
Future Volume (veh/h)	212	1128	15	42	1207	332	21	15	38	794	10	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	230	1226	16	46	1312	361	23	16	41	871	0	263
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	1566	20	68	1443	645	52	36	78	1036	0	462
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.05	0.05	0.05	0.29	0.00	0.29
Sat Flow, veh/h	1774	3577	47	1774	3539	1583	1067	742	1583	3548	0	1583
Grp Volume(v), veh/h	230	606	636	46	1312	361	39	0	41	871	0	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1809	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	25.6	25.6	2.2	30.5	15.3	1.8	0.0	2.2	20.2	0.0	12.3
Cycle Q Clear(g_c), s	6.0	25.6	25.6	2.2	30.5	15.3	1.8	0.0	2.2	20.2	0.0	12.3
Prop In Lane	1.00		0.03	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	775	812	68	1443	645	89	0	78	1036	0	462
V/C Ratio(X)	1.89	0.78	0.78	0.67	0.91	0.56	0.44	0.00	0.53	0.84	0.00	0.57
Avail Cap(c_a), veh/h	122	775	812	101	1477	661	383	0	335	1339	0	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.7	21.0	21.0	41.5	24.4	19.9	40.4	0.0	40.6	29.1	0.0	26.3
Incr Delay (d2), s/veh	429.8	5.2	5.0	11.0	8.5	1.0	3.4	0.0	5.5	3.9	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.4	13.6	14.2	1.3	16.5	6.8	1.0	0.0	1.1	10.4	0.0	5.5
LnGrp Delay(d),s/veh	470.6	26.3	26.1	52.5	32.9	20.9	43.8	0.0	46.1	33.0	0.0	27.4
LnGrp LOS	F	C	C	D	C	C	D		D	C		C
Approach Vol, veh/h		1472			1719			80			1134	
Approach Delay, s/veh		95.6			30.9			45.0			31.7	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.4	42.3		29.5	10.0	39.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.2	4.2	27.6		22.2	8.0	32.5				
Green Ext Time (p_c), s		0.2	0.0	8.9		3.4	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			53.0									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	1236	724	291	961	0	0	0	0	256	1	620
Future Volume (veh/h)	0	1236	724	291	961	0	0	0	0	256	1	620
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1343	787	316	1045	0				278	1	674
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1110	519	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1768	6	1583
Grp Volume(v), veh/h	0	1343	787	316	1045	0				279	0	674
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.2	21.3	0.0				9.9	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.2	21.3	0.0				9.9	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.21	1.52	0.95	0.52	0.00				0.47	0.00	1.27
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.48	0.48	0.49	0.49	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.2	22.8	0.0				21.0	0.0	26.6
Incr Delay (d2), s/veh	0.0	98.6	237.8	23.0	0.5	0.0				0.6	0.0	136.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	27.4	45.6	9.1	10.5	0.0				4.9	0.0	31.7
LnGrp Delay(d),s/veh	0.0	125.5	264.7	60.1	23.3	0.0				21.6	0.0	162.7
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2130			1361						953	
Approach Delay, s/veh		176.9			31.8						121.4	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.2	28.2		28.8		23.3				
Green Ext Time (p_c), s			0.0	0.0		0.0		19.8				
Intersection Summary												
HCM 2010 Ctrl Delay			120.6									
HCM 2010 LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	641	851	0	0	798	261	454	5	249	0	0	0
Future Volume (veh/h)	641	851	0	0	798	261	454	5	249	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	697	925	0	0	867	284	493	5	271			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	406	4	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1757	18	1583			
Grp Volume(v), veh/h	697	925	0	0	867	284	498	0	271			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.5	0.0	0.0	13.9	8.1	18.5	0.0	12.7			
Cycle Q Clear(g_c), s	24.0	3.5	0.0	0.0	13.9	8.1	18.5	0.0	12.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.31	0.39	0.00	0.00	0.77	0.56	1.21	0.00	0.74			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.46	0.46	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.4	11.3	30.8	0.0	28.5			
Incr Delay (d2), s/veh	140.6	0.0	0.0	0.0	2.4	2.1	116.5	0.0	7.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	32.4	1.6	0.0	0.0	6.9	3.8	22.3	0.0	6.3			
LnGrp Delay(d),s/veh	164.6	1.7	0.0	0.0	14.8	13.4	147.3	0.0	36.3			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h		1622			1151			769				
Approach Delay, s/veh		71.7			14.4			108.2				
Approach LOS		E			B			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		20.5		5.5			26.0	15.9				
Green Ext Time (p_c), s		0.0		20.8			0.0	7.4				
Intersection Summary												
HCM 2010 Ctrl Delay				61.0								
HCM 2010 LOS				E								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (3C) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Future Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	459	650	87	38	501	122	136	11	27	154	16	514
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	977	437	63	599	145	423	34	407	373	39	366
Arrive On Green	0.20	0.55	0.55	0.04	0.21	0.21	0.26	0.26	0.26	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2827	685	1647	133	1583	1614	168	1583
Grp Volume(v), veh/h	459	650	87	38	313	310	147	0	27	170	0	514
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1742	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	10.4	2.2	1.7	13.5	13.7	5.3	0.0	1.0	6.5	0.0	18.5
Cycle Q Clear(g_c), s	8.0	10.4	2.2	1.7	13.5	13.7	5.3	0.0	1.0	6.5	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.39	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	977	437	63	375	369	458	0	407	412	0	366
V/C Ratio(X)	1.33	0.67	0.20	0.60	0.83	0.84	0.32	0.00	0.07	0.41	0.00	1.40
Avail Cap(c_a), veh/h	344	977	437	111	409	403	458	0	407	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	15.3	13.5	38.0	30.2	30.2	24.1	0.0	22.5	26.1	0.0	30.8
Incr Delay (d2), s/veh	167.2	1.6	0.2	8.8	13.0	13.9	1.9	0.0	0.3	0.7	0.0	197.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.1	1.0	1.0	8.0	8.0	2.8	0.0	0.5	3.2	0.0	28.2
LnGrp Delay(d),s/veh	199.2	16.9	13.7	46.8	43.2	44.1	25.9	0.0	22.8	26.8	0.0	228.2
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h		1196			661			174			684	
Approach Delay, s/veh		86.6			43.8			25.4			178.1	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.6	6.9	26.1		22.5	12.0	20.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+l1), s		7.3	3.7	12.4		20.5	10.0	15.7				
Green Ext Time (p_c), s		0.5	0.0	5.1		0.0	0.0	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay					95.3							
HCM 2010 LOS					F							

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	106	659	515	26	24	93
Future Vol, veh/h	106	659	515	26	24	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	716	560	28	26	101























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	588	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	983	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	983	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	152	702
HCM Lane V/C Ratio	0.117	-	-	-	0.172	0.144
HCM Control Delay (s)	9.1	-	-	-	33.5	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	893	15	18	872	197	18	5	16	306	6	102
Future Volume (veh/h)	115	893	15	18	872	197	18	5	16	306	6	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	125	971	16	20	948	214	20	5	17	338	0	111
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1880	31	42	1633	731	60	15	66	520	0	232
Arrive On Green	0.09	0.53	0.53	0.02	0.46	0.46	0.04	0.04	0.04	0.15	0.00	0.15
Sat Flow, veh/h	1774	3563	59	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	125	482	505	20	948	214	25	0	17	338	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1852	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	4.2	10.9	10.9	0.7	12.1	5.2	0.8	0.0	0.6	5.5	0.0	3.9
Cycle Q Clear(g_c), s	4.2	10.9	10.9	0.7	12.1	5.2	0.8	0.0	0.6	5.5	0.0	3.9
Prop In Lane	1.00		0.03	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	933	977	42	1633	731	75	0	66	520	0	232
V/C Ratio(X)	0.79	0.52	0.52	0.48	0.58	0.29	0.34	0.00	0.26	0.65	0.00	0.48
Avail Cap(c_a), veh/h	173	1081	1132	145	2104	941	540	0	477	1907	0	851
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.4	9.4	9.4	29.6	12.2	10.3	28.6	0.0	28.5	24.7	0.0	24.0
Incr Delay (d2), s/veh	19.5	0.4	0.4	8.3	0.3	0.2	2.6	0.0	2.0	1.4	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	5.3	5.6	0.4	5.9	2.3	0.5	0.0	0.3	2.8	0.0	1.8
LnGrp Delay(d),s/veh	46.9	9.9	9.8	37.9	12.5	10.5	31.2	0.0	30.5	26.1	0.0	25.6
LnGrp LOS	D	A	A	D	B	B	C		C	C		C
Approach Vol, veh/h		1112			1182			42			449	
Approach Delay, s/veh		14.0			12.6			30.9			25.9	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.6	5.4	36.4		13.0	9.5	32.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		2.8	2.7	12.9		7.5	6.2	14.1				
Green Ext Time (p_c), s		0.1	0.0	15.1		1.5	0.0	14.2				
Intersection Summary												
HCM 2010 Ctrl Delay			15.6									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	740	475	172	680	0	0	0	0	158	1	407
Future Volume (veh/h)	0	740	475	172	680	0	0	0	0	158	1	407
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	516	187	739	0				172	1	442
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1407	657	230	2106	0				538	3	483
Arrive On Green	0.00	0.42	0.42	0.04	0.20	0.00				0.31	0.31	0.31
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1764	10	1583
Grp Volume(v), veh/h	0	804	516	187	739	0				173	0	442
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	14.5	22.6	8.4	14.4	0.0				6.0	0.0	21.5
Cycle Q Clear(g_c), s	0.0	14.5	22.6	8.4	14.4	0.0				6.0	0.0	21.5
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1407	657	230	2106	0				541	0	483
V/C Ratio(X)	0.00	0.57	0.79	0.81	0.35	0.00				0.32	0.00	0.92
Avail Cap(c_a), veh/h	0	1407	657	333	2106	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.84	0.84	0.85	0.85	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.9	20.3	37.3	18.8	0.0				21.4	0.0	26.8
Incr Delay (d2), s/veh	0.0	1.4	7.8	8.2	0.4	0.0				0.3	0.0	19.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.1	11.2	4.7	7.2	0.0				3.0	0.0	12.0
LnGrp Delay(d),s/veh	0.0	19.4	28.1	45.5	19.2	0.0				21.7	0.0	46.4
LnGrp LOS		B	C	D	B					C		D
Approach Vol, veh/h		1320			926						615	
Approach Delay, s/veh		22.8			24.5						39.5	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.4	37.2		28.4		51.6				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.4	24.6		23.5		16.4				
Green Ext Time (p_c), s			0.2	1.4		0.9		17.2				
Intersection Summary												
HCM 2010 Ctrl Delay			26.9									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	500	0	0	536	257	316	3	255	0	0	0
Future Volume (veh/h)	398	500	0	0	536	257	316	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	433	543	0	0	583	279	343	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	462	2408	0	0	1310	586	386	3	348			
Arrive On Green	0.52	1.00	0.00	0.00	0.74	0.74	0.22	0.22	0.22			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1759	15	1583			
Grp Volume(v), veh/h	433	543	0	0	583	279	346	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	18.3	0.0	0.0	0.0	5.1	5.7	15.1	0.0	13.2			
Cycle Q Clear(g_c), s	18.3	0.0	0.0	0.0	5.1	5.7	15.1	0.0	13.2			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	462	2408	0	0	1310	586	390	0	348			
V/C Ratio(X)	0.94	0.23	0.00	0.00	0.45	0.48	0.89	0.00	0.80			
Avail Cap(c_a), veh/h	532	2408	0	0	1310	586	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.79	0.79	0.00	0.00	0.72	0.72	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.6	0.0	0.0	0.0	7.2	7.3	30.3	0.0	29.5			
Incr Delay (d2), s/veh	19.4	0.2	0.0	0.0	0.8	2.0	19.7	0.0	11.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.1	0.1	0.0	0.0	2.6	2.6	9.5	0.0	6.8			
LnGrp Delay(d),s/veh	38.0	0.2	0.0	0.0	8.0	9.3	50.0	0.0	40.7			
LnGrp LOS	D	A			A	A	D		D			
Approach Vol, veh/h		976			862			623				
Approach Delay, s/veh		16.9			8.4			45.9				
Approach LOS		B			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		21.6		58.4			24.8	33.6				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		17.1		2.0			20.3	7.7				
Green Ext Time (p_c), s		0.5		10.8			0.5	7.9				
Intersection Summary												
HCM 2010 Ctrl Delay				21.3								
HCM 2010 LOS				C								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (3C) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑			↖	↖		↖	↖
Traffic Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Future Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	365	342	113	38	350	75	190	5	54	137	0	322
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	848	379	63	509	108	519	14	475	399	0	356
Arrive On Green	0.17	0.40	0.40	0.04	0.18	0.18	0.30	0.30	0.30	0.22	0.00	0.22
Sat Flow, veh/h	3442	3539	1583	1774	2908	616	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	365	342	113	38	211	214	195	0	54	137	0	322
Grp Sat Flow(s),veh/h/ln	721	1770	1583	1774	1770	1754	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.5	3.9	1.7	9.0	9.1	6.9	0.0	2.0	5.2	0.0	15.8
Cycle Q Clear(g_c), s	8.0	5.5	3.9	1.7	9.0	9.1	6.9	0.0	2.0	5.2	0.0	15.8
Prop In Lane	1.00		1.00	1.00		0.35	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	848	379	63	310	307	533	0	475	399	0	356
V/C Ratio(X)	1.06	0.40	0.30	0.60	0.68	0.69	0.37	0.00	0.11	0.34	0.00	0.90
Avail Cap(c_a), veh/h	344	951	426	111	409	406	533	0	475	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	19.9	19.4	38.0	30.9	31.0	22.0	0.0	20.3	26.1	0.0	30.2
Incr Delay (d2), s/veh	64.4	0.3	0.4	8.8	3.0	3.4	1.9	0.0	0.5	0.5	0.0	24.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	2.7	1.7	1.0	4.6	4.7	3.6	0.0	0.9	2.6	0.0	9.3
LnGrp Delay(d),s/veh	97.7	20.2	19.8	46.8	33.9	34.3	24.0	0.0	20.8	26.6	0.0	54.9
LnGrp LOS	F	C	B	D	C	C	C		C	C		D
Approach Vol, veh/h		820			463			249			459	
Approach Delay, s/veh		54.7			35.1			23.3			46.5	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.0	6.9	23.2		22.0	12.0	18.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	7.5		17.8	10.0	11.1				
Green Ext Time (p_c), s		0.8	0.0	4.2		0.1	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			44.3									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	78	413	354	26	10	72
Future Vol, veh/h	78	413	354	26	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	449	385	28	11	78























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	413	0	0	793	207
Stage 1	-	-	-	399	-
Stage 2	-	-	-	394	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1142	-	-	326	799
Stage 1	-	-	-	647	-
Stage 2	-	-	-	650	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1142	-	-	294	799
Mov Cap-2 Maneuver	-	-	-	294	-
Stage 1	-	-	-	647	-
Stage 2	-	-	-	586	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1142	-	-	-	294	799
HCM Lane V/C Ratio	0.074	-	-	-	0.037	0.098
HCM Control Delay (s)	8.4	-	-	-	17.7	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1038	15	42	1161	324	21	15	38	778	10	242
Future Volume (veh/h)	212	1038	15	42	1161	324	21	15	38	778	10	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	230	1128	16	46	1262	352	23	16	41	854	0	263
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	1571	22	69	1448	648	53	37	78	1022	0	456
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.05	0.05	0.05	0.29	0.00	0.29
Sat Flow, veh/h	1774	3573	51	1774	3539	1583	1067	742	1583	3548	0	1583
Grp Volume(v), veh/h	230	559	585	46	1262	352	39	0	41	854	0	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1583	1809	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	22.4	22.4	2.2	28.4	14.7	1.8	0.0	2.2	19.6	0.0	12.3
Cycle Q Clear(g_c), s	6.0	22.4	22.4	2.2	28.4	14.7	1.8	0.0	2.2	19.6	0.0	12.3
Prop In Lane	1.00		0.03	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	123	778	815	69	1448	648	89	0	78	1022	0	456
V/C Ratio(X)	1.87	0.72	0.72	0.67	0.87	0.54	0.44	0.00	0.53	0.84	0.00	0.58
Avail Cap(c_a), veh/h	123	778	815	102	1489	666	386	0	338	1350	0	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.4	19.9	19.9	41.2	23.5	19.5	40.1	0.0	40.2	29.0	0.0	26.4
Incr Delay (d2), s/veh	422.7	3.2	3.1	10.8	5.8	0.9	3.4	0.0	5.4	3.6	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.3	11.6	12.1	1.3	15.0	6.5	1.0	0.0	1.1	10.1	0.0	5.5
LnGrp Delay(d),s/veh	463.1	23.1	23.0	52.0	29.4	20.3	43.4	0.0	45.6	32.6	0.0	27.5
LnGrp LOS	F	C	C	D	C	C	D		D	C		C
Approach Vol, veh/h		1374			1660			80			1117	
Approach Delay, s/veh		96.7			28.1			44.6			31.4	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.3	42.1		29.0	10.0	39.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.2	4.2	24.4		21.6	8.0	30.4				
Green Ext Time (p_c), s		0.2	0.0	11.2		3.4	0.0	5.1				
Intersection Summary												
HCM 2010 Ctrl Delay			51.5									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	1236	618	291	907	0	0	0	0	256	1	620
Future Volume (veh/h)	0	1236	618	291	907	0	0	0	0	256	1	620
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1343	672	316	986	0				278	1	674
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1110	519	333	2000	0				592	2	530
Arrive On Green	0.00	0.33	0.33	0.06	0.19	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1768	6	1583
Grp Volume(v), veh/h	0	1343	672	316	986	0				279	0	674
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	26.2	26.2	14.2	20.0	0.0				9.9	0.0	26.8
Cycle Q Clear(g_c), s	0.0	26.2	26.2	14.2	20.0	0.0				9.9	0.0	26.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1110	519	333	2000	0				594	0	530
V/C Ratio(X)	0.00	1.21	1.30	0.95	0.49	0.00				0.47	0.00	1.27
Avail Cap(c_a), veh/h	0	1110	519	333	2000	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.57	0.57	0.49	0.49	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.9	26.9	37.2	22.3	0.0				21.0	0.0	26.6
Incr Delay (d2), s/veh	0.0	99.4	141.3	23.0	0.4	0.0				0.6	0.0	136.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	27.5	31.7	9.1	9.9	0.0				4.9	0.0	31.7
LnGrp Delay(d),s/veh	0.0	126.3	168.2	60.1	22.7	0.0				21.6	0.0	162.7
LnGrp LOS		F	F	E	C					C		F
Approach Vol, veh/h		2015			1302						953	
Approach Delay, s/veh		140.2			31.8						121.4	
Approach LOS		F			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	30.2		30.8		49.2				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+l1), s			16.2	28.2		28.8		22.0				
Green Ext Time (p_c), s			0.0	0.0		0.0		20.2				
Intersection Summary												
HCM 2010 Ctrl Delay			103.0									
HCM 2010 LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	641	851	0	0	798	261	400	5	249	0	0	0
Future Volume (veh/h)	641	851	0	0	798	261	400	5	249	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	697	925	0	0	867	284	435	5	271			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2367	0	0	1128	505	406	5	366			
Arrive On Green	0.40	0.89	0.00	0.00	0.64	0.64	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1755	20	1583			
Grp Volume(v), veh/h	697	925	0	0	867	284	440	0	271			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	3.5	0.0	0.0	13.9	8.1	18.5	0.0	12.7			
Cycle Q Clear(g_c), s	24.0	3.5	0.0	0.0	13.9	8.1	18.5	0.0	12.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2367	0	0	1128	505	410	0	366			
V/C Ratio(X)	1.31	0.39	0.00	0.00	0.77	0.56	1.07	0.00	0.74			
Avail Cap(c_a), veh/h	532	2367	0	0	1128	505	410	0	366			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.46	0.46	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	1.7	0.0	0.0	12.4	11.3	30.8	0.0	28.5			
Incr Delay (d2), s/veh	140.6	0.0	0.0	0.0	2.4	2.1	64.9	0.0	7.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	32.4	1.6	0.0	0.0	6.9	3.8	16.4	0.0	6.3			
LnGrp Delay(d),s/veh	164.6	1.7	0.0	0.0	14.8	13.4	95.7	0.0	36.3			
LnGrp LOS	F	A			B	B	F		D			
Approach Vol, veh/h		1622			1151			711				
Approach Delay, s/veh		71.7			14.4			73.1				
Approach LOS		E			B			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		57.5			28.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		20.5		5.5			26.0	15.9				
Green Ext Time (p_c), s		0.0		20.8			0.0	7.4				
Intersection Summary												
HCM 2010 Ctrl Delay				53.1								
HCM 2010 LOS				D								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (3D) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔	↑↑			↔	↔		↔	↔
Traffic Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Future Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	459	650	87	38	501	122	136	11	27	154	16	514
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	977	437	63	599	145	423	34	407	373	39	366
Arrive On Green	0.20	0.55	0.55	0.04	0.21	0.21	0.26	0.26	0.26	0.23	0.23	0.23
Sat Flow, veh/h	3442	3539	1583	1774	2827	685	1647	133	1583	1614	168	1583
Grp Volume(v), veh/h	459	650	87	38	313	310	147	0	27	170	0	514
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1742	1780	0	1583	1782	0	1583
Q Serve(g_s), s	8.0	10.4	2.2	1.7	13.5	13.7	5.3	0.0	1.0	6.5	0.0	18.5
Cycle Q Clear(g_c), s	8.0	10.4	2.2	1.7	13.5	13.7	5.3	0.0	1.0	6.5	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.39	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	344	977	437	63	375	369	458	0	407	412	0	366
V/C Ratio(X)	1.33	0.67	0.20	0.60	0.83	0.84	0.32	0.00	0.07	0.41	0.00	1.40
Avail Cap(c_a), veh/h	344	977	437	111	409	403	458	0	407	412	0	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	15.3	13.5	38.0	30.2	30.2	24.1	0.0	22.5	26.1	0.0	30.8
Incr Delay (d2), s/veh	167.2	1.6	0.2	8.8	13.0	13.9	1.9	0.0	0.3	0.7	0.0	197.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.1	1.0	1.0	8.0	8.0	2.8	0.0	0.5	3.2	0.0	28.2
LnGrp Delay(d),s/veh	199.2	16.9	13.7	46.8	43.2	44.1	25.9	0.0	22.8	26.8	0.0	228.2
LnGrp LOS	F	B	B	D	D	D	C		C	C		F
Approach Vol, veh/h		1196			661			174			684	
Approach Delay, s/veh		86.6			43.8			25.4			178.1	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.6	6.9	26.1		22.5	12.0	20.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		7.3	3.7	12.4		20.5	10.0	15.7				
Green Ext Time (p_c), s		0.5	0.0	5.1		0.0	0.0	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			95.3									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	106	659	515	26	24	93
Future Vol, veh/h	106	659	515	26	24	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	716	560	28	26	101























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	588	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	983	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	983	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	152	702
HCM Lane V/C Ratio	0.117	-	-	-	0.172	0.144
HCM Control Delay (s)	9.1	-	-	-	33.5	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	795	15	18	838	191	18	5	16	288	6	102
Future Volume (veh/h)	115	795	15	18	838	191	18	5	16	288	6	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	125	864	16	20	911	208	20	5	17	318	0	111
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1846	34	42	1604	718	60	15	67	506	0	226
Arrive On Green	0.09	0.52	0.52	0.02	0.45	0.45	0.04	0.04	0.04	0.14	0.00	0.14
Sat Flow, veh/h	1774	3555	66	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	125	430	450	20	911	208	25	0	17	318	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1851	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	4.1	9.1	9.1	0.7	11.1	4.9	0.8	0.0	0.6	5.0	0.0	3.8
Cycle Q Clear(g_c), s	4.1	9.1	9.1	0.7	11.1	4.9	0.8	0.0	0.6	5.0	0.0	3.8
Prop In Lane	1.00		0.04	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	919	961	42	1604	718	76	0	67	506	0	226
V/C Ratio(X)	0.79	0.47	0.47	0.48	0.57	0.29	0.33	0.00	0.25	0.63	0.00	0.49
Avail Cap(c_a), veh/h	181	1129	1181	151	2199	984	564	0	499	1993	0	889
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.2	9.0	9.0	28.3	11.8	10.1	27.3	0.0	27.2	23.7	0.0	23.2
Incr Delay (d2), s/veh	18.0	0.4	0.4	8.1	0.3	0.2	2.5	0.0	2.0	1.3	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	4.5	4.7	0.4	5.5	2.1	0.4	0.0	0.3	2.5	0.0	1.7
LnGrp Delay(d),s/veh	44.2	9.3	9.3	36.4	12.1	10.3	29.9	0.0	29.2	25.0	0.0	24.9
LnGrp LOS	D	A	A	D	B	B	C		C	C		C
Approach Vol, veh/h		1005			1139			42			429	
Approach Delay, s/veh		13.7			12.2			29.6			25.0	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.5	5.4	34.5		12.4	9.3	30.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		2.8	2.7	11.1		7.0	6.1	13.1				
Green Ext Time (p_c), s		0.1	0.0	14.5		1.4	0.0	13.5				
Intersection Summary												
HCM 2010 Ctrl Delay			15.2									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	740	359	172	640	0	0	0	0	158	1	407
Future Volume (veh/h)	0	740	359	172	640	0	0	0	0	158	1	407
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	390	187	696	0				172	1	442
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1407	657	230	2106	0				538	3	483
Arrive On Green	0.00	0.42	0.42	0.04	0.20	0.00				0.31	0.31	0.31
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1764	10	1583
Grp Volume(v), veh/h	0	804	390	187	696	0				173	0	442
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	14.5	15.3	8.4	13.5	0.0				6.0	0.0	21.5
Cycle Q Clear(g_c), s	0.0	14.5	15.3	8.4	13.5	0.0				6.0	0.0	21.5
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1407	657	230	2106	0				541	0	483
V/C Ratio(X)	0.00	0.57	0.59	0.81	0.33	0.00				0.32	0.00	0.92
Avail Cap(c_a), veh/h	0	1407	657	333	2106	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.88	0.88	0.87	0.87	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.9	18.2	37.3	18.5	0.0				21.4	0.0	26.8
Incr Delay (d2), s/veh	0.0	1.5	3.4	8.4	0.4	0.0				0.3	0.0	19.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.1	7.2	4.7	6.7	0.0				3.0	0.0	12.0
LnGrp Delay(d),s/veh	0.0	19.4	21.6	45.7	18.8	0.0				21.7	0.0	46.4
LnGrp LOS		B	C	D	B					C		D
Approach Vol, veh/h		1194			883						615	
Approach Delay, s/veh		20.1			24.5						39.5	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.4	37.2		28.4		51.6				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.4	17.3		23.5		15.5				
Green Ext Time (p_c), s			0.2	6.7		0.9		15.8				
Intersection Summary												
HCM 2010 Ctrl Delay			26.0									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	500	0	0	536	257	276	3	255	0	0	0
Future Volume (veh/h)	398	500	0	0	536	257	276	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	433	543	0	0	583	279	300	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	462	2463	0	0	1365	611	359	4	323			
Arrive On Green	0.52	1.00	0.00	0.00	0.77	0.77	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1757	18	1583			
Grp Volume(v), veh/h	433	543	0	0	583	279	303	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	18.3	0.0	0.0	0.0	4.5	5.0	13.1	0.0	13.5			
Cycle Q Clear(g_c), s	18.3	0.0	0.0	0.0	4.5	5.0	13.1	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	462	2463	0	0	1365	611	362	0	323			
V/C Ratio(X)	0.94	0.22	0.00	0.00	0.43	0.46	0.84	0.00	0.86			
Avail Cap(c_a), veh/h	532	2463	0	0	1365	611	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.85	0.85	0.00	0.00	0.72	0.72	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.6	0.0	0.0	0.0	6.1	6.2	30.6	0.0	30.7			
Incr Delay (d2), s/veh	20.4	0.2	0.0	0.0	0.7	1.8	12.8	0.0	16.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.3	0.1	0.0	0.0	2.2	2.3	7.7	0.0	7.3			
LnGrp Delay(d),s/veh	38.9	0.2	0.0	0.0	6.8	8.0	43.3	0.0	47.2			
LnGrp LOS	D	A			A	A	D		D			
Approach Vol, veh/h		976			862		580					
Approach Delay, s/veh		17.4			7.2		45.2					
Approach LOS		B			A		D					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.3		59.7			24.8	34.9				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		15.5		2.0			20.3	7.0				
Green Ext Time (p_c), s		0.8		10.8			0.5	8.0				
Intersection Summary												
HCM 2010 Ctrl Delay				20.4								
HCM 2010 LOS				C								

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (3D) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖	↕↗			↖	↖		↖	↖
Traffic Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Future Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	365	342	113	38	350	75	190	5	54	137	0	322
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	848	379	63	509	108	519	14	475	399	0	356
Arrive On Green	0.17	0.40	0.40	0.04	0.18	0.18	0.30	0.30	0.30	0.22	0.00	0.22
Sat Flow, veh/h	3442	3539	1583	1774	2908	616	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	365	342	113	38	211	214	195	0	54	137	0	322
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1754	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.5	3.9	1.7	9.0	9.1	6.9	0.0	2.0	5.2	0.0	15.8
Cycle Q Clear(g_c), s	8.0	5.5	3.9	1.7	9.0	9.1	6.9	0.0	2.0	5.2	0.0	15.8
Prop In Lane	1.00		1.00	1.00		0.35	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	848	379	63	310	307	533	0	475	399	0	356
V/C Ratio(X)	1.06	0.40	0.30	0.60	0.68	0.69	0.37	0.00	0.11	0.34	0.00	0.90
Avail Cap(c_a), veh/h	344	951	426	111	409	406	533	0	475	410	0	366
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	19.9	19.4	38.0	30.9	31.0	22.0	0.0	20.3	26.1	0.0	30.2
Incr Delay (d2), s/veh	64.4	0.3	0.4	8.8	3.0	3.4	1.9	0.0	0.5	0.5	0.0	24.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	2.7	1.7	1.0	4.6	4.7	3.6	0.0	0.9	2.6	0.0	9.3
LnGrp Delay(d),s/veh	97.7	20.2	19.8	46.8	33.9	34.3	24.0	0.0	20.8	26.6	0.0	54.9
LnGrp LOS	F	C	B	D	C	C	C		C	C		D
Approach Vol, veh/h		820			463			249			459	
Approach Delay, s/veh		54.7			35.1			23.3			46.5	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.0	6.9	23.2		22.0	12.0	18.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	7.5		17.8	10.0	11.1				
Green Ext Time (p_c), s		0.8	0.0	4.2		0.1	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				44.3								
HCM 2010 LOS				D								

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	78	413	354	26	10	72
Future Vol, veh/h	78	413	354	26	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	449	385	28	11	78

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	413	0	0	793	207
Stage 1	-	-	-	399	-
Stage 2	-	-	-	394	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1142	-	-	326	799
Stage 1	-	-	-	647	-
Stage 2	-	-	-	650	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1142	-	-	294	799
Mov Cap-2 Maneuver	-	-	-	294	-
Stage 1	-	-	-	647	-
Stage 2	-	-	-	586	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1142	-	-	-	294	799
HCM Lane V/C Ratio	0.074	-	-	-	0.037	0.098
HCM Control Delay (s)	8.4	-	-	-	17.7	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	125	48	154	116	174	47	182	157	223	304	17
Future Volume (veh/h)	14	125	48	154	116	174	47	182	157	223	304	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	15	136	52	167	126	189	51	198	171	242	330	18
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	274	198	76	320	337	286	91	687	308	254	1014	453
Arrive On Green	0.15	0.15	0.15	0.18	0.18	0.18	0.05	0.19	0.19	0.14	0.29	0.29
Sat Flow, veh/h	1774	1285	491	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	15	0	188	167	126	189	51	198	171	242	330	18
Grp Sat Flow(s),veh/h/ln	1774	0	1776	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.4	0.0	4.9	4.2	2.9	5.4	1.4	2.3	4.8	6.6	3.6	0.4
Cycle Q Clear(g_c), s	0.4	0.0	4.9	4.2	2.9	5.4	1.4	2.3	4.8	6.6	3.6	0.4
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	274	0	274	320	337	286	91	687	308	254	1014	453
V/C Ratio(X)	0.05	0.00	0.69	0.52	0.37	0.66	0.56	0.29	0.56	0.95	0.33	0.04
Avail Cap(c_a), veh/h	1307	0	1309	654	686	583	218	1304	583	254	1376	616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.6	0.0	19.5	18.1	17.6	18.6	22.6	16.8	17.8	20.8	13.7	12.6
Incr Delay (d2), s/veh	0.1	0.0	3.0	1.3	0.7	2.6	5.4	0.2	1.6	43.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.6	2.2	1.5	2.6	0.8	1.1	2.2	6.3	1.8	0.2
LnGrp Delay(d),s/veh	17.7	0.0	22.6	19.4	18.3	21.2	28.0	17.0	19.3	64.0	13.9	12.6
LnGrp LOS	B		C	B	B	C	C	B	B	E	B	B
Approach Vol, veh/h		203			482			420			590	
Approach Delay, s/veh		22.2			19.8			19.3			34.4	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	13.5		11.5	6.5	18.0		12.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	18.0		36.0	6.0	19.0		18.0				
Max Q Clear Time (g_c+I1), s	8.6	6.8		6.9	3.4	5.6		7.4				
Green Ext Time (p_c), s	0.0	2.7		1.2	0.0	3.0		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			25.1									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	176	344	4	12	429	379	3	176	16	274	127	114
Future Vol, veh/h	176	344	4	12	429	379	3	176	16	274	127	114
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	191	374	4	13	466	412	3	191	17	298	138	124

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	878	0	0	378
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.13	-	-	4.13
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.219	-	-	2.219
Pot Cap-1 Maneuver	767	-	-	1179
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	767	-	-	1179
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.8	0.1		
HCM LOS				

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	767	-	-	1179	-	-	-
HCM Lane V/C Ratio	-	0.249	-	-	0.011	-	-	-
HCM Control Delay (s)	-	11.2	-	-	8.1	-	-	-
HCM Lane LOS	-	B	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	1	-	-	0	-	-	-

Notes

-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Intersection Delay, s/veh	36.1
Intersection LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	0	669	347	0	226	515
Future Vol, veh/h	0	669	347	0	226	515
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	727	377	0	246	560
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	23.7	14.5	57.4
HCM LOS	C	B	F

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	335	335	174	174	226	515
LT Vol	0	0	0	0	226	0
Through Vol	335	335	174	174	0	0
RT Vol	0	0	0	0	0	515
Lane Flow Rate	364	364	189	189	246	560
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.761	0.58	0.42	0.326	0.538	1.037
Departure Headway (Hd)	7.681	5.895	8.19	6.394	7.891	6.667
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	473	614	443	566	459	549
Service Time	5.381	3.595	5.89	4.094	5.591	4.367
HCM Lane V/C Ratio	0.77	0.593	0.427	0.334	0.536	1.02
HCM Control Delay	30.9	16.4	16.7	12.2	19.4	74.1
HCM Lane LOS	D	C	C	B	C	F
HCM 95th-tile Q	6.5	3.7	2	1.4	3.1	15.8

Intersection

Intersection Delay, s/veh50.7
 Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖		↖			
Traffic Vol, veh/h	350	217	296	151	252	32	92	210	199	0	0	0
Future Vol, veh/h	350	217	296	151	252	32	92	210	199	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	380	236	322	164	274	35	100	228	216	0	0	0
Number of Lanes	1	2	0	1	2	0	1	0	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	45.9	19.6	86
HCM LOS	E	C	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	51%	0%	100%	20%	0%	100%	72%
Vol Right, %	0%	49%	0%	0%	80%	0%	0%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	92	409	350	145	368	151	168	116
LT Vol	92	0	350	0	0	151	0	0
Through Vol	0	210	0	145	72	0	168	84
RT Vol	0	199	0	0	296	0	0	32
Lane Flow Rate	100	445	380	157	400	164	183	126
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.27	1.093	0.933	0.363	0.859	0.443	0.467	0.315
Departure Headway (Hd)	9.706	8.854	9.216	8.695	8.108	10.198	9.675	9.473
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	372	413	396	417	448	356	374	382
Service Time	7.406	6.554	6.916	6.395	5.808	7.898	7.375	7.173
HCM Lane V/C Ratio	0.269	1.077	0.96	0.376	0.893	0.461	0.489	0.33
HCM Control Delay	16	101.7	60.8	16.3	43.4	20.8	20.6	16.5
HCM Lane LOS		C	F	F	C	E	C	C
HCM 95th-tile Q		1.1	15.5	10.2	1.6	8.7	2.2	2.4

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕		↖		
Traffic Vol, veh/h	1	292	11	22	289	169	15	3	54	143	0	0
Future Vol, veh/h	1	292	11	22	289	169	15	3	54	143	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	317	12	24	314	184	16	3	59	155	0	0




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	498	0	0	329	0	0	531	872	165	617	-	-
Stage 1	-	-	-	-	-	-	326	326	-	454	-	-
Stage 2	-	-	-	-	-	-	205	546	-	163	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	-
Pot Cap-1 Maneuver	1062	-	-	1227	-	-	431	287	850	374	0	0
Stage 1	-	-	-	-	-	-	661	647	-	555	0	0
Stage 2	-	-	-	-	-	-	778	516	-	823	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1062	-	-	1227	-	-	424	281	850	340	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	424	281	-	340	-	-
Stage 1	-	-	-	-	-	-	660	646	-	554	-	-
Stage 2	-	-	-	-	-	-	763	506	-	762	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.4			11.2			24.2		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	657	1062	-	-	1227	-	-	340
HCM Lane V/C Ratio	0.119	0.001	-	-	0.019	-	-	0.457
HCM Control Delay (s)	11.2	8.4	-	-	8	-	-	24.2
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	2.3

Redding Rancheria
 22: I-5 SB On Ramp/Ventura St & Balls Ferry Rd

Opening Year (2025) plus Project (E) Conditions
 Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	330	155	364	475	22	0	0	0	18	68	7
Future Volume (veh/h)	3	330	155	364	475	22	0	0	0	18	68	7
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	3	359	168	396	516	24				20	74	8
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	7	437	201	1118	2873	1285				114	106	11
Arrive On Green	0.00	0.19	0.19	0.63	0.81	0.81				0.06	0.06	0.06
Sat Flow, veh/h	1774	2356	1085	1774	3539	1583				1774	1653	179
Grp Volume(v), veh/h	3	268	259	396	516	24				20	0	82
Grp Sat Flow(s),veh/h/ln	1774	1770	1671	1774	1770	1583				1774	0	1831
Q Serve(g_s), s	0.2	14.5	14.9	10.6	3.2	0.3				1.1	0.0	4.4
Cycle Q Clear(g_c), s	0.2	14.5	14.9	10.6	3.2	0.3				1.1	0.0	4.4
Prop In Lane	1.00		0.65	1.00		1.00				1.00		0.10
Lane Grp Cap(c), veh/h	7	328	310	1118	2873	1285				114	0	118
V/C Ratio(X)	0.42	0.82	0.84	0.35	0.18	0.02				0.18	0.00	0.70
Avail Cap(c_a), veh/h	89	407	384	1118	2873	1285				550	0	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.78	0.78	0.78				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.7	39.1	39.3	8.8	2.1	1.8				44.3	0.0	45.8
Incr Delay (d2), s/veh	35.4	19.8	22.6	0.1	0.1	0.0				0.7	0.0	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	8.9	8.8	5.2	1.5	0.1				0.5	0.0	2.4
LnGrp Delay(d),s/veh	85.1	58.9	61.9	8.9	2.2	1.8				45.0	0.0	53.1
LnGrp LOS	F	E	E	A	A	A				D		D
Approach Vol, veh/h		530			936						102	
Approach Delay, s/veh		60.5			5.0						51.5	
Approach LOS		E			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			67.0	22.5		10.4	4.4	85.2				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			34.0	23.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			12.6	16.9		6.4	2.2	5.2				
Green Ext Time (p_c), s			4.7	1.6		0.4	0.0	5.3				
Intersection Summary												
HCM 2010 Ctrl Delay			26.8									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↗	↖	↗		↖
Traffic Volume (veh/h)	80	262	0	0	503	196	218	129	201	231	0	194
Future Volume (veh/h)	80	262	0	0	503	196	218	129	201	231	0	194
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	87	285	0	0	547	213	237	140	218	251	0	211
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	89	2647	0	0	1641	637	305	321	272	0	0	0
Arrive On Green	0.10	1.00	0.00	0.00	0.66	0.66	0.17	0.17	0.17	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2587	968	1774	1863	1583		0	
Grp Volume(v), veh/h	87	285	0	0	388	372	237	140	218		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1692	1774	1863	1583			
Q Serve(g_s), s	4.9	0.0	0.0	0.0	9.6	9.7	12.8	6.7	13.2			
Cycle Q Clear(g_c), s	4.9	0.0	0.0	0.0	9.6	9.7	12.8	6.7	13.2			
Prop In Lane	1.00		0.00	0.00		0.57	1.00		1.00			
Lane Grp Cap(c), veh/h	89	2647	0	0	1164	1113	305	321	272			
V/C Ratio(X)	0.98	0.11	0.00	0.00	0.33	0.33	0.78	0.44	0.80			
Avail Cap(c_a), veh/h	89	2647	0	0	1164	1113	603	633	538			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.96	0.96	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	45.0	0.0	0.0	0.0	7.5	7.5	39.6	37.1	39.7			
Incr Delay (d2), s/veh	87.3	0.1	0.0	0.0	0.8	0.8	4.2	0.9	5.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.5	0.0	0.0	0.0	4.9	4.7	6.6	3.5	6.2			
LnGrp Delay(d),s/veh	132.2	0.1	0.0	0.0	8.3	8.3	43.8	38.0	45.1			
LnGrp LOS	F	A			A	A	D	D	D			
Approach Vol, veh/h		372			760			595				
Approach Delay, s/veh		31.0			8.3			42.9				
Approach LOS		C			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		21.2		78.8			9.0	69.8				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+l1), s		15.2		2.0			6.9	11.7				
Green Ext Time (p_c), s		2.0		7.8			0.0	5.9				
Intersection Summary												
HCM 2010 Ctrl Delay				25.1								
HCM 2010 LOS				C								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	94	16	93	69	165	24	134	113	232	188	9
Future Volume (veh/h)	5	94	16	93	69	165	24	134	113	232	188	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	5	102	17	101	75	179	26	146	123	252	204	10
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	151	25	312	327	278	55	585	262	304	1079	483
Arrive On Green	0.10	0.10	0.10	0.18	0.18	0.18	0.03	0.17	0.17	0.17	0.30	0.30
Sat Flow, veh/h	1774	1557	260	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	5	0	119	101	75	179	26	146	123	252	204	10
Grp Sat Flow(s),veh/h/ln	1774	0	1817	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.1	0.0	2.6	2.0	1.4	4.3	0.6	1.5	2.9	5.6	1.7	0.2
Cycle Q Clear(g_c), s	0.1	0.0	2.6	2.0	1.4	4.3	0.6	1.5	2.9	5.6	1.7	0.2
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	172	0	176	312	327	278	55	585	262	304	1079	483
V/C Ratio(X)	0.03	0.00	0.67	0.32	0.23	0.64	0.47	0.25	0.47	0.83	0.19	0.02
Avail Cap(c_a), veh/h	1561	0	1599	780	819	697	260	1557	697	304	1644	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.7	0.0	17.8	14.7	14.5	15.7	19.5	14.9	15.5	16.4	10.5	9.9
Incr Delay (d2), s/veh	0.1	0.0	4.4	0.6	0.4	2.5	6.0	0.2	1.3	17.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.5	1.0	0.8	2.1	0.4	0.7	1.3	4.2	0.9	0.1
LnGrp Delay(d),s/veh	16.8	0.0	22.3	15.3	14.8	18.2	25.5	15.1	16.8	33.7	10.6	10.0
LnGrp LOS	B		C	B	B	B	C	B	B	C	B	A
Approach Vol, veh/h		124			355			295			466	
Approach Delay, s/veh		22.1			16.7			16.7			23.1	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	10.8		8.0	5.3	16.5		11.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	18.0		36.0	6.0	19.0		18.0				
Max Q Clear Time (g_c+I1), s	7.6	4.9		4.6	2.6	3.7		6.3				
Green Ext Time (p_c), s	0.0	1.9		0.7	0.0	2.0		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			19.6									
HCM 2010 LOS			B									

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	207	221	2	9	226	459	3	220	13	293	137	119
Future Vol, veh/h	207	221	2	9	226	459	3	220	13	293	137	119
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	225	240	2	10	246	499	3	239	14	318	149	129

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	745	0	0	242	0	0	908	1455	241	1333	1207	372
Stage 1	-	-	-	-	-	-	691	691	-	515	515	-
Stage 2	-	-	-	-	-	-	217	764	-	818	692	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	861	-	-	1323	-	-	243	~ 129	797	~ 121	183	626
Stage 1	-	-	-	-	-	-	434	445	-	512	534	-
Stage 2	-	-	-	-	-	-	766	412	-	369	444	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	861	-	-	1323	-	-	~ 95	797	-	~ 134	626	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 95	-	-	~ 134	-	-
Stage 1	-	-	-	-	-	-	321	329	-	378	530	-
Stage 2	-	-	-	-	-	-	434	409	-	~ 73	328	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.1	0.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	861	-	-	1323	-	-	-
HCM Lane V/C Ratio	-	0.261	-	-	0.007	-	-	-
HCM Control Delay (s)	-	10.7	-	-	7.7	-	-	-
HCM Lane LOS	-	B	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	1	-	-	0	-	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	26.5
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↘	↗
Traffic Vol, veh/h	0	542	211	0	135	527
Future Vol, veh/h	0	542	211	0	135	527
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	589	229	0	147	573
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	15.5	11.3	40.4
HCM LOS	C	B	E

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	271	271	106	106	135	527
LT Vol	0	0	0	0	135	0
Through Vol	271	271	106	106	0	0
RT Vol	0	0	0	0	0	527
Lane Flow Rate	295	295	115	115	147	573
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.58	0.426	0.242	0.185	0.291	0.941
Departure Headway (Hd)	7.085	5.21	7.596	5.808	7.127	5.912
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	513	683	475	620	502	607
Service Time	4.785	3.009	5.304	3.516	4.915	3.7
HCM Lane V/C Ratio	0.575	0.432	0.242	0.185	0.293	0.944
HCM Control Delay	19.1	11.9	12.7	9.8	12.8	47.5
HCM Lane LOS	C	B	B	A	B	E
HCM 95th-tile Q	3.6	2.1	0.9	0.7	1.2	12.5

Intersection

Intersection Delay, s/veh18.5
 Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖		↖			
Traffic Vol, veh/h	304	155	198	114	153	35	61	127	165	0	0	0
Future Vol, veh/h	304	155	198	114	153	35	61	127	165	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	330	168	215	124	166	38	66	138	179	0	0	0
Number of Lanes	1	2	0	1	2	0	1	0	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	19.9	13.3	20.5
HCM LOS	C	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	43%	0%	100%	21%	0%	100%	59%
Vol Right, %	0%	57%	0%	0%	79%	0%	0%	41%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	61	292	304	103	250	114	102	86
LT Vol	61	0	304	0	0	114	0	0
Through Vol	0	127	0	103	52	0	102	51
RT Vol	0	165	0	0	198	0	0	35
Lane Flow Rate	66	317	330	112	271	124	111	93
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.151	0.642	0.698	0.221	0.492	0.288	0.242	0.196
Departure Headway (Hd)	8.183	7.283	7.602	7.09	6.522	8.358	7.844	7.551
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	438	495	476	507	554	430	458	475
Service Time	5.927	5.026	5.345	4.833	4.264	6.108	5.594	5.301
HCM Lane V/C Ratio	0.151	0.64	0.693	0.221	0.489	0.288	0.242	0.196
HCM Control Delay	12.4	22.2	26.2	11.8	15.5	14.5	13.1	12.1
HCM Lane LOS	B	C	D	B	C	B	B	B
HCM 95th-tile Q	0.5	4.5	5.3	0.8	2.7	1.2	0.9	0.7

Intersection




















Int Delay, s/veh 4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕		↖		
Traffic Vol, veh/h	1	166	4	37	227	207	12	4	34	134	0	0
Future Vol, veh/h	1	166	4	37	227	207	12	4	34	134	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	180	4	40	247	225	13	4	37	146	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	472	0	0	185
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.14	-	-	4.14
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22
Pot Cap-1 Maneuver	1086	-	-	1387
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1086	-	-	1387
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.6	10.5	19.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	710	1086	-	-	1387	-	-	398
HCM Lane V/C Ratio	0.077	0.001	-	-	0.029	-	-	0.366
HCM Control Delay (s)	10.5	8.3	-	-	7.7	-	-	19.2
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	1.6

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	184	148	305	460	17	0	0	0	12	43	21
Future Volume (veh/h)	2	184	148	305	460	17	0	0	0	12	43	21
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	2	200	161	332	500	18				13	47	23
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	5	270	206	1211	2906	1300				100	67	33
Arrive On Green	0.00	0.14	0.14	0.68	0.82	0.82				0.06	0.06	0.06
Sat Flow, veh/h	1774	1913	1462	1774	3539	1583				1774	1182	579
Grp Volume(v), veh/h	2	184	177	332	500	18				13	0	70
Grp Sat Flow(s),veh/h/ln	1774	1770	1605	1774	1770	1583				1774	0	1761
Q Serve(g_s), s	0.1	10.0	10.6	7.3	2.9	0.2				0.7	0.0	3.9
Cycle Q Clear(g_c), s	0.1	10.0	10.6	7.3	2.9	0.2				0.7	0.0	3.9
Prop In Lane	1.00		0.91	1.00		1.00				1.00		0.33
Lane Grp Cap(c), veh/h	5	250	227	1211	2906	1300				100	0	99
V/C Ratio(X)	0.42	0.74	0.78	0.27	0.17	0.01				0.13	0.00	0.71
Avail Cap(c_a), veh/h	89	407	369	1211	2906	1300				550	0	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.87	0.87	0.87				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.8	41.2	41.4	6.2	1.9	1.6				44.9	0.0	46.4
Incr Delay (d2), s/veh	48.9	17.6	22.9	0.1	0.1	0.0				0.6	0.0	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	6.1	6.2	3.5	1.4	0.1				0.4	0.0	2.1
LnGrp Delay(d),s/veh	98.7	58.8	64.4	6.3	2.0	1.6				45.4	0.0	55.2
LnGrp LOS	F	E	E	A	A	A				D		E
Approach Vol, veh/h		363			850							83
Approach Delay, s/veh		61.7			3.7							53.6
Approach LOS		E			A							D
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			72.2	18.1		9.6	4.3	86.1				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			34.0	23.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			9.3	12.6		5.9	2.1	4.9				
Green Ext Time (p_c), s			4.5	1.5		0.4	0.0	4.8				
Intersection Summary												
HCM 2010 Ctrl Delay			23.1									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↗	↖	↗		↖
Traffic Volume (veh/h)	43	144	0	0	409	137	235	96	116	161	0	166
Future Volume (veh/h)	43	144	0	0	409	137	235	96	116	161	0	166
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	47	157	0	0	445	149	255	104	126	175	0	180
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	65	2640	0	0	1749	581	309	324	275	0	0	0
Arrive On Green	0.07	1.00	0.00	0.00	0.67	0.67	0.17	0.17	0.17	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2705	867	1774	1863	1583		0	
Grp Volume(v), veh/h	47	157	0	0	300	294	255	104	126		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1710	1774	1863	1583			
Q Serve(g_s), s	2.6	0.0	0.0	0.0	6.8	6.9	13.9	4.9	7.1			
Cycle Q Clear(g_c), s	2.6	0.0	0.0	0.0	6.8	6.9	13.9	4.9	7.1			
Prop In Lane	1.00		0.00	0.00		0.51	1.00		1.00			
Lane Grp Cap(c), veh/h	65	2640	0	0	1185	1145	309	324	275			
V/C Ratio(X)	0.73	0.06	0.00	0.00	0.25	0.26	0.83	0.32	0.46			
Avail Cap(c_a), veh/h	89	2640	0	0	1185	1145	603	633	538			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.99	0.99	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	45.9	0.0	0.0	0.0	6.6	6.6	39.8	36.1	37.1			
Incr Delay (d2), s/veh	16.9	0.0	0.0	0.0	0.5	0.5	5.6	0.6	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	0.0	3.4	3.4	7.3	2.6	3.2			
LnGrp Delay(d),s/veh	62.8	0.0	0.0	0.0	7.1	7.1	45.4	36.7	38.2			
LnGrp LOS	E	A			A	A	D	D	D			
Approach Vol, veh/h		204			594			485				
Approach Delay, s/veh		14.5			7.1			41.7				
Approach LOS		B			A			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		21.4		78.6			7.6	71.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+l1), s		15.9		2.0			4.6	8.9				
Green Ext Time (p_c), s		1.5		5.1			0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay				21.4								
HCM 2010 LOS				C								

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (F) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	83	68	523	80	224	55	420	377	338	705	9
Future Volume (veh/h)	10	83	68	523	80	224	55	420	377	338	705	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	90	74	568	204	165	60	457	410	367	766	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	307	137	717	512	436	296	1136	508	499	1059	474
Arrive On Green	0.01	0.09	0.09	0.20	0.28	0.28	0.17	0.32	0.32	0.14	0.30	0.30
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	11	90	74	568	204	165	60	457	410	367	766	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.4	1.6	2.9	9.9	5.8	3.5	1.9	6.6	15.5	6.7	12.6	0.2
Cycle Q Clear(g_c), s	0.4	1.6	2.9	9.9	5.8	3.5	1.9	6.6	15.5	6.7	12.6	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	307	137	717	512	436	296	1136	508	499	1059	474
V/C Ratio(X)	0.45	0.29	0.54	0.79	0.40	0.38	0.20	0.40	0.81	0.74	0.72	0.02
Avail Cap(c_a), veh/h	150	2197	983	816	1427	1213	296	1709	764	897	2332	1043
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	27.9	28.5	24.7	19.3	7.6	23.4	17.3	20.3	26.7	20.5	10.5
Incr Delay (d2), s/veh	12.2	0.5	3.2	4.8	0.5	0.5	0.3	0.2	3.9	2.1	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.4	5.3	3.1	2.2	1.0	3.2	7.3	3.3	6.3	0.1
LnGrp Delay(d),s/veh	44.2	28.4	31.8	29.5	19.8	8.2	23.8	17.5	24.2	28.8	21.4	10.5
LnGrp LOS	D	C	C	C	B	A	C	B	C	C	C	B
Approach Vol, veh/h		175			937			927			1143	
Approach Delay, s/veh		30.8			23.6			20.9			23.7	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	24.9	17.2	9.7	14.9	23.5	4.9	21.9				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.7	17.5	11.9	4.9	3.9	14.6	2.4	7.8				
Green Ext Time (p_c), s	0.8	3.5	1.3	0.7	0.3	4.9	0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay			23.2									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
 1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (F) Conditions
 Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9999	9999	9999	9999	9999	9999	9999	9999	9999	9999	9999	9999
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	2539819086	9383586	7882496	3809756	809756	7882496	19086	9383586	7882496	2485066	9383586	7882496
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	13969020526099848%	25452057056768	893834005439480	1576365543808	26057622885884978748	9202944						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			0.0									
HCM 2010 LOS			A									
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	278	236	152	592	777	421		
Future Volume (veh/h)	278	236	152	592	777	421		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	302	257	165	643	845	458		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	775	356	213	2129	1398	626		
Arrive On Green	0.23	0.23	0.12	0.60	0.40	0.40		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	302	257	165	643	845	458		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	3.4	6.9	4.2	4.1	8.8	11.4		
Cycle Q Clear(g_c), s	3.4	6.9	4.2	4.1	8.8	11.4		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	775	356	213	2129	1398	626		
V/C Ratio(X)	0.39	0.72	0.78	0.30	0.60	0.73		
Avail Cap(c_a), veh/h	1341	617	384	2605	1532	686		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.2	16.6	19.7	4.5	11.1	11.9		
Incr Delay (d2), s/veh	0.3	2.8	5.9	0.1	0.6	3.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	6.1	2.4	2.0	4.3	5.5		
LnGrp Delay(d),s/veh	15.5	19.3	25.7	4.6	11.7	15.6		
LnGrp LOS	B	B	C	A	B	B		
Approach Vol, veh/h	559			808	1303			
Approach Delay, s/veh	17.3			8.9	13.0			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		31.8		14.4	9.5	22.2		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		34.0		18.0	10.0	20.0		
Max Q Clear Time (g_c+l1), s		6.1		8.9	6.2	13.4		
Green Ext Time (p_c), s		12.9		1.5	0.1	4.9		
Intersection Summary								
HCM 2010 Ctrl Delay			12.7					
HCM 2010 LOS			B					



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	130	37	21	627	931	77		
Future Volume (veh/h)	130	37	21	627	931	77		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	141	40	23	682	1012	84		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	217	194	51	2267	1745	781		
Arrive On Green	0.12	0.12	0.03	0.64	0.49	0.49		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	141	40	23	682	1012	84		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	2.6	0.8	0.4	2.9	6.8	1.0		
Cycle Q Clear(g_c), s	2.6	0.8	0.4	2.9	6.8	1.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	217	194	51	2267	1745	781		
V/C Ratio(X)	0.65	0.21	0.45	0.30	0.58	0.11		
Avail Cap(c_a), veh/h	1946	1737	263	6297	5353	2395		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	14.1	13.3	16.1	2.7	6.1	4.6		
Incr Delay (d2), s/veh	3.3	0.5	6.1	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	0.4	0.3	1.3	3.3	0.4		
LnGrp Delay(d),s/veh	17.4	13.8	22.2	2.8	6.4	4.6		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	181			705	1096			
Approach Delay, s/veh	16.6			3.4	6.2			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		25.6		8.1	5.0	20.6		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+l1), s		4.9		4.6	2.4	8.8		
Green Ext Time (p_c), s		4.5		0.5	1.0	7.8		
Intersection Summary								
HCM 2010 Ctrl Delay			6.2					
HCM 2010 LOS			A					



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	8	20	57	160	18	61	35	580	148	94	814	32
Future Volume (veh/h)	8	20	57	160	18	61	35	580	148	94	814	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	9	22	62	174	20	66	38	630	161	102	885	35
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	13	31	88	268	58	190	76	979	438	193	1213	543
Arrive On Green	0.08	0.08	0.08	0.15	0.15	0.15	0.04	0.28	0.28	0.11	0.34	0.34
Sat Flow, veh/h	161	393	1106	1774	382	1259	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	93	0	0	174	0	86	38	630	161	102	885	35
Grp Sat Flow(s),veh/h/ln	1659	0	0	1774	0	1641	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	2.3	0.0	0.0	3.8	0.0	2.0	0.9	6.5	3.4	2.3	9.1	0.6
Cycle Q Clear(g_c), s	2.3	0.0	0.0	3.8	0.0	2.0	0.9	6.5	3.4	2.3	9.1	0.6
Prop In Lane	0.10		0.67	1.00		0.77	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	131	0	0	268	0	248	76	979	438	193	1213	543
V/C Ratio(X)	0.71	0.00	0.00	0.65	0.00	0.35	0.50	0.64	0.37	0.53	0.73	0.06
Avail Cap(c_a), veh/h	1475	0	0	788	0	729	213	1573	704	213	1573	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	0.0	0.0	16.6	0.0	15.8	19.5	13.2	12.1	17.5	12.0	9.2
Incr Delay (d2), s/veh	6.8	0.0	0.0	2.6	0.0	0.8	5.1	0.7	0.5	2.2	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	2.1	0.0	0.9	0.5	3.2	1.5	1.2	4.6	0.3
LnGrp Delay(d),s/veh	25.5	0.0	0.0	19.3	0.0	16.7	24.5	14.0	12.6	19.8	13.2	9.2
LnGrp LOS	C			B		B	C	B	B	B	B	A
Approach Vol, veh/h		93			260			829			1022	
Approach Delay, s/veh		25.5			18.4			14.2			13.8	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.5	15.5		7.3	5.8	18.3		10.3				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.5			37.0	5.0	18.5		18.5				
Max Q Clear Time (g_c+I), s	8.5			4.3	2.9	11.1		5.8				
Green Ext Time (p_c), s	0.0	3.0		0.5	0.1	3.1		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				15.0								
HCM 2010 LOS				B								



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	377	83	94	472	547	496		
Future Volume (veh/h)	377	83	94	472	547	496		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	494	0	102	513	595	0		
Adj No. of Lanes	2	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	805	366	155	1977	1288	1014		
Arrive On Green	0.23	0.00	0.09	0.56	0.36	0.00		
Sat Flow, veh/h	3548	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	494	0	102	513	595	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	4.7	0.0	2.1	2.8	4.8	0.0		
Cycle Q Clear(g_c), s	4.7	0.0	2.1	2.8	4.8	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	805	366	155	1977	1288	1014		
V/C Ratio(X)	0.61	0.00	0.66	0.26	0.46	0.00		
Avail Cap(c_a), veh/h	2854	1299	381	3986	2847	2242		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	12.9	0.0	16.5	4.2	9.1	0.0		
Incr Delay (d2), s/veh	0.8	0.0	4.7	0.1	0.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.3	0.0	1.2	1.4	2.4	0.0		
LnGrp Delay(d),s/veh	13.7	0.0	21.1	4.3	9.3	0.0		
LnGrp LOS	B		C	A	A			
Approach Vol, veh/h	494			615	595			
Approach Delay, s/veh	13.7			7.1	9.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		24.8		12.5	7.3	17.6		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		
Max Q Clear Time (g_c+l1), s		4.8		6.7	4.1	6.8		
Green Ext Time (p_c), s		7.6		1.8	0.1	6.8		
Intersection Summary								
HCM 2010 Ctrl Delay			9.8					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	350	235	11	222	229	15		
Future Volume (veh/h)	350	235	11	222	229	15		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	380	0	0	249	260	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	523	467	275	468	531	279		
Arrive On Green	0.29	0.00	0.00	0.15	0.15	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	380	0	0	249	260	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	5.7	0.0	0.0	2.1	2.0	0.0		
Cycle Q Clear(g_c), s	5.7	0.0	0.0	2.1	2.0	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	523	467	275	468	531	279		
V/C Ratio(X)	0.73	0.00	0.00	0.53	0.49	0.00		
Avail Cap(c_a), veh/h	1254	1119	1177	2002	2243	1177		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.3	0.0	0.0	11.6	11.5	0.0		
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.9	0.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.0	1.0	0.0		
LnGrp Delay(d),s/veh	11.3	0.0	0.0	12.5	12.2	0.0		
LnGrp LOS	B			B	B			
Approach Vol, veh/h	380		249		260			
Approach Delay, s/veh	11.3		12.5		12.2			
Approach LOS	B		B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.3				8.4		12.7
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		18.6				18.6		20.8
Max Q Clear Time (g_c+I1), s		4.1				4.0		7.7
Green Ext Time (p_c), s		0.8				0.8		1.0
Intersection Summary								
HCM 2010 Ctrl Delay			11.9					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.



























Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	65	79	77	382	479	72		
Future Volume (veh/h)	65	79	77	382	479	72		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	71	86	84	415	521	78		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	95	115	149	2135	1359	608		
Arrive On Green	0.13	0.13	0.08	0.60	0.38	0.38		
Sat Flow, veh/h	748	906	1774	3632	3632	1583		
Grp Volume(v), veh/h	158	0	84	415	521	78		
Grp Sat Flow(s),veh/h/ln	1665	0	1774	1770	1770	1583		
Q Serve(g_s), s	2.7	0.0	1.3	1.6	3.1	0.9		
Cycle Q Clear(g_c), s	2.7	0.0	1.3	1.6	3.1	0.9		
Prop In Lane	0.45	0.54	1.00			1.00		
Lane Grp Cap(c), veh/h	211	0	149	2135	1359	608		
V/C Ratio(X)	0.75	0.00	0.56	0.19	0.38	0.13		
Avail Cap(c_a), veh/h	1687	0	419	5617	4302	1925		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.5	0.0	13.0	2.6	6.6	5.9		
Incr Delay (d2), s/veh	5.3	0.0	3.3	0.0	0.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.8	0.8	1.6	0.4		
LnGrp Delay(d),s/veh	17.7	0.0	16.3	2.7	6.8	6.0		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	158			499	599			
Approach Delay, s/veh	17.7			5.0	6.7			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		21.9		7.7	6.5	15.4		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+l1), s		3.6		4.7	3.3	5.1		
Green Ext Time (p_c), s		6.5		0.4	0.0	6.2		
Intersection Summary								
HCM 2010 Ctrl Delay			7.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (F) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	46	54	373	57	144	35	349	271	238	406	5
Future Volume (veh/h)	0	46	54	373	57	144	35	349	271	238	406	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	50	59	405	133	110	38	379	295	259	441	5
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	359	161	638	677	575	326	955	427	418	735	329
Arrive On Green	0.00	0.10	0.10	0.18	0.36	0.36	0.18	0.27	0.27	0.12	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	50	59	405	133	110	38	379	295	259	441	5
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.6	1.7	5.2	2.4	1.3	0.9	4.3	8.2	3.5	5.5	0.1
Cycle Q Clear(g_c), s	0.0	0.6	1.7	5.2	2.4	1.3	0.9	4.3	8.2	3.5	5.5	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	4	359	161	638	677	575	326	955	427	418	735	329
V/C Ratio(X)	0.00	0.14	0.37	0.63	0.20	0.19	0.12	0.40	0.69	0.62	0.60	0.02
Avail Cap(c_a), veh/h	200	2934	1313	1090	1907	1621	326	2282	1021	1198	3115	1394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.0	20.5	18.5	10.7	3.2	16.6	14.6	16.0	20.4	17.5	12.4
Incr Delay (d2), s/veh	0.0	0.2	1.4	1.1	0.1	0.2	0.2	0.3	2.0	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.8	2.6	1.2	0.9	0.4	2.1	3.7	1.7	2.8	0.1
LnGrp Delay(d),s/veh	0.0	20.2	21.9	19.6	10.8	3.4	16.8	14.9	18.0	21.9	18.3	12.4
LnGrp LOS		C	C	B	B	A	B	B	B	C	B	B
Approach Vol, veh/h		109			648			712			705	
Approach Delay, s/veh		21.1			15.0			16.3			19.6	
Approach LOS		C			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	17.2	12.8	9.0	13.0	14.1	0.0	21.7				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	5.5	10.2	7.2	3.7	2.9	7.5	0.0	4.4				
Green Ext Time (p_c), s	0.6	3.0	1.7	0.4	0.3	2.6	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			17.2									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
 1: SR-273 & Cedars Rd/S Bonnyview Rd

Opening Year (2025) plus Project (F) Conditions
 Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9999	9999	9999	9999	9999	9999	9999	9999	9999	9999	9999	9999
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	2539819086	9383586	7882496	3809756	7882496	19086	9383586	7882496	2485066	9383586	7882496	3809756
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	1396902052369	9984896	2545205	7056768	8938340	05439480	1596365	5543808	2605732	2888588	4978748	9202944
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.0	31.5	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			0.0									
HCM 2010 LOS			A									
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	207	177	130	392	531	257		
Future Volume (veh/h)	207	177	130	392	531	257		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	225	192	141	426	577	279		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	682	314	189	2031	1252	560		
Arrive On Green	0.20	0.20	0.11	0.57	0.35	0.35		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	225	192	141	426	577	279		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	2.0	3.9	2.7	2.0	4.4	4.9		
Cycle Q Clear(g_c), s	2.0	3.9	2.7	2.0	4.4	4.9		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	682	314	189	2031	1252	560		
V/C Ratio(X)	0.33	0.61	0.75	0.21	0.46	0.50		
Avail Cap(c_a), veh/h	1764	811	505	3426	2015	902		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.1	12.8	15.2	3.6	8.8	8.9		
Incr Delay (d2), s/veh	0.3	1.9	5.8	0.1	0.3	0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0	3.5	1.6	1.0	2.2	2.2		
LnGrp Delay(d),s/veh	12.4	14.8	21.0	3.7	9.0	9.6		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	417			567	856			
Approach Delay, s/veh	13.5			8.0	9.2			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		24.2		11.0	7.7	16.4		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		34.0		18.0	10.0	20.0		
Max Q Clear Time (g_c+l1), s		4.0		5.9	4.7	6.9		
Green Ext Time (p_c), s		7.7		1.2	0.1	5.6		
Intersection Summary								
HCM 2010 Ctrl Delay			9.8					
HCM 2010 LOS			A					



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	73	19	23	451	648	56		
Future Volume (veh/h)	73	19	23	451	648	56		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	79	21	25	490	704	61		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	175	157	56	2102	1446	647		
Arrive On Green	0.10	0.10	0.03	0.59	0.41	0.41		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	79	21	25	490	704	61		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	1.1	0.3	0.4	1.7	3.8	0.6		
Cycle Q Clear(g_c), s	1.1	0.3	0.4	1.7	3.8	0.6		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	175	157	56	2102	1446	647		
V/C Ratio(X)	0.45	0.13	0.44	0.23	0.49	0.09		
Avail Cap(c_a), veh/h	2520	2249	341	8154	6931	3101		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.1	10.7	12.4	2.5	5.7	4.7		
Incr Delay (d2), s/veh	1.8	0.4	5.4	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.3	0.8	1.9	0.3		
LnGrp Delay(d),s/veh	12.9	11.1	17.8	2.5	5.9	4.8		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	100			515	765			
Approach Delay, s/veh	12.5			3.3	5.8			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		19.5		6.6	4.8	14.6		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+l1), s		3.7		3.1	2.4	5.8		
Green Ext Time (p_c), s		3.1		0.3	0.7	4.8		
Intersection Summary								
HCM 2010 Ctrl Delay			5.4					
HCM 2010 LOS			A					



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕↕	↕	↕	↕↕	↕
Traffic Volume (veh/h)	15	12	40	103	6	51	31	416	101	69	561	29
Future Volume (veh/h)	15	12	40	103	6	51	31	416	101	69	561	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	16	13	43	112	7	55	34	452	110	75	610	32
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	27	22	73	212	22	171	72	851	381	161	1028	460
Arrive On Green	0.07	0.07	0.07	0.12	0.12	0.12	0.04	0.24	0.24	0.09	0.29	0.29
Sat Flow, veh/h	371	301	996	1774	182	1429	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	72	0	0	112	0	62	34	452	110	75	610	32
Grp Sat Flow(s),veh/h/ln	668	0	0	1774	0	1611	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	1.4	0.0	0.0	2.0	0.0	1.2	0.6	3.7	1.9	1.3	5.0	0.5
Cycle Q Clear(g_c), s	1.4	0.0	0.0	2.0	0.0	1.2	0.6	3.7	1.9	1.3	5.0	0.5
Prop In Lane	0.22		0.60	1.00		0.89	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	0	0	212	0	193	72	851	381	161	1028	460
V/C Ratio(X)	0.59	0.00	0.00	0.53	0.00	0.32	0.47	0.53	0.29	0.47	0.59	0.07
Avail Cap(c_a), veh/h	1839	0	0	978	0	888	264	1951	873	264	1951	873
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.1	0.0	0.0	13.9	0.0	13.5	15.8	11.1	10.4	14.5	10.2	8.6
Incr Delay (d2), s/veh	4.5	0.0	0.0	2.0	0.0	1.0	4.8	0.5	0.4	2.1	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	1.1	0.0	0.6	0.4	1.9	0.9	0.7	2.5	0.2
LnGrp Delay(d),s/veh	19.6	0.0	0.0	15.9	0.0	14.5	20.5	11.6	10.8	16.6	10.8	8.7
LnGrp LOS	B			B		B	C	B	B	B	B	A
Approach Vol, veh/h		72			174			596			717	
Approach Delay, s/veh		19.6			15.4			12.0			11.3	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	12.1		6.4	5.4	13.7		8.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.5			37.0	5.0	18.5		18.5				
Max Q Clear Time (g_c+I), s	5.7			3.4	2.6	7.0		4.0				
Green Ext Time (p_c), s	0.0	2.3		0.4	0.0	2.8		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				12.4								
HCM 2010 LOS				B								



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	312	57	88	277	306	402		
Future Volume (veh/h)	312	57	88	277	306	402		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	397	0	96	301	333	0		
Adj No. of Lanes	2	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	750	341	166	1796	968	762		
Arrive On Green	0.21	0.00	0.09	0.51	0.27	0.00		
Sat Flow, veh/h	3548	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	397	0	96	301	333	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	2.8	0.0	1.5	1.3	2.1	0.0		
Cycle Q Clear(g_c), s	2.8	0.0	1.5	1.3	2.1	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	750	341	166	1796	968	762		
V/C Ratio(X)	0.53	0.00	0.58	0.17	0.34	0.00		
Avail Cap(c_a), veh/h	3741	1703	499	5225	3732	2939		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	10.0	0.0	12.4	3.8	8.3	0.0		
Incr Delay (d2), s/veh	0.6	0.0	3.2	0.0	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4	0.0	0.9	0.6	1.0	0.0		
LnGrp Delay(d),s/veh	10.5	0.0	15.5	3.8	8.5	0.0		
LnGrp LOS	B		B	A	A			
Approach Vol, veh/h	397			397	333			
Approach Delay, s/veh	10.5			6.6	8.5			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		18.4		10.0	6.7	11.8		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		
Max Q Clear Time (g_c+l1), s		3.3		4.8	3.5	4.1		
Green Ext Time (p_c), s		3.8		1.5	0.1	3.6		
Intersection Summary								
HCM 2010 Ctrl Delay			8.6					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	196	272	12	213	185	10		
Future Volume (veh/h)	196	272	12	213	185	10		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	213	0	0	241	209	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	370	330	301	512	541	284		
Arrive On Green	0.21	0.00	0.00	0.16	0.15	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	213	0	0	241	209	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	2.7	0.0	0.0	1.7	1.3	0.0		
Cycle Q Clear(g_c), s	2.7	0.0	0.0	1.7	1.3	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	370	330	301	512	541	284		
V/C Ratio(X)	0.58	0.00	0.00	0.47	0.39	0.00		
Avail Cap(c_a), veh/h	1466	1309	1377	2341	2622	1377		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.0	0.0	0.0	9.6	9.6	0.0		
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.7	0.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4	0.0	0.0	0.8	0.7	0.0		
LnGrp Delay(d),s/veh	10.4	0.0	0.0	10.2	10.1	0.0		
LnGrp LOS	B			B	B			
Approach Vol, veh/h	213		241		209			
Approach Delay, s/veh	10.4		10.2		10.1			
Approach LOS	B		B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.1				7.8		9.3
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		18.6				18.6		20.8
Max Q Clear Time (g_c+I1), s		3.7				3.3		4.7
Green Ext Time (p_c), s		0.8				0.6		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			10.2					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	Y		Y	↑↑	↑↑	Y		
Traffic Volume (veh/h)	41	56	58	278	274	47		
Future Volume (veh/h)	41	56	58	278	274	47		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	45	61	63	302	298	51		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	75	101	127	1948	1088	487		
Arrive On Green	0.11	0.11	0.07	0.55	0.31	0.31		
Sat Flow, veh/h	698	947	1774	3632	3632	1583		
Grp Volume(v), veh/h	107	0	63	302	298	51		
Grp Sat Flow(s),veh/h/ln	661	0	1774	1770	1770	1583		
Q Serve(g_s), s	1.4	0.0	0.8	1.0	1.5	0.5		
Cycle Q Clear(g_c), s	1.4	0.0	0.8	1.0	1.5	0.5		
Prop In Lane	0.42	0.57	1.00			1.00		
Lane Grp Cap(c), veh/h	178	0	127	1948	1088	487		
V/C Ratio(X)	0.60	0.00	0.49	0.15	0.27	0.10		
Avail Cap(c_a), veh/h	2132	0	531	7118	5452	2439		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.0	0.0	10.4	2.6	6.1	5.8		
Incr Delay (d2), s/veh	3.2	0.0	2.9	0.0	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.5	0.5	0.7	0.2		
LnGrp Delay(d),s/veh	13.2	0.0	13.4	2.6	6.3	5.9		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	107			365	349			
Approach Delay, s/veh	13.2			4.5	6.2			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		16.9		6.5	5.7	11.2		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+l1), s		3.0		3.4	2.8	3.5		
Green Ext Time (p_c), s		3.8		0.3	0.0	3.7		
Intersection Summary								
HCM 2010 Ctrl Delay			6.3					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 539 veh/h
Opposing direction volume, Vo 751 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	588 pc/h	819 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.4	mi/h
Average travel speed, ATSD	42.7	mi/h
Percent Free Flow Speed, PFFS	77.7	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	586	816	pc/h
Base percent time-spent-following,(note-4) BPTSFD	59.7	%	
Adjustment for no-passing zones, fnp	27.5		
Percent time-spent-following, PTSFD	71.2	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	29	veh-mi
Peak-hour vehicle-miles of travel, VMT60	108	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	42.7	mi/h
Percent time-spent-following, PTSFD (from above)	71.2	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	585.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.84
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 751 veh/h
Opposing direction volume, Vo 539 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	819 pc/h	588 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.0	mi/h
Average travel speed, ATSD	42.1	mi/h
Percent Free Flow Speed, PFFS	76.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	816	586	pc/h
Base percent time-spent-following,(note-4) BPTSFd	67.4	%	
Adjustment for no-passing zones, fnp	27.5		
Percent time-spent-following, PTSFd	83.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.48	
Peak 15-min vehicle-miles of travel, VMT15	41	veh-mi
Peak-hour vehicle-miles of travel, VMT60	150	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	42.1	mi/h
Percent time-spent-following, PTSFd (from above)	83.4	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	816.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.01
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Church Creek Road (EB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 736 veh/h
 Opposing direction volume, Vo 616 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	802 pc/h	672 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	1.8	mi/h
Average travel speed, ATSD	45.5	mi/h
Percent Free Flow Speed, PFFS	77.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	800	670	pc/h
Base percent time-spent-following, (note-4) BPTSFD	68.0	%	
Adjustment for no-passing zones, fnp	26.9		
Percent time-spent-following, PTSFD	82.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	40	veh-mi
Peak-hour vehicle-miles of travel, VMT60	147	veh-mi
Peak 15-min total travel time, TT15	0.9	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	45.5	mi/h
Percent time-spent-following, PTSFD (from above)	82.6	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	800.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.00
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Church Creek Road (WB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 616 veh/h
 Opposing direction volume, Vo 736 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	672 pc/h	802 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	1.4	mi/h
Average travel speed, ATSD	45.9	mi/h
Percent Free Flow Speed, PFFS	78.2	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	670	800	pc/h
Base percent time-spent-following,(note-4) BPTSFD	63.8	%	
Adjustment for no-passing zones, fnp	26.9		
Percent time-spent-following, PTSFD	76.1	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.40	
Peak 15-min vehicle-miles of travel, VMT15	33	veh-mi
Peak-hour vehicle-miles of travel, VMT60	123	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	45.9	mi/h
Percent time-spent-following, PTSFD (from above)	76.1	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	669.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.91
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Smith Road (EB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 19 veh/h
 Opposing direction volume, Vo 39 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	21 pc/h	44 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	56.4	mi/h
Percent Free Flow Speed, PFFS	98.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	21	43	pc/h
Base percent time-spent-following, (note-4) BPTSFD	2.7	%	
Adjustment for no-passing zones, fnp	10.2		
Percent time-spent-following, PTSFD	6.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.01	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	11	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	56.4	mi/h
Percent time-spent-following, PTSFD (from above)	6.0	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	20.7
Effective width of outside lane, We	40.29
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-4.08
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Smith Road (WB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 39 veh/h
 Opposing direction volume, Vo 19 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	44 pc/h	21 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	56.4	mi/h
Percent Free Flow Speed, PFFS	98.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	43	21	pc/h
Base percent time-spent-following,(note-4) BPTSFD	5.3	%	
Adjustment for no-passing zones, fnp	10.2		
Percent time-spent-following, PTSFD	12.2	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	6	veh-mi
Peak-hour vehicle-miles of travel, VMT60	23	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	56.4	mi/h
Percent time-spent-following, PTSFD (from above)	12.2	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	42.4
Effective width of outside lane, We	38.49
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.02
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Bechelli Lane (NB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 541 veh/h
 Opposing direction volume, Vo 914 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	590 pc/h	993 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSD	41.6	mi/h
Percent Free Flow Speed, PFFS	75.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	588 pc/h	993 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	62.0	%	
Adjustment for no-passing zones, fnp	23.1		
Percent time-spent-following, PTSFD	70.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	29	veh-mi
Peak-hour vehicle-miles of travel, VMT60	108	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	41.6	mi/h
Percent time-spent-following, PTSFD (from above)	70.6	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	588.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.84
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Bechelli Lane (SB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 914 veh/h
 Opposing direction volume, Vo 541 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	993 pc/h	590 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.9	mi/h
Average travel speed, ATSD	40.8	mi/h
Percent Free Flow Speed, PFFS	74.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	993	588	pc/h
Base percent time-spent-following, (note-4) BPTSFD	73.4	%	
Adjustment for no-passing zones, fnp	23.1		
Percent time-spent-following, PTSFD	87.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.58	
Peak 15-min vehicle-miles of travel, VMT15	50	veh-mi
Peak-hour vehicle-miles of travel, VMT60	183	veh-mi
Peak 15-min total travel time, TT15	1.2	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	40.8	mi/h
Percent time-spent-following, PTSFD (from above)	87.9	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	993.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.11
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Church Creek Road (EB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (1A)

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 416 veh/h
 Opposing direction volume, Vo 444 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	455 pc/h	486 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATSD	48.5	mi/h
Percent Free Flow Speed, PFFS	82.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	452	483	pc/h
Base percent time-spent-following,(note-4) BPTSFD	48.6	%	
Adjustment for no-passing zones, fnp	41.8		
Percent time-spent-following, PTSFD	68.8	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	23	veh-mi
Peak-hour vehicle-miles of travel, VMT60	83	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.5	mi/h
Percent time-spent-following, PTSFD (from above)	68.8	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	452.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.71
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Church Creek Road (WB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (0A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 444 veh/h
 Opposing direction volume, Vo 416 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	486 pc/h	455 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	3.2	mi/h
Average travel speed, ATSD	48.3	mi/h
Percent Free Flow Speed, PFFS	82.2	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	483 pc/h	452 pc/h
Base percent time-spent-following, (note-4) BPTSFD	49.7 %	
Adjustment for no-passing zones, fnp	41.8	
Percent time-spent-following, PTSFD	71.3 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.29	
Peak 15-min vehicle-miles of travel, VMT15	24	veh-mi
Peak-hour vehicle-miles of travel, VMT60	89	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.3	mi/h
Percent time-spent-following, PTSFD (from above)	71.3	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	482.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.74
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Smith Road (EB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 19 veh/h
 Opposing direction volume, Vo 23 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	21 pc/h	26 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATSD	55.5	mi/h
Percent Free Flow Speed, PFFS	94.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	21	25	pc/h
Base percent time-spent-following,(note-4) BPTSFD	2.7	%	
Adjustment for no-passing zones, fnp	53.0		
Percent time-spent-following, PTSFD	26.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.01	
Peak 15-min vehicle-miles of travel, VMT15	1	veh-mi
Peak-hour vehicle-miles of travel, VMT60	4	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	55.5	mi/h
Percent time-spent-following, PTSFD (from above)	26.9	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	20.7
Effective width of outside lane, We	40.29
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-4.08
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Smith Road (WB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 23 veh/h
 Opposing direction volume, Vo 19 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	26 pc/h	21 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATSD	55.5	mi/h
Percent Free Flow Speed, PFFS	94.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	25 pc/h	21 pc/h
Base percent time-spent-following, (note-4) BPTSFD	3.2 %	
Adjustment for no-passing zones, fnp	53.0	
Percent time-spent-following, PTSFD	32.0 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	1	veh-mi
Peak-hour vehicle-miles of travel, VMT60	5	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	55.5	mi/h
Percent time-spent-following, PTSFD (from above)	32.0	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	25.0
Effective width of outside lane, We	39.93
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.85
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

HCS7 Multi Lane Highway Segments Text Report

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2020_FRI_Bonnyvi ew.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (1A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1530	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	17.3	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1367	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1367	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	765	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	765	pc/h/l n
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	17.3	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 16:49:22

HCS7 Multi Lane Highway Segments Text Report

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2020_FRI_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (1A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U. S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	2038	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	23.1	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1821	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1821	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	1019	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	1019	pc/h/l n
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	23.1	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/23/2018 16:50:16

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2020_SAT_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (1A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	937	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	10.6	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	837	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	837	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	468	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	468	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	10.6	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 16:51:01

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2020_SAT_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (1A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1717	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	19.5	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1534	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	1534	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	858	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	858	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	19.5	pc/mi/ln
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/23/2018 16:51:14

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 411 veh/h
Opposing direction volume, Vo 562 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.991	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	451 pc/h	613 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.9	mi/h
Average travel speed, ATSD	44.9	mi/h
Percent Free Flow Speed, PFFS	81.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	447 pc/h	611	pc/h
Base percent time-spent-following,(note-4) BPTSFD	49.3	%	
Adjustment for no-passing zones, fnp	36.1		
Percent time-spent-following, PTSFD	64.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	22	veh-mi
Peak-hour vehicle-miles of travel, VMT60	82	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.9	mi/h
Percent time-spent-following, PTSFD (from above)	64.6	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	446.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.70
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 562 veh/h
Opposing direction volume, Vo 411 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.991
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	613 pc/h	451 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.6	mi/h
Average travel speed, ATSD	44.2	mi/h
Percent Free Flow Speed, PFFS	80.3	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	611	447	pc/h
Base percent time-spent-following, (note-4) BPTSFD	57.8	%	
Adjustment for no-passing zones, fnp	36.1		
Percent time-spent-following, PTSFD	78.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.36	
Peak 15-min vehicle-miles of travel, VMT15	31	veh-mi
Peak-hour vehicle-miles of travel, VMT60	112	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1685	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.2	mi/h
Percent time-spent-following, PTSFD (from above)	78.6	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	610.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.86
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Church Creek Road (EB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 736 veh/h
 Opposing direction volume, Vo 616 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	802 pc/h	672 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	1.8	mi/h
Average travel speed, ATSD	45.5	mi/h
Percent Free Flow Speed, PFFS	77.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	800	670	pc/h
Base percent time-spent-following, (note-4) BPTSFD	68.0	%	
Adjustment for no-passing zones, fnp	26.9		
Percent time-spent-following, PTSFD	82.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	40	veh-mi
Peak-hour vehicle-miles of travel, VMT60	147	veh-mi
Peak 15-min total travel time, TT15	0.9	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	45.5	mi/h
Percent time-spent-following, PTSFD (from above)	82.6	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	800.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.00
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Church Creek Road (WB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 616 veh/h
 Opposing direction volume, Vo 736 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	672 pc/h	802 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	1.4	mi/h
Average travel speed, ATSD	45.9	mi/h
Percent Free Flow Speed, PFFS	78.2	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	670 pc/h	800 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	63.8	%	
Adjustment for no-passing zones, fnp	26.9		
Percent time-spent-following, PTSFD	76.1	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.40	
Peak 15-min vehicle-miles of travel, VMT15	33	veh-mi
Peak-hour vehicle-miles of travel, VMT60	123	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	45.9	mi/h
Percent time-spent-following, PTSFD (from above)	76.1	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	669.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.91
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Smith Road (EB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 147 veh/h
 Opposing direction volume, Vo 288 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.7	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.979	0.988
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	163 pc/h	317 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	1.5	mi/h
Average travel speed, ATSD	52.3	mi/h
Percent Free Flow Speed, PFFS	90.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	160	314	pc/h
Base percent time-spent-following,(note-4) BPTSFd	20.5	%	
Adjustment for no-passing zones, fnp	12.2		
Percent time-spent-following, PTSFd	24.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.10	
Peak 15-min vehicle-miles of travel, VMT15	24	veh-mi
Peak-hour vehicle-miles of travel, VMT60	88	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	52.3	mi/h
Percent time-spent-following, PTSFd (from above)	24.6	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	159.8
Effective width of outside lane, We	28.77
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	0.92
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Smith Road (WB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 228 veh/h
 Opposing direction volume, Vo 147 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.7
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.985	0.979
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	252 pc/h	163 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSD	53.0	mi/h
Percent Free Flow Speed, PFFS	92.2	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	249 pc/h	160 pc/h	
Base percent time-spent-following, (note-4) BPTSFD	25.9	%	
Adjustment for no-passing zones, fnp	14.3		
Percent time-spent-following, PTSFD	34.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	37	veh-mi
Peak-hour vehicle-miles of travel, VMT60	137	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1664	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1664	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	53.0	mi/h
Percent time-spent-following, PTSFD (from above)	34.6	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	247.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.40
Bicycle LOS	B

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Bechelli Lane (NB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 404 veh/h
 Opposing direction volume, Vo 674 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.991	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	443 pc/h	735 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.6	mi/h
Average travel speed, ATSD	44.3	mi/h
Percent Free Flow Speed, PFFS	80.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	439	733	pc/h
Base percent time-spent-following, (note-4) BPTSFD	50.4	%	
Adjustment for no-passing zones, fnp	31.3		
Percent time-spent-following, PTSFD	62.1	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.26	
Peak 15-min vehicle-miles of travel, VMT15	22	veh-mi
Peak-hour vehicle-miles of travel, VMT60	81	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.3	mi/h
Percent time-spent-following, PTSFD (from above)	62.1	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	439.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.69
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Bechelli Lane (SB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 674 veh/h
 Opposing direction volume, Vo 404 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.991
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	735 pc/h	443 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.6	mi/h
Average travel speed, ATSD	43.3	mi/h
Percent Free Flow Speed, PFFS	78.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	733	439	pc/h
Base percent time-spent-following,(note-4) BPTSFD	62.9	%	
Adjustment for no-passing zones, fnp	31.3		
Percent time-spent-following, PTSFD	82.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.43	
Peak 15-min vehicle-miles of travel, VMT15	37	veh-mi
Peak-hour vehicle-miles of travel, VMT60	135	veh-mi
Peak 15-min total travel time, TT15	0.9	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1685	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	43.3	mi/h
Percent time-spent-following, PTSFD (from above)	82.5	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	732.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.95
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Church Creek Road (EB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 416 veh/h
 Opposing direction volume, Vo 444 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	455 pc/h	486 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATSD	48.5	mi/h
Percent Free Flow Speed, PFFS	82.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	452	483	pc/h
Base percent time-spent-following, (note-4) BPTSFD	48.6	%	
Adjustment for no-passing zones, fnp	41.8		
Percent time-spent-following, PTSFD	68.8	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	23	veh-mi
Peak-hour vehicle-miles of travel, VMT60	83	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.5	mi/h
Percent time-spent-following, PTSFD (from above)	68.8	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	452.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.71
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Church Creek Road (WB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 444 veh/h
 Opposing direction volume, Vo 416 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	486 pc/h	455 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	3.2	mi/h
Average travel speed, ATSD	48.3	mi/h
Percent Free Flow Speed, PFFS	82.2	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	483	452	pc/h
Base percent time-spent-following, (note-4) BPTSFD	49.7	%	
Adjustment for no-passing zones, fnp	41.8		
Percent time-spent-following, PTSFD	71.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.29	
Peak 15-min vehicle-miles of travel, VMT15	24	veh-mi
Peak-hour vehicle-miles of travel, VMT60	89	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.3	mi/h
Percent time-spent-following, PTSFD (from above)	71.3	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	482.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.74
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Smith Road (EB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 156 veh/h
 Opposing direction volume, Vo 263 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.6	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.982	0.988
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	173 pc/h	289 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	3.9	mi/h
Average travel speed, ATSD	51.2	mi/h
Percent Free Flow Speed, PFFS	87.2	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	170	287	pc/h
Base percent time-spent-following, (note-4) BPTSFd	20.1	%	
Adjustment for no-passing zones, fnp	53.7		
Percent time-spent-following, PTSFd	40.1	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.10	
Peak 15-min vehicle-miles of travel, VMT15	8	veh-mi
Peak-hour vehicle-miles of travel, VMT60	31	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.2	mi/h
Percent time-spent-following, PTSFd (from above)	40.1	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	169.6
Effective width of outside lane, We	27.96
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	1.18
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Smith Road (WB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 263 veh/h
 Opposing direction volume, Vo 156 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.6
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.988	0.982
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	289 pc/h	173 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	3.8	mi/h
Average travel speed, ATSD	51.3	mi/h
Percent Free Flow Speed, PFFS	87.4	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	287	170	pc/h
Base percent time-spent-following,(note-4) BPTSFD	29.2	%	
Adjustment for no-passing zones, fnp	53.7		
Percent time-spent-following, PTSFD	62.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.17	
Peak 15-min vehicle-miles of travel, VMT15	14	veh-mi
Peak-hour vehicle-miles of travel, VMT60	53	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1669	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1669	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.3	mi/h
Percent time-spent-following, PTSFD (from above)	62.9	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	285.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.48
Bicycle LOS	B

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_FRI_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (2A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1530	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	17.3	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1367	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1367	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	765	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	765	pc/h/l n
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi/l n
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	17.3	pc/mi/l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 16:51:56

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_FRI_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (2A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1827	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	20.7	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1632	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1632	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	914	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	914	pc/h/l n
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	20.7	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/23/2018 16:52:42

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_SAT_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (2A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	937	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	10.6	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	837	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	837	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	468	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	468	pc/h/l n
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	10.6	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 16:53:16

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_SAT_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (2A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1449	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	16.4	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1294	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	1294	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	724	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	724	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	16.4	pc/mi/ln
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 16:53:30

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 74 veh/h
Opposing direction volume, Vo 67 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	83 pc/h	75 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.7	mi/h
Average travel speed, ATSD	51.1	mi/h
Percent Free Flow Speed, PFFS	92.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	81	73	pc/h
Base percent time-spent-following, (note-4) BPTSFD	9.6	%	
Adjustment for no-passing zones, fnp	52.8		
Percent time-spent-following, PTSFD	37.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	15	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.1	mi/h
Percent time-spent-following, PTSFD (from above)	37.4	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	80.4
Effective width of outside lane, We	35.34
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.53
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/23/18
Analysis Time Period
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 67 veh/h
Opposing direction volume, Vo veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	75 pc/h	76 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.7	mi/h
Average travel speed, ATSD	51.1	mi/h
Percent Free Flow Speed, PFFS	93.0	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)		
PCE for trucks, ET	1.1	1.1		
PCE for RVs, ER	1.0	1.0		
Heavy-vehicle adjustment factor, fHV	0.997	0.997		
Grade adjustment factor, (note-1) fg	1.00	1.00		
Directional flow rate, (note-2) vi	73	74	pc/h	pc/h
Base percent time-spent-following, (note-4) BPTSFD	8.7	%		
Adjustment for no-passing zones, fnp	52.6			
Percent time-spent-following, PTSFD	34.8	%		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A		
Volume to capacity ratio, v/c	0.04		
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi	
Peak-hour vehicle-miles of travel, VMT60	13	veh-mi	
Peak 15-min total travel time, TT15	0.1	veh-h	
Capacity from ATS, CdATS	1656	veh/h	
Capacity from PTSF, CdPTSF	1695	veh/h	
Directional Capacity	1656	veh/h	

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.1	mi/h
Percent time-spent-following, PTSFD (from above)	34.8	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	72.8
Effective width of outside lane, We	35.97
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.80
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Church Creek Road (EB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 684 veh/h
 Opposing direction volume, Vo 546 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	746 pc/h	595 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.0	mi/h
Average travel speed, ATSD	46.3	mi/h
Percent Free Flow Speed, PFFS	78.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	743	593	pc/h
Base percent time-spent-following, (note-4) BPTSFD	65.1	%	
Adjustment for no-passing zones, fnp	29.6		
Percent time-spent-following, PTSFD	81.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.44	
Peak 15-min vehicle-miles of travel, VMT15	37	veh-mi
Peak-hour vehicle-miles of travel, VMT60	137	veh-mi
Peak 15-min total travel time, TT15	0.8	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	46.3	mi/h
Percent time-spent-following, PTSFD (from above)	81.6	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	743.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.96
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Church Creek Road (WB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 546 veh/h
 Opposing direction volume, Vo 684 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	595 pc/h	746 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	1.6	mi/h
Average travel speed, ATSD	46.8	mi/h
Percent Free Flow Speed, PFFS	79.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	593	743	pc/h
Base percent time-spent-following,(note-4) BPTSFd	60.1	%	
Adjustment for no-passing zones, fnp	29.6		
Percent time-spent-following, PTSFd	73.2	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	30	veh-mi
Peak-hour vehicle-miles of travel, VMT60	109	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	46.8	mi/h
Percent time-spent-following, PTSFd (from above)	73.2	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	593.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.85
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Smith Road (EB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (3A)

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 31 veh/h
 Opposing direction volume, Vo 61 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	35 pc/h	68 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	56.1	mi/h
Percent Free Flow Speed, PFFS	97.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	34	67	pc/h
Base percent time-spent-following, (note-4) BPTSFD	4.2	%	
Adjustment for no-passing zones, fnp	10.3		
Percent time-spent-following, PTSFD	7.7	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	5	veh-mi
Peak-hour vehicle-miles of travel, VMT60	19	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	56.1	mi/h
Percent time-spent-following, PTSFD (from above)	7.7	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	33.7
Effective width of outside lane, We	39.21
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.41
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Smith Road (WB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 61 veh/h
 Opposing direction volume, Vo 31 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	68 pc/h	35 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	56.1	mi/h
Percent Free Flow Speed, PFFS	97.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	67	34	pc/h
Base percent time-spent-following,(note-4) BPTSFd	8.0	%	
Adjustment for no-passing zones, fnp	10.3		
Percent time-spent-following, PTSFd	14.8	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	10	veh-mi
Peak-hour vehicle-miles of travel, VMT60	37	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	56.1	mi/h
Percent time-spent-following, PTSFd (from above)	14.8	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	66.3
Effective width of outside lane, We	36.51
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.05
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Bechelli Lane (NB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 39 veh/h
 Opposing direction volume, Vo 39 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	44 pc/h	44 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.7	mi/h
Average travel speed, ATSD	51.6	mi/h
Percent Free Flow Speed, PFFS	93.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	43 pc/h	43 pc/h
Base percent time-spent-following, (note-4) BPTSFd	5.3 %	
Adjustment for no-passing zones, fnp	52.6	
Percent time-spent-following, PTSFd	31.6 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	8	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.6	mi/h
Percent time-spent-following, PTSFd (from above)	31.6	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	42.4
Effective width of outside lane, We	38.49
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.02
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Bechelli Lane (SB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 39 veh/h
 Opposing direction volume, Vo 39 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	44 pc/h	44 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.7	mi/h
Average travel speed, ATSD	51.6	mi/h
Percent Free Flow Speed, PFFS	93.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	43 pc/h	43 pc/h
Base percent time-spent-following,(note-4) BPTSFD	5.3 %	
Adjustment for no-passing zones, fnp	52.6	
Percent time-spent-following, PTSFD	31.6 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	8	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.6	mi/h
Percent time-spent-following, PTSFD (from above)	31.6	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	42.4
Effective width of outside lane, We	38.49
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.02
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Church Creek Road (EB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 379 veh/h
 Opposing direction volume, Vo 380 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.991	0.991
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	416 pc/h	417 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	3.5	mi/h
Average travel speed, ATSD	48.8	mi/h
Percent Free Flow Speed, PFFS	83.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	412 pc/h	413 pc/h
Base percent time-spent-following, (note-4) BPTSFD	44.3 %	
Adjustment for no-passing zones, fnp	45.8	
Percent time-spent-following, PTSFD	67.2 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.24	
Peak 15-min vehicle-miles of travel, VMT15	21	veh-mi
Peak-hour vehicle-miles of travel, VMT60	76	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1685	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.8	mi/h
Percent time-spent-following, PTSFD (from above)	67.2	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	412.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.66
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Church Creek Road (WB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (3A)

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 380 veh/h
 Opposing direction volume, Vo 379 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.991	0.991
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	417 pc/h	416 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	3.5	mi/h
Average travel speed, ATSD	48.8	mi/h
Percent Free Flow Speed, PFFS	83.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	413 pc/h	412 pc/h
Base percent time-spent-following,(note-4) BPTSFD	44.4 %	
Adjustment for no-passing zones, fnp	45.8	
Percent time-spent-following, PTSFD	67.3 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.25	
Peak 15-min vehicle-miles of travel, VMT15	21	veh-mi
Peak-hour vehicle-miles of travel, VMT60	76	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1685	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.8	mi/h
Percent time-spent-following, PTSFD (from above)	67.3	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	413.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.66
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Smith Road (EB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (3A)

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 50 veh/h
 Opposing direction volume, Vo 46 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	56 pc/h	51 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATSD	55.1	mi/h
Percent Free Flow Speed, PFFS	93.7	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	55 pc/h	50 pc/h
Base percent time-spent-following, (note-4) BPTSFD	6.7 %	
Adjustment for no-passing zones, fnp	52.8	
Percent time-spent-following, PTSFD	34.4 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	10	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	55.1	mi/h
Percent time-spent-following, PTSFD (from above)	34.4	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	54.3
Effective width of outside lane, We	37.50
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.52
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/23/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Smith Road (WB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (3A)

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 46 veh/h
 Opposing direction volume, Vo 50 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	51 pc/h	56 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATSD	55.1	mi/h
Percent Free Flow Speed, PFFS	93.7	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	50	55	pc/h
Base percent time-spent-following, (note-4) BPTSFD	6.1	%	
Adjustment for no-passing zones, fnp	52.8		
Percent time-spent-following, PTSFD	31.2	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	9	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	55.1	mi/h
Percent time-spent-following, PTSFD (from above)	31.2	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	50.0
Effective width of outside lane, We	37.86
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.69
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_FRI_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (3A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1572	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	17.8	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1404	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	1404	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	786	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	786	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	17.8	pc/mi/ln
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 16:54:04

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_FRI_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (3A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1642	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	18.6	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1467	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	1467	veh/h
Peak Hour Factor, PHF	0.92	
Number of lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	821	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	821	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	18.6	pc/mi/ln
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/23/2018 16:54:31

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_SAT_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (3A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1021	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	11.6	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	912	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	912	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	510	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	510	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	11.6	pc/mi/ln
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 16:54:59

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: OY_SAT_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (3A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1149	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	13.0	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1026	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	1026	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	574	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	574	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	13.0	pc/mi/ln
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/23/2018 16:55:13

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Friday PM Peak-Hour
Highway North Road, e/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 820 veh/h
Opposing direction volume, Vo 669 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	891 pc/h	729 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSD	37.0	mi/h
Percent Free Flow Speed, PFFS	73.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	891	727	pc/h
Base percent time-spent-following,(note-4) BPTSFD	72.5	%	
Adjustment for no-passing zones, fnp	11.3		
Percent time-spent-following, PTSFD	78.7	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.52	
Peak 15-min vehicle-miles of travel, VMT15	45	veh-mi
Peak-hour vehicle-miles of travel, VMT60	164	veh-mi
Peak 15-min total travel time, TT15	1.2	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	37.0	mi/h
Percent time-spent-following, PTSFD (from above)	78.7	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	891.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.05
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
 E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
 Agency/Co.
 Date Performed 6/8/2017
 Analysis Time Period Friday PM Peak-Hour
 Highway North Road, e/o Oak St (WB)
 From/To
 Jurisdiction
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 669 veh/h
 Opposing direction volume, Vo 820 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	729 pc/h	891 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.4	mi/h
Average travel speed, ATSD	37.0	mi/h
Percent Free Flow Speed, PFFS	74.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	727	891	pc/h
Base percent time-spent-following,(note-4) BPTSFD	67.4	%	
Adjustment for no-passing zones, fnp	11.3		
Percent time-spent-following, PTSFD	72.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.43	
Peak 15-min vehicle-miles of travel, VMT15	36	veh-mi
Peak-hour vehicle-miles of travel, VMT60	134	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	37.0	mi/h
Percent time-spent-following, PTSFD (from above)	72.5	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	727.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.95
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, e/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 694 veh/h
Opposing direction volume, Vo 542 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	757 pc/h	591 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	38.9	mi/h
Percent Free Flow Speed, PFFS	77.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	754	589	pc/h
Base percent time-spent-following,(note-4) BPTSFd	64.7	%	
Adjustment for no-passing zones, fnp	12.4		
Percent time-spent-following, PTSFd	71.7	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.45	
Peak 15-min vehicle-miles of travel, VMT15	38	veh-mi
Peak-hour vehicle-miles of travel, VMT60	139	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	38.9	mi/h
Percent time-spent-following, PTSFd (from above)	71.7	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	754.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.97
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, e/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 542 veh/h
Opposing direction volume, Vo 694 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	591 pc/h	757 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.4	mi/h
Average travel speed, ATSD	39.1	mi/h
Percent Free Flow Speed, PFFS	78.2	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	589	754	pc/h
Base percent time-spent-following, (note-4) BPTSFD	59.5	%	
Adjustment for no-passing zones, fnp	12.4		
Percent time-spent-following, PTSFD	64.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	29	veh-mi
Peak-hour vehicle-miles of travel, VMT60	108	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	39.1	mi/h
Percent time-spent-following, PTSFD (from above)	64.9	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	589.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.84
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 6/8/2017
 Analysis Time Period Friday PM Peak-Hour
 Highway North Road, w/o Oak St (EB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 524 veh/h
 Opposing direction volume, Vo 546 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	571 pc/h	595 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	40.3	mi/h
Percent Free Flow Speed, PFFS	80.7	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	570	593	pc/h
Base percent time-spent-following, (note-4) BPTSFD	56.6	%	
Adjustment for no-passing zones, fnp	13.8		
Percent time-spent-following, PTSFD	63.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.34	
Peak 15-min vehicle-miles of travel, VMT15	28	veh-mi
Peak-hour vehicle-miles of travel, VMT60	105	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	40.3	mi/h
Percent time-spent-following, PTSFD (from above)	63.4	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	569.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.83
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Friday PM Peak-Hour
Highway North Road, w/o Oak St (WB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 546 veh/h
Opposing direction volume, Vo 524 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	595 pc/h	571 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.7	mi/h
Average travel speed, ATSD	40.3	mi/h
Percent Free Flow Speed, PFFS	80.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	593	570	pc/h
Base percent time-spent-following, (note-4) BPTSFD	57.0	%	
Adjustment for no-passing zones, fnp	13.8		
Percent time-spent-following, PTSFD	64.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	30	veh-mi
Peak-hour vehicle-miles of travel, VMT60	109	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	40.3	mi/h
Percent time-spent-following, PTSFD (from above)	64.0	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	593.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.85
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, w/o Oak St (EB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 430 veh/h
Opposing direction volume, Vo 348 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.991
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	470 pc/h	382 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSD	42.3	mi/h
Percent Free Flow Speed, PFFS	84.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	467	379	pc/h
Base percent time-spent-following,(note-4) BPTSFd	46.7	%	
Adjustment for no-passing zones, fnp	14.5		
Percent time-spent-following, PTSFd	54.7	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.28	
Peak 15-min vehicle-miles of travel, VMT15	23	veh-mi
Peak-hour vehicle-miles of travel, VMT60	86	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1685	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	42.3	mi/h
Percent time-spent-following, PTSFd (from above)	54.7	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	467.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.73
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 6/8/2017
 Analysis Time Period Saturday PM Peak-Hour
 Highway North Road, w/o Oak St (WB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 348 veh/h
 Opposing direction volume, Vo 430 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.991	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	382 pc/h	470 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.9	mi/h
Average travel speed, ATSD	42.5	mi/h
Percent Free Flow Speed, PFFS	84.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	379	467	pc/h
Base percent time-spent-following, (note-4) BPTSFd	42.9	%	
Adjustment for no-passing zones, fnp	14.5		
Percent time-spent-following, PTSFd	49.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.22	
Peak 15-min vehicle-miles of travel, VMT15	19	veh-mi
Peak-hour vehicle-miles of travel, VMT60	70	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	42.5	mi/h
Percent time-spent-following, PTSFd (from above)	49.4	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	378.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.62
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 6/8/2017
 Analysis Time Period Friday PM Peak-Hour
 Highway Oak St, n/o North St (NB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 731 veh/h
 Opposing direction volume, Vo 515 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	797 pc/h	561 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.7	mi/h
Average travel speed, ATSD	38.8	mi/h
Percent Free Flow Speed, PFFS	77.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	795	560	pc/h
Base percent time-spent-following, (note-4) BPTSFD	67.2	%	
Adjustment for no-passing zones, fnp	12.1		
Percent time-spent-following, PTSFD	74.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	40	veh-mi
Peak-hour vehicle-miles of travel, VMT60	146	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	38.8	mi/h
Percent time-spent-following, PTSFD (from above)	74.3	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	794.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.00
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 6/8/2017
 Analysis Time Period Friday PM Peak-Hour
 Highway Oak St, n/o North St (SB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 515 veh/h
 Opposing direction volume, Vo 731 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	561 pc/h	797 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.4	mi/h
Average travel speed, ATSD	39.1	mi/h
Percent Free Flow Speed, PFFS	78.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	560	795	pc/h
Base percent time-spent-following, (note-4) BPTSFd	58.6	%	
Adjustment for no-passing zones, fnp	12.1		
Percent time-spent-following, PTSFd	63.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.33	
Peak 15-min vehicle-miles of travel, VMT15	28	veh-mi
Peak-hour vehicle-miles of travel, VMT60	103	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	39.1	mi/h
Percent time-spent-following, PTSFd (from above)	63.6	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	559.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.82
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 6/8/2017
 Analysis Time Period Saturday PM Peak-Hour
 Highway Oak St, n/o North St (NB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 886 veh/h
 Opposing direction volume, Vo 549 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	963 pc/h	599 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	37.3	mi/h
Percent Free Flow Speed, PFFS	74.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	963 pc/h	597 pc/h
Base percent time-spent-following, (note-4) BPTSFD	73.0 %	
Adjustment for no-passing zones, fnp	10.5	
Percent time-spent-following, PTSFD	79.5 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.57	
Peak 15-min vehicle-miles of travel, VMT15	48	veh-mi
Peak-hour vehicle-miles of travel, VMT60	177	veh-mi
Peak 15-min total travel time, TT15	1.3	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	37.3	mi/h
Percent time-spent-following, PTSFD (from above)	79.5	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	963.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.09
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 6/8/2017
 Analysis Time Period Saturday PM Peak-Hour
 Highway Oak St, n/o North St (SB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 549 veh/h
 Opposing direction volume, Vo 886 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	599 pc/h	963 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.4	mi/h
Average travel speed, ATSD	37.5	mi/h
Percent Free Flow Speed, PFFS	75.0	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	597 pc/h	963 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	62.0	%	
Adjustment for no-passing zones, fnp	10.5		
Percent time-spent-following, PTSFD	66.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	30	veh-mi
Peak-hour vehicle-miles of travel, VMT60	110	veh-mi
Peak 15-min total travel time, TT15	0.8	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	37.5	mi/h
Percent time-spent-following, PTSFD (from above)	66.0	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	596.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.85
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 6/8/2017
 Analysis Time Period Friday PM Peak-Hour
 Highway Oak St, s/o North St (NB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (E)

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 195 veh/h
 Opposing direction volume, Vo 143 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.7
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.985	0.979
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	215 pc/h	159 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSD	53.8	mi/h
Percent Free Flow Speed, PFFS	92.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	213	156	pc/h
Base percent time-spent-following, (note-4) BPTSFD	22.7	%	
Adjustment for no-passing zones, fnp	36.2		
Percent time-spent-following, PTSFD	43.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.13	
Peak 15-min vehicle-miles of travel, VMT15	16	veh-mi
Peak-hour vehicle-miles of travel, VMT60	59	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1664	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1664	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	53.8	mi/h
Percent time-spent-following, PTSFD (from above)	43.6	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	212.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.33
Bicycle LOS	B

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 6/8/2017
 Analysis Time Period Friday PM Peak-Hour
 Highway Oak St, s/o North St (SB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (E)

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 143 veh/h
 Opposing direction volume, Vo 195 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.7	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.979	0.985
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	159 pc/h	215 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	1.7	mi/h
Average travel speed, ATSD	53.4	mi/h
Percent Free Flow Speed, PFFS	92.0	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	156	213	pc/h
Base percent time-spent-following, (note-4) BPTSFD	18.2	%	
Adjustment for no-passing zones, fnp	36.2		
Percent time-spent-following, PTSFD	33.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.09	
Peak 15-min vehicle-miles of travel, VMT15	12	veh-mi
Peak-hour vehicle-miles of travel, VMT60	43	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1675	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1675	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	53.4	mi/h
Percent time-spent-following, PTSFD (from above)	33.5	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	155.4
Effective width of outside lane, We	29.13
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	0.80
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 6/8/2017
 Analysis Time Period Saturday PM Peak-Hour
 Highway Oak St, s/o North St (NB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 236 veh/h
 Opposing direction volume, Vo 134 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.7
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.988	0.979
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	260 pc/h	149 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSD	53.7	mi/h
Percent Free Flow Speed, PFFS	92.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	257	146	pc/h
Base percent time-spent-following,(note-4) BPTSFD	26.6	%	
Adjustment for no-passing zones, fnp	33.9		
Percent time-spent-following, PTSFD	48.2	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	19	veh-mi
Peak-hour vehicle-miles of travel, VMT60	71	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1664	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1664	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	53.7	mi/h
Percent time-spent-following, PTSFD (from above)	48.2	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	256.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.42
Bicycle LOS	B

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 6/8/2017
 Analysis Time Period Saturday PM Peak-Hour
 Highway Oak St, s/o North St (SB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 134 veh/h
 Opposing direction volume, Vo 236 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.7	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.979	0.988
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	149 pc/h	260 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	1.6	mi/h
Average travel speed, ATSD	53.2	mi/h
Percent Free Flow Speed, PFFS	91.7	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	146	257	pc/h
Base percent time-spent-following,(note-4) BPTSFd	17.3	%	
Adjustment for no-passing zones, fnp	33.9		
Percent time-spent-following, PTSFd	29.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.09	
Peak 15-min vehicle-miles of travel, VMT15	11	veh-mi
Peak-hour vehicle-miles of travel, VMT60	40	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	53.2	mi/h
Percent time-spent-following, PTSFd (from above)	29.6	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	145.7
Effective width of outside lane, We	29.94
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	0.53
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 6/8/2017
Analysis Time Period Friday PM Peak-Hour
Highway Canyon Road (NB)
From/To
Jurisdiction
Analysis Year Opening Year (2025) plus Proje
Description Redding Rancheria (F)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 233 veh/h
Opposing direction volume, Vo 365 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.977	0.982
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	259 pc/h	404 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	3.9	mi/h
Average travel speed, ATSD	51.0	mi/h
Percent Free Flow Speed, PFFS	85.0	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	0.994	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	255	399	pc/h
Base percent time-spent-following,(note-4) BPTSFD	30.7	%	
Adjustment for no-passing zones, fnp	50.3		
Percent time-spent-following, PTSFD	50.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	47	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1669	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1669	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.0	mi/h
Percent time-spent-following, PTSFD (from above)	50.3	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	253.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.29
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 6/8/2017
 Analysis Time Period Friday PM Peak-Hour
 Highway Canyon Road (SB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (F)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 365 veh/h
 Opposing direction volume, Vo 233 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.982	0.977
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	404 pc/h	259 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	4.1	mi/h
Average travel speed, ATSD	50.7	mi/h
Percent Free Flow Speed, PFFS	84.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	399 pc/h	255 pc/h
Base percent time-spent-following, (note-4) BPTSFD	39.3 %	
Adjustment for no-passing zones, fnp	50.3	
Percent time-spent-following, PTSFD	70.0 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.24	
Peak 15-min vehicle-miles of travel, VMT15	20	veh-mi
Peak-hour vehicle-miles of travel, VMT60	73	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1661	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1661	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	50.7	mi/h
Percent time-spent-following, PTSFD (from above)	70.0	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	396.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.52
Bicycle LOS	D

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 6/8/2017
 Analysis Time Period Saturday PM Peak-Hour
 Highway Canyon Road (NB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (F)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 225 veh/h
 Opposing direction volume, Vo 206 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.971	0.971
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	252 pc/h	231 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	4.2	mi/h
Average travel speed, ATSD	52.1	mi/h
Percent Free Flow Speed, PFFS	86.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	0.994	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	246	225	pc/h
Base percent time-spent-following,(note-4) BPTSFd	26.5	%	
Adjustment for no-passing zones, fnp	61.1		
Percent time-spent-following, PTSFd	58.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	12	veh-mi
Peak-hour vehicle-miles of travel, VMT60	45	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1651	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1651	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	52.1	mi/h
Percent time-spent-following, PTSFd (from above)	58.4	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	244.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.27
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 6/8/2017
 Analysis Time Period Saturday PM Peak-Hour
 Highway Canyon Road (SB)
 From/To _____
 Jurisdiction _____
 Analysis Year Opening Year (2025) plus Proje
 Description Redding Rancheria (F)

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 206 veh/h
 Opposing direction volume, Vo 225 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.971	0.971
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	231 pc/h	252 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	4.1	mi/h
Average travel speed, ATSD	52.1	mi/h
Percent Free Flow Speed, PFFS	86.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	0.994	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	225	246	pc/h
Base percent time-spent-following,(note-4) BPTSFD	25.3	%	
Adjustment for no-passing zones, fnp	61.1		
Percent time-spent-following, PTSFD	54.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.14	
Peak 15-min vehicle-miles of travel, VMT15	11	veh-mi
Peak-hour vehicle-miles of travel, VMT60	41	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1651	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1651	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	52.1	mi/h
Percent time-spent-following, PTSFD (from above)	54.5	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	223.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.23
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025+F_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (F)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	903	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	7.5	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	849	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	849	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	452	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	452	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	7.5	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:46:18

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025+F_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (F)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	1110	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	9.2	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1043	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	1043	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	555	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	555	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	9.2	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:47:10

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025+F_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (F)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	627	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.2	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	589	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	589	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	314	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	314	pc/h/l n
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi/l n
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	5.2	pc/mi/l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:47:54

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025+F_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (F)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	753	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	6.3	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	708	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	708	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	376	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	376	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	6.3	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:48:16

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025+F_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (F)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	602	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.0	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	566	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	566	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	301	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	301	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	5.0	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:48:50

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025+F_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (F)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	670	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.6	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	630	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	630	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	335	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	335	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	5.6	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:49:04

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025+F_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (F)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	388	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	3.2	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	365	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	365	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	194	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	194	pc/h/l n
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi/l n
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	3.2	pc/mi/l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:49:45

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2025+F_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/23/18
 Analysis Year: Opening Year (2025) plus Project (F)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	386	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	3.2	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	363	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	363	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	193	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	193	pc/h/l n
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	3.2	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/23/2018 14:50:06

Segment Inputs				2025														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
	Length (ft)	Number of Lanes (N)	Interchange Density (I/mi)	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
Southbound Northbound	Smith Rd to Bonnyview Rd	2400	2	0.33	2,487	1,954	1392.18	74.12	75	73.2974	18.994	C	1093.815	74.12	75	74.9026	14.6	B
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	1,680	1,296	626.957	74.12	75	73.4595	8.5347	A	483.6522	74.12	75	72.0486	6.7129	A
	Bonnyview Rd to Cypress Ave	7000	3	0.33	2,785	2,113	1039.33	74.12	75	74.9829	13.861	B	788.5471	74.12	75	74.505	10.584	A
	Cypress Ave to Bonnyview Rd	7000	3	0.33	3,477	2,711	1297.58	74.12	75	74.0197	17.53	B	1011.714	74.12	75	74.9985	13.49	B
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,341	1,805	873.634	74.12	75	74.8232	11.676	B	673.6051	74.12	75	73.8207	9.1249	A
	Bonnyview Rd to Smith Rd	2600	2	0.33	3,357	2,424	1879.19	74.12	75	66.4432	28.283	D	1356.913	74.12	75	73.5898	18.439	C
Universal Inputs:																		
PHF 0.92																		
(P _i) 6%																		
F _{HV} 0.970873786																		

Segment Inputs				2025																															
				Friday PM Flow Inputs			AM LOS Performance Measures											Saturday PM Flow Inputs			PM LOS Performance Measures														
Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L _a)	Ramp Volume (R)	Downstream Volume (D)	Upstream Volume (F)	V ₀	V ₁	V ₂	V ₃	P _{FM}	V ₁₂	Capacity	V ₁	V _{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	V ₃	P _{FM}	V ₁₂	Capacity	V ₁	V _{12a}	w/c	D	LOS			
(ft)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)			
Bonnyview Rd On Ramp	3	1	430	3890	2785	1105	4355	3118	1237	89	0.5895	1838.2	7200	640	1379	1838	0.6049	26.197	C	2930	2113	817	3280	2366	915	68	0.5895	1394.6	7200	486	1046	1395	0.4556	20.371	C
Bonnyview Rd On Ramp	3	1	380	4373	3357	1016	4896	3758	1137	107	0.5881	2210.5	7200	774	1658	2210	0.68	28.683	D	3043	2424	619	3407	2714	693	78	0.5881	1596.1	7200	559	1197	1596	0.4732	20.629	C

Length 1500 (ft)
 V₀ 70 (mi/h)
 V₁ 35 (mi/h)
 P_{FM} 0.92
 P₁ 0%
 P₂ 0%
 P₃ 0.970873786

Segment Inputs				AM Flow Inputs																		PM Flow Inputs			PM LOS Performance Measures									
	Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L _d)	Downstream Volume	Upstream Volume	Ramp Volume	V ₀	V ₁	V ₂	P _{TD}	V ₁₂	Capacity	V ₅	V _{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	P _{TD}	V ₁₂	Capacity	V ₅	V _{12a}	w/c	D	LOS			
							(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)				(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)
Bonnyview Rd Off	3	1	1341	180	873	1680	807	1271.83	1880.9	903.49	0.436	1329.6	7200	276	997	1330	0.2612	14.067	B	638	1296	658	1014.33	1451	736.67	0.436	1048.1	7200	201	786	1048	0.2015	11.646	B
Bonnyview Rd Off	3	1	-	180	1205	2341	1136	-	2620.9	1271.8	0.636	2129.8	7200	491	1597	2130	0.364	20.948	C	899	1805	906	-	2020.8	1014.3	0.6628	1681.4	7200	339	1261	1681	0.2807	17.092	B

Input Values:
 km/h 100
 L_d 75 (m)
 P_{TD} 0.92
 P_{TD} 0%
 P_{TD} 0.970872786

Segment Inputs				2025														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
	Length (ft)	Number of Lanes (N)	Interchange Density (I/mi)	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
Southbound Northbound	Smith Rd to Bonnyview Rd	2400	2	0.33	2,299	1,713	1286.94	74.12	75	74.0886	17.37	B	958.9076	74.12	75	74.9813	12.8	B
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	1,680	1,296	626.957	74.12	75	73.4595	8.5347	A	483.6522	74.12	75	72.0486	6.7129	A
	Bonnyview Rd to Cypress Ave	7000	3	0.33	2,785	2,113	1039.33	74.12	75	74.9829	13.861	B	788.5471	74.12	75	74.505	10.584	A
	Cypress Ave to Bonnyview Rd	7000	3	0.33	3,477	2,711	1297.58	74.12	75	74.0197	17.53	B	1011.714	74.12	75	74.9985	13.49	B
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,341	1,805	873.634	74.12	75	74.8232	11.676	B	673.6051	74.12	75	73.8207	9.1249	A
	Bonnyview Rd to Smith Rd	2600	2	0.33	3,229	2,288	1807.54	74.12	75	67.7811	26.667	D	1280.783	74.12	75	74.1273	17.278	B
Universal Inputs:																		
PHF 0.92																		
(P _t) 6%																		
F _{HV} 0.970873786																		

Segment Inputs				2025																															
				Friday PM Flow Inputs			AM LOS Performance Measures										Saturday PM Flow Inputs			PM LOS Performance Measures															
Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L _a)	Ramp Volume (R)	Downstream Volume (D)	Upstream Volume (F)	V ₀	V ₁	V ₂	V ₃ /S ₂₀	P ₃₀	V ₁₂	Capacity	V ₁	V ₁₂	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	V ₃ /S ₂₀	P ₃₀	V ₁₂	Capacity	V ₁	V ₁₂	w/c	D	LOS			
(ft)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)		
3	1	430		3890	2785	1105	4355	3118	1237	89	0.5895	1838.2	7200	640	1379	1838	0.6049	26.197	C	2930	2113	817	3280	2366	915	68	0.5895	1394.6	7200	486	1046	1395	0.4556	20.371	C
3	1	380		4117	3229	888	4609	3615	994	103	0.5881	2126.2	7200	744	1595	2126	0.6402	26.974	C	2771	2288	483	3102	2562	541	73	0.5881	1506.6	7200	528	1130	1507	0.4309	18.813	B

Length 1500 (ft)
 V₀ 70 (mi/h)
 S₂₀ 35 (mi/h)
 P₃₀ 0.92
 P₃₀ 0.96
 P₃₀ 0.970873786

Segment Inputs		2025																																
		AM Flow Inputs										PM Flow Inputs			PM LOS Performance Measures																			
Number of Lanes	Number of Ramp Lanes	L ₁₀₀	Length of Deceleration Lane (L _d)	Downstream Volume	Upstream Volume	Ramp Volume	V ₀	V ₁	V ₂	P ₁₀	V ₁₂	Capacity	V ₁	V _{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	P ₁₀	V ₁₂	Capacity	V ₁	V _{12a}	w/c	D	LOS			
(N)	(N)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(veh/h)	(veh/h)	(veh/h)	(pc/mi/h)	(pc/mi/h)	(pc/mi/h)	(pc/mi/h)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(veh/h)	(veh/h)	(veh/h)	(pc/mi/h)	(pc/mi/h)	(pc/mi/h)	(pc/mi/h)	
Bonnyview Rd Off	3	1	1216	180	1061	1680	619	1271.83	1880.9	693.01	0.436	1210.9	7200	335	908	1211	0.2612	13.046	B	879	1296	417	1014.33	1451	466.86	0.436	895.93	7200	278	672	896	0.2015	10.337	B
Bonnyview Rd Off	3	1	-	180	1205	2341	1136	-	2620.9	1271.8	0.636	2129.8	7200	491	1597	2130	0.364	20.948	C	899	1805	906	-	2020.8	1014.3	0.6628	1681.4	7200	339	1261	1681	0.2807	17.092	B

kmg 1500
 L_d 75
 P₁₀ 35
 P₁₀ 0.92
 P₁₀ 0%
 P₁₀ 0.970872786

Segment Inputs				2025														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
	Length (ft)	Number of Lanes (N)	Interchange Density (I/mi)	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
Southbound Northbound	Smith Rd to Bonnyview Rd	2400	2	0.33	2,706	2,821	1514.77	74.12	75	72.0666	21.019	C	1579.147	74.12	75	71.287	22.2	C
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	1,988	2,312	741.899	74.12	75	74.2626	9.9902	A	862.8116	74.12	75	74.7917	11.536	B
	Bonnyview Rd to Cypress Ave	7000	3	0.33	2,895	2,916	1080.38	74.12	75	74.9285	14.419	B	1088.217	74.12	75	74.9138	14.526	B
	Cypress Ave to Bonnyview Rd	7000	3	0.33	3,641	3,764	1358.78	74.12	75	73.575	18.468	C	1404.681	74.12	75	73.1871	19.193	C
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,764	3,198	1031.49	74.12	75	74.989	13.755	B	1193.457	74.12	75	74.5857	16.001	B
	Bonnyview Rd to Smith Rd	2600	2	0.33	3,797	3,866	2125.49	74.12	75	60.9772	34.857	D	2164.12	74.12	75	59.9982	36.07	E
Universal Inputs:																		
PHF 0.92																		
(P _t) 6%																		
FHV 0.970873786																		

Segment Inputs				2025																																																																																																							
				Friday PM Flow Inputs			AM LOS Performance Measures												Saturday PM Flow Inputs			PM LOS Performance Measures																																																																																					
Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L _a)	Ramp Volume (R)	Downstream Volume (D)	Upstream Volume (F)	V ₀	V ₁	V ₂	V ₃	V ₄	V ₅	V ₆	V ₇	V ₈	V ₉	V ₁₀	V ₁₁	V ₁₂	Capacity	V ₁₃	V ₁₄	V ₁₅	V ₁₆	V ₁₇	V ₁₈	V ₁₉	V ₂₀	V ₂₁	V ₂₂	V ₂₃	V ₂₄	V ₂₅	V ₂₆	V ₂₇	V ₂₈	V ₂₉	V ₃₀	V ₃₁	V ₃₂	V ₃₃	V ₃₄	V ₃₅	V ₃₆	V ₃₇	V ₃₈	V ₃₉	V ₄₀	V ₄₁	V ₄₂	V ₄₃	V ₄₄	V ₄₅	V ₄₆	V ₄₇	V ₄₈	V ₄₉	V ₅₀	V ₅₁	V ₅₂	V ₅₃	V ₅₄	V ₅₅	V ₅₆	V ₅₇	V ₅₈	V ₅₉	V ₆₀	V ₆₁	V ₆₂	V ₆₃	V ₆₄	V ₆₅	V ₆₆	V ₆₇	V ₆₈	V ₆₉	V ₇₀	V ₇₁	V ₇₂	V ₇₃	V ₇₄	V ₇₅	V ₇₆	V ₇₇	V ₇₈	V ₇₉	V ₈₀	V ₈₁	V ₈₂	V ₈₃	V ₈₄	V ₈₅	V ₈₆	V ₈₇	V ₈₈	V ₈₉	V ₉₀	V ₉₁	V ₉₂	V ₉₃	V ₉₄	V ₉₅	V ₉₆	V ₉₇	V ₉₈	V ₉₉	V ₁₀₀
Bonnyview Rd On Ramp	3	1	430	3802	2895	907	4257	3241	1015	93	0.5895	1910.8	7200	665	1433	1911	0.5912	25.136	C	3520	2916	604	3941	3265	676	93	0.5895	1924.6	7200	670	1443	1925	0.5473	22.755	C																																																																								
Bonnyview Rd On Ramp	3	1	380	4830	3797	1033	5408	4251	1157	121	0.5881	2500.2	7200	875	1875	2500	0.751	31.083	D	4534	3866	668	5076	4328	748	124	0.5881	2545.6	7200	891	1909	2546	0.705	28.438	D																																																																								

Length 1500 (ft)
 V₀ 70 (mi/h)
 V₁ 35 (mi/h)
 P₁₀ 0.92
 P₁₅ 0.96
 P₂₀ 0.970873786

Segment Inputs		2025																																
		AM Flow Inputs										PM Flow Inputs			PM LOS Performance Measures																			
Number of Lanes	Number of Ramp Lanes	L ₁₀₀	Length of Deceleration Lane (L _d)	Downstream Volume	Upstream Volume	Ramp Volume	V ₀	V ₁	V ₂	P ₁₀	V ₁₂	Capacity	V ₂	V _{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	P ₁₀	V ₁₂	Capacity	V ₂	V _{12a}	w/c	D	LOS			
(N)	(N)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(ft)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(ft)	(ft)	(ft)	
Bonnyview Rd Off	3	1	1297	180	1270	1988	718	981.859	2225.7	803.85	0.436	1423.8	7200	401	1068	1424	0.3091	14.876	B	879	1296	417	1014.33	1451	466.86	0.436	895.93	7200	278	672	896	0.2015	10.337	B
Bonnyview Rd Off	3	1	-	180	1887	2764	877	-	3094.5	981.86	0.6375	2328.6	7200	766	1746	2329	0.4298	22.658	C	899	1805	906	-	2020.8	1014.3	0.6628	1681.4	7200	339	1261	1681	0.2807	17.092	B

km/h 1500
 ft 70
 ft 35
 ft 0.92
 ft 0.8
 ft 0.970872786

Segment Inputs				2025														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
	Length (ft)	Number of Lanes (N)	Interchange Density (I/mi)	AM Peak		AM LOS Performance Measures					PM LOS Performance Measures							
				(veh/h)	(veh/h)	V _p (pc/h/ln)	FFS (mi/h)	S (mi/h)	D (pc/mi/ln)	LOS	V _p (pc/h/ln)	FFS (mi/h)	S (mi/h)	D (pc/mi/ln)	LOS			
Northbound	Knighton Rd to Bonnyview Rd	1800	2	0.33	2,610	2,768	1461.03	74.12	75	72.6471	20.111	C	1549.478	74.12	75	71.6577	21.6	C
	Smith Rd Off to Smith Rd On	2000	2	0.33	2,396	2,490	1341.24	74.12	75	73.711	18.196	C	1393.859	74.12	75	73.2828	19.02	C
	Smith Rd to Bonnyview Rd	2400	2	0.33	2,706	2,821	1514.77	74.12	75	72.0666	21.019	C	1579.147	74.12	75	71.287	22.2	C
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	1,988	2,312	741.899	74.12	75	74.2626	9.9902	A	862.8116	74.12	75	74.7917	11.536	B
	Bonnyview Rd to Cypress Ave	7000	3	0.33	2,895	2,916	1080.38	74.12	75	74.9285	14.419	B	1088.217	74.12	75	74.9138	14.526	B
Southbound	Cypress Ave to Bonnyview Rd	7000	3	0.33	3,641	3,764	1358.78	74.12	75	73.575	18.468	C	1404.681	74.12	75	73.1871	19.193	C
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,764	3,198	1031.49	74.12	75	74.989	13.755	B	1193.457	74.12	75	74.5857	16.001	B
	Bonnyview Rd to Smith Rd	2600	2	0.33	3,797	3,866	2125.49	74.12	75	60.9772	34.857	D	2164.12	74.12	75	59.9982	36.07	E
	Smith Rd Off to Smith Rd On	2000	2	0.33	3,350	3,290	1875.27	74.12	75	66.5193	28.191	D	1841.685	74.12	75	67.1576	27.423	D
	Smith Rd to Knighton Rd	1400	2	0.33	3,503	3,453	1960.92	74.12	75	64.7784	30.271	D	1932.929	74.12	75	65.3651	29.571	D
Universal Inputs:																		
PHF 0.92																		
(P-) 6%																		
I _{av} 0.970873786																		

Segment Inputs		2025																																		
		AM Flow Inputs			AM LOS Performance Measures										PM Flow Inputs			PM LOS Performance Measures																		
		Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_0	v_1	v_2	w/S_{20}	P_{2M}	v_{12}	Capacity	v_3	v_{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_0	v_1	v_2	w/S_{20}	P_{2M}	v_{12}	Capacity	v_3	v_{12a}	w/c	D	LOS		
(ft)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)				
RD	Smith Rd On Ramp	2	1	430	2920	2610	310	3269	2922	347	83	1	2922.1	4800	0	2192	2922	0.6811	28.118	D	0															
	Bonnyview Rd On Ramp	3	1	430	3613	2706	907	4045	3030	1015	87	0.5895	1786	7200	622	1340	1786	0.5618	24.163	C	3520	2916	604	3941	3265	676	93	0.5895	1924.6	7200	670	1443	1925	0.5473	22.755	C
DR	Bonnyview Rd On Ramp	3	1	380	4674	3641	1033	5233	4076	1157	116	0.5881	2397.5	7200	839	1798	2397	0.7268	30.281	D	4534	3866	668	5076	4328	748	124	0.5881	2545.6	7200	891	1909	2546	0.705	28.438	D
	Smith Rd On Ramp	2	1	380	3950	3797	153	4422	4251	171	121	1	4251	4800	0	3188	4251	0.9213	37.507	E	0			0	0	0	0	1	0	4800	0	0	0	0	3.0924	A

Segment Inputs:
 Length 1500 (ft)
 v_0 70 (mi/h)
 v_1 35 (mi/h)
 w/S_{20} 0.92
 P_{2M} 6%
 v_{12} 0.928872786

Segment Inputs		2025																																	
		AM Flow Inputs														PM Flow Inputs			PM LOS Performance Measures																
		Number of Lanes	Number of Ramp Lanes	L ₁₀	Length of Deceleration Lane (L _d)	Downstream Volume	Upstream Volume	Ramp Volume	V ₀	V ₁	V ₂	P ₁₀	V ₁₂	Capacity	V ₂	V _{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	P ₁₀	V ₁₂	Capacity	V ₂	V _{12a}	w/c	D	LOS		
(N)	(N)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(veh/h)	(veh/h)	(veh/h)	(pc/mph)	(pc/mph)	(pc/mph)	(pc/mph)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(veh/h)	(veh/h)	(veh/h)	(pc/mph)	(pc/mph)	(pc/mph)	(pc/mph)			
SM	Smith Off	2	1	614	140	2300	2610	310	803.848	2922.1	347.07	1	2922.1	4800	0	2192	2922	0.6088	28.122	D	2437	2768	331	569.859	3099	370.58	1	3099	4800	0	2324	3099	0.6456	29.643	D
SM	Bonnyview Rd Off	3	1	810	140	1270	1988	718	981.859	2225.7	803.85	0.436	1423.8	7200	401	1068	1424	0.3091	15.236	B	1803	2312	509	633.674	2588.4	569.86	0.436	1450	7200	569	1087	1450	0.3595	15.462	B
SM	Bonnyview Rd Off	3	1	-	140	1887	2764	877	-	3094.5	981.86	0.6375	2328.6	7200	766	1746	2329	0.4298	23.018	C	2632	3198	566	-	3580.4	633.67	0.6413	2523.5	7200	1057	1893	2524	0.4973	24.694	C
SM	Smith Rd Off	2	1	-	140	3350	3797	447	-	4251	500.45	1	4251	4800	0	3188	4251	0.8856	39.551	E	3290	3866	576	-	4328.2	644.87	1	4328.2	4800	0	3246	4328	0.9017	40.215	E

Speed 1500 (ft)
 K₁ 70 (mph)
 K₂ 35 (mph)
 P₁₀ 0.92
 P₁₅ 0.9
 P₂₀ 0.978873786

CUMULATIVE (2040) PLUS PROJECT ANALYSIS

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (1A) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	527	88	313	55	527	402	472	772	20
Future Volume (veh/h)	20	98	80	527	88	313	55	527	402	472	772	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	573	279	218	60	573	437	513	839	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	322	144	675	478	407	349	1154	516	626	1100	492
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.20	0.33	0.33	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	573	279	218	60	573	437	513	839	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.9	2.2	4.0	11.8	9.9	5.5	2.1	9.9	19.5	10.9	16.3	0.6
Cycle Q Clear(g_c), s	0.9	2.2	4.0	11.8	9.9	5.5	2.1	9.9	19.5	10.9	16.3	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	322	144	675	478	407	349	1154	516	626	1100	492
V/C Ratio(X)	0.51	0.33	0.60	0.85	0.58	0.54	0.17	0.50	0.85	0.82	0.76	0.04
Avail Cap(c_a), veh/h	129	1888	845	701	1227	1043	349	1408	630	830	2005	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	32.3	33.2	29.7	24.7	9.1	25.3	20.6	23.8	29.9	23.6	12.0
Incr Delay (d2), s/veh	8.9	0.6	4.0	9.4	1.1	1.1	0.2	0.3	8.8	5.0	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	1.9	6.7	5.3	3.5	1.1	4.8	9.8	5.6	8.1	0.3
LnGrp Delay(d),s/veh	45.4	32.9	37.2	39.0	25.8	10.2	25.6	20.9	32.7	34.8	24.7	12.1
LnGrp LOS	D	C	D	D	C	B	C	C	C	C	C	B
Approach Vol, veh/h		216			1070			1070			1374	
Approach Delay, s/veh		35.9			29.7			26.0			28.3	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.8	28.8	18.4	10.9	19.0	27.6	5.9	23.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	12.9	21.5	13.8	6.0	4.1	18.3	2.9	11.9				
Green Ext Time (p_c), s	0.9	3.3	0.6	0.9	0.3	5.3	0.0	4.8				
Intersection Summary												
HCM 2010 Ctrl Delay			28.5									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (1A) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1174	10	15	1215	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1174	10	15	1215	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1276	11	16	1321	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1579	14	34	1453	650	228	306	198	562	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3596	31	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	628	659	16	1321	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	23.2	23.2	0.7	26.4	8.8	0.0	0.0	0.0	22.4	0.0	0.0
Cycle Q Clear(g_c), s	2.5	23.2	23.2	0.7	26.4	8.8	1.5	0.0	0.0	23.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	777	816	34	1453	650	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.81	0.81	0.48	0.91	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	777	816	118	1505	673	990	0	0	856	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.3	18.3	18.4	36.6	20.9	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.2	6.3	6.1	10.2	8.3	0.4	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	12.7	13.3	0.4	14.5	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.6	24.7	24.4	46.7	29.2	16.1	14.8	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h		1347			1599			54			480	
Approach Delay, s/veh		25.5			27.2			14.8			24.3	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.8	5.4	37.1		32.8	7.6	34.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.5	2.7	25.2		25.8	4.5	28.4				
Green Ext Time (p_c), s		3.8	0.0	6.3		3.0	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay				26.0								
HCM 2010 LOS				C								

Intersection

Int Delay, s/veh 94.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	213	573	504	90	105	222
Future Vol, veh/h	213	573	504	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	623	548	98	114	241

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	646	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	939	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	939	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	\$ 486
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	939	-	-	-	183
HCM Lane V/C Ratio	0.247	-	-	-	1.942
HCM Control Delay (s)	10.1	-	-	-	\$ 486
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	1	-	-	-	26.6

Notes

-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh	32.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	485	213	173	50	40	401
Future Vol, veh/h	485	213	173	50	40	401
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	527	232	188	54	43	436

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	242	0	-	0	1501
Stage 1	-	-	-	-	215
Stage 2	-	-	-	-	1286
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1324	-	-	-	134
Stage 1	-	-	-	-	821
Stage 2	-	-	-	-	259
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1324	-	-	-	81
Mov Cap-2 Maneuver	-	-	-	-	81
Stage 1	-	-	-	-	821
Stage 2	-	-	-	-	156

Approach	EB	WB	SB
HCM Control Delay, s	6.6	0	91.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1324	-	-	-	450
HCM Lane V/C Ratio	0.398	-	-	-	1.065
HCM Control Delay (s)	9.5	-	-	-	91.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	15.4

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↙			↑	↑	
Traffic Vol, veh/h	21	5	13	136	168	40
Future Vol, veh/h	21	5	13	136	168	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	5	14	148	183	43

























Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	380	204	226	0	0
Stage 1	204	-	-	-	-
Stage 2	176	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	622	837	1342	-	-
Stage 1	830	-	-	-	-
Stage 2	855	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	615	837	1342	-	-
Mov Cap-2 Maneuver	615	-	-	-	-
Stage 1	830	-	-	-	-
Stage 2	846	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	648	-	-
HCM Lane V/C Ratio	0.011	-	0.044	-	-
HCM Control Delay (s)	7.7	-	10.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (1A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	339	63	228	35	438	306	386	423	10
Future Volume (veh/h)	0	54	63	339	63	228	35	438	306	386	423	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	368	203	158	38	476	333	420	460	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	316	142	588	609	517	451	1023	458	583	723	323
Arrive On Green	0.00	0.09	0.09	0.17	0.33	0.33	0.25	0.29	0.29	0.17	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	368	203	158	38	476	333	420	460	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.9	2.3	5.4	4.6	2.2	0.9	6.2	10.6	6.5	6.6	0.3
Cycle Q Clear(g_c), s	0.0	0.9	2.3	5.4	4.6	2.2	0.9	6.2	10.6	6.5	6.6	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	316	142	588	609	517	451	1023	458	583	723	323
V/C Ratio(X)	0.00	0.19	0.48	0.63	0.33	0.31	0.08	0.47	0.73	0.72	0.64	0.03
Avail Cap(c_a), veh/h	175	2565	1147	952	1666	1416	451	1912	856	1127	2723	1218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	23.6	24.2	21.7	14.2	4.0	15.9	16.3	17.9	22.0	20.3	14.8
Incr Delay (d2), s/veh	0.0	0.3	2.5	1.1	0.3	0.3	0.1	0.3	2.2	1.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.1	2.7	2.4	1.6	0.5	3.0	4.9	3.2	3.3	0.1
LnGrp Delay(d),s/veh	0.0	23.8	26.7	22.8	14.5	4.4	16.0	16.6	20.1	23.7	21.3	14.8
LnGrp LOS		C	C	C	B	A	B	B	C	C	C	B
Approach Vol, veh/h		127			729			847			891	
Approach Delay, s/veh		25.4			16.5			18.0			22.3	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	20.2	13.3	9.0	18.2	15.4	0.0	22.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.5	12.6	7.4	4.3	2.9	8.6	0.0	6.6				
Green Ext Time (p_c), s	1.0	3.6	1.9	0.5	0.4	2.8	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			19.4									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (1A) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	870	10	15	833	132	15	20	15	137	0	29
Future Volume (veh/h)	23	870	10	15	833	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	946	11	16	905	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1890	22	36	1832	820	155	169	92	356	9	46
Arrive On Green	0.03	0.53	0.53	0.02	0.52	0.52	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3583	42	1774	3539	1583	274	938	510	1149	49	257
Grp Volume(v), veh/h	25	467	490	16	905	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1722	0	0	1455	0	0
Q Serve(g_s), s	0.6	7.5	7.5	0.4	7.3	2.1	0.0	0.0	0.0	3.9	0.0	0.0
Cycle Q Clear(g_c), s	0.6	7.5	7.5	0.4	7.3	2.1	1.1	0.0	0.0	5.0	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	933	979	36	1832	820	416	0	0	411	0	0
V/C Ratio(X)	0.47	0.50	0.50	0.45	0.49	0.17	0.13	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	201	1285	1347	201	2570	1150	1622	0	0	1460	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.0	6.7	6.7	21.3	6.9	5.6	15.3	0.0	0.0	16.8	0.0	0.0
Incr Delay (d2), s/veh	6.4	0.4	0.4	8.5	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.7	3.9	0.3	3.6	0.9	0.6	0.0	0.0	2.1	0.0	0.0
LnGrp Delay(d),s/veh	27.4	7.1	7.1	29.8	7.1	5.7	15.4	0.0	0.0	17.5	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		982			1064			54			181	
Approach Delay, s/veh		7.6			7.3			15.4			17.5	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.9	4.9	27.2		11.9	5.3	26.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.1	2.4	9.5		7.0	2.6	9.3				
Green Ext Time (p_c), s		1.4	0.0	13.5		1.4	0.0	13.5				
Intersection Summary												
HCM 2010 Ctrl Delay			8.4									
HCM 2010 LOS			A									

Intersection						
Int Delay, s/veh	10.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	133	301	383	39	73	231
Future Vol, veh/h	133	301	383	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	327	416	42	79	251

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	459	0	-	0	1054 438
Stage 1	-	-	-	-	438 -
Stage 2	-	-	-	-	616 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1102	-	-	-	250 619
Stage 1	-	-	-	-	651 -
Stage 2	-	-	-	-	539 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1102	-	-	-	217 619
Mov Cap-2 Maneuver	-	-	-	-	217 -
Stage 1	-	-	-	-	651 -
Stage 2	-	-	-	-	468 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	36.6
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1102	-	-	-	428
HCM Lane V/C Ratio	0.131	-	-	-	0.772
HCM Control Delay (s)	8.8	-	-	-	36.6
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.5	-	-	-	6.6

Intersection

Int Delay, s/veh 7.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	281	107	116	30	22	284
Future Vol, veh/h	281	107	116	30	22	284
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	305	116	126	33	24	309

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	159	0	-	0	869 142
Stage 1	-	-	-	-	142 -
Stage 2	-	-	-	-	727 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1420	-	-	-	322 906
Stage 1	-	-	-	-	885 -
Stage 2	-	-	-	-	478 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1420	-	-	-	253 906
Mov Cap-2 Maneuver	-	-	-	-	253 -
Stage 1	-	-	-	-	885 -
Stage 2	-	-	-	-	375 -

Approach	EB	WB	SB
HCM Control Delay, s	6	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	764
HCM Lane V/C Ratio	0.215	-	-	-	0.435
HCM Control Delay (s)	8.2	-	-	-	13.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	2.2

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↙			↑	↑	
Traffic Vol, veh/h	15	12	6	80	101	26
Future Vol, veh/h	15	12	6	80	101	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	13	7	87	110	28

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	224	124	138	0	-	0
Stage 1	124	-	-	-	-	-
Stage 2	100	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	764	927	1446	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	760	927	1446	-	-	-
Mov Cap-2 Maneuver	760	-	-	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	919	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	826	-	-
HCM Lane V/C Ratio	0.005	-	0.036	-	-
HCM Control Delay (s)	7.5	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (1B) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	519	88	296	55	527	395	457	772	20
Future Volume (veh/h)	20	98	80	519	88	296	55	527	395	457	772	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	564	266	209	60	573	429	497	839	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	325	145	677	480	408	336	1147	513	614	1107	495
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.19	0.32	0.32	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	564	266	209	60	573	429	497	839	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.9	2.1	3.9	11.4	9.2	5.2	2.1	9.7	18.7	10.3	15.9	0.6
Cycle Q Clear(g_c), s	0.9	2.1	3.9	11.4	9.2	5.2	2.1	9.7	18.7	10.3	15.9	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	44	325	145	677	480	408	336	1147	513	614	1107	495
V/C Ratio(X)	0.51	0.33	0.60	0.83	0.55	0.51	0.18	0.50	0.84	0.81	0.76	0.04
Avail Cap(c_a), veh/h	131	1928	862	716	1253	1065	336	1438	643	847	2047	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	31.6	32.5	28.9	23.9	8.9	25.3	20.3	23.3	29.3	23.0	11.6
Incr Delay (d2), s/veh	8.8	0.6	3.9	8.0	1.0	1.0	0.3	0.3	7.7	4.2	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	1.9	6.3	4.9	3.2	1.1	4.7	9.2	5.3	7.9	0.3
LnGrp Delay(d),s/veh	44.6	32.2	36.4	37.0	24.9	9.9	25.5	20.6	31.0	33.5	24.1	11.7
LnGrp LOS	D	C	D	D	C	A	C	C	C	C	C	B
Approach Vol, veh/h		216			1039			1062			1358	
Approach Delay, s/veh		35.1			28.4			25.1			27.4	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.3	28.1	18.2	10.8	18.1	27.2	5.8	23.2				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	12.3	20.7	13.4	5.9	4.1	17.9	2.9	11.2				
Green Ext Time (p_c), s	0.9	3.4	0.8	0.9	0.3	5.4	0.0	4.7				
Intersection Summary												
HCM 2010 Ctrl Delay			27.5									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (1B) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1152	10	15	1190	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1152	10	15	1190	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1252	11	16	1293	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1578	14	34	1452	650	228	306	198	563	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3595	32	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	616	647	16	1293	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	22.5	22.5	0.7	25.5	8.8	0.0	0.0	0.0	22.3	0.0	0.0
Cycle Q Clear(g_c), s	2.5	22.5	22.5	0.7	25.5	8.8	1.5	0.0	0.0	23.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	777	815	34	1452	650	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.79	0.79	0.48	0.89	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	777	815	118	1506	674	991	0	0	857	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.3	18.2	18.2	36.5	20.6	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.2	5.7	5.4	10.2	6.9	0.4	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	12.2	12.7	0.4	13.8	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.5	23.8	23.6	46.7	27.5	16.1	14.8	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h		1323			1571			54			480	
Approach Delay, s/veh		24.7			25.8			14.8			24.3	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.8	5.4	37.0		32.8	7.6	34.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.5	2.7	24.5		25.8	4.5	27.5				
Green Ext Time (p_c), s		3.8	0.0	6.8		3.0	0.0	3.3				
Intersection Summary												
HCM 2010 Ctrl Delay			25.0									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 92.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	213	569	500	90	105	222
Future Vol, veh/h	213	569	500	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	618	543	98	114	241

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	641	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	943	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	943	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	\$ 476.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	943	-	-	-	185
HCM Lane V/C Ratio	0.246	-	-	-	1.921
HCM Control Delay (s)	10.1	-	-	-	\$ 476.3
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	1	-	-	-	26.4

Notes

-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 31.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	481	213	173	50	40	397
Future Vol, veh/h	481	213	173	50	40	397
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	523	232	188	54	43	432

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	242	0	0	1492	215
Stage 1	-	-	-	215	-
Stage 2	-	-	-	1277	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1324	-	-	136	825
Stage 1	-	-	-	821	-
Stage 2	-	-	-	262	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1324	-	-	82	825
Mov Cap-2 Maneuver	-	-	-	82	-
Stage 1	-	-	-	821	-
Stage 2	-	-	-	159	-

Approach

	EB	WB	SB
HCM Control Delay, s	6.6	0	87.6
HCM LOS			F

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1324	-	-	-	451
HCM Lane V/C Ratio	0.395	-	-	-	1.053
HCM Control Delay (s)	9.5	-	-	-	87.6
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	14.9

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑		↑
Traffic Vol, veh/h	21	5	13	136	168	40
Future Vol, veh/h	21	5	13	136	168	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	5	14	148	183	43

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	380	204	226	0	-	0
Stage 1	204	-	-	-	-	-
Stage 2	176	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	622	837	1342	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	615	837	1342	-	-	-
Mov Cap-2 Maneuver	615	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	846	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	648	-	-
HCM Lane V/C Ratio	0.011	-	0.044	-	-
HCM Control Delay (s)	7.7	-	10.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (1B) Conditions
Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	323	63	195	35	438	290	352	423	10
Future Volume (veh/h)	0	54	63	323	63	195	35	438	290	352	423	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	351	176	140	38	476	315	383	460	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	332	149	575	617	524	417	1001	448	552	736	329
Arrive On Green	0.00	0.09	0.09	0.16	0.33	0.33	0.24	0.28	0.28	0.16	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	351	176	140	38	476	315	383	460	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.8	2.2	4.9	3.7	1.8	0.9	5.9	9.5	5.6	6.3	0.3
Cycle Q Clear(g_c), s	0.0	0.8	2.2	4.9	3.7	1.8	0.9	5.9	9.5	5.6	6.3	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	332	149	575	617	524	417	1001	448	552	736	329
V/C Ratio(X)	0.00	0.18	0.46	0.61	0.29	0.27	0.09	0.48	0.70	0.69	0.62	0.03
Avail Cap(c_a), veh/h	183	2695	1206	1001	1751	1488	417	2010	899	1184	2861	1280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	22.2	22.8	20.7	13.1	3.7	15.9	15.8	17.1	21.1	19.2	13.8
Incr Delay (d2), s/veh	0.0	0.3	2.2	1.1	0.3	0.3	0.1	0.4	2.0	1.6	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.0	2.5	1.9	1.4	0.4	2.9	4.4	2.8	3.2	0.1
LnGrp Delay(d),s/veh	0.0	22.5	25.0	21.8	13.4	4.0	16.0	16.2	19.1	22.7	20.0	13.8
LnGrp LOS		C	C	C	B	A	B	B	B	C	C	B
Approach Vol, veh/h		127			667			829			854	
Approach Delay, s/veh		23.8			15.8			17.3			21.2	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	19.0	12.6	9.0	16.5	15.1	0.0	21.6				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.6	11.5	6.9	4.2	2.9	8.3	0.0	5.7				
Green Ext Time (p_c), s	1.0	3.6	1.8	0.5	0.4	2.8	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			18.6									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (1B) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	820	10	15	785	132	15	20	15	137	0	29
Future Volume (veh/h)	23	820	10	15	785	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	891	11	16	853	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1849	23	36	1793	802	159	171	92	362	9	47
Arrive On Green	0.03	0.52	0.52	0.02	0.51	0.51	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3580	44	1774	3539	1583	270	940	510	1147	50	257
Grp Volume(v), veh/h	25	440	462	16	853	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1720	0	0	1454	0	0
Q Serve(g_s), s	0.6	6.8	6.8	0.4	6.7	2.1	0.0	0.0	0.0	3.7	0.0	0.0
Cycle Q Clear(g_c), s	0.6	6.8	6.8	0.4	6.7	2.1	1.1	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	914	958	36	1793	802	422	0	0	418	0	0
V/C Ratio(X)	0.47	0.48	0.48	0.45	0.48	0.18	0.13	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	208	1330	1395	208	2661	1190	1679	0	0	1511	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.3	6.6	6.6	20.6	6.8	5.7	14.7	0.0	0.0	16.1	0.0	0.0
Incr Delay (d2), s/veh	6.3	0.4	0.4	8.4	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.4	3.6	0.3	3.2	0.9	0.5	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	26.6	7.0	7.0	29.0	7.0	5.8	14.8	0.0	0.0	16.8	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		927			1012			54			181	
Approach Delay, s/veh		7.5			7.2			14.8			16.8	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.7	4.9	26.0		11.7	5.3	25.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.1	2.4	8.8		6.8	2.6	8.7				
Green Ext Time (p_c), s		1.4	0.0	12.8		1.4	0.0	12.9				
Intersection Summary												
HCM 2010 Ctrl Delay			8.3									
HCM 2010 LOS			A									

Intersection						
Int Delay, s/veh	10.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	133	292	374	39	73	231
Future Vol, veh/h	133	292	374	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	317	407	42	79	251

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	449	0	-	0	1035 428
Stage 1	-	-	-	-	428 -
Stage 2	-	-	-	-	607 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1111	-	-	-	257 627
Stage 1	-	-	-	-	657 -
Stage 2	-	-	-	-	544 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1111	-	-	-	223 627
Mov Cap-2 Maneuver	-	-	-	-	223 -
Stage 1	-	-	-	-	657 -
Stage 2	-	-	-	-	473 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	34.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1111	-	-	-	437
HCM Lane V/C Ratio	0.13	-	-	-	0.756
HCM Control Delay (s)	8.7	-	-	-	34.6
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	6.3

Intersection

Int Delay, s/veh 7.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	272	107	116	30	22	275
Future Vol, veh/h	272	107	116	30	22	275
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	296	116	126	33	24	299

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	159	0	-	0	850 142
Stage 1	-	-	-	-	142 -
Stage 2	-	-	-	-	708 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1420	-	-	-	331 906
Stage 1	-	-	-	-	885 -
Stage 2	-	-	-	-	488 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1420	-	-	-	262 906
Mov Cap-2 Maneuver	-	-	-	-	262 -
Stage 1	-	-	-	-	885 -
Stage 2	-	-	-	-	386 -

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	766
HCM Lane V/C Ratio	0.208	-	-	-	0.421
HCM Control Delay (s)	8.2	-	-	-	13.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	2.1

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	15	12	6	80	101	26
Future Vol, veh/h	15	12	6	80	101	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	13	7	87	110	28

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	224	124	138	0	-	0
Stage 1	124	-	-	-	-	-
Stage 2	100	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	764	927	1446	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	760	927	1446	-	-	-
Mov Cap-2 Maneuver	760	-	-	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	919	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	826	-	-
HCM Lane V/C Ratio	0.005	-	0.036	-	-
HCM Control Delay (s)	7.5	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (1C) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	522	88	303	55	527	397	462	772	20
Future Volume (veh/h)	20	98	80	522	88	303	55	527	397	462	772	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	567	271	212	60	573	432	502	839	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	324	145	676	480	408	341	1150	514	617	1104	494
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.19	0.32	0.32	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	567	271	212	60	573	432	502	839	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.9	2.1	4.0	11.5	9.5	5.3	2.1	9.8	19.0	10.5	16.0	0.6
Cycle Q Clear(g_c), s	0.9	2.1	4.0	11.5	9.5	5.3	2.1	9.8	19.0	10.5	16.0	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	324	145	676	480	408	341	1150	514	617	1104	494
V/C Ratio(X)	0.51	0.33	0.60	0.84	0.56	0.52	0.18	0.50	0.84	0.81	0.76	0.04
Avail Cap(c_a), veh/h	130	1914	856	711	1244	1057	341	1427	639	841	2032	909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	31.9	32.7	29.2	24.2	9.0	25.3	20.4	23.5	29.5	23.2	11.8
Incr Delay (d2), s/veh	8.8	0.6	4.0	8.5	1.0	1.0	0.2	0.3	8.1	4.4	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	1.9	6.5	5.0	3.3	1.1	4.8	9.4	5.3	8.0	0.3
LnGrp Delay(d),s/veh	44.9	32.5	36.7	37.6	25.2	10.0	25.5	20.7	31.6	33.9	24.3	11.8
LnGrp LOS	D	C	D	D	C	B	C	C	C	C	C	B
Approach Vol, veh/h		216			1050			1065			1363	
Approach Delay, s/veh		35.4			28.9			25.4			27.7	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	28.3	18.3	10.8	18.4	27.4	5.8	23.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	12.5	21.0	13.5	6.0	4.1	18.0	2.9	11.5				
Green Ext Time (p_c), s	0.9	3.4	0.7	0.9	0.3	5.4	0.0	4.7				
Intersection Summary												
HCM 2010 Ctrl Delay			27.8									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (1C) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1159	10	15	1200	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1159	10	15	1200	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1260	11	16	1304	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1578	14	34	1453	650	228	306	198	563	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3595	31	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	620	651	16	1304	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	22.8	22.8	0.7	25.9	8.8	0.0	0.0	0.0	22.3	0.0	0.0
Cycle Q Clear(g_c), s	2.5	22.8	22.8	0.7	25.9	8.8	1.5	0.0	0.0	23.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	777	815	34	1453	650	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.80	0.80	0.48	0.90	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	777	815	118	1505	673	991	0	0	856	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.3	18.2	18.2	36.5	20.7	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.2	5.9	5.6	10.2	7.4	0.4	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	12.3	12.8	0.4	14.0	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.5	24.1	23.9	46.7	28.1	16.1	14.8	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h		1331			1582			54			480	
Approach Delay, s/veh		25.0			26.3			14.8			24.3	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.8	5.4	37.0		32.8	7.6	34.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.5	2.7	24.8		25.8	4.5	27.9				
Green Ext Time (p_c), s		3.8	0.0	6.6		3.0	0.0	3.0				
Intersection Summary												
HCM 2010 Ctrl Delay			25.3									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 92.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	213	570	501	90	105	222
Future Vol, veh/h	213	570	501	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	620	545	98	114	241

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	642	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	943	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	943	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	\$ 476.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	943	-	-	-	185
HCM Lane V/C Ratio	0.246	-	-	-	1.921
HCM Control Delay (s)	10.1	-	-	-	\$ 476.3
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	1	-	-	-	26.4

Notes

-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	31.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	482	213	173	50	40	398
Future Vol, veh/h	482	213	173	50	40	398
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	524	232	188	54	43	433

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	242	0	-	0	1494 215
Stage 1	-	-	-	-	215 -
Stage 2	-	-	-	-	1279 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1324	-	-	-	136 825
Stage 1	-	-	-	-	821 -
Stage 2	-	-	-	-	261 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1324	-	-	-	82 825
Mov Cap-2 Maneuver	-	-	-	-	82 -
Stage 1	-	-	-	-	821 -
Stage 2	-	-	-	-	158 -

Approach	EB	WB	SB
HCM Control Delay, s	6.6	0	88.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1324	-	-	-	451
HCM Lane V/C Ratio	0.396	-	-	-	1.056
HCM Control Delay (s)	9.5	-	-	-	88.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	15

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑↑		
Traffic Vol, veh/h	21	5	13	136	168	40
Future Vol, veh/h	21	5	13	136	168	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	5	14	148	183	43

























Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	380	204	226	0	0
Stage 1	204	-	-	-	-
Stage 2	176	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	622	837	1342	-	-
Stage 1	830	-	-	-	-
Stage 2	855	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	615	837	1342	-	-
Mov Cap-2 Maneuver	615	-	-	-	-
Stage 1	830	-	-	-	-
Stage 2	846	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	648	-	-
HCM Lane V/C Ratio	0.011	-	0.044	-	-
HCM Control Delay (s)	7.7	-	10.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (1C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	336	63	221	35	438	301	374	423	10
Future Volume (veh/h)	0	54	63	336	63	221	35	438	301	374	423	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	365	197	154	38	476	327	407	460	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	321	144	587	613	521	439	1015	454	572	727	325
Arrive On Green	0.00	0.09	0.09	0.17	0.33	0.33	0.25	0.29	0.29	0.17	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	365	197	154	38	476	327	407	460	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.8	2.2	5.3	4.4	2.1	0.9	6.1	10.2	6.2	6.5	0.3
Cycle Q Clear(g_c), s	0.0	0.8	2.2	5.3	4.4	2.1	0.9	6.1	10.2	6.2	6.5	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	321	144	587	613	521	439	1015	454	572	727	325
V/C Ratio(X)	0.00	0.18	0.47	0.62	0.32	0.30	0.09	0.47	0.72	0.71	0.63	0.03
Avail Cap(c_a), veh/h	177	2604	1165	967	1692	1438	439	1942	869	1144	2765	1237
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	23.1	23.8	21.4	13.9	3.9	15.9	16.2	17.6	21.7	20.0	14.5
Incr Delay (d2), s/veh	0.0	0.3	2.4	1.1	0.3	0.3	0.1	0.3	2.2	1.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.1	2.7	2.3	1.5	0.5	3.0	4.7	3.1	3.3	0.1
LnGrp Delay(d),s/veh	0.0	23.4	26.2	22.4	14.2	4.3	16.0	16.5	19.8	23.4	20.9	14.5
LnGrp LOS		C	C	C	B	A	B	B	B	C	C	B
Approach Vol, veh/h		127			716			841			878	
Approach Delay, s/veh		24.9			16.3			17.8			22.0	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.1	19.8	13.1	9.0	17.6	15.3	0.0	22.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.2	12.2	7.3	4.2	2.9	8.5	0.0	6.4				
Green Ext Time (p_c), s	1.0	3.6	1.9	0.5	0.4	2.8	0.0	3.0				
Intersection Summary												
HCM 2010 Ctrl Delay			19.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (1C) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	853	10	15	823	132	15	20	15	137	0	29
Future Volume (veh/h)	23	853	10	15	823	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	927	11	16	895	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1880	22	36	1823	816	156	169	92	357	9	46
Arrive On Green	0.03	0.52	0.52	0.02	0.52	0.52	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3582	43	1774	3539	1583	273	938	510	1148	49	257
Grp Volume(v), veh/h	25	458	480	16	895	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1722	0	0	1455	0	0
Q Serve(g_s), s	0.6	7.2	7.2	0.4	7.2	2.1	0.0	0.0	0.0	3.8	0.0	0.0
Cycle Q Clear(g_c), s	0.6	7.2	7.2	0.4	7.2	2.1	1.1	0.0	0.0	5.0	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	929	974	36	1823	816	417	0	0	413	0	0
V/C Ratio(X)	0.47	0.49	0.49	0.45	0.49	0.18	0.13	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	203	1296	1358	203	2591	1159	1636	0	0	1472	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.9	6.7	6.7	21.2	6.9	5.6	15.1	0.0	0.0	16.6	0.0	0.0
Incr Delay (d2), s/veh	6.3	0.4	0.4	8.5	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.5	3.7	0.3	3.5	0.9	0.6	0.0	0.0	2.1	0.0	0.0
LnGrp Delay(d),s/veh	27.2	7.1	7.0	29.6	7.1	5.7	15.3	0.0	0.0	17.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		963			1054			54			181	
Approach Delay, s/veh		7.6			7.2			15.3			17.3	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.9	4.9	26.9		11.9	5.3	26.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.1	2.4	9.2		7.0	2.6	9.2				
Green Ext Time (p_c), s		1.4	0.0	13.3		1.4	0.0	13.3				
Intersection Summary												
HCM 2010 Ctrl Delay				8.4								
HCM 2010 LOS				A								

Intersection						
Int Delay, s/veh	10.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	133	299	380	39	73	231
Future Vol, veh/h	133	299	380	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	325	413	42	79	251

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	455	0	-	0	1048
Stage 1	-	-	-	-	434
Stage 2	-	-	-	-	614
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1106	-	-	-	252
Stage 1	-	-	-	-	653
Stage 2	-	-	-	-	540
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1106	-	-	-	219
Mov Cap-2 Maneuver	-	-	-	-	219
Stage 1	-	-	-	-	653
Stage 2	-	-	-	-	469

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	35.9
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1106	-	-	-	431
HCM Lane V/C Ratio	0.131	-	-	-	0.767
HCM Control Delay (s)	8.7	-	-	-	35.9
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.4	-	-	-	6.5

Intersection

Int Delay, s/veh 7.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	279	107	116	30	22	281
Future Vol, veh/h	279	107	116	30	22	281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	303	116	126	33	24	305

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	159	0	0	865	142
Stage 1	-	-	-	142	-
Stage 2	-	-	-	723	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1420	-	-	324	906
Stage 1	-	-	-	885	-
Stage 2	-	-	-	481	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1420	-	-	255	906
Mov Cap-2 Maneuver	-	-	-	255	-
Stage 1	-	-	-	885	-
Stage 2	-	-	-	378	-

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	764
HCM Lane V/C Ratio	0.214	-	-	-	0.431
HCM Control Delay (s)	8.2	-	-	-	13.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	2.2

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	15	12	6	80	101	26
Future Vol, veh/h	15	12	6	80	101	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	13	7	87	110	28

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	224	124	138	0	-	0
Stage 1	124	-	-	-	-	-
Stage 2	100	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	764	927	1446	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	760	927	1446	-	-	-
Mov Cap-2 Maneuver	760	-	-	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	919	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	826	-	-
HCM Lane V/C Ratio	0.005	-	0.036	-	-
HCM Control Delay (s)	7.5	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (1D) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	507	88	271	55	527	369	401	772	20
Future Volume (veh/h)	20	98	80	507	88	271	55	527	369	401	772	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	551	245	196	60	573	401	436	839	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	334	150	691	492	418	285	1118	500	564	1129	505
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.16	0.32	0.32	0.16	0.32	0.32
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	551	245	196	60	573	401	436	839	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.8	2.0	3.6	10.2	7.7	4.5	2.0	9.1	16.1	8.4	14.6	0.5
Cycle Q Clear(g_c), s	0.8	2.0	3.6	10.2	7.7	4.5	2.0	9.1	16.1	8.4	14.6	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	44	334	150	691	492	418	285	1118	500	564	1129	505
V/C Ratio(X)	0.50	0.32	0.58	0.80	0.50	0.47	0.21	0.51	0.80	0.77	0.74	0.04
Avail Cap(c_a), veh/h	141	2071	926	769	1345	1144	285	1544	691	910	2198	984
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	29.3	30.0	26.6	21.6	8.2	25.2	19.3	21.7	27.7	21.0	10.3
Incr Delay (d2), s/veh	8.4	0.5	3.5	5.4	0.8	0.8	0.4	0.4	4.7	2.3	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.0	1.7	5.5	4.1	2.8	1.0	4.5	7.6	4.2	7.3	0.3
LnGrp Delay(d),s/veh	41.7	29.8	33.6	32.0	22.4	9.0	25.6	19.7	26.4	30.0	22.0	10.3
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		216			992			1034			1297	
Approach Delay, s/veh		32.5			25.1			22.7			24.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	25.9	17.5	10.5	15.1	26.1	5.7	22.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	10.4	18.1	12.2	5.6	4.0	16.6	2.8	9.7				
Green Ext Time (p_c), s	1.0	3.8	1.2	0.9	0.3	5.4	0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay			24.6									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (1D) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1070	10	15	1154	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1070	10	15	1154	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1163	11	16	1254	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1575	15	34	1451	649	228	306	199	563	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3592	34	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	573	601	16	1254	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	20.2	20.2	0.7	24.3	8.8	0.0	0.0	0.0	22.3	0.0	0.0
Cycle Q Clear(g_c), s	2.5	20.2	20.2	0.7	24.3	8.8	1.5	0.0	0.0	23.7	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	776	814	34	1451	649	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.74	0.74	0.48	0.86	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	776	814	118	1509	675	993	0	0	858	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.2	17.5	17.5	36.5	20.2	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.1	3.7	3.6	10.2	5.4	0.4	0.0	0.0	0.0	2.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	10.5	11.0	0.4	12.9	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.3	21.2	21.1	46.6	25.6	16.1	14.8	0.0	0.0	24.2	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h		1234			1532			54			480	
Approach Delay, s/veh		22.4			24.2			14.8			24.2	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.7	5.4	36.9		32.7	7.6	34.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.5	2.7	22.2		25.7	4.5	26.3				
Green Ext Time (p_c), s		3.8	0.0	8.6		3.0	0.0	4.5				
Intersection Summary												
HCM 2010 Ctrl Delay			23.4									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 87

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	213	562	485	90	105	222
Future Vol, veh/h	213	562	485	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	611	527	98	114	241

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	625	0	0 1650 576
Stage 1	-	-	- 576 -
Stage 2	-	-	- 1074 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	956	-	- ~ 109 517
Stage 1	-	-	- 562 -
Stage 2	-	-	- 328 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	956	-	- ~ 83 517
Mov Cap-2 Maneuver	-	-	- ~ 83 -
Stage 1	-	-	- 562 -
Stage 2	-	-	- 248 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	\$ 439.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	956	-	-	-	193
HCM Lane V/C Ratio	0.242	-	-	-	1.842
HCM Control Delay (s)	10	-	-	-	\$ 439.6
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.9	-	-	-	25.5

Notes

-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 27.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	474	213	173	50	40	382
Future Vol, veh/h	474	213	173	50	40	382
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	515	232	188	54	43	415

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	242	0	0	1477	215
Stage 1	-	-	-	215	-
Stage 2	-	-	-	1262	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1324	-	-	139	825
Stage 1	-	-	-	821	-
Stage 2	-	-	-	266	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1324	-	-	85	825
Mov Cap-2 Maneuver	-	-	-	85	-
Stage 1	-	-	-	821	-
Stage 2	-	-	-	163	-

Approach

	EB	WB	SB
HCM Control Delay, s	6.5	0	76.7
HCM LOS			F

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1324	-	-	-	452
HCM Lane V/C Ratio	0.389	-	-	-	1.015
HCM Control Delay (s)	9.4	-	-	-	76.7
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	13.5

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑↑		
Traffic Vol, veh/h	21	5	13	136	168	40
Future Vol, veh/h	21	5	13	136	168	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	5	14	148	183	43

























Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	380	204	226	0	0
Stage 1	204	-	-	-	-
Stage 2	176	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	622	837	1342	-	-
Stage 1	830	-	-	-	-
Stage 2	855	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	615	837	1342	-	-
Mov Cap-2 Maneuver	615	-	-	-	-
Stage 1	830	-	-	-	-
Stage 2	846	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	648	-	-
HCM Lane V/C Ratio	0.011	-	0.044	-	-
HCM Control Delay (s)	7.7	-	10.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (1D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	325	63	198	35	438	269	308	423	10
Future Volume (veh/h)	0	54	63	325	63	198	35	438	269	308	423	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	353	178	142	38	476	292	335	460	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	348	156	590	640	544	370	968	433	505	749	335
Arrive On Green	0.00	0.10	0.10	0.17	0.34	0.34	0.21	0.27	0.27	0.15	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	353	178	142	38	476	292	335	460	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.8	2.1	4.7	3.5	1.8	0.9	5.7	8.3	4.7	6.0	0.3
Cycle Q Clear(g_c), s	0.0	0.8	2.1	4.7	3.5	1.8	0.9	5.7	8.3	4.7	6.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	348	156	590	640	544	370	968	433	505	749	335
V/C Ratio(X)	0.00	0.17	0.44	0.60	0.28	0.26	0.10	0.49	0.67	0.66	0.61	0.03
Avail Cap(c_a), veh/h	192	2823	1263	1048	1834	1559	370	2105	942	1240	2997	1341
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.0	21.6	19.6	12.1	3.5	16.3	15.5	16.4	20.5	18.1	12.9
Incr Delay (d2), s/veh	0.0	0.2	1.9	1.0	0.2	0.3	0.1	0.4	1.8	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.0	2.3	1.8	1.3	0.4	2.8	3.9	2.3	3.0	0.1
LnGrp Delay(d),s/veh	0.0	21.2	23.5	20.6	12.3	3.7	16.4	15.9	18.3	22.0	19.0	12.9
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		127			673			806			806	
Approach Delay, s/veh		22.4			14.8			16.8			20.1	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	17.9	12.4	9.0	14.6	14.7	0.0	21.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.7	10.3	6.7	4.1	2.9	8.0	0.0	5.5				
Green Ext Time (p_c), s	0.8	3.5	1.8	0.5	0.3	2.8	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			17.6									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (1D) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	755	10	15	789	132	15	20	15	137	0	29
Future Volume (veh/h)	23	755	10	15	789	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	821	11	16	858	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1831	25	36	1777	795	160	171	93	365	9	47
Arrive On Green	0.03	0.51	0.51	0.02	0.50	0.50	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3576	48	1774	3539	1583	269	942	510	1146	51	257
Grp Volume(v), veh/h	25	406	426	16	858	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1583	1720	0	0	1454	0	0
Q Serve(g_s), s	0.6	6.1	6.1	0.4	6.7	2.1	0.0	0.0	0.0	3.7	0.0	0.0
Cycle Q Clear(g_c), s	0.6	6.1	6.1	0.4	6.7	2.1	1.1	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		0.03	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	906	949	36	1777	795	424	0	0	421	0	0
V/C Ratio(X)	0.47	0.45	0.45	0.44	0.48	0.18	0.13	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	211	1349	1414	211	2698	1207	1702	0	0	1533	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.0	6.5	6.5	20.3	6.9	5.7	14.5	0.0	0.0	15.9	0.0	0.0
Incr Delay (d2), s/veh	6.2	0.3	0.3	8.4	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.0	3.2	0.3	3.3	0.9	0.5	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	26.3	6.8	6.8	28.7	7.1	5.8	14.6	0.0	0.0	16.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		857			1017			54			181	
Approach Delay, s/veh		7.4			7.2			14.6			16.6	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.6	4.9	25.5		11.6	5.3	25.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.1	2.4	8.1		6.8	2.6	8.7				
Green Ext Time (p_c), s		1.4	0.0	12.6		1.4	0.0	12.4				
Intersection Summary												
HCM 2010 Ctrl Delay			8.3									
HCM 2010 LOS			A									

Intersection

Int Delay, s/veh 9.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	133	293	362	39	73	231
Future Vol, veh/h	133	293	362	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	318	393	42	79	251

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	436	0	0	1023	415
Stage 1	-	-	-	415	-
Stage 2	-	-	-	608	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1124	-	-	261	637
Stage 1	-	-	-	666	-
Stage 2	-	-	-	543	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1124	-	-	227	637
Mov Cap-2 Maneuver	-	-	-	227	-
Stage 1	-	-	-	666	-
Stage 2	-	-	-	473	-

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	33.2
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1124	-	-	-	444
HCM Lane V/C Ratio	0.129	-	-	-	0.744
HCM Control Delay (s)	8.7	-	-	-	33.2
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	6.1

Intersection						
Int Delay, s/veh	7.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	273	107	116	30	22	263
Future Vol, veh/h	273	107	116	30	22	263
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	297	116	126	33	24	286

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	159	0	-	0	852 142
Stage 1	-	-	-	-	142 -
Stage 2	-	-	-	-	710 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1420	-	-	-	330 906
Stage 1	-	-	-	-	885 -
Stage 2	-	-	-	-	487 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1420	-	-	-	261 906
Mov Cap-2 Maneuver	-	-	-	-	261 -
Stage 1	-	-	-	-	885 -
Stage 2	-	-	-	-	385 -

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	761
HCM Lane V/C Ratio	0.209	-	-	-	0.407
HCM Control Delay (s)	8.2	-	-	-	12.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	2

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	15	12	6	80	101	26
Future Vol, veh/h	15	12	6	80	101	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	13	7	87	110	28

























Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	224	124	138	0	-	0
Stage 1	124	-	-	-	-	-
Stage 2	100	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	764	927	1446	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	760	927	1446	-	-	-
Mov Cap-2 Maneuver	760	-	-	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	919	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	826	-	-
HCM Lane V/C Ratio	0.005	-	0.036	-	-
HCM Control Delay (s)	7.5	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (2A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	527	88	313	55	527	402	472	772	20
Future Volume (veh/h)	20	98	80	527	88	313	55	527	402	472	772	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	573	279	218	60	573	437	513	839	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	322	144	675	478	407	349	1154	516	626	1100	492
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.20	0.33	0.33	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	573	279	218	60	573	437	513	839	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.9	2.2	4.0	11.8	9.9	5.5	2.1	9.9	19.5	10.9	16.3	0.6
Cycle Q Clear(g_c), s	0.9	2.2	4.0	11.8	9.9	5.5	2.1	9.9	19.5	10.9	16.3	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	322	144	675	478	407	349	1154	516	626	1100	492
V/C Ratio(X)	0.51	0.33	0.60	0.85	0.58	0.54	0.17	0.50	0.85	0.82	0.76	0.04
Avail Cap(c_a), veh/h	129	1888	845	701	1227	1043	349	1408	630	830	2005	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	32.3	33.2	29.7	24.7	9.1	25.3	20.6	23.8	29.9	23.6	12.0
Incr Delay (d2), s/veh	8.9	0.6	4.0	9.4	1.1	1.1	0.2	0.3	8.8	5.0	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	1.9	6.7	5.3	3.5	1.1	4.8	9.8	5.6	8.1	0.3
LnGrp Delay(d),s/veh	45.4	32.9	37.2	39.0	25.8	10.2	25.6	20.9	32.7	34.8	24.7	12.1
LnGrp LOS	D	C	D	D	C	B	C	C	C	C	C	B
Approach Vol, veh/h		216			1070			1070			1374	
Approach Delay, s/veh		35.9			29.7			26.0			28.3	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.8	28.8	18.4	10.9	19.0	27.6	5.9	23.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	12.9	21.5	13.8	6.0	4.1	18.3	2.9	11.9				
Green Ext Time (p_c), s	0.9	3.3	0.6	0.9	0.3	5.3	0.0	4.8				
Intersection Summary												
HCM 2010 Ctrl Delay			28.5									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (2A) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1174	10	15	1215	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1174	10	15	1215	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1276	11	16	1321	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1579	14	34	1453	650	228	306	198	562	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3596	31	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	628	659	16	1321	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	23.2	23.2	0.7	26.4	8.8	0.0	0.0	0.0	22.4	0.0	0.0
Cycle Q Clear(g_c), s	2.5	23.2	23.2	0.7	26.4	8.8	1.5	0.0	0.0	23.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	777	816	34	1453	650	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.81	0.81	0.48	0.91	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	777	816	118	1505	673	990	0	0	856	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.3	18.3	18.4	36.6	20.9	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.2	6.3	6.1	10.2	8.3	0.4	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	12.7	13.3	0.4	14.5	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.6	24.7	24.4	46.7	29.2	16.1	14.8	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h		1347			1599			54			480	
Approach Delay, s/veh		25.5			27.2			14.8			24.3	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.8	5.4	37.1		32.8	7.6	34.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.5	2.7	25.2		25.8	4.5	28.4				
Green Ext Time (p_c), s		3.8	0.0	6.3		3.0	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay				26.0								
HCM 2010 LOS				C								

Intersection

Int Delay, s/veh 94.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	213	573	504	90	105	222
Future Vol, veh/h	213	573	504	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	623	548	98	114	241

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	646	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	939	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	939	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	\$ 486
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	939	-	-	-	183
HCM Lane V/C Ratio	0.247	-	-	-	1.942
HCM Control Delay (s)	10.1	-	-	-	\$ 486
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	1	-	-	-	26.6

Notes

-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh	32.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	485	213	173	50	40	401
Future Vol, veh/h	485	213	173	50	40	401
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	527	232	188	54	43	436

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	242	0	0	1501	215
Stage 1	-	-	-	215	-
Stage 2	-	-	-	1286	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1324	-	-	134	825
Stage 1	-	-	-	821	-
Stage 2	-	-	-	259	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1324	-	-	81	825
Mov Cap-2 Maneuver	-	-	-	81	-
Stage 1	-	-	-	821	-
Stage 2	-	-	-	156	-

Approach	EB	WB	SB
HCM Control Delay, s	6.6	0	91.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1324	-	-	-	450
HCM Lane V/C Ratio	0.398	-	-	-	1.065
HCM Control Delay (s)	9.5	-	-	-	91.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	15.4

Intersection

Int Delay, s/veh	5.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑		↑
Traffic Vol, veh/h	21	133	202	136	168	40
Future Vol, veh/h	21	133	202	136	168	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	145	220	148	183	43

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	791	204	226	0	0
Stage 1	204	-	-	-	-
Stage 2	587	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	358	837	1342	-	-
Stage 1	830	-	-	-	-
Stage 2	556	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	294	837	1342	-	-
Mov Cap-2 Maneuver	294	-	-	-	-
Stage 1	830	-	-	-	-
Stage 2	456	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.2	4.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	669	-	-
HCM Lane V/C Ratio	0.164	-	0.25	-	-
HCM Control Delay (s)	8.2	-	12.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.6	-	1	-	-

Intersection

Int Delay, s/veh 3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	16	32	189	128	0
Future Vol, veh/h	0	16	32	189	128	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	35	205	139	0

Major/Minor

	Major1	Major2	Minor2
Conflicting Flow All	240	0	155
Stage 1	-	-	138
Stage 2	-	-	17
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1327	-	836
Stage 1	-	-	889
Stage 2	-	-	1006
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1327	-	836
Mov Cap-2 Maneuver	-	-	836
Stage 1	-	-	889
Stage 2	-	-	1006

Approach

























	EB	WB	SB
HCM Control Delay, s	0	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1327	-	-	-	836
HCM Lane V/C Ratio	-	-	-	-	0.166
HCM Control Delay (s)	0	-	-	-	10.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (2A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	339	63	228	35	438	306	386	423	10
Future Volume (veh/h)	0	54	63	339	63	228	35	438	306	386	423	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	368	203	158	38	476	333	420	460	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	316	142	588	609	517	451	1023	458	583	723	323
Arrive On Green	0.00	0.09	0.09	0.17	0.33	0.33	0.25	0.29	0.29	0.17	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	368	203	158	38	476	333	420	460	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.9	2.3	5.4	4.6	2.2	0.9	6.2	10.6	6.5	6.6	0.3
Cycle Q Clear(g_c), s	0.0	0.9	2.3	5.4	4.6	2.2	0.9	6.2	10.6	6.5	6.6	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	316	142	588	609	517	451	1023	458	583	723	323
V/C Ratio(X)	0.00	0.19	0.48	0.63	0.33	0.31	0.08	0.47	0.73	0.72	0.64	0.03
Avail Cap(c_a), veh/h	175	2565	1147	952	1666	1416	451	1912	856	1127	2723	1218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	23.6	24.2	21.7	14.2	4.0	15.9	16.3	17.9	22.0	20.3	14.8
Incr Delay (d2), s/veh	0.0	0.3	2.5	1.1	0.3	0.3	0.1	0.3	2.2	1.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.1	2.7	2.4	1.6	0.5	3.0	4.9	3.2	3.3	0.1
LnGrp Delay(d),s/veh	0.0	23.8	26.7	22.8	14.5	4.4	16.0	16.6	20.1	23.7	21.3	14.8
LnGrp LOS		C	C	C	B	A	B	B	C	C	C	B
Approach Vol, veh/h		127			729			847			891	
Approach Delay, s/veh		25.4			16.5			18.0			22.3	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	20.2	13.3	9.0	18.2	15.4	0.0	22.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.5	12.6	7.4	4.3	2.9	8.6	0.0	6.6				
Green Ext Time (p_c), s	1.0	3.6	1.9	0.5	0.4	2.8	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			19.4									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (2A) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	870	10	15	833	132	15	20	15	137	0	29
Future Volume (veh/h)	23	870	10	15	833	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	946	11	16	905	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1890	22	36	1832	820	155	169	92	356	9	46
Arrive On Green	0.03	0.53	0.53	0.02	0.52	0.52	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3583	42	1774	3539	1583	274	938	510	1149	49	257
Grp Volume(v), veh/h	25	467	490	16	905	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1722	0	0	1455	0	0
Q Serve(g_s), s	0.6	7.5	7.5	0.4	7.3	2.1	0.0	0.0	0.0	3.9	0.0	0.0
Cycle Q Clear(g_c), s	0.6	7.5	7.5	0.4	7.3	2.1	1.1	0.0	0.0	5.0	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	933	979	36	1832	820	416	0	0	411	0	0
V/C Ratio(X)	0.47	0.50	0.50	0.45	0.49	0.17	0.13	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	201	1285	1347	201	2570	1150	1622	0	0	1460	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.0	6.7	6.7	21.3	6.9	5.6	15.3	0.0	0.0	16.8	0.0	0.0
Incr Delay (d2), s/veh	6.4	0.4	0.4	8.5	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.7	3.9	0.3	3.6	0.9	0.6	0.0	0.0	2.1	0.0	0.0
LnGrp Delay(d),s/veh	27.4	7.1	7.1	29.8	7.1	5.7	15.4	0.0	0.0	17.5	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		982			1064			54			181	
Approach Delay, s/veh		7.6			7.3			15.4			17.5	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.9	4.9	27.2		11.9	5.3	26.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.1	2.4	9.5		7.0	2.6	9.3				
Green Ext Time (p_c), s		1.4	0.0	13.5		1.4	0.0	13.5				
Intersection Summary												
HCM 2010 Ctrl Delay			8.4									
HCM 2010 LOS			A									

Intersection						
Int Delay, s/veh	10.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	133	301	383	39	73	231
Future Vol, veh/h	133	301	383	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	327	416	42	79	251

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	459	0	-	0	1054 438
Stage 1	-	-	-	-	438 -
Stage 2	-	-	-	-	616 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1102	-	-	-	250 619
Stage 1	-	-	-	-	651 -
Stage 2	-	-	-	-	539 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1102	-	-	-	217 619
Mov Cap-2 Maneuver	-	-	-	-	217 -
Stage 1	-	-	-	-	651 -
Stage 2	-	-	-	-	468 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	36.6
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1102	-	-	-	428
HCM Lane V/C Ratio	0.131	-	-	-	0.772
HCM Control Delay (s)	8.8	-	-	-	36.6
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.5	-	-	-	6.6

Intersection						
Int Delay, s/veh	7.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	281	107	116	30	22	284
Future Vol, veh/h	281	107	116	30	22	284
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	305	116	126	33	24	309

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	159	0	0	869	142
Stage 1	-	-	-	142	-
Stage 2	-	-	-	727	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1420	-	-	322	906
Stage 1	-	-	-	885	-
Stage 2	-	-	-	478	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1420	-	-	253	906
Mov Cap-2 Maneuver	-	-	-	253	-
Stage 1	-	-	-	885	-
Stage 2	-	-	-	375	-

Approach	EB	WB	SB
HCM Control Delay, s	6	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	764
HCM Lane V/C Ratio	0.215	-	-	-	0.435
HCM Control Delay (s)	8.2	-	-	-	13.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	2.2

Intersection						
Int Delay, s/veh	6.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	15	149	246	80	101	26
Future Vol, veh/h	15	149	246	80	101	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	162	267	87	110	28

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	746	124	138	0	0
Stage 1	124	-	-	-	-
Stage 2	622	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	381	927	1446	-	-
Stage 1	902	-	-	-	-
Stage 2	535	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	307	927	1446	-	-
Mov Cap-2 Maneuver	307	-	-	-	-
Stage 1	902	-	-	-	-
Stage 2	431	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	6.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	782	-	-
HCM Lane V/C Ratio	0.185	-	0.228	-	-
HCM Control Delay (s)	8.1	-	11	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.7	-	0.9	-	-

Intersection

Int Delay, s/veh 3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	0	19	22	240	137	0
Future Vol, veh/h	0	19	22	240	137	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	24	261	149	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	285	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1277	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1277	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1277	-	-	-	815
HCM Lane V/C Ratio	-	-	-	-	0.183
HCM Control Delay (s)	0	-	-	-	10.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (2B) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	519	88	296	55	527	395	457	772	20
Future Volume (veh/h)	20	98	80	519	88	296	55	527	395	457	772	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	564	266	209	60	573	429	497	839	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	325	145	677	480	408	336	1147	513	614	1107	495
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.19	0.32	0.32	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	564	266	209	60	573	429	497	839	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.9	2.1	3.9	11.4	9.2	5.2	2.1	9.7	18.7	10.3	15.9	0.6
Cycle Q Clear(g_c), s	0.9	2.1	3.9	11.4	9.2	5.2	2.1	9.7	18.7	10.3	15.9	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	44	325	145	677	480	408	336	1147	513	614	1107	495
V/C Ratio(X)	0.51	0.33	0.60	0.83	0.55	0.51	0.18	0.50	0.84	0.81	0.76	0.04
Avail Cap(c_a), veh/h	131	1928	862	716	1253	1065	336	1438	643	847	2047	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	31.6	32.5	28.9	23.9	8.9	25.3	20.3	23.3	29.3	23.0	11.6
Incr Delay (d2), s/veh	8.8	0.6	3.9	8.0	1.0	1.0	0.3	0.3	7.7	4.2	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	1.9	6.3	4.9	3.2	1.1	4.7	9.2	5.3	7.9	0.3
LnGrp Delay(d),s/veh	44.6	32.2	36.4	37.0	24.9	9.9	25.5	20.6	31.0	33.5	24.1	11.7
LnGrp LOS	D	C	D	D	C	A	C	C	C	C	C	B
Approach Vol, veh/h		216			1039			1062			1358	
Approach Delay, s/veh		35.1			28.4			25.1			27.4	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.3	28.1	18.2	10.8	18.1	27.2	5.8	23.2				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	12.3	20.7	13.4	5.9	4.1	17.9	2.9	11.2				
Green Ext Time (p_c), s	0.9	3.4	0.8	0.9	0.3	5.4	0.0	4.7				
Intersection Summary												
HCM 2010 Ctrl Delay			27.5									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (2B) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1152	10	15	1190	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1152	10	15	1190	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1252	11	16	1293	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1578	14	34	1452	650	228	306	198	563	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3595	32	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	616	647	16	1293	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	22.5	22.5	0.7	25.5	8.8	0.0	0.0	0.0	22.3	0.0	0.0
Cycle Q Clear(g_c), s	2.5	22.5	22.5	0.7	25.5	8.8	1.5	0.0	0.0	23.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	777	815	34	1452	650	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.79	0.79	0.48	0.89	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	777	815	118	1506	674	991	0	0	857	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.3	18.2	18.2	36.5	20.6	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.2	5.7	5.4	10.2	6.9	0.4	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	12.2	12.7	0.4	13.8	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.5	23.8	23.6	46.7	27.5	16.1	14.8	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h		1323			1571			54			480	
Approach Delay, s/veh		24.7			25.8			14.8			24.3	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.8	5.4	37.0		32.8	7.6	34.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.5	2.7	24.5		25.8	4.5	27.5				
Green Ext Time (p_c), s		3.8	0.0	6.8		3.0	0.0	3.3				
Intersection Summary												
HCM 2010 Ctrl Delay			25.0									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh	92.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	213	569	500	90	105	222
Future Vol, veh/h	213	569	500	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	618	543	98	114	241

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	641	0	-	0	1674
Stage 1	-	-	-	-	592
Stage 2	-	-	-	-	1082
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	943	-	-	-	~ 105
Stage 1	-	-	-	-	553
Stage 2	-	-	-	-	325
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	943	-	-	-	~ 79
Mov Cap-2 Maneuver	-	-	-	-	~ 79
Stage 1	-	-	-	-	553
Stage 2	-	-	-	-	245

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	\$ 476.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	943	-	-	-	185
HCM Lane V/C Ratio	0.246	-	-	-	1.921
HCM Control Delay (s)	10.1	-	-	-	\$ 476.3
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	1	-	-	-	26.4

Notes

-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 31.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	481	213	173	50	40	397
Future Vol, veh/h	481	213	173	50	40	397
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	523	232	188	54	43	432

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	242	0	0	1492	215
Stage 1	-	-	-	215	-
Stage 2	-	-	-	1277	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1324	-	-	136	825
Stage 1	-	-	-	821	-
Stage 2	-	-	-	262	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1324	-	-	82	825
Mov Cap-2 Maneuver	-	-	-	82	-
Stage 1	-	-	-	821	-
Stage 2	-	-	-	159	-

Approach

	EB	WB	SB
HCM Control Delay, s	6.6	0	87.6
HCM LOS			F

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1324	-	-	-	451
HCM Lane V/C Ratio	0.395	-	-	-	1.053
HCM Control Delay (s)	9.5	-	-	-	87.6
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	14.9

Intersection						
Int Delay, s/veh	4.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑		↑
Traffic Vol, veh/h	21	99	171	136	168	40
Future Vol, veh/h	21	99	171	136	168	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	108	186	148	183	43

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	724	204	226	0	-	0
Stage 1	204	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	393	837	1342	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	597	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	334	837	1342	-	-	-
Mov Cap-2 Maneuver	334	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	507	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	4.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	662	-	-
HCM Lane V/C Ratio	0.139	-	0.197	-	-
HCM Control Delay (s)	8.1	-	11.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.7	-	-

Intersection

Int Delay, s/veh 3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	16	32	158	94	0
Future Vol, veh/h	0	16	32	158	94	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	35	172	102	0

























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	207	0	138
Stage 1	-	-	121
Stage 2	-	-	17
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1364	-	855
Stage 1	-	-	904
Stage 2	-	-	1006
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1364	-	855
Mov Cap-2 Maneuver	-	-	855
Stage 1	-	-	904
Stage 2	-	-	1006

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1364	-	-	-	855
HCM Lane V/C Ratio	-	-	-	-	0.12
HCM Control Delay (s)	0	-	-	-	9.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (2B) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	323	63	195	35	438	290	352	423	10
Future Volume (veh/h)	0	54	63	323	63	195	35	438	290	352	423	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	351	176	140	38	476	315	383	460	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	332	149	575	617	524	417	1001	448	552	736	329
Arrive On Green	0.00	0.09	0.09	0.16	0.33	0.33	0.24	0.28	0.28	0.16	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	351	176	140	38	476	315	383	460	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.8	2.2	4.9	3.7	1.8	0.9	5.9	9.5	5.6	6.3	0.3
Cycle Q Clear(g_c), s	0.0	0.8	2.2	4.9	3.7	1.8	0.9	5.9	9.5	5.6	6.3	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	332	149	575	617	524	417	1001	448	552	736	329
V/C Ratio(X)	0.00	0.18	0.46	0.61	0.29	0.27	0.09	0.48	0.70	0.69	0.62	0.03
Avail Cap(c_a), veh/h	183	2695	1206	1001	1751	1488	417	2010	899	1184	2861	1280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	22.2	22.8	20.7	13.1	3.7	15.9	15.8	17.1	21.1	19.2	13.8
Incr Delay (d2), s/veh	0.0	0.3	2.2	1.1	0.3	0.3	0.1	0.4	2.0	1.6	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.0	2.5	1.9	1.4	0.4	2.9	4.4	2.8	3.2	0.1
LnGrp Delay(d),s/veh	0.0	22.5	25.0	21.8	13.4	4.0	16.0	16.2	19.1	22.7	20.0	13.8
LnGrp LOS		C	C	C	B	A	B	B	B	C	C	B
Approach Vol, veh/h		127			667			829			854	
Approach Delay, s/veh		23.8			15.8			17.3			21.2	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	19.0	12.6	9.0	16.5	15.1	0.0	21.6				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.6	11.5	6.9	4.2	2.9	8.3	0.0	5.7				
Green Ext Time (p_c), s	1.0	3.6	1.8	0.5	0.4	2.8	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			18.6									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (2B) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	820	10	15	785	132	15	20	15	137	0	29
Future Volume (veh/h)	23	820	10	15	785	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	891	11	16	853	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1849	23	36	1793	802	159	171	92	362	9	47
Arrive On Green	0.03	0.52	0.52	0.02	0.51	0.51	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3580	44	1774	3539	1583	270	940	510	1147	50	257
Grp Volume(v), veh/h	25	440	462	16	853	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1720	0	0	1454	0	0
Q Serve(g_s), s	0.6	6.8	6.8	0.4	6.7	2.1	0.0	0.0	0.0	3.7	0.0	0.0
Cycle Q Clear(g_c), s	0.6	6.8	6.8	0.4	6.7	2.1	1.1	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	914	958	36	1793	802	422	0	0	418	0	0
V/C Ratio(X)	0.47	0.48	0.48	0.45	0.48	0.18	0.13	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	208	1330	1395	208	2661	1190	1679	0	0	1511	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.3	6.6	6.6	20.6	6.8	5.7	14.7	0.0	0.0	16.1	0.0	0.0
Incr Delay (d2), s/veh	6.3	0.4	0.4	8.4	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.4	3.6	0.3	3.2	0.9	0.5	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	26.6	7.0	7.0	29.0	7.0	5.8	14.8	0.0	0.0	16.8	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		927			1012			54			181	
Approach Delay, s/veh		7.5			7.2			14.8			16.8	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.7	4.9	26.0		11.7	5.3	25.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.1	2.4	8.8		6.8	2.6	8.7				
Green Ext Time (p_c), s		1.4	0.0	12.8		1.4	0.0	12.9				
Intersection Summary												
HCM 2010 Ctrl Delay			8.3									
HCM 2010 LOS			A									

Intersection

Int Delay, s/veh 10.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	133	292	374	39	73	231
Future Vol, veh/h	133	292	374	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	317	407	42	79	251

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	449	0	0	1035	428
Stage 1	-	-	-	428	-
Stage 2	-	-	-	607	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1111	-	-	257	627
Stage 1	-	-	-	657	-
Stage 2	-	-	-	544	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1111	-	-	223	627
Mov Cap-2 Maneuver	-	-	-	223	-
Stage 1	-	-	-	657	-
Stage 2	-	-	-	473	-

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	34.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1111	-	-	-	437
HCM Lane V/C Ratio	0.13	-	-	-	0.756
HCM Control Delay (s)	8.7	-	-	-	34.6
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	6.3

Intersection

Int Delay, s/veh 7.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	272	107	116	30	22	275
Future Vol, veh/h	272	107	116	30	22	275
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	296	116	126	33	24	299

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	159	0	-	0	850 142
Stage 1	-	-	-	-	142 -
Stage 2	-	-	-	-	708 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1420	-	-	-	331 906
Stage 1	-	-	-	-	885 -
Stage 2	-	-	-	-	488 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1420	-	-	-	262 906
Mov Cap-2 Maneuver	-	-	-	-	262 -
Stage 1	-	-	-	-	885 -
Stage 2	-	-	-	-	386 -

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	766
HCM Lane V/C Ratio	0.208	-	-	-	0.421
HCM Control Delay (s)	8.2	-	-	-	13.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	2.1

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	15	83	178	80	101	26
Future Vol, veh/h	15	83	178	80	101	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	90	193	87	110	28

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	598	124	138	0	0
Stage 1	124	-	-	-	-
Stage 2	474	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	465	927	1446	-	-
Stage 1	902	-	-	-	-
Stage 2	626	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	400	927	1446	-	-
Mov Cap-2 Maneuver	400	-	-	-	-
Stage 1	902	-	-	-	-
Stage 2	538	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	5.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	771	-	-
HCM Lane V/C Ratio	0.134	-	0.138	-	-
HCM Control Delay (s)	7.9	-	10.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.5	-	-

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	19	22	172	71	0
Future Vol, veh/h	0	19	22	172	71	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	24	187	77	0

























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	211	0	138
Stage 1	-	-	117
Stage 2	-	-	21
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1360	-	855
Stage 1	-	-	908
Stage 2	-	-	1002
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1360	-	855
Mov Cap-2 Maneuver	-	-	855
Stage 1	-	-	908
Stage 2	-	-	1002

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1360	-	-	-	855
HCM Lane V/C Ratio	-	-	-	-	0.09
HCM Control Delay (s)	0	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (2C) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	522	88	303	55	527	397	462	772	20
Future Volume (veh/h)	20	98	80	522	88	303	55	527	397	462	772	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	567	271	212	60	573	432	502	839	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	324	145	676	480	408	341	1150	514	617	1104	494
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.19	0.32	0.32	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	567	271	212	60	573	432	502	839	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.9	2.1	4.0	11.5	9.5	5.3	2.1	9.8	19.0	10.5	16.0	0.6
Cycle Q Clear(g_c), s	0.9	2.1	4.0	11.5	9.5	5.3	2.1	9.8	19.0	10.5	16.0	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	324	145	676	480	408	341	1150	514	617	1104	494
V/C Ratio(X)	0.51	0.33	0.60	0.84	0.56	0.52	0.18	0.50	0.84	0.81	0.76	0.04
Avail Cap(c_a), veh/h	130	1914	856	711	1244	1057	341	1427	639	841	2032	909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	31.9	32.7	29.2	24.2	9.0	25.3	20.4	23.5	29.5	23.2	11.8
Incr Delay (d2), s/veh	8.8	0.6	4.0	8.5	1.0	1.0	0.2	0.3	8.1	4.4	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	1.9	6.5	5.0	3.3	1.1	4.8	9.4	5.3	8.0	0.3
LnGrp Delay(d),s/veh	44.9	32.5	36.7	37.6	25.2	10.0	25.5	20.7	31.6	33.9	24.3	11.8
LnGrp LOS	D	C	D	D	C	B	C	C	C	C	C	B
Approach Vol, veh/h		216			1050			1065			1363	
Approach Delay, s/veh		35.4			28.9			25.4			27.7	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	28.3	18.3	10.8	18.4	27.4	5.8	23.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	12.5	21.0	13.5	6.0	4.1	18.0	2.9	11.5				
Green Ext Time (p_c), s	0.9	3.4	0.7	0.9	0.3	5.4	0.0	4.7				
Intersection Summary												
HCM 2010 Ctrl Delay			27.8									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (2C) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1159	10	15	1200	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1159	10	15	1200	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1260	11	16	1304	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1578	14	34	1453	650	228	306	198	563	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3595	31	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	620	651	16	1304	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	22.8	22.8	0.7	25.9	8.8	0.0	0.0	0.0	22.3	0.0	0.0
Cycle Q Clear(g_c), s	2.5	22.8	22.8	0.7	25.9	8.8	1.5	0.0	0.0	23.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	777	815	34	1453	650	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.80	0.80	0.48	0.90	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	777	815	118	1505	673	991	0	0	856	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.3	18.2	18.2	36.5	20.7	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.2	5.9	5.6	10.2	7.4	0.4	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	12.3	12.8	0.4	14.0	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.5	24.1	23.9	46.7	28.1	16.1	14.8	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h		1331			1582			54			480	
Approach Delay, s/veh		25.0			26.3			14.8			24.3	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.8	5.4	37.0		32.8	7.6	34.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.5	2.7	24.8		25.8	4.5	27.9				
Green Ext Time (p_c), s		3.8	0.0	6.6		3.0	0.0	3.0				
Intersection Summary												
HCM 2010 Ctrl Delay			25.3									
HCM 2010 LOS			C									

Intersection						
Int Delay, s/veh	92.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	213	570	501	90	105	222
Future Vol, veh/h	213	570	501	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	620	545	98	114	241

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	642	0	-	0	1676 593
Stage 1	-	-	-	-	593 -
Stage 2	-	-	-	-	1083 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	943	-	-	-	~ 105 506
Stage 1	-	-	-	-	552 -
Stage 2	-	-	-	-	325 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	943	-	-	-	~ 79 506
Mov Cap-2 Maneuver	-	-	-	-	~ 79 -
Stage 1	-	-	-	-	552 -
Stage 2	-	-	-	-	245 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	\$ 476.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	943	-	-	-	185
HCM Lane V/C Ratio	0.246	-	-	-	1.921
HCM Control Delay (s)	10.1	-	-	-	\$ 476.3
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	1	-	-	-	26.4

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 31.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	482	213	173	50	40	398
Future Vol, veh/h	482	213	173	50	40	398
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	524	232	188	54	43	433

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	242	0	0	1494	215
Stage 1	-	-	-	215	-
Stage 2	-	-	-	1279	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1324	-	-	136	825
Stage 1	-	-	-	821	-
Stage 2	-	-	-	261	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1324	-	-	82	825
Mov Cap-2 Maneuver	-	-	-	82	-
Stage 1	-	-	-	821	-
Stage 2	-	-	-	158	-

Approach

	EB	WB	SB
HCM Control Delay, s	6.6	0	88.3
HCM LOS			F

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1324	-	-	-	451
HCM Lane V/C Ratio	0.396	-	-	-	1.056
HCM Control Delay (s)	9.5	-	-	-	88.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	15

Intersection

Int Delay, s/veh 4.6

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	21	112	181	136	168	40
Future Vol, veh/h	21	112	181	136	168	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	122	197	148	183	43

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	745	204	226	0	-	0
Stage 1	204	-	-	-	-	-
Stage 2	541	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	382	837	1342	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	321	837	1342	-	-	-
Mov Cap-2 Maneuver	321	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	490	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	11.9	4.6	0
HCM LOS	B		

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1342	-	668	-	-
HCM Lane V/C Ratio	0.147	-	0.216	-	-
HCM Control Delay (s)	8.1	-	11.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.8	-	-

Intersection

Int Delay, s/veh 3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	16	32	168	107	0
Future Vol, veh/h	0	16	32	168	107	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	35	183	116	0

























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	217	0	0 143 126
Stage 1	-	-	- 126 -
Stage 2	-	-	- 17 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1353	-	- 850 924
Stage 1	-	-	- 900 -
Stage 2	-	-	- 1006 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1353	-	- 850 924
Mov Cap-2 Maneuver	-	-	- 850 -
Stage 1	-	-	- 900 -
Stage 2	-	-	- 1006 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1353	-	-	-	850
HCM Lane V/C Ratio	-	-	-	-	0.137
HCM Control Delay (s)	0	-	-	-	9.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (2C) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	336	63	221	35	438	301	374	423	10
Future Volume (veh/h)	0	54	63	336	63	221	35	438	301	374	423	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	365	197	154	38	476	327	407	460	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	321	144	587	613	521	439	1015	454	572	727	325
Arrive On Green	0.00	0.09	0.09	0.17	0.33	0.33	0.25	0.29	0.29	0.17	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	365	197	154	38	476	327	407	460	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.8	2.2	5.3	4.4	2.1	0.9	6.1	10.2	6.2	6.5	0.3
Cycle Q Clear(g_c), s	0.0	0.8	2.2	5.3	4.4	2.1	0.9	6.1	10.2	6.2	6.5	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	321	144	587	613	521	439	1015	454	572	727	325
V/C Ratio(X)	0.00	0.18	0.47	0.62	0.32	0.30	0.09	0.47	0.72	0.71	0.63	0.03
Avail Cap(c_a), veh/h	177	2604	1165	967	1692	1438	439	1942	869	1144	2765	1237
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	23.1	23.8	21.4	13.9	3.9	15.9	16.2	17.6	21.7	20.0	14.5
Incr Delay (d2), s/veh	0.0	0.3	2.4	1.1	0.3	0.3	0.1	0.3	2.2	1.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.1	2.7	2.3	1.5	0.5	3.0	4.7	3.1	3.3	0.1
LnGrp Delay(d),s/veh	0.0	23.4	26.2	22.4	14.2	4.3	16.0	16.5	19.8	23.4	20.9	14.5
LnGrp LOS		C	C	C	B	A	B	B	B	C	C	B
Approach Vol, veh/h		127			716			841			878	
Approach Delay, s/veh		24.9			16.3			17.8			22.0	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.1	19.8	13.1	9.0	17.6	15.3	0.0	22.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.2	12.2	7.3	4.2	2.9	8.5	0.0	6.4				
Green Ext Time (p_c), s	1.0	3.6	1.9	0.5	0.4	2.8	0.0	3.0				
Intersection Summary												
HCM 2010 Ctrl Delay			19.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (2C) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	853	10	15	823	132	15	20	15	137	0	29
Future Volume (veh/h)	23	853	10	15	823	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	927	11	16	895	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1880	22	36	1823	816	156	169	92	357	9	46
Arrive On Green	0.03	0.52	0.52	0.02	0.52	0.52	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3582	43	1774	3539	1583	273	938	510	1148	49	257
Grp Volume(v), veh/h	25	458	480	16	895	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1722	0	0	1455	0	0
Q Serve(g_s), s	0.6	7.2	7.2	0.4	7.2	2.1	0.0	0.0	0.0	3.8	0.0	0.0
Cycle Q Clear(g_c), s	0.6	7.2	7.2	0.4	7.2	2.1	1.1	0.0	0.0	5.0	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	929	974	36	1823	816	417	0	0	413	0	0
V/C Ratio(X)	0.47	0.49	0.49	0.45	0.49	0.18	0.13	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	203	1296	1358	203	2591	1159	1636	0	0	1472	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.9	6.7	6.7	21.2	6.9	5.6	15.1	0.0	0.0	16.6	0.0	0.0
Incr Delay (d2), s/veh	6.3	0.4	0.4	8.5	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.5	3.7	0.3	3.5	0.9	0.6	0.0	0.0	2.1	0.0	0.0
LnGrp Delay(d),s/veh	27.2	7.1	7.0	29.6	7.1	5.7	15.3	0.0	0.0	17.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		963			1054			54			181	
Approach Delay, s/veh		7.6			7.2			15.3			17.3	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.9	4.9	26.9		11.9	5.3	26.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.1	2.4	9.2		7.0	2.6	9.2				
Green Ext Time (p_c), s		1.4	0.0	13.3		1.4	0.0	13.3				
Intersection Summary												
HCM 2010 Ctrl Delay				8.4								
HCM 2010 LOS				A								

Intersection						
Int Delay, s/veh	10.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	133	299	380	39	73	231
Future Vol, veh/h	133	299	380	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	325	413	42	79	251

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	455	0	-	0	1048 434
Stage 1	-	-	-	-	434 -
Stage 2	-	-	-	-	614 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1106	-	-	-	252 622
Stage 1	-	-	-	-	653 -
Stage 2	-	-	-	-	540 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1106	-	-	-	219 622
Mov Cap-2 Maneuver	-	-	-	-	219 -
Stage 1	-	-	-	-	653 -
Stage 2	-	-	-	-	469 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	35.9
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1106	-	-	-	431
HCM Lane V/C Ratio	0.131	-	-	-	0.767
HCM Control Delay (s)	8.7	-	-	-	35.9
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.4	-	-	-	6.5

Intersection						
Int Delay, s/veh	7.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	279	107	116	30	22	281
Future Vol, veh/h	279	107	116	30	22	281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	303	116	126	33	24	305

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	159	0	0	865	142
Stage 1	-	-	-	142	-
Stage 2	-	-	-	723	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1420	-	-	324	906
Stage 1	-	-	-	885	-
Stage 2	-	-	-	481	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1420	-	-	255	906
Mov Cap-2 Maneuver	-	-	-	255	-
Stage 1	-	-	-	885	-
Stage 2	-	-	-	378	-

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	764
HCM Lane V/C Ratio	0.214	-	-	-	0.431
HCM Control Delay (s)	8.2	-	-	-	13.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	2.2

Intersection						
Int Delay, s/veh	5.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑		↑
Traffic Vol, veh/h	15	134	223	80	101	26
Future Vol, veh/h	15	134	223	80	101	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	146	242	87	110	28

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	696	124	138	0	0
Stage 1	124	-	-	-	-
Stage 2	572	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	408	927	1446	-	-
Stage 1	902	-	-	-	-
Stage 2	565	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	336	927	1446	-	-
Mov Cap-2 Maneuver	336	-	-	-	-
Stage 1	902	-	-	-	-
Stage 2	466	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	5.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	788	-	-
HCM Lane V/C Ratio	0.168	-	0.206	-	-
HCM Control Delay (s)	8	-	10.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0.8	-	-

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	0	19	22	217	122	0
Future Vol, veh/h	0	19	22	217	122	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	24	236	133	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	260	0	-	0	163
Stage 1	-	-	-	-	142
Stage 2	-	-	-	-	21
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1304	-	-	-	828
Stage 1	-	-	-	-	885
Stage 2	-	-	-	-	1002
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1304	-	-	-	828
Mov Cap-2 Maneuver	-	-	-	-	828
Stage 1	-	-	-	-	885
Stage 2	-	-	-	-	1002

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1304	-	-	-	828
HCM Lane V/C Ratio	-	-	-	-	0.16
HCM Control Delay (s)	0	-	-	-	10.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (2D) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	507	88	271	55	527	369	401	772	20
Future Volume (veh/h)	20	98	80	507	88	271	55	527	369	401	772	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	551	245	196	60	573	401	436	839	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	334	150	691	492	418	285	1118	500	564	1129	505
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.16	0.32	0.32	0.16	0.32	0.32
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	551	245	196	60	573	401	436	839	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.8	2.0	3.6	10.2	7.7	4.5	2.0	9.1	16.1	8.4	14.6	0.5
Cycle Q Clear(g_c), s	0.8	2.0	3.6	10.2	7.7	4.5	2.0	9.1	16.1	8.4	14.6	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	44	334	150	691	492	418	285	1118	500	564	1129	505
V/C Ratio(X)	0.50	0.32	0.58	0.80	0.50	0.47	0.21	0.51	0.80	0.77	0.74	0.04
Avail Cap(c_a), veh/h	141	2071	926	769	1345	1144	285	1544	691	910	2198	984
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	29.3	30.0	26.6	21.6	8.2	25.2	19.3	21.7	27.7	21.0	10.3
Incr Delay (d2), s/veh	8.4	0.5	3.5	5.4	0.8	0.8	0.4	0.4	4.7	2.3	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.0	1.7	5.5	4.1	2.8	1.0	4.5	7.6	4.2	7.3	0.3
LnGrp Delay(d),s/veh	41.7	29.8	33.6	32.0	22.4	9.0	25.6	19.7	26.4	30.0	22.0	10.3
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		216			992			1034			1297	
Approach Delay, s/veh		32.5			25.1			22.7			24.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	25.9	17.5	10.5	15.1	26.1	5.7	22.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	10.4	18.1	12.2	5.6	4.0	16.6	2.8	9.7				
Green Ext Time (p_c), s	1.0	3.8	1.2	0.9	0.3	5.4	0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay			24.6									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (2D) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1070	10	15	1154	241	15	20	15	386	10	45
Future Volume (veh/h)	55	1070	10	15	1154	241	15	20	15	386	10	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	60	1163	11	16	1254	262	16	22	16	420	11	49
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1575	15	34	1451	649	228	306	199	563	12	55
Arrive On Green	0.05	0.44	0.44	0.02	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3592	34	1774	3539	1583	433	799	519	1236	32	144
Grp Volume(v), veh/h	60	573	601	16	1254	262	54	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1751	0	0	1412	0	0
Q Serve(g_s), s	2.5	20.2	20.2	0.7	24.3	8.8	0.0	0.0	0.0	22.3	0.0	0.0
Cycle Q Clear(g_c), s	2.5	20.2	20.2	0.7	24.3	8.8	1.5	0.0	0.0	23.7	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.30		0.30	0.87		0.10
Lane Grp Cap(c), veh/h	84	776	814	34	1451	649	732	0	0	630	0	0
V/C Ratio(X)	0.71	0.74	0.74	0.48	0.86	0.40	0.07	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	118	776	814	118	1509	675	993	0	0	858	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.2	17.5	17.5	36.5	20.2	15.7	14.8	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	11.1	3.7	3.6	10.2	5.4	0.4	0.0	0.0	0.0	2.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	10.5	11.0	0.4	12.9	3.9	0.7	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	46.3	21.2	21.1	46.6	25.6	16.1	14.8	0.0	0.0	24.2	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h		1234			1532			54			480	
Approach Delay, s/veh		22.4			24.2			14.8			24.2	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.7	5.4	36.9		32.7	7.6	34.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.5	2.7	22.2		25.7	4.5	26.3				
Green Ext Time (p_c), s		3.8	0.0	8.6		3.0	0.0	4.5				
Intersection Summary												
HCM 2010 Ctrl Delay			23.4									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 87

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	213	562	485	90	105	222
Future Vol, veh/h	213	562	485	90	105	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	611	527	98	114	241

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	625	0	0 1650 576
Stage 1	-	-	- 576 -
Stage 2	-	-	- 1074 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	956	-	- ~ 109 517
Stage 1	-	-	- 562 -
Stage 2	-	-	- 328 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	956	-	- ~ 83 517
Mov Cap-2 Maneuver	-	-	- ~ 83 -
Stage 1	-	-	- 562 -
Stage 2	-	-	- 248 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	\$ 439.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	956	-	-	-	193
HCM Lane V/C Ratio	0.242	-	-	-	1.842
HCM Control Delay (s)	10	-	-	-	\$ 439.6
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.9	-	-	-	25.5

Notes

-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 27.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	474	213	173	50	40	382
Future Vol, veh/h	474	213	173	50	40	382
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	515	232	188	54	43	415

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	242	0	0	1477	215
Stage 1	-	-	-	215	-
Stage 2	-	-	-	1262	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1324	-	-	139	825
Stage 1	-	-	-	821	-
Stage 2	-	-	-	266	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1324	-	-	85	825
Mov Cap-2 Maneuver	-	-	-	85	-
Stage 1	-	-	-	821	-
Stage 2	-	-	-	163	-

Approach

	EB	WB	SB
HCM Control Delay, s	6.5	0	76.7
HCM LOS			F

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1324	-	-	-	452
HCM Lane V/C Ratio	0.389	-	-	-	1.015
HCM Control Delay (s)	9.4	-	-	-	76.7
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	13.5

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	21	50	59	136	168	40
Future Vol, veh/h	21	50	59	136	168	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	54	64	148	183	43

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	480	204	226	0	-	0
Stage 1	204	-	-	-	-	-
Stage 2	276	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	545	837	1342	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	517	837	1342	-	-	-
Mov Cap-2 Maneuver	517	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	731	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	2.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	707	-	-
HCM Lane V/C Ratio	0.048	-	0.109	-	-
HCM Control Delay (s)	7.8	-	10.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection

Int Delay, s/veh 2.9

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	0	16	32	46	45	0
Future Vol, veh/h	0	16	32	46	45	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	35	50	49	0

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	85	0	-	0	77	60
Stage 1	-	-	-	-	60	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1512	-	-	-	926	1005
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1512	-	-	-	926	1005
Mov Cap-2 Maneuver	-	-	-	-	926	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	1006	-

Approach EB WB SB

























HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1512	-	-	-	926
HCM Lane V/C Ratio	-	-	-	-	0.053
HCM Control Delay (s)	0	-	-	-	9.1
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (2D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	325	63	198	35	438	269	308	423	10
Future Volume (veh/h)	0	54	63	325	63	198	35	438	269	308	423	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	353	178	142	38	476	292	335	460	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	348	156	590	640	544	370	968	433	505	749	335
Arrive On Green	0.00	0.10	0.10	0.17	0.34	0.34	0.21	0.27	0.27	0.15	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	353	178	142	38	476	292	335	460	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.8	2.1	4.7	3.5	1.8	0.9	5.7	8.3	4.7	6.0	0.3
Cycle Q Clear(g_c), s	0.0	0.8	2.1	4.7	3.5	1.8	0.9	5.7	8.3	4.7	6.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	348	156	590	640	544	370	968	433	505	749	335
V/C Ratio(X)	0.00	0.17	0.44	0.60	0.28	0.26	0.10	0.49	0.67	0.66	0.61	0.03
Avail Cap(c_a), veh/h	192	2823	1263	1048	1834	1559	370	2105	942	1240	2997	1341
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.0	21.6	19.6	12.1	3.5	16.3	15.5	16.4	20.5	18.1	12.9
Incr Delay (d2), s/veh	0.0	0.2	1.9	1.0	0.2	0.3	0.1	0.4	1.8	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.0	2.3	1.8	1.3	0.4	2.8	3.9	2.3	3.0	0.1
LnGrp Delay(d),s/veh	0.0	21.2	23.5	20.6	12.3	3.7	16.4	15.9	18.3	22.0	19.0	12.9
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		127			673			806			806	
Approach Delay, s/veh		22.4			14.8			16.8			20.1	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	17.9	12.4	9.0	14.6	14.7	0.0	21.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	6.7	10.3	6.7	4.1	2.9	8.0	0.0	5.5				
Green Ext Time (p_c), s	0.8	3.5	1.8	0.5	0.3	2.8	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			17.6									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (2D) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	755	10	15	789	132	15	20	15	137	0	29
Future Volume (veh/h)	23	755	10	15	789	132	15	20	15	137	0	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	821	11	16	858	143	16	22	16	149	0	32
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1831	25	36	1777	795	160	171	93	365	9	47
Arrive On Green	0.03	0.51	0.51	0.02	0.50	0.50	0.18	0.18	0.18	0.18	0.00	0.18
Sat Flow, veh/h	1774	3576	48	1774	3539	1583	269	942	510	1146	51	257
Grp Volume(v), veh/h	25	406	426	16	858	143	54	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1583	1720	0	0	1454	0	0
Q Serve(g_s), s	0.6	6.1	6.1	0.4	6.7	2.1	0.0	0.0	0.0	3.7	0.0	0.0
Cycle Q Clear(g_c), s	0.6	6.1	6.1	0.4	6.7	2.1	1.1	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		0.03	1.00		1.00	0.30		0.30	0.82		0.18
Lane Grp Cap(c), veh/h	53	906	949	36	1777	795	424	0	0	421	0	0
V/C Ratio(X)	0.47	0.45	0.45	0.44	0.48	0.18	0.13	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	211	1349	1414	211	2698	1207	1702	0	0	1533	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.0	6.5	6.5	20.3	6.9	5.7	14.5	0.0	0.0	15.9	0.0	0.0
Incr Delay (d2), s/veh	6.2	0.3	0.3	8.4	0.2	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.0	3.2	0.3	3.3	0.9	0.5	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	26.3	6.8	6.8	28.7	7.1	5.8	14.6	0.0	0.0	16.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		857			1017			54			181	
Approach Delay, s/veh		7.4			7.2			14.6			16.6	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.6	4.9	25.5		11.6	5.3	25.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.1	2.4	8.1		6.8	2.6	8.7				
Green Ext Time (p_c), s		1.4	0.0	12.6		1.4	0.0	12.4				
Intersection Summary												
HCM 2010 Ctrl Delay			8.3									
HCM 2010 LOS			A									

Intersection

Int Delay, s/veh 9.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	133	293	362	39	73	231
Future Vol, veh/h	133	293	362	39	73	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	318	393	42	79	251

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	436	0	-	0	1023 415
Stage 1	-	-	-	-	415 -
Stage 2	-	-	-	-	608 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1124	-	-	-	261 637
Stage 1	-	-	-	-	666 -
Stage 2	-	-	-	-	543 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1124	-	-	-	227 637
Mov Cap-2 Maneuver	-	-	-	-	227 -
Stage 1	-	-	-	-	666 -
Stage 2	-	-	-	-	473 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	33.2
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1124	-	-	-	444
HCM Lane V/C Ratio	0.129	-	-	-	0.744
HCM Control Delay (s)	8.7	-	-	-	33.2
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	6.1

Intersection

Int Delay, s/veh 7.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	273	107	116	30	22	263
Future Vol, veh/h	273	107	116	30	22	263
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	297	116	126	33	24	286

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	159	0	0	852	142
Stage 1	-	-	-	142	-
Stage 2	-	-	-	710	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1420	-	-	330	906
Stage 1	-	-	-	885	-
Stage 2	-	-	-	487	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1420	-	-	261	906
Mov Cap-2 Maneuver	-	-	-	261	-
Stage 1	-	-	-	885	-
Stage 2	-	-	-	385	-

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	761
HCM Lane V/C Ratio	0.209	-	-	-	0.407
HCM Control Delay (s)	8.2	-	-	-	12.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	2

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑		↑
Traffic Vol, veh/h	15	88	89	80	101	26
Future Vol, veh/h	15	88	89	80	101	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	96	97	87	110	28

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	404	124	138	0	0
Stage 1	124	-	-	-	-
Stage 2	280	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	603	927	1446	-	-
Stage 1	902	-	-	-	-
Stage 2	767	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	561	927	1446	-	-
Mov Cap-2 Maneuver	561	-	-	-	-
Stage 1	902	-	-	-	-
Stage 2	713	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	847	-	-
HCM Lane V/C Ratio	0.067	-	0.132	-	-
HCM Control Delay (s)	7.7	-	9.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-

Intersection

Int Delay, s/veh 3.6

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	19	22	83	76	0
Future Vol, veh/h	0	19	22	83	76	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	24	90	83	0

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	114	0	-	0	90	69
Stage 1	-	-	-	-	69	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1475	-	-	-	910	994
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	1002	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1475	-	-	-	910	994
Mov Cap-2 Maneuver	-	-	-	-	910	-
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	1002	-

Approach EB WB SB

























HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1475	-	-	-	910
HCM Lane V/C Ratio	-	-	-	-	0.091
HCM Control Delay (s)	0	-	-	-	9.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (3A) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	104	70	519	80	349	61	506	429	479	770	19
Future Volume (veh/h)	16	104	70	519	80	349	61	506	429	479	770	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	17	113	76	564	0	437	66	550	466	521	837	21
Adj No. of Lanes	1	2	1	2	0	2	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	296	133	662	0	793	379	1206	539	625	1093	489
Arrive On Green	0.02	0.08	0.08	0.19	0.00	0.25	0.21	0.34	0.34	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	0	3167	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	17	113	76	564	0	437	66	550	466	521	837	21
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	0	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.7	2.3	3.6	11.9	0.0	5.7	2.3	9.4	21.2	11.3	16.5	0.6
Cycle Q Clear(g_c), s	0.7	2.3	3.6	11.9	0.0	5.7	2.3	9.4	21.2	11.3	16.5	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	35	296	133	662	0	793	379	1206	539	625	1093	489
V/C Ratio(X)	0.48	0.38	0.57	0.85	0.00	0.55	0.17	0.46	0.86	0.83	0.77	0.04
Avail Cap(c_a), veh/h	126	1857	831	689	0	2051	379	1430	640	771	1971	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	33.5	34.0	30.4	0.0	9.6	24.8	19.9	23.8	30.5	24.2	12.6
Incr Delay (d2), s/veh	10.0	0.8	3.9	9.7	0.0	0.6	0.2	0.3	10.4	6.5	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.2	1.7	6.7	0.0	3.5	1.2	4.6	10.7	5.9	8.2	0.3
LnGrp Delay(d),s/veh	47.4	34.3	37.9	40.1	0.0	10.2	25.0	20.1	34.2	37.0	25.3	12.6
LnGrp LOS	D	C	D	D		B	C	C	C	D	C	B
Approach Vol, veh/h		206			1001			1082			1379	
Approach Delay, s/veh		36.7			27.1			26.5			29.5	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	30.3	18.4	10.5	20.5	27.8	5.5	23.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.3	31.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	13.3	23.2	13.9	5.6	4.3	18.5	2.7	7.7				
Green Ext Time (p_c), s	0.8	3.1	0.5	0.9	0.3	5.3	0.0	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			28.4									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (3A) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	1204	10	13	1225	248	15	20	19	354	7	48
Future Volume (veh/h)	53	1204	10	13	1225	248	15	20	19	354	7	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	58	1309	11	14	1332	270	16	22	21	385	8	52
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1642	14	30	1507	674	199	269	224	534	9	60
Arrive On Green	0.05	0.46	0.46	0.02	0.43	0.43	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1774	3597	30	1774	3539	1583	377	746	621	1222	25	165
Grp Volume(v), veh/h	58	644	676	14	1332	270	59	0	0	445	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1743	0	0	1412	0	0
Q Serve(g_s), s	2.3	22.5	22.5	0.6	25.1	8.5	0.0	0.0	0.0	19.5	0.0	0.0
Cycle Q Clear(g_c), s	2.3	22.5	22.5	0.6	25.1	8.5	1.6	0.0	0.0	21.2	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.27		0.36	0.87		0.12
Lane Grp Cap(c), veh/h	84	808	848	30	1507	674	692	0	0	602	0	0
V/C Ratio(X)	0.69	0.80	0.80	0.47	0.88	0.40	0.09	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	123	808	848	123	1565	700	1020	0	0	888	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.9	16.8	16.8	35.2	19.1	14.4	15.3	0.0	0.0	21.3	0.0	0.0
Incr Delay (d2), s/veh	9.5	5.6	5.4	10.8	6.2	0.4	0.1	0.0	0.0	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	12.2	12.7	0.4	13.5	3.7	0.8	0.0	0.0	8.6	0.0	0.0
LnGrp Delay(d),s/veh	43.4	22.4	22.2	46.0	25.4	14.8	15.3	0.0	0.0	23.2	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h		1378			1616			59			445	
Approach Delay, s/veh		23.2			23.8			15.3			23.2	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.1	5.2	37.0		30.1	7.4	34.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.6	2.6	24.5		23.2	4.3	27.1				
Green Ext Time (p_c), s		3.5	0.0	6.9		3.0	0.0	3.7				
Intersection Summary												
HCM 2010 Ctrl Delay			23.3									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh	52.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	194	522	440	95	102	193
Future Vol, veh/h	194	522	440	95	102	193
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	211	567	478	103	111	210

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	582	0	-	0	1519
Stage 1	-	-	-	-	530
Stage 2	-	-	-	-	989
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	992	-	-	-	131
Stage 1	-	-	-	-	590
Stage 2	-	-	-	-	360
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	992	-	-	-	~ 103
Mov Cap-2 Maneuver	-	-	-	-	~ 103
Stage 1	-	-	-	-	590
Stage 2	-	-	-	-	283

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	270.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	992	-	-	-	220
HCM Lane V/C Ratio	0.213	-	-	-	1.458
HCM Control Delay (s)	9.6	-	-	-	270.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	18.9

Notes

-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 36.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	462	171	147	63	55	370
Future Vol, veh/h	462	171	147	63	55	370
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	502	186	160	68	60	402

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	228	0	0	1384	194
Stage 1	-	-	-	194	-
Stage 2	-	-	-	1190	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1340	-	-	158	847
Stage 1	-	-	-	839	-
Stage 2	-	-	-	289	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1340	-	-	99	847
Mov Cap-2 Maneuver	-	-	-	99	-
Stage 1	-	-	-	839	-
Stage 2	-	-	-	181	-

Approach

	EB	WB	SB
HCM Control Delay, s	6.8	0	97.6
HCM LOS			F

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1340	-	-	-	428
HCM Lane V/C Ratio	0.375	-	-	-	1.079
HCM Control Delay (s)	9.3	-	-	-	97.6
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.8	-	-	-	15.5

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑		↑
Traffic Vol, veh/h	17	23	55	129	139	27
Future Vol, veh/h	17	23	55	129	139	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	25	60	140	151	29

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	426	166	180	0	0
Stage 1	166	-	-	-	-
Stage 2	260	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	585	878	1396	-	-
Stage 1	863	-	-	-	-
Stage 2	783	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	558	878	1396	-	-
Mov Cap-2 Maneuver	558	-	-	-	-
Stage 1	863	-	-	-	-
Stage 2	746	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1396	-	706	-	-
HCM Lane V/C Ratio	0.043	-	0.062	-	-
HCM Control Delay (s)	7.7	-	10.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection

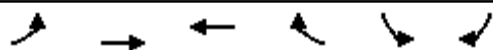
Int Delay, s/veh 5.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Vol, veh/h	0	18	35	670	468	0
Future Vol, veh/h	0	18	35	670	468	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	38	728	509	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	38	0	58
Stage 1	-	-	38
Stage 2	-	-	20
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1572	-	949
Stage 1	-	-	984
Stage 2	-	-	1003
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1572	-	949
Mov Cap-2 Maneuver	-	-	949
Stage 1	-	-	984
Stage 2	-	-	1003

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1572	-	-	-	949
HCM Lane V/C Ratio	-	-	-	-	0.536
HCM Control Delay (s)	0	-	-	-	13.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	3.3



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↖	↑	↗		↖	↗		
Traffic Volume (veh/h)	151	335	264	2	5	442		
Future Volume (veh/h)	151	335	264	2	5	442		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	164	364	287	2	5	480		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	208	863	466	3	620	553		
Arrive On Green	0.12	0.46	0.25	0.25	0.35	0.35		
Sat Flow, veh/h	1774	1863	1848	13	1774	1583		
Grp Volume(v), veh/h	164	364	0	289	5	480		
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1860	1774	1583		
Q Serve(g_s), s	3.8	5.6	0.0	5.9	0.1	12.1		
Cycle Q Clear(g_c), s	3.8	5.6	0.0	5.9	0.1	12.1		
Prop In Lane	1.00			0.01	1.00	1.00		
Lane Grp Cap(c), veh/h	208	863	0	469	620	553		
V/C Ratio(X)	0.79	0.42	0.00	0.62	0.01	0.87		
Avail Cap(c_a), veh/h	249	1222	0	785	790	705		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.3	7.6	0.0	14.1	9.1	13.0		
Incr Delay (d2), s/veh	13.1	0.3	0.0	1.3	0.0	9.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.6	2.9	0.0	3.1	0.0	10.7		
LnGrp Delay(d),s/veh	31.4	8.0	0.0	15.5	9.1	22.2		
LnGrp LOS	C	A		B	A	C		
Approach Vol, veh/h		528	289		485			
Approach Delay, s/veh		15.2	15.5		22.0			
Approach LOS		B	B		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				23.8		18.9	9.0	14.8
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s				7.6		14.1	5.8	7.9
Green Ext Time (p_c), s				4.0		0.8	0.0	2.9
Intersection Summary								
HCM 2010 Ctrl Delay			17.8					
HCM 2010 LOS			B					

Intersection

Intersection Delay, s/veh11.5

Intersection LOS B

























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	306	34	0	0	53	4	212	0	2	0	0	0
Future Vol, veh/h	306	34	0	0	53	4	212	0	2	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	333	37	0	0	58	4	230	0	2	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	12.5	8.5	10.8
HCM LOS	B	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	99%	90%	0%
Vol Thru, %	0%	10%	93%
Vol Right, %	1%	0%	7%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	214	340	57
LT Vol	212	306	0
Through Vol	0	34	53
RT Vol	2	0	4
Lane Flow Rate	233	370	62
Geometry Grp	1	1	1
Degree of Util (X)	0.334	0.494	0.085
Departure Headway (Hd)	5.175	4.811	4.965
Convergence, Y/N	Yes	Yes	Yes
Cap	691	747	716
Service Time	3.231	2.857	3.032
HCM Lane V/C Ratio	0.337	0.495	0.087
HCM Control Delay	10.8	12.5	8.5
HCM Lane LOS	B	B	A
HCM 95th-tile Q	1.5	2.8	0.3

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (3A) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	57	55	333	58	251	39	420	325	391	422	9
Future Volume (veh/h)	0	57	55	333	58	251	39	420	325	391	422	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	62	60	362	0	315	42	457	353	425	459	10
Adj No. of Lanes	1	2	1	2	0	2	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	313	140	567	0	1010	472	1059	474	583	718	321
Arrive On Green	0.00	0.09	0.09	0.16	0.00	0.32	0.27	0.30	0.30	0.17	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3548	0	3167	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	62	60	362	0	315	42	457	353	425	459	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	0	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.9	2.0	5.4	0.0	4.3	1.0	5.9	11.4	6.6	6.7	0.3
Cycle Q Clear(g_c), s	0.0	0.9	2.0	5.4	0.0	4.3	1.0	5.9	11.4	6.6	6.7	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	313	140	567	0	1010	472	1059	474	583	718	321
V/C Ratio(X)	0.00	0.20	0.43	0.64	0.00	0.31	0.09	0.43	0.74	0.73	0.64	0.03
Avail Cap(c_a), veh/h	173	2536	1134	942	0	2801	472	1953	874	1053	2692	1204
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	23.9	24.4	22.2	0.0	14.6	15.6	15.9	17.9	22.2	20.6	18.1
Incr Delay (d2), s/veh	0.0	0.3	2.1	1.2	0.0	0.2	0.1	0.3	2.3	1.8	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	1.0	2.7	0.0	1.9	0.5	2.9	5.2	3.3	3.3	0.1
LnGrp Delay(d),s/veh	0.0	24.2	26.5	23.4	0.0	14.7	15.7	16.2	20.2	24.0	21.6	18.1
LnGrp LOS		C	C	C		B	B	B	C	C	C	B
Approach Vol, veh/h		122			677			852			894	
Approach Delay, s/veh		25.3			19.4			17.8			22.7	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	20.9	13.0	9.0	19.0	15.5	0.0	22.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.3	31.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.6	13.4	7.4	4.0	3.0	8.7	0.0	6.3				
Green Ext Time (p_c), s	1.0	3.6	1.7	0.5	0.4	2.8	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			20.3									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (3A) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	890	10	13	840	136	15	20	19	126	0	31
Future Volume (veh/h)	22	890	10	13	840	136	15	20	19	126	0	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	24	967	11	14	913	148	16	22	21	137	0	34
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	1922	22	32	1859	832	146	148	105	340	10	50
Arrive On Green	0.03	0.54	0.54	0.02	0.53	0.53	0.17	0.17	0.17	0.17	0.00	0.17
Sat Flow, veh/h	1774	3584	41	1774	3539	1583	240	861	608	1115	58	291
Grp Volume(v), veh/h	24	477	501	14	913	148	59	0	0	171	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1856	1774	1770	1583	1709	0	0	1464	0	0
Q Serve(g_s), s	0.6	7.5	7.5	0.3	7.2	2.1	0.0	0.0	0.0	3.4	0.0	0.0
Cycle Q Clear(g_c), s	0.6	7.5	7.5	0.3	7.2	2.1	1.3	0.0	0.0	4.7	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.27		0.36	0.80		0.20
Lane Grp Cap(c), veh/h	51	949	995	32	1859	832	398	0	0	400	0	0
V/C Ratio(X)	0.47	0.50	0.50	0.44	0.49	0.18	0.15	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	202	1292	1355	202	2584	1156	1624	0	0	1467	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.9	6.5	6.5	21.3	6.7	5.4	15.5	0.0	0.0	16.8	0.0	0.0
Incr Delay (d2), s/veh	6.5	0.4	0.4	9.3	0.2	0.1	0.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.7	3.9	0.2	3.5	0.9	0.6	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	27.4	6.9	6.9	30.6	6.9	5.6	15.7	0.0	0.0	17.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		1002			1075			59			171	
Approach Delay, s/veh		7.4			7.0			15.7			17.6	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.5	4.8	27.5		11.5	5.3	27.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.3	2.3	9.5		6.7	2.6	9.2				
Green Ext Time (p_c), s		1.4	0.0	13.7		1.4	0.0	13.8				
Intersection Summary												
HCM 2010 Ctrl Delay			8.2									
HCM 2010 LOS			A									

Intersection

Int Delay, s/veh 7.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	121	265	322	41	71	201
Future Vol, veh/h	121	265	322	41	71	201
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	288	350	45	77	218

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	395	0	-	0	923 372
Stage 1	-	-	-	-	372 -
Stage 2	-	-	-	-	551 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1164	-	-	-	299 674
Stage 1	-	-	-	-	697 -
Stage 2	-	-	-	-	577 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1164	-	-	-	265 674
Mov Cap-2 Maneuver	-	-	-	-	265 -
Stage 1	-	-	-	-	697 -
Stage 2	-	-	-	-	512 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	23.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1164	-	-	-	480
HCM Lane V/C Ratio	0.113	-	-	-	0.616
HCM Control Delay (s)	8.5	-	-	-	23.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	4.1

Intersection

Int Delay, s/veh 8.4

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	260	86	98	46	49	248
Future Vol, veh/h	260	86	98	46	49	248
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	283	93	107	50	53	270

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	157	0	-	0	791	132
Stage 1	-	-	-	-	132	-
Stage 2	-	-	-	-	659	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1423	-	-	-	358	917
Stage 1	-	-	-	-	894	-
Stage 2	-	-	-	-	515	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1423	-	-	-	287	917
Mov Cap-2 Maneuver		-	-	-	287	-
Stage 1		-	-	-	894	-
Stage 2		-	-	-	413	-

Approach EB WB SB

HCM Control Delay, s	6.1	0	15.2
HCM LOS			C

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1423	-	-	-	673
HCM Lane V/C Ratio	0.199	-	-	-	0.48
HCM Control Delay (s)	8.2	-	-	-	15.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.7	-	-	-	2.6

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑		↑
Traffic Vol, veh/h	18	54	25	76	83	33
Future Vol, veh/h	18	54	25	76	83	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	59	27	83	90	36

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	245	108	126	0	0
Stage 1	108	-	-	-	-
Stage 2	137	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	743	946	1460	-	-
Stage 1	916	-	-	-	-
Stage 2	890	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	729	946	1460	-	-
Mov Cap-2 Maneuver	729	-	-	-	-
Stage 1	916	-	-	-	-
Stage 2	873	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	1.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1460	-	880	-	-
HCM Lane V/C Ratio	0.019	-	0.089	-	-
HCM Control Delay (s)	7.5	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection

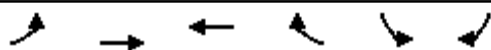
Int Delay, s/veh 4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Vol, veh/h	0	18	22	862	501	0
Future Vol, veh/h	0	18	22	862	501	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	937	545	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	24	0	44
Stage 1	-	-	24
Stage 2	-	-	20
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1591	-	967
Stage 1	-	-	999
Stage 2	-	-	1003
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1591	-	967
Mov Cap-2 Maneuver	-	-	967
Stage 1	-	-	999
Stage 2	-	-	1003

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1591	-	-	-	967
HCM Lane V/C Ratio	-	-	-	-	0.563
HCM Control Delay (s)	0	-	-	-	13.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	3.6



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↕	↗	↖		↘	↙		
Traffic Volume (veh/h)	161	358	319	2	11	565		
Future Volume (veh/h)	161	358	319	2	11	565		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	175	389	347	2	12	614		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	212	862	488	3	671	599		
Arrive On Green	0.12	0.46	0.26	0.26	0.38	0.38		
Sat Flow, veh/h	1774	1863	1850	11	1774	1583		
Grp Volume(v), veh/h	175	389	0	349	12	614		
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1861	1774	1583		
Q Serve(g_s), s	4.8	7.1	0.0	8.5	0.2	19.0		
Cycle Q Clear(g_c), s	4.8	7.1	0.0	8.5	0.2	19.0		
Prop In Lane	1.00			0.01	1.00	1.00		
Lane Grp Cap(c), veh/h	212	862	0	491	671	599		
V/C Ratio(X)	0.83	0.45	0.00	0.71	0.02	1.03		
Avail Cap(c_a), veh/h	212	1038	0	667	671	599		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	21.6	9.2	0.0	16.8	9.8	15.6		
Incr Delay (d2), s/veh	22.8	0.4	0.0	2.2	0.0	43.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.7	3.7	0.0	4.7	0.1	20.7		
LnGrp Delay(d),s/veh	44.4	9.5	0.0	19.0	9.8	59.1		
LnGrp LOS	D	A		B	A	F		
Approach Vol, veh/h		564	349		626			
Approach Delay, s/veh		20.3	19.0		58.1			
Approach LOS		C	B		E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				27.2		23.0	10.0	17.2
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s				9.1		21.0	6.8	10.5
Green Ext Time (p_c), s				4.5		0.0	0.0	2.7
Intersection Summary								
HCM 2010 Ctrl Delay			35.4					
HCM 2010 LOS			D					

Intersection

Intersection Delay, s/veh13.1
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	327	40	0	0	47	4	274	0	4	0	0	0
Future Vol, veh/h	327	40	0	0	47	4	274	0	4	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	355	43	0	0	51	4	298	0	4	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	14.2	8.8	12.5
HCM LOS	B	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	99%	89%	0%
Vol Thru, %	0%	11%	92%
Vol Right, %	1%	0%	8%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	278	367	51
LT Vol	274	327	0
Through Vol	0	40	47
RT Vol	4	0	4
Lane Flow Rate	302	399	55
Geometry Grp	1	1	1
Degree of Util (X)	0.441	0.554	0.082
Departure Headway (Hd)	5.257	4.998	5.322
Convergence, Y/N	Yes	Yes	Yes
Cap	680	718	677
Service Time	3.336	3.068	3.322
HCM Lane V/C Ratio	0.444	0.556	0.081
HCM Control Delay	12.5	14.2	8.8
HCM Lane LOS	B	B	A
HCM 95th-tile Q	2.3	3.4	0.3

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (3B) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	104	70	511	80	332	61	506	422	464	770	19
Future Volume (veh/h)	16	104	70	511	80	332	61	506	422	464	770	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	17	113	76	555	292	224	66	550	459	504	837	21
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	299	134	666	470	399	367	1199	537	613	1098	491
Arrive On Green	0.02	0.08	0.08	0.19	0.25	0.25	0.21	0.34	0.34	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	17	113	76	555	292	224	66	550	459	504	837	21
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.7	2.3	3.5	11.4	10.5	5.8	2.3	9.2	20.5	10.7	16.2	0.6
Cycle Q Clear(g_c), s	0.7	2.3	3.5	11.4	10.5	5.8	2.3	9.2	20.5	10.7	16.2	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	35	299	134	666	470	399	367	1199	537	613	1098	491
V/C Ratio(X)	0.48	0.38	0.57	0.83	0.62	0.56	0.18	0.46	0.86	0.82	0.76	0.04
Avail Cap(c_a), veh/h	129	1890	846	702	1228	1044	367	1456	651	785	2007	898
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	32.8	33.4	29.7	25.1	9.5	24.8	19.6	23.3	30.0	23.6	12.2
Incr Delay (d2), s/veh	9.9	0.8	3.8	8.2	1.3	1.2	0.2	0.3	9.3	5.6	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.1	1.7	6.3	5.6	3.6	1.2	4.6	10.3	5.5	8.1	0.3
LnGrp Delay(d),s/veh	46.7	33.6	37.2	37.8	26.5	10.8	25.0	19.9	32.6	35.6	24.7	12.3
LnGrp LOS	D	C	D	D	C	B	C	B	C	D	C	B
Approach Vol, veh/h		206			1071			1075			1362	
Approach Delay, s/veh		36.0			29.1			25.7			28.6	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.5	29.7	18.2	10.4	19.7	27.5	5.5	23.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.3	31.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	12.7	22.5	13.4	5.5	4.3	18.2	2.7	12.5				
Green Ext Time (p_c), s	0.8	3.2	0.8	0.9	0.3	5.3	0.0	4.9				
Intersection Summary												
HCM 2010 Ctrl Delay			28.3									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (3B) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	1182	10	13	1200	248	15	20	19	354	7	48
Future Volume (veh/h)	53	1182	10	13	1200	248	15	20	19	354	7	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	58	1285	11	14	1304	270	16	22	21	385	8	52
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1640	14	30	1506	674	199	269	224	534	9	60
Arrive On Green	0.05	0.46	0.46	0.02	0.43	0.43	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1774	3596	31	1774	3539	1583	376	746	620	1222	25	165
Grp Volume(v), veh/h	58	632	664	14	1304	270	59	0	0	445	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1743	0	0	1412	0	0
Q Serve(g_s), s	2.3	21.9	21.9	0.6	24.2	8.5	0.0	0.0	0.0	19.5	0.0	0.0
Cycle Q Clear(g_c), s	2.3	21.9	21.9	0.6	24.2	8.5	1.6	0.0	0.0	21.1	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.27		0.36	0.87		0.12
Lane Grp Cap(c), veh/h	84	807	847	30	1506	674	692	0	0	603	0	0
V/C Ratio(X)	0.69	0.78	0.78	0.47	0.87	0.40	0.09	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	123	807	847	123	1567	701	1021	0	0	889	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.9	16.6	16.6	35.2	18.9	14.4	15.3	0.0	0.0	21.3	0.0	0.0
Incr Delay (d2), s/veh	9.5	5.1	4.8	10.8	5.2	0.4	0.1	0.0	0.0	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	11.7	12.2	0.4	12.9	3.7	0.8	0.0	0.0	8.5	0.0	0.0
LnGrp Delay(d),s/veh	43.4	21.7	21.5	46.0	24.1	14.8	15.3	0.0	0.0	23.1	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h		1354			1588			59			445	
Approach Delay, s/veh		22.5			22.7			15.3			23.1	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.1	5.2	37.0		30.1	7.4	34.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.6	2.6	23.9		23.1	4.3	26.2				
Green Ext Time (p_c), s		3.5	0.0	7.4		3.0	0.0	4.5				
Intersection Summary												
HCM 2010 Ctrl Delay			22.6									
HCM 2010 LOS			C									

Intersection						
Int Delay, s/veh	52.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	194	522	440	95	102	193
Future Vol, veh/h	194	522	440	95	102	193
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	211	567	478	103	111	210

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	582	0	-	0	1519 530
Stage 1	-	-	-	-	530 -
Stage 2	-	-	-	-	989 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	992	-	-	-	131 549
Stage 1	-	-	-	-	590 -
Stage 2	-	-	-	-	360 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	992	-	-	-	~ 103 549
Mov Cap-2 Maneuver	-	-	-	-	~ 103 -
Stage 1	-	-	-	-	590 -
Stage 2	-	-	-	-	283 -

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	270.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	992	-	-	-	220
HCM Lane V/C Ratio	0.213	-	-	-	1.458
HCM Control Delay (s)	9.6	-	-	-	270.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	18.9

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Redding Rancheria
9: S Bonnyview Rd & Rancho Rd

Cumulative (2040) plus Project (3B) Conditions
Friday PM Peak

Intersection

Int Delay, s/veh 30.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	462	171	147	59	51	370
Future Vol, veh/h	462	171	147	59	51	370
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	502	186	160	64	55	402

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	224	0	0	1382	192
Stage 1	-	-	-	-	192
Stage 2	-	-	-	-	1190
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1345	-	-	159	850
Stage 1	-	-	-	841	-
Stage 2	-	-	-	289	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1345	-	-	100	850
Mov Cap-2 Maneuver	-	-	-	100	-
Stage 1	-	-	-	841	-
Stage 2	-	-	-	181	-

Approach

	EB	WB	SB
HCM Control Delay, s	6.8	0	81
HCM LOS			F

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1345	-	-	-	445
HCM Lane V/C Ratio	0.373	-	-	-	1.028
HCM Control Delay (s)	9.3	-	-	-	81
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.8	-	-	-	13.9

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	13	23	55	129	139	23
Future Vol, veh/h	13	23	55	129	139	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	25	60	140	151	25

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	424	164	176	0	0
Stage 1	164	-	-	-	-
Stage 2	260	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	587	881	1400	-	-
Stage 1	865	-	-	-	-
Stage 2	783	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	560	881	1400	-	-
Mov Cap-2 Maneuver	560	-	-	-	-
Stage 1	865	-	-	-	-
Stage 2	747	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1400	-	730	-	-
HCM Lane V/C Ratio	0.043	-	0.054	-	-
HCM Control Delay (s)	7.7	-	10.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Vol, veh/h	0	18	35	556	344	0
Future Vol, veh/h	0	18	35	556	344	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	38	604	374	0

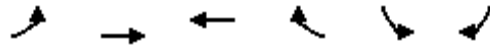
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	38	0	-	0	58 38
Stage 1	-	-	-	-	38 -
Stage 2	-	-	-	-	20 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1572	-	-	-	949 1034
Stage 1	-	-	-	-	984 -
Stage 2	-	-	-	-	1003 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1572	-	-	-	949 1034
Mov Cap-2 Maneuver	-	-	-	-	949 -
Stage 1	-	-	-	-	984 -
Stage 2	-	-	-	-	1003 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1572	-	-	-	949
HCM Lane V/C Ratio	-	-	-	-	0.394
HCM Control Delay (s)	0	-	-	-	11.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1.9

Redding Rancheria
25: Smith Rd & I-5 SB

Cumulative (2040) plus Project (3B) Conditions
Friday PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	111	251	223	2	5	368		
Future Volume (veh/h)	111	251	223	2	5	368		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	121	273	242	2	5	400		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	176	846	443	4	561	501		
Arrive On Green	0.10	0.45	0.24	0.24	0.32	0.32		
Sat Flow, veh/h	1774	1863	1845	15	1774	1583		
Grp Volume(v), veh/h	121	273	0	244	5	400		
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1860	1774	1583		
Q Serve(g_s), s	2.3	3.3	0.0	4.0	0.1	8.1		
Cycle Q Clear(g_c), s	2.3	3.3	0.0	4.0	0.1	8.1		
Prop In Lane	1.00			0.01	1.00	1.00		
Lane Grp Cap(c), veh/h	176	846	0	447	561	501		
V/C Ratio(X)	0.69	0.32	0.00	0.55	0.01	0.80		
Avail Cap(c_a), veh/h	306	1497	0	961	968	864		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.2	6.1	0.0	11.6	8.2	10.9		
Incr Delay (d2), s/veh	4.7	0.2	0.0	1.0	0.0	3.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	1.7	0.0	2.2	0.0	6.8		
LnGrp Delay(d),s/veh	19.9	6.3	0.0	12.6	8.2	13.9		
LnGrp LOS	B	A		B	A	B		
Approach Vol, veh/h		394	244		405			
Approach Delay, s/veh		10.5	12.6		13.8			
Approach LOS		B	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				19.8		15.0	7.4	12.4
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s				5.3		10.1	4.3	6.0
Green Ext Time (p_c), s				3.1		1.0	0.0	2.4
Intersection Summary								
HCM 2010 Ctrl Delay			12.3					
HCM 2010 LOS			B					

Intersection

Intersection Delay, s/veh 9.9
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	226	30	0	0	49	4	176	0	2	0	0	0
Future Vol, veh/h	226	30	0	0	49	4	176	0	2	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	246	33	0	0	53	4	191	0	2	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	10.4	8.1	9.7
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	99%	88%	0%
Vol Thru, %	0%	12%	92%
Vol Right, %	1%	0%	8%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	178	256	53
LT Vol	176	226	0
Through Vol	0	30	49
RT Vol	2	0	4
Lane Flow Rate	193	278	58
Geometry Grp	1	1	1
Degree of Util (X)	0.265	0.362	0.075
Departure Headway (Hd)	4.928	4.677	4.715
Convergence, Y/N	Yes	Yes	Yes
Cap	727	768	758
Service Time	2.962	2.705	2.754
HCM Lane V/C Ratio	0.265	0.362	0.077
HCM Control Delay	9.7	10.4	8.1
HCM Lane LOS	A	B	A
HCM 95th-tile Q	1.1	1.7	0.2

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (3B) Conditions
Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	57	55	317	58	218	39	420	309	357	422	9
Future Volume (veh/h)	0	57	55	317	58	218	39	420	309	357	422	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	62	60	345	194	150	42	457	336	388	459	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	326	146	570	608	517	438	1036	463	551	729	326
Arrive On Green	0.00	0.09	0.09	0.16	0.33	0.33	0.25	0.29	0.29	0.16	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	62	60	345	194	150	42	457	336	388	459	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.9	1.9	4.9	4.3	2.1	1.0	5.7	10.3	5.8	6.4	0.2
Cycle Q Clear(g_c), s	0.0	0.9	1.9	4.9	4.3	2.1	1.0	5.7	10.3	5.8	6.4	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	326	146	570	608	517	438	1036	463	551	729	326
V/C Ratio(X)	0.00	0.19	0.41	0.61	0.32	0.29	0.10	0.44	0.73	0.70	0.63	0.03
Avail Cap(c_a), veh/h	180	2640	1181	980	1715	1458	438	2034	910	1097	2803	1254
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	22.8	23.3	21.2	13.8	4.0	15.8	15.6	17.2	21.6	19.7	14.2
Incr Delay (d2), s/veh	0.0	0.3	1.9	1.0	0.3	0.3	0.1	0.3	2.2	1.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	0.9	2.5	2.2	1.5	0.5	2.8	4.8	2.9	3.2	0.1
LnGrp Delay(d),s/veh	0.0	23.1	25.1	22.2	14.1	4.3	15.9	15.9	19.4	23.2	20.6	14.2
LnGrp LOS		C	C	C	B	A	B	B	B	C	C	B
Approach Vol, veh/h		122			689			835			857	
Approach Delay, s/veh		24.1			16.0			17.3			21.7	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.7	19.9	12.7	9.0	17.4	15.2	0.0	21.7				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.3	31.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	7.8	12.3	6.9	3.9	3.0	8.4	0.0	6.3				
Green Ext Time (p_c), s	0.9	3.5	1.9	0.5	0.4	2.8	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			18.8									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
 2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (3B) Conditions
 Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	840	10	13	792	136	15	20	19	126	0	31
Future Volume (veh/h)	22	840	10	13	792	136	15	20	19	126	0	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	24	913	11	14	861	148	16	22	21	137	0	34
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	1882	23	32	1820	814	150	149	105	346	10	50
Arrive On Green	0.03	0.53	0.53	0.02	0.51	0.51	0.17	0.17	0.17	0.17	0.00	0.17
Sat Flow, veh/h	1774	3582	43	1774	3539	1583	241	859	608	1114	59	291
Grp Volume(v), veh/h	24	451	473	14	861	148	59	0	0	171	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1707	0	0	1463	0	0
Q Serve(g_s), s	0.6	6.9	6.9	0.3	6.6	2.1	0.0	0.0	0.0	3.3	0.0	0.0
Cycle Q Clear(g_c), s	0.6	6.9	6.9	0.3	6.6	2.1	1.2	0.0	0.0	4.5	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.27		0.36	0.80		0.20
Lane Grp Cap(c), veh/h	52	930	975	32	1820	814	404	0	0	407	0	0
V/C Ratio(X)	0.47	0.49	0.49	0.44	0.47	0.18	0.15	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	209	1337	1401	209	2674	1196	1679	0	0	1517	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.2	6.4	6.4	20.6	6.6	5.5	15.0	0.0	0.0	16.2	0.0	0.0
Incr Delay (d2), s/veh	6.4	0.4	0.4	9.3	0.2	0.1	0.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.4	3.5	0.2	3.2	0.9	0.6	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	26.7	6.8	6.8	29.9	6.8	5.6	15.1	0.0	0.0	16.9	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		948			1023			59			171	
Approach Delay, s/veh		7.3			6.9			15.1			16.9	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.3	4.8	26.3		11.3	5.2	25.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.2	2.3	8.9		6.5	2.6	8.6				
Green Ext Time (p_c), s		1.4	0.0	13.1		1.4	0.0	13.2				
Intersection Summary												
HCM 2010 Ctrl Delay			8.1									
HCM 2010 LOS			A									

Intersection

Int Delay, s/veh 7.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	121	265	322	41	71	201
Future Vol, veh/h	121	265	322	41	71	201
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	288	350	45	77	218

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	395	0	-	0	923 372
Stage 1	-	-	-	-	372 -
Stage 2	-	-	-	-	551 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1164	-	-	-	299 674
Stage 1	-	-	-	-	697 -
Stage 2	-	-	-	-	577 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1164	-	-	-	265 674
Mov Cap-2 Maneuver	-	-	-	-	265 -
Stage 1	-	-	-	-	697 -
Stage 2	-	-	-	-	512 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	23.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1164	-	-	-	480
HCM Lane V/C Ratio	0.113	-	-	-	0.616
HCM Control Delay (s)	8.5	-	-	-	23.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	4.1

Intersection						
Int Delay, s/veh	8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	260	86	98	37	40	248
Future Vol, veh/h	260	86	98	37	40	248
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	283	93	107	40	43	270

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	147	0	-	0	786
Stage 1	-	-	-	-	127
Stage 2	-	-	-	-	659
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1435	-	-	-	361
Stage 1	-	-	-	-	899
Stage 2	-	-	-	-	515
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1435	-	-	-	290
Mov Cap-2 Maneuver	-	-	-	-	290
Stage 1	-	-	-	-	899
Stage 2	-	-	-	-	413

Approach	EB	WB	SB
HCM Control Delay, s	6.1	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1435	-	-	-	708
HCM Lane V/C Ratio	0.197	-	-	-	0.442
HCM Control Delay (s)	8.1	-	-	-	14.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.7	-	-	-	2.3

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	9	54	25	76	83	24
Future Vol, veh/h	9	54	25	76	83	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	59	27	83	90	26

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	240	103	116	0	-	0
Stage 1	103	-	-	-	-	-
Stage 2	137	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	748	952	1473	-	-	-
Stage 1	921	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	734	952	1473	-	-	-
Mov Cap-2 Maneuver	734	-	-	-	-	-
Stage 1	921	-	-	-	-	-
Stage 2	873	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	1.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1473	-	913	-	-
HCM Lane V/C Ratio	0.018	-	0.075	-	-
HCM Control Delay (s)	7.5	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection

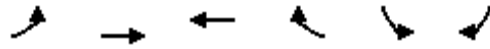
Int Delay, s/veh 2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Vol, veh/h	0	18	22	607	256	0
Future Vol, veh/h	0	18	22	607	256	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	660	278	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	24	0	44
Stage 1	-	-	24
Stage 2	-	-	20
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1591	-	967
Stage 1	-	-	999
Stage 2	-	-	1003
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1591	-	967
Mov Cap-2 Maneuver	-	-	967
Stage 1	-	-	999
Stage 2	-	-	1003

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1591	-	-	-	967
HCM Lane V/C Ratio	-	-	-	-	0.288
HCM Control Delay (s)	0	-	-	-	10.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1.2



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↶	↷	↷		↶	↷		
Traffic Volume (veh/h)	83	191	228	2	11	401		
Future Volume (veh/h)	83	191	228	2	11	401		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	90	208	248	2	12	436		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	148	805	431	3	601	536		
Arrive On Green	0.08	0.43	0.23	0.23	0.34	0.34		
Sat Flow, veh/h	1774	1863	1845	15	1774	1583		
Grp Volume(v), veh/h	90	208	0	250	12	436		
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1860	1774	1583		
Q Serve(g_s), s	1.7	2.5	0.0	4.1	0.2	8.8		
Cycle Q Clear(g_c), s	1.7	2.5	0.0	4.1	0.2	8.8		
Prop In Lane	1.00			0.01	1.00	1.00		
Lane Grp Cap(c), veh/h	148	805	0	435	601	536		
V/C Ratio(X)	0.61	0.26	0.00	0.57	0.02	0.81		
Avail Cap(c_a), veh/h	305	1496	0	960	967	863		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.4	6.3	0.0	11.8	7.7	10.5		
Incr Delay (d2), s/veh	4.0	0.2	0.0	1.2	0.0	3.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	1.3	0.0	2.2	0.1	7.4		
LnGrp Delay(d),s/veh	19.4	6.5	0.0	13.0	7.7	13.7		
LnGrp LOS	B	A		B	A	B		
Approach Vol, veh/h		298	250		448			
Approach Delay, s/veh		10.4	13.0		13.5			
Approach LOS		B	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				19.1		15.8	6.9	12.2
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s				4.5		10.8	3.7	6.1
Green Ext Time (p_c), s				2.7		1.0	0.0	2.1
Intersection Summary								
HCM 2010 Ctrl Delay			12.5					
HCM 2010 LOS			B					

Intersection

Intersection Delay, s/veh 9.4
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	170	31	0	0	38	4	192	0	4	0	0	0
Future Vol, veh/h	170	31	0	0	38	4	192	0	4	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	185	34	0	0	41	4	209	0	4	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.6	8	9.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	98%	85%	0%
Vol Thru, %	0%	15%	90%
Vol Right, %	2%	0%	10%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	196	201	42
LT Vol	192	170	0
Through Vol	0	31	38
RT Vol	4	0	4
Lane Flow Rate	213	218	46
Geometry Grp	1	1	1
Degree of Util (X)	0.281	0.285	0.059
Departure Headway (Hd)	4.753	4.692	4.671
Convergence, Y/N	Yes	Yes	Yes
Cap	756	767	767
Service Time	2.779	2.715	2.702
HCM Lane V/C Ratio	0.282	0.284	0.06
HCM Control Delay	9.6	9.6	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.2	1.2	0.2

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (3C) Conditions

Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	104	70	514	80	339	61	506	424	469	770	19
Future Volume (veh/h)	16	104	70	514	80	339	61	506	424	469	770	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	17	113	76	559	298	228	66	550	461	510	837	21
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	298	133	666	469	399	370	1201	537	617	1096	490
Arrive On Green	0.02	0.08	0.08	0.19	0.25	0.25	0.21	0.34	0.34	0.18	0.31	0.31
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	17	113	76	559	298	228	66	550	461	510	837	21
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.7	2.3	3.5	11.6	10.9	6.0	2.3	9.3	20.7	10.9	16.3	0.6
Cycle Q Clear(g_c), s	0.7	2.3	3.5	11.6	10.9	6.0	2.3	9.3	20.7	10.9	16.3	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	35	298	133	666	469	399	370	1201	537	617	1096	490
V/C Ratio(X)	0.48	0.38	0.57	0.84	0.63	0.57	0.18	0.46	0.86	0.83	0.76	0.04
Avail Cap(c_a), veh/h	128	1877	840	697	1220	1037	370	1446	647	780	1993	892
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	33.1	33.6	29.9	25.4	9.6	24.8	19.7	23.5	30.2	23.8	12.4
Incr Delay (d2), s/veh	9.9	0.8	3.8	8.7	1.4	1.3	0.2	0.3	9.7	5.9	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.2	1.7	6.5	5.7	3.6	1.2	4.6	10.5	5.7	8.1	0.3
LnGrp Delay(d),s/veh	47.0	33.9	37.4	38.6	26.9	10.9	25.0	20.0	33.2	36.1	25.0	12.4
LnGrp LOS	D	C	D	D	C	B	C	C	C	D	C	B
Approach Vol, veh/h		206			1085			1077			1368	
Approach Delay, s/veh		36.3			29.5			26.0			28.9	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.7	29.9	18.3	10.4	19.9	27.6	5.5	23.2				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.3	31.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	12.9	22.7	13.6	5.5	4.3	18.3	2.7	12.9				
Green Ext Time (p_c), s	0.8	3.2	0.7	0.9	0.3	5.3	0.0	5.0				
Intersection Summary												
HCM 2010 Ctrl Delay			28.6									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (3C) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	1189	10	13	1210	248	15	20	19	354	7	48
Future Volume (veh/h)	53	1189	10	13	1210	248	15	20	19	354	7	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	58	1292	11	14	1315	270	16	22	21	385	8	52
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	1641	14	30	1506	674	199	269	224	534	9	60
Arrive On Green	0.05	0.46	0.46	0.02	0.43	0.43	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1774	3596	31	1774	3539	1583	376	746	621	1222	25	165
Grp Volume(v), veh/h	58	636	667	14	1315	270	59	0	0	445	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1743	0	0	1412	0	0
Q Serve(g_s), s	2.3	22.0	22.1	0.6	24.6	8.5	0.0	0.0	0.0	19.5	0.0	0.0
Cycle Q Clear(g_c), s	2.3	22.0	22.1	0.6	24.6	8.5	1.6	0.0	0.0	21.1	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.27		0.36	0.87		0.12
Lane Grp Cap(c), veh/h	84	807	847	30	1506	674	692	0	0	603	0	0
V/C Ratio(X)	0.69	0.79	0.79	0.47	0.87	0.40	0.09	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	123	807	847	123	1566	701	1021	0	0	888	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.9	16.7	16.7	35.2	19.0	14.4	15.3	0.0	0.0	21.3	0.0	0.0
Incr Delay (d2), s/veh	9.5	5.2	5.0	10.8	5.6	0.4	0.1	0.0	0.0	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	11.8	12.3	0.4	13.0	3.7	0.8	0.0	0.0	8.6	0.0	0.0
LnGrp Delay(d),s/veh	43.4	21.9	21.7	46.0	24.6	14.8	15.3	0.0	0.0	23.1	0.0	0.0
LnGrp LOS	D	C	C	D	C	B	B			C		
Approach Vol, veh/h		1361			1599			59			445	
Approach Delay, s/veh		22.7			23.1			15.3			23.1	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.1	5.2	37.0		30.1	7.4	34.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.6	2.6	24.1		23.1	4.3	26.6				
Green Ext Time (p_c), s		3.5	0.0	7.3		3.0	0.0	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay				22.8								
HCM 2010 LOS				C								

Intersection

Int Delay, s/veh 52.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	194	522	440	95	102	193
Future Vol, veh/h	194	522	440	95	102	193
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	211	567	478	103	111	210

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	582	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	992	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	992	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	270.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	992	-	-	-	220
HCM Lane V/C Ratio	0.213	-	-	-	1.458
HCM Control Delay (s)	9.6	-	-	-	270.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	18.9

Notes

-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh	31.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	462	171	147	60	52	370
Future Vol, veh/h	462	171	147	60	52	370
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	502	186	160	65	57	402

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	225	0	-	0	1382
Stage 1	-	-	-	-	192
Stage 2	-	-	-	-	1190
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1344	-	-	-	159
Stage 1	-	-	-	-	841
Stage 2	-	-	-	-	289
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1344	-	-	-	100
Mov Cap-2 Maneuver	-	-	-	-	100
Stage 1	-	-	-	-	841
Stage 2	-	-	-	-	181

Approach	EB	WB	SB
HCM Control Delay, s	6.8	0	83.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1344	-	-	-	442
HCM Lane V/C Ratio	0.374	-	-	-	1.038
HCM Control Delay (s)	9.3	-	-	-	83.9
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	1.8	-	-	-	14.2

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	14	23	55	129	139	24
Future Vol, veh/h	14	23	55	129	139	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	25	60	140	151	26

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	424	164	177	0	-	0
Stage 1	164	-	-	-	-	-
Stage 2	260	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	587	881	1399	-	-	-
Stage 1	865	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	559	881	1399	-	-	-
Mov Cap-2 Maneuver	559	-	-	-	-	-
Stage 1	865	-	-	-	-	-
Stage 2	746	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1399	-	723	-	-
HCM Lane V/C Ratio	0.043	-	0.056	-	-
HCM Control Delay (s)	7.7	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection

Int Delay, s/veh 4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Vol, veh/h	0	18	35	595	393	0
Future Vol, veh/h	0	18	35	595	393	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	38	647	427	0

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	38	0	0	58	38
Stage 1	-	-	-	38	-
Stage 2	-	-	-	20	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1572	-	-	949	1034
Stage 1	-	-	-	984	-
Stage 2	-	-	-	1003	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1572	-	-	949	1034
Mov Cap-2 Maneuver	-	-	-	949	-
Stage 1	-	-	-	984	-
Stage 2	-	-	-	1003	-

Approach

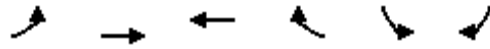
	EB	WB	SB
HCM Control Delay, s	0	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1572	-	-	-	949
HCM Lane V/C Ratio	-	-	-	-	0.45
HCM Control Delay (s)	0	-	-	-	11.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	2.4

Redding Rancheria
25: Smith Rd & I-5 SB

Cumulative (2040) plus Project (3C) Conditions
Friday PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	127	284	237	2	5	393		
Future Volume (veh/h)	127	284	237	2	5	393		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	138	309	258	2	5	427		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	181	851	456	4	582	519		
Arrive On Green	0.10	0.46	0.25	0.25	0.33	0.33		
Sat Flow, veh/h	1774	1863	1846	14	1774	1583		
Grp Volume(v), veh/h	138	309	0	260	5	427		
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1860	1774	1583		
Q Serve(g_s), s	2.8	4.0	0.0	4.5	0.1	9.2		
Cycle Q Clear(g_c), s	2.8	4.0	0.0	4.5	0.1	9.2		
Prop In Lane	1.00			0.01	1.00	1.00		
Lane Grp Cap(c), veh/h	181	851	0	459	582	519		
V/C Ratio(X)	0.76	0.36	0.00	0.57	0.01	0.82		
Avail Cap(c_a), veh/h	286	1404	0	901	907	810		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	16.2	6.6	0.0	12.3	8.4	11.5		
Incr Delay (d2), s/veh	6.5	0.3	0.0	1.1	0.0	4.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	2.1	0.0	2.5	0.0	7.9		
LnGrp Delay(d),s/veh	22.7	6.8	0.0	13.4	8.4	15.4		
LnGrp LOS	C	A		B	A	B		
Approach Vol, veh/h		447	260		432			
Approach Delay, s/veh		11.7	13.4		15.4			
Approach LOS		B	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				21.0		16.2	7.8	13.2
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s				6.0		11.2	4.8	6.5
Green Ext Time (p_c), s				3.5		1.0	0.0	2.6
Intersection Summary								
HCM 2010 Ctrl Delay			13.5					
HCM 2010 LOS			B					

Intersection

Intersection Delay, s/veh10.4
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	258	31	0	0	50	4	188	0	2	0	0	0
Future Vol, veh/h	258	31	0	0	50	4	188	0	2	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	280	34	0	0	54	4	204	0	2	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11	8.3	10.1
HCM LOS	B	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	99%	89%	0%
Vol Thru, %	0%	11%	93%
Vol Right, %	1%	0%	7%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	190	289	54
LT Vol	188	258	0
Through Vol	0	31	50
RT Vol	2	0	4
Lane Flow Rate	207	314	59
Geometry Grp	1	1	1
Degree of Util (X)	0.288	0.412	0.078
Departure Headway (Hd)	5.022	4.722	4.803
Convergence, Y/N	Yes	Yes	Yes
Cap	715	760	743
Service Time	3.062	2.756	2.851
HCM Lane V/C Ratio	0.29	0.413	0.079
HCM Control Delay	10.1	11	8.3
HCM Lane LOS	B	B	A
HCM 95th-tile Q	1.2	2	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	57	55	330	58	244	39	420	320	379	422	9
Future Volume (veh/h)	0	57	55	330	58	244	39	420	320	379	422	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	62	60	359	214	164	42	457	348	412	459	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	315	141	581	603	513	460	1050	470	571	720	322
Arrive On Green	0.00	0.09	0.09	0.16	0.32	0.32	0.26	0.30	0.30	0.17	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	62	60	359	214	164	42	457	348	412	459	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.9	2.0	5.3	4.9	2.4	1.0	5.9	11.1	6.4	6.7	0.3
Cycle Q Clear(g_c), s	0.0	0.9	2.0	5.3	4.9	2.4	1.0	5.9	11.1	6.4	6.7	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	315	141	581	603	513	460	1050	470	571	720	322
V/C Ratio(X)	0.00	0.20	0.43	0.62	0.35	0.32	0.09	0.44	0.74	0.72	0.64	0.03
Avail Cap(c_a), veh/h	174	2550	1141	947	1657	1409	460	1965	879	1059	2708	1211
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	23.7	24.2	21.9	14.5	4.2	15.8	16.0	17.8	22.2	20.5	14.9
Incr Delay (d2), s/veh	0.0	0.3	2.0	1.1	0.4	0.4	0.1	0.3	2.3	1.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.9	2.7	2.6	1.7	0.5	2.9	5.1	3.2	3.3	0.1
LnGrp Delay(d),s/veh	0.0	24.0	26.3	22.9	14.9	4.6	15.9	16.2	20.1	24.0	21.4	14.9
LnGrp LOS		C	C	C	B	A	B	B	C	C	C	B
Approach Vol, veh/h		122			737			847			881	
Approach Delay, s/veh		25.1			16.5			17.8			22.5	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	20.7	13.2	9.0	18.6	15.4	0.0	22.2				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.3	31.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	8.4	13.1	7.3	4.0	3.0	8.7	0.0	6.9				
Green Ext Time (p_c), s	1.0	3.5	1.9	0.5	0.4	2.8	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			19.4									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (3C) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	873	10	13	830	136	15	20	19	126	0	31
Future Volume (veh/h)	22	873	10	13	830	136	15	20	19	126	0	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	24	949	11	14	902	148	16	22	21	137	0	34
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	1912	22	32	1849	827	147	148	105	341	10	50
Arrive On Green	0.03	0.53	0.53	0.02	0.52	0.52	0.17	0.17	0.17	0.17	0.00	0.17
Sat Flow, veh/h	1774	3583	42	1774	3539	1583	240	860	608	1114	58	291
Grp Volume(v), veh/h	24	469	491	14	902	148	59	0	0	171	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1708	0	0	1464	0	0
Q Serve(g_s), s	0.6	7.3	7.3	0.3	7.1	2.1	0.0	0.0	0.0	3.4	0.0	0.0
Cycle Q Clear(g_c), s	0.6	7.3	7.3	0.3	7.1	2.1	1.3	0.0	0.0	4.6	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.27		0.36	0.80		0.20
Lane Grp Cap(c), veh/h	51	944	990	32	1849	827	400	0	0	402	0	0
V/C Ratio(X)	0.47	0.50	0.50	0.44	0.49	0.18	0.15	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	204	1303	1366	204	2606	1166	1637	0	0	1479	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.8	6.4	6.4	21.1	6.6	5.5	15.4	0.0	0.0	16.7	0.0	0.0
Incr Delay (d2), s/veh	6.5	0.4	0.4	9.3	0.2	0.1	0.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.6	3.8	0.2	3.4	0.9	0.6	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	27.2	6.8	6.8	30.5	6.8	5.6	15.6	0.0	0.0	17.4	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		984			1064			59			171	
Approach Delay, s/veh		7.3			7.0			15.6			17.4	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.5	4.8	27.2		11.5	5.3	26.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s		3.3	2.3	9.3		6.6	2.6	9.1				
Green Ext Time (p_c), s		1.4	0.0	13.5		1.4	0.0	13.6				
Intersection Summary												
HCM 2010 Ctrl Delay				8.1								
HCM 2010 LOS				A								

Intersection

Int Delay, s/veh 7.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	121	265	322	41	71	201
Future Vol, veh/h	121	265	322	41	71	201
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	288	350	45	77	218

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	395	0	-	0	923 372
Stage 1	-	-	-	-	372 -
Stage 2	-	-	-	-	551 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1164	-	-	-	299 674
Stage 1	-	-	-	-	697 -
Stage 2	-	-	-	-	577 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1164	-	-	-	265 674
Mov Cap-2 Maneuver	-	-	-	-	265 -
Stage 1	-	-	-	-	697 -
Stage 2	-	-	-	-	512 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	23.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1164	-	-	-	480
HCM Lane V/C Ratio	0.113	-	-	-	0.616
HCM Control Delay (s)	8.5	-	-	-	23.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	4.1

Intersection

Int Delay, s/veh 8.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	260	86	98	44	46	248
Future Vol, veh/h	260	86	98	44	46	248
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	283	93	107	48	50	270

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	154	0	-	0	789 130
Stage 1	-	-	-	-	130 -
Stage 2	-	-	-	-	659 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1426	-	-	-	359 920
Stage 1	-	-	-	-	896 -
Stage 2	-	-	-	-	515 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1426	-	-	-	288 920
Mov Cap-2 Maneuver	-	-	-	-	288 -
Stage 1	-	-	-	-	896 -
Stage 2	-	-	-	-	413 -

Approach

	EB	WB	SB
HCM Control Delay, s	6.1	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1426	-	-	-	685
HCM Lane V/C Ratio	0.198	-	-	-	0.467
HCM Control Delay (s)	8.1	-	-	-	14.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.7	-	-	-	2.5

Intersection

Int Delay, s/veh 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	16	54	25	76	83	30
Future Vol, veh/h	16	54	25	76	83	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	59	27	83	90	33

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	244	107	123	0	-	0
Stage 1	107	-	-	-	-	-
Stage 2	137	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	744	947	1464	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	730	947	1464	-	-	-
Mov Cap-2 Maneuver	730	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	873	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	1.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1464	-	887	-	-
HCM Lane V/C Ratio	0.019	-	0.086	-	-
HCM Control Delay (s)	7.5	-	9.4	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection

Int Delay, s/veh 4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Vol, veh/h	0	18	22	775	448	0
Future Vol, veh/h	0	18	22	775	448	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	842	487	0

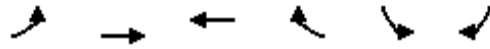
Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	24	0	44
Stage 1	-	-	24
Stage 2	-	-	20
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1591	-	967
Stage 1	-	-	999
Stage 2	-	-	1003
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1591	-	967
Mov Cap-2 Maneuver	-	-	967
Stage 1	-	-	999
Stage 2	-	-	1003

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1591	-	-	-	967
HCM Lane V/C Ratio	-	-	-	-	0.504
HCM Control Delay (s)	0	-	-	-	12.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	2.9

Redding Rancheria
25: Smith Rd & I-5 SB

Cumulative (2040) plus Project (3C) Conditions
Saturday PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	144	321	288	2	11	509		
Future Volume (veh/h)	144	321	288	2	11	509		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	157	349	313	2	12	553		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	199	836	466	3	677	604		
Arrive On Green	0.11	0.45	0.25	0.25	0.38	0.38		
Sat Flow, veh/h	1774	1863	1849	12	1774	1583		
Grp Volume(v), veh/h	157	349	0	315	12	553		
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1861	1774	1583		
Q Serve(g_s), s	4.1	6.0	0.0	7.2	0.2	15.7		
Cycle Q Clear(g_c), s	4.1	6.0	0.0	7.2	0.2	15.7		
Prop In Lane	1.00			0.01	1.00	1.00		
Lane Grp Cap(c), veh/h	199	836	0	469	677	604		
V/C Ratio(X)	0.79	0.42	0.00	0.67	0.02	0.92		
Avail Cap(c_a), veh/h	226	1105	0	710	714	638		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	20.4	8.8	0.0	15.9	9.1	13.9		
Incr Delay (d2), s/veh	15.3	0.3	0.0	1.7	0.0	17.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.8	3.1	0.0	3.9	0.1	14.6		
LnGrp Delay(d),s/veh	35.7	9.2	0.0	17.6	9.1	31.4		
LnGrp LOS	D	A		B	A	C		
Approach Vol, veh/h		506	315		565			
Approach Delay, s/veh		17.4	17.6		30.9			
Approach LOS		B	B		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				25.2		22.0	9.3	15.9
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s				8.0		17.7	6.1	9.2
Green Ext Time (p_c), s				4.0		0.3	0.0	2.7
Intersection Summary								
HCM 2010 Ctrl Delay			22.9					
HCM 2010 LOS			C					

Intersection

Intersection Delay, s/veh 11.8
Intersection LOS B

























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	293	38	0	0	44	4	246	0	4	0	0	0
Future Vol, veh/h	293	38	0	0	44	4	246	0	4	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	318	41	0	0	48	4	267	0	4	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	12.6	8.5	11.5
HCM LOS	B	A	B

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	98%	89%	0%
Vol Thru, %	0%	11%	92%
Vol Right, %	2%	0%	8%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	250	331	48
LT Vol	246	293	0
Through Vol	0	38	44
RT Vol	4	0	4
Lane Flow Rate	272	360	52
Geometry Grp	1	1	1
Degree of Util (X)	0.388	0.49	0.073
Departure Headway (Hd)	5.139	4.898	5.059
Convergence, Y/N	Yes	Yes	Yes
Cap	696	734	701
Service Time	3.198	2.951	3.138
HCM Lane V/C Ratio	0.391	0.49	0.074
HCM Control Delay	11.5	12.6	8.5
HCM Lane LOS	B	B	A
HCM 95th-tile Q	1.8	2.7	0.2

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (3D) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	104	70	499	80	307	61	506	396	408	770	19
Future Volume (veh/h)	16	104	70	499	80	307	61	506	396	408	770	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	17	113	76	542	272	210	66	550	430	443	837	21
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	308	138	681	482	410	316	1169	523	565	1120	501
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.18	0.33	0.33	0.16	0.32	0.32
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	17	113	76	542	272	210	66	550	430	443	837	21
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.7	2.1	3.2	10.3	8.9	5.0	2.2	8.7	17.6	8.7	14.9	0.5
Cycle Q Clear(g_c), s	0.7	2.1	3.2	10.3	8.9	5.0	2.2	8.7	17.6	8.7	14.9	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	36	308	138	681	482	410	316	1169	523	565	1120	501
V/C Ratio(X)	0.48	0.37	0.55	0.80	0.56	0.51	0.21	0.47	0.82	0.78	0.75	0.04
Avail Cap(c_a), veh/h	138	2030	908	754	1319	1121	316	1564	700	843	2156	964
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	30.4	30.9	27.2	22.7	8.7	24.8	18.7	21.7	28.3	21.6	10.8
Incr Delay (d2), s/veh	9.6	0.7	3.4	5.5	1.0	1.0	0.3	0.3	5.9	2.9	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.1	1.6	5.6	4.7	3.1	1.1	4.2	8.5	4.3	7.4	0.3
LnGrp Delay(d),s/veh	43.8	31.1	34.3	32.7	23.7	9.7	25.1	19.0	27.6	31.2	22.6	10.9
LnGrp LOS	D	C	C	C	C	A	C	B	C	C	C	B
Approach Vol, veh/h		206			1024			1046			1301	
Approach Delay, s/veh		33.3			25.6			22.9			25.3	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.6	27.3	17.5	10.1	16.6	26.3	5.4	22.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.3	31.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	10.7	19.6	12.3	5.2	4.2	16.9	2.7	10.9				
Green Ext Time (p_c), s	0.9	3.7	1.3	0.9	0.3	5.4	0.0	4.6				
Intersection Summary												
HCM 2010 Ctrl Delay			25.2									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (3D) Conditions

Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	1100	10	13	1164	248	15	20	19	354	7	48
Future Volume (veh/h)	53	1100	10	13	1164	248	15	20	19	354	7	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	58	1196	11	14	1265	270	16	22	21	385	8	52
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	1637	15	30	1504	673	199	270	224	534	9	60
Arrive On Green	0.05	0.46	0.46	0.02	0.42	0.42	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1774	3593	33	1774	3539	1583	376	747	620	1222	25	165
Grp Volume(v), veh/h	58	589	618	14	1265	270	59	0	0	445	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1583	1743	0	0	1412	0	0
Q Serve(g_s), s	2.3	19.6	19.6	0.6	23.1	8.5	0.0	0.0	0.0	19.5	0.0	0.0
Cycle Q Clear(g_c), s	2.3	19.6	19.6	0.6	23.1	8.5	1.6	0.0	0.0	21.1	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.27		0.36	0.87		0.12
Lane Grp Cap(c), veh/h	85	806	846	30	1504	673	693	0	0	603	0	0
V/C Ratio(X)	0.69	0.73	0.73	0.47	0.84	0.40	0.09	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	123	806	846	123	1570	702	1023	0	0	891	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.8	16.0	16.0	35.1	18.6	14.4	15.2	0.0	0.0	21.3	0.0	0.0
Incr Delay (d2), s/veh	9.4	3.4	3.2	10.8	4.2	0.4	0.1	0.0	0.0	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	10.2	10.7	0.4	12.1	3.7	0.8	0.0	0.0	8.5	0.0	0.0
LnGrp Delay(d),s/veh	43.3	19.4	19.3	45.9	22.7	14.8	15.3	0.0	0.0	23.1	0.0	0.0
LnGrp LOS	D	B	B	D	C	B	B			C		
Approach Vol, veh/h		1265			1549			59			445	
Approach Delay, s/veh		20.4			21.5			15.3			23.1	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.0	5.2	36.9		30.0	7.4	34.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.6	2.6	21.6		23.1	4.3	25.1				
Green Ext Time (p_c), s		3.5	0.0	9.2		3.0	0.0	5.6				
Intersection Summary												
HCM 2010 Ctrl Delay				21.2								
HCM 2010 LOS				C								

Intersection

Int Delay, s/veh 52.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	194	522	440	95	102	193
Future Vol, veh/h	194	522	440	95	102	193
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	211	567	478	103	111	210

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	582	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	992	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	992	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	270.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	992	-	-	-	220
HCM Lane V/C Ratio	0.213	-	-	-	1.458
HCM Control Delay (s)	9.6	-	-	-	270.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	18.9

Notes

-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh	16.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	
Traffic Vol, veh/h	462	171	147	52	36	370
Future Vol, veh/h	462	171	147	52	36	370
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	502	186	160	57	39	402

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	216	0	-	0	1378
Stage 1	-	-	-	-	188
Stage 2	-	-	-	-	1190
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1354	-	-	-	160
Stage 1	-	-	-	-	844
Stage 2	-	-	-	-	289
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1354	-	-	-	101
Mov Cap-2 Maneuver	-	-	-	-	101
Stage 1	-	-	-	-	844
Stage 2	-	-	-	-	182

Approach	EB	WB	SB
HCM Control Delay, s	6.7	0	41.2
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1354	-	-	-	514
HCM Lane V/C Ratio	0.371	-	-	-	0.859
HCM Control Delay (s)	9.2	-	-	-	41.2
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	1.7	-	-	-	9.1

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑	↑	
Traffic Vol, veh/h	6	23	55	129	139	8
Future Vol, veh/h	6	23	55	129	139	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	25	60	140	151	9

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	415	155	160	0	0
Stage 1	155	-	-	-	-
Stage 2	260	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	594	891	1419	-	-
Stage 1	873	-	-	-	-
Stage 2	783	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	567	891	1419	-	-
Mov Cap-2 Maneuver	567	-	-	-	-
Stage 1	873	-	-	-	-
Stage 2	747	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	2.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1419	-	797	-	-
HCM Lane V/C Ratio	0.042	-	0.04	-	-
HCM Control Delay (s)	7.6	-	9.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Vol, veh/h	0	18	35	180	176	0
Future Vol, veh/h	0	18	35	180	176	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	38	196	191	0

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	38	0	0	58	38
Stage 1	-	-	-	38	-
Stage 2	-	-	-	20	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1572	-	-	949	1034
Stage 1	-	-	-	984	-
Stage 2	-	-	-	1003	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1572	-	-	949	1034
Mov Cap-2 Maneuver	-	-	-	949	-
Stage 1	-	-	-	984	-
Stage 2	-	-	-	1003	-

Approach

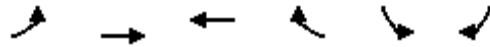
	EB	WB	SB
HCM Control Delay, s	0	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1572	-	-	-	949
HCM Lane V/C Ratio	-	-	-	-	0.202
HCM Control Delay (s)	0	-	-	-	9.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.8

Redding Rancheria
25: Smith Rd & I-5 SB

Cumulative (2040) plus Project (3D) Conditions
Friday PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	60	134	94	2	5	120		
Future Volume (veh/h)	60	134	94	2	5	120		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	65	146	102	2	5	130		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	131	793	319	6	392	350		
Arrive On Green	0.07	0.43	0.18	0.18	0.22	0.22		
Sat Flow, veh/h	1774	1863	1821	36	1774	1583		
Grp Volume(v), veh/h	65	146	0	104	5	130		
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1856	1774	1583		
Q Serve(g_s), s	0.8	1.1	0.0	1.1	0.0	1.6		
Cycle Q Clear(g_c), s	0.8	1.1	0.0	1.1	0.0	1.6		
Prop In Lane	1.00			0.02	1.00	1.00		
Lane Grp Cap(c), veh/h	131	793	0	325	392	350		
V/C Ratio(X)	0.49	0.18	0.00	0.32	0.01	0.37		
Avail Cap(c_a), veh/h	470	2304	0	1476	1489	1329		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.1	4.0	0.0	8.2	6.9	7.5		
Incr Delay (d2), s/veh	2.9	0.1	0.0	0.6	0.0	0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.5	0.6	0.0	0.6	0.0	1.5		
LnGrp Delay(d),s/veh	12.9	4.2	0.0	8.7	6.9	8.1		
LnGrp LOS	B	A		A	A	A		
Approach Vol, veh/h		211	104		135			
Approach Delay, s/veh		6.9	8.7		8.1			
Approach LOS		A	A		A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				13.6		9.0	5.7	8.0
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s				3.1		3.6	2.8	3.1
Green Ext Time (p_c), s				1.4		0.3	0.0	1.1
Intersection Summary								
HCM 2010 Ctrl Delay			7.7					
HCM 2010 LOS			A					

Intersection

Intersection Delay, s/veh 8.1
Intersection LOS A

























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	116	23	0	0	34	4	62	0	2	0	0	0
Future Vol, veh/h	116	23	0	0	34	4	62	0	2	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	126	25	0	0	37	4	67	0	2	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	7.4	8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	97%	83%	0%
Vol Thru, %	0%	17%	89%
Vol Right, %	3%	0%	11%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	64	139	38
LT Vol	62	116	0
Through Vol	0	23	34
RT Vol	2	0	4
Lane Flow Rate	70	151	41
Geometry Grp	1	1	1
Degree of Util (X)	0.088	0.179	0.047
Departure Headway (Hd)	4.545	4.255	4.108
Convergence, Y/N	Yes	Yes	Yes
Cap	793	837	858
Service Time	2.545	2.316	2.2
HCM Lane V/C Ratio	0.088	0.18	0.048
HCM Control Delay	8	8.3	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.6	0.1

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (3D) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	57	55	319	58	221	39	420	288	313	422	9
Future Volume (veh/h)	0	57	55	319	58	221	39	420	288	313	422	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	62	60	347	196	152	42	457	313	340	459	10
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	341	153	585	630	536	391	1002	448	506	742	332
Arrive On Green	0.00	0.10	0.10	0.16	0.34	0.34	0.22	0.28	0.28	0.15	0.21	0.21
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	62	60	347	196	152	42	457	313	340	459	10
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.8	1.8	4.7	4.0	2.0	1.0	5.5	9.2	4.8	6.1	0.2
Cycle Q Clear(g_c), s	0.0	0.8	1.8	4.7	4.0	2.0	1.0	5.5	9.2	4.8	6.1	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	341	153	585	630	536	391	1002	448	506	742	332
V/C Ratio(X)	0.00	0.18	0.39	0.59	0.31	0.28	0.11	0.46	0.70	0.67	0.62	0.03
Avail Cap(c_a), veh/h	188	2767	1238	1027	1798	1528	391	2132	954	1149	2938	1314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.5	22.0	20.0	12.7	3.7	16.1	15.3	16.6	20.9	18.6	13.3
Incr Delay (d2), s/veh	0.0	0.3	1.6	1.0	0.3	0.3	0.1	0.3	2.0	1.6	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	0.9	2.3	2.1	1.4	0.5	2.7	4.2	2.4	3.0	0.1
LnGrp Delay(d),s/veh	0.0	21.8	23.6	21.0	13.0	4.0	16.2	15.6	18.6	22.5	19.4	13.3
LnGrp LOS		C	C	C	B	A	B	B	B	C	B	B
Approach Vol, veh/h		122			695			812			809	
Approach Delay, s/veh		22.7			15.0			16.8			20.6	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	18.7	12.5	9.0	15.4	14.9	0.0	21.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	17.3	31.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.8	11.2	6.7	3.8	3.0	8.1	0.0	6.0				
Green Ext Time (p_c), s	0.8	3.5	1.9	0.5	0.3	2.8	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			17.9									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
2: E Bonnyview Rd & S Bonnyview Rd

Cumulative (2040) plus Project (3D) Conditions
Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	775	10	13	796	136	15	20	19	126	0	31
Future Volume (veh/h)	22	775	10	13	796	136	15	20	19	126	0	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	24	842	11	14	865	148	16	22	21	137	0	34
Adj No. of Lanes	1	2	0	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	1863	24	32	1803	807	152	149	106	349	10	51
Arrive On Green	0.03	0.52	0.52	0.02	0.51	0.51	0.17	0.17	0.17	0.17	0.00	0.17
Sat Flow, veh/h	1774	3577	47	1774	3539	1583	241	858	608	1113	59	291
Grp Volume(v), veh/h	24	416	437	14	865	148	59	0	0	171	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1583	1707	0	0	1463	0	0
Q Serve(g_s), s	0.6	6.2	6.2	0.3	6.6	2.1	0.0	0.0	0.0	3.2	0.0	0.0
Cycle Q Clear(g_c), s	0.6	6.2	6.2	0.3	6.6	2.1	1.2	0.0	0.0	4.4	0.0	0.0
Prop In Lane	1.00		0.03	1.00		1.00	0.27		0.36	0.80		0.20
Lane Grp Cap(c), veh/h	52	921	966	32	1803	807	406	0	0	410	0	0
V/C Ratio(X)	0.46	0.45	0.45	0.44	0.48	0.18	0.15	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	212	1356	1422	212	2713	1214	1704	0	0	1539	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.9	6.3	6.3	20.3	6.6	5.5	14.7	0.0	0.0	16.0	0.0	0.0
Incr Delay (d2), s/veh	6.4	0.3	0.3	9.2	0.2	0.1	0.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.0	3.1	0.2	3.2	0.9	0.6	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	26.3	6.6	6.6	29.5	6.8	5.6	14.9	0.0	0.0	16.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B			B		
Approach Vol, veh/h		877			1027			59			171	
Approach Delay, s/veh		7.2			7.0			14.9			16.6	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.3	4.7	25.7		11.3	5.2	25.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		41.0	5.0	32.0		41.0	5.0	32.0				
Max Q Clear Time (g_c+l1), s		3.2	2.3	8.2		6.4	2.6	8.6				
Green Ext Time (p_c), s		1.4	0.0	12.8		1.4	0.0	12.6				
Intersection Summary												
HCM 2010 Ctrl Delay				8.0								
HCM 2010 LOS				A								

Intersection

Int Delay, s/veh 7.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	121	265	322	41	71	201
Future Vol, veh/h	121	265	322	41	71	201
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	288	350	45	77	218

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	395	0	-	0	923 372
Stage 1	-	-	-	-	372 -
Stage 2	-	-	-	-	551 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1164	-	-	-	299 674
Stage 1	-	-	-	-	697 -
Stage 2	-	-	-	-	577 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1164	-	-	-	265 674
Mov Cap-2 Maneuver	-	-	-	-	265 -
Stage 1	-	-	-	-	697 -
Stage 2	-	-	-	-	512 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	23.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1164	-	-	-	480
HCM Lane V/C Ratio	0.113	-	-	-	0.616
HCM Control Delay (s)	8.5	-	-	-	23.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	4.1

Intersection

Int Delay, s/veh 7.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	
Traffic Vol, veh/h	260	86	98	38	28	248
Future Vol, veh/h	260	86	98	38	28	248
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	283	93	107	41	30	270

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	148	0	-	0	786
Stage 1	-	-	-	-	127
Stage 2	-	-	-	-	659
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1434	-	-	-	361
Stage 1	-	-	-	-	899
Stage 2	-	-	-	-	515
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1434	-	-	-	290
Mov Cap-2 Maneuver	-	-	-	-	290
Stage 1	-	-	-	-	899
Stage 2	-	-	-	-	413

Approach	EB	WB	SB
HCM Control Delay, s	6.1	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1434	-	-	-	756
HCM Lane V/C Ratio	0.197	-	-	-	0.397
HCM Control Delay (s)	8.1	-	-	-	12.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.7	-	-	-	1.9

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	10	54	25	76	83	12
Future Vol, veh/h	10	54	25	76	83	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	59	27	83	90	13

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	234	97	103	0	0
Stage 1	97	-	-	-	-
Stage 2	137	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	754	959	1489	-	-
Stage 1	927	-	-	-	-
Stage 2	890	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	740	959	1489	-	-
Mov Cap-2 Maneuver	740	-	-	-	-
Stage 1	927	-	-	-	-
Stage 2	873	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1489	-	917	-	-
HCM Lane V/C Ratio	0.018	-	0.076	-	-
HCM Control Delay (s)	7.5	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection

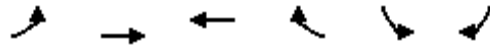
Int Delay, s/veh 4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Vol, veh/h	0	18	22	327	300	0
Future Vol, veh/h	0	18	22	327	300	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	24	355	326	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	24	0	44
Stage 1	-	-	24
Stage 2	-	-	20
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1591	-	967
Stage 1	-	-	999
Stage 2	-	-	1003
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1591	-	967
Mov Cap-2 Maneuver	-	-	967
Stage 1	-	-	999
Stage 2	-	-	1003

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1591	-	-	-	967
HCM Lane V/C Ratio	-	-	-	-	0.337
HCM Control Delay (s)	0	-	-	-	10.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1.5



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	101	217	135	2	11	214		
Future Volume (veh/h)	101	217	135	2	11	214		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	110	236	147	2	12	233		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	187	861	374	5	412	368		
Arrive On Green	0.11	0.46	0.20	0.20	0.23	0.23		
Sat Flow, veh/h	1774	1863	1833	25	1774	1583		
Grp Volume(v), veh/h	110	236	0	149	12	233		
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1858	1774	1583		
Q Serve(g_s), s	1.5	2.0	0.0	1.8	0.1	3.5		
Cycle Q Clear(g_c), s	1.5	2.0	0.0	1.8	0.1	3.5		
Prop In Lane	1.00			0.01	1.00	1.00		
Lane Grp Cap(c), veh/h	187	861	0	380	412	368		
V/C Ratio(X)	0.59	0.27	0.00	0.39	0.03	0.63		
Avail Cap(c_a), veh/h	406	1992	0	1277	1287	1149		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.2	4.3	0.0	9.0	7.8	9.0		
Incr Delay (d2), s/veh	2.9	0.2	0.0	0.7	0.0	1.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.9	1.1	0.0	1.0	0.1	3.2		
LnGrp Delay(d),s/veh	14.1	4.5	0.0	9.7	7.8	10.9		
LnGrp LOS	B	A		A	A	B		
Approach Vol, veh/h		346	149		245			
Approach Delay, s/veh		7.6	9.7		10.7			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				16.1		10.1	6.8	9.3
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				28.0		19.0	6.0	18.0
Max Q Clear Time (g_c+l1), s				4.0		5.5	3.5	3.8
Green Ext Time (p_c), s				2.3		0.6	0.1	1.9
Intersection Summary								
HCM 2010 Ctrl Delay			9.0					
HCM 2010 LOS			A					

Intersection

Intersection Delay, s/veh 9
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔				
Traffic Vol, veh/h	195	32	0	0	26	4	111	0	4	0	0	0
Future Vol, veh/h	195	32	0	0	26	4	111	0	4	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	212	35	0	0	28	4	121	0	4	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.4	7.6	8.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	97%	86%	0%
Vol Thru, %	0%	14%	87%
Vol Right, %	3%	0%	13%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	115	227	30
LT Vol	111	195	0
Through Vol	0	32	26
RT Vol	4	0	4
Lane Flow Rate	125	247	33
Geometry Grp	1	1	1
Degree of Util (X)	0.165	0.305	0.04
Departure Headway (Hd)	4.758	4.455	4.436
Convergence, Y/N	Yes	Yes	Yes
Cap	756	809	809
Service Time	2.773	2.468	2.454
HCM Lane V/C Ratio	0.165	0.305	0.041
HCM Control Delay	8.7	9.4	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.6	1.3	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗	↖	↖	↗	↖
Traffic Volume (veh/h)	15	126	68	256	117	175	66	250	253	224	404	18
Future Volume (veh/h)	15	126	68	256	117	175	66	250	253	224	404	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	16	137	74	278	127	190	72	272	275	243	439	20
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	296	190	103	367	385	327	105	873	390	184	1030	461
Arrive On Green	0.17	0.17	0.17	0.21	0.21	0.21	0.06	0.25	0.25	0.10	0.29	0.29
Sat Flow, veh/h	1774	1139	615	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	16	0	211	278	127	190	72	272	275	243	439	20
Grp Sat Flow(s),veh/h/ln	1774	0	1754	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.4	0.0	6.6	8.5	3.4	6.3	2.3	3.6	9.2	6.0	5.8	0.5
Cycle Q Clear(g_c), s	0.4	0.0	6.6	8.5	3.4	6.3	2.3	3.6	9.2	6.0	5.8	0.5
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	296	0	293	367	385	327	105	873	390	184	1030	461
V/C Ratio(X)	0.05	0.00	0.72	0.76	0.33	0.58	0.69	0.31	0.70	1.32	0.43	0.04
Avail Cap(c_a), veh/h	1103	0	1090	551	579	492	184	1161	519	184	1161	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	22.9	21.6	19.6	20.7	26.7	17.8	19.9	26.0	16.6	14.7
Incr Delay (d2), s/veh	0.1	0.0	3.4	3.3	0.5	1.6	7.6	0.2	2.8	177.8	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	3.4	4.5	1.8	2.9	1.3	1.8	4.3	12.0	2.8	0.2
LnGrp Delay(d),s/veh	20.4	0.0	26.2	24.9	20.0	22.3	34.4	18.0	22.7	203.7	16.9	14.8
LnGrp LOS	C		C	C	C	C	C	B	C	F	B	B
Approach Vol, veh/h		227			595			619			702	
Approach Delay, s/veh		25.8			23.1			22.0			81.5	
Approach LOS		C			C			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	18.3		13.7	7.4	20.9		16.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	19.0			36.0	6.0	19.0		18.0				
Max Q Clear Time (g_c+I), s	10.0	11.2		8.6	4.3	7.8		10.5				
Green Ext Time (p_c), s	0.0	3.1		1.3	0.0	3.8		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay				42.2								
HCM 2010 LOS				D								

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	177	407	4	13	505	380	4	176	16	276	128	114
Future Vol, veh/h	177	407	4	13	505	380	4	176	16	276	128	114
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	192	442	4	14	549	413	4	191	17	300	139	124

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	962	0	0	447	0	0	1201	1819	445	1718	1616	481
Stage 1	-	-	-	-	-	-	829	829	-	784	784	-
Stage 2	-	-	-	-	-	-	372	990	-	934	832	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	713	-	-	1111	-	-	151	~ 77	612	~ 64	~ 103	532
Stage 1	-	-	-	-	-	-	364	384	-	353	403	-
Stage 2	-	-	-	-	-	-	621	323	-	318	383	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	713	-	-	1111	-	-	~ 56	612	-	~ 74	532	
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 56	-	-	~ 74	-	
Stage 1	-	-	-	-	-	-	266	281	-	~ 258	398	-
Stage 2	-	-	-	-	-	-	306	319	-	~ 72	280	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.6	0.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	713	-	-	1111	-	-	-
HCM Lane V/C Ratio	-	0.27	-	-	0.013	-	-	-
HCM Control Delay (s)	-	11.9	-	-	8.3	-	-	-
HCM Lane LOS	-	B	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	1.1	-	-	0	-	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	52.3
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↓	↓
Traffic Vol, veh/h	0	742	374	0	227	568
Future Vol, veh/h	0	742	374	0	227	568
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	807	407	0	247	617
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	30.1	15.6	90.3
HCM LOS	D	C	F

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	371	371	187	187	227	568
LT Vol	0	0	0	0	227	0
Through Vol	371	371	187	187	0	0
RT Vol	0	0	0	0	0	568
Lane Flow Rate	403	403	203	203	247	617
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.845	0.648	0.455	0.357	0.551	1.168
Departure Headway (Hd)	7.923	6.133	8.506	6.705	8.038	6.813
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	460	593	427	541	449	537
Service Time	5.623	3.833	6.206	4.405	5.782	4.556
HCM Lane V/C Ratio	0.876	0.68	0.475	0.375	0.55	1.149
HCM Control Delay	40.8	19.4	18.1	13.1	20.3	118.3
HCM Lane LOS	E	C	C	B	C	F
HCM 95th-tile Q	8.4	4.7	2.3	1.6	3.3	21.6

Intersection

Intersection Delay, s/veh95.7
 Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖		↖			
Traffic Vol, veh/h	351	249	317	214	279	44	93	241	262	0	0	0
Future Vol, veh/h	351	249	317	214	279	44	93	241	262	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	382	271	345	233	303	48	101	262	285	0	0	0
Number of Lanes	1	2	0	1	2	0	1	0	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	63.1	26.5	208.2
HCM LOS	F	D	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	48%	0%	100%	21%	0%	100%	68%
Vol Right, %	0%	52%	0%	0%	79%	0%	0%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	93	503	351	166	400	214	186	137
LT Vol	93	0	351	0	0	214	0	0
Through Vol	0	241	0	166	83	0	186	93
RT Vol	0	262	0	0	317	0	0	44
Lane Flow Rate	101	547	382	180	435	233	202	149
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.293	1.453	0.972	0.435	0.981	0.645	0.533	0.383
Departure Headway (Hd)	10.446	9.567	10.29	9.762	9.177	11.245	10.717	10.479
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	344	383	355	372	400	323	340	345
Service Time	8.216	7.337	7.99	7.462	6.877	8.945	8.417	8.179
HCM Lane V/C Ratio	0.294	1.428	1.076	0.484	1.087	0.721	0.594	0.432
HCM Control Delay	17.5	243.5	74.1	19.8	71.4	32.3	25	19.5
HCM Lane LOS	C	F	F	C	F	D	C	C
HCM 95th-tile Q	1.2	28.3	10.7	2.1	11.6	4.2	3	1.7

Intersection												
Int Delay, s/veh	6.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↗		↖	↕↗			↕↗		↖		
Traffic Vol, veh/h	3	400	12	23	392	171	16	4	56	149	0	0
Future Vol, veh/h	3	400	12	23	392	171	16	4	56	149	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	435	13	25	426	186	17	4	61	162	0	0




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	612	0	0	448	0	0	711	1110	224	795	-	-
Stage 1	-	-	-	-	-	-	448	448	-	569	-	-
Stage 2	-	-	-	-	-	-	263	662	-	226	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	-
Pot Cap-1 Maneuver	963	-	-	1109	-	-	320	208	779	278	0	0
Stage 1	-	-	-	-	-	-	560	571	-	474	0	0
Stage 2	-	-	-	-	-	-	719	457	-	756	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	963	-	-	1109	-	-	314	203	779	247	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	314	203	-	247	-	-
Stage 1	-	-	-	-	-	-	558	569	-	473	-	-
Stage 2	-	-	-	-	-	-	703	447	-	689	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.3			13			43.6		
HCM LOS							B			E		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	533	963	-	-	1109	-	-	247
HCM Lane V/C Ratio	0.155	0.003	-	-	0.023	-	-	0.656
HCM Control Delay (s)	13	8.8	-	-	8.3	-	-	43.6
HCM Lane LOS	B	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	4.1

Redding Rancheria
22: I-5 SB On Ramp/Ventura St & Balls Ferry Rd

Cumulative (2040) plus Project (E) Conditions
Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	439	168	513	570	27	0	0	0	24	83	9
Future Volume (veh/h)	4	439	168	513	570	27	0	0	0	24	83	9
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	4	477	183	558	620	29				26	90	10
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	9	502	191	1071	2825	1264				136	126	14
Arrive On Green	0.01	0.20	0.20	0.60	0.80	0.80				0.08	0.08	0.08
Sat Flow, veh/h	1774	2508	956	1774	3539	1583				1774	1647	183
Grp Volume(v), veh/h	4	336	324	558	620	29				26	0	100
Grp Sat Flow(s),veh/h/ln	1774	1770	1694	1774	1770	1583				1774	0	1830
Q Serve(g_s), s	0.2	18.7	18.9	18.2	4.3	0.4				1.4	0.0	5.3
Cycle Q Clear(g_c), s	0.2	18.7	18.9	18.2	4.3	0.4				1.4	0.0	5.3
Prop In Lane	1.00		0.56	1.00		1.00				1.00		0.10
Lane Grp Cap(c), veh/h	9	354	339	1071	2825	1264				136	0	140
V/C Ratio(X)	0.43	0.95	0.96	0.52	0.22	0.02				0.19	0.00	0.71
Avail Cap(c_a), veh/h	89	354	339	1071	2825	1264				550	0	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.65	0.65	0.65				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.6	39.5	39.6	11.5	2.5	2.1				43.3	0.0	45.1
Incr Delay (d2), s/veh	28.2	36.4	39.2	0.3	0.1	0.0				0.7	0.0	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	12.7	12.5	8.9	2.1	0.2				0.7	0.0	3.0
LnGrp Delay(d),s/veh	77.8	75.9	78.8	11.8	2.6	2.1				44.0	0.0	51.7
LnGrp LOS	E	E	E	B	A	A				D		D
Approach Vol, veh/h		664			1207						126	
Approach Delay, s/veh		77.3			6.8						50.1	
Approach LOS		E			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			64.4	24.0		11.6	4.5	83.8				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			37.0	20.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			20.2	20.9		7.3	2.2	6.3				
Green Ext Time (p_c), s			5.7	0.0		0.5	0.0	7.2				
Intersection Summary												
HCM 2010 Ctrl Delay			33.0									
HCM 2010 LOS			C									

Redding Rancheria
 23: I-5 NB Off Ramp/McMurray Dr & Balls Ferry Rd

Cumulative (2040) plus Project (E) Conditions
 Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↗	↖	↗		↖
Traffic Volume (veh/h)	115	341	0	0	631	197	279	177	256	232	0	272
Future Volume (veh/h)	115	341	0	0	631	197	279	177	256	232	0	272
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	125	371	0	0	686	214	303	192	278	252	0	296
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	704	2502	0	0	717	224	378	397	338	0	0	0
Arrive On Green	0.79	1.00	0.00	0.00	0.27	0.27	0.21	0.21	0.21	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2751	829	1774	1863	1583		0	
Grp Volume(v), veh/h	125	371	0	0	457	443	303	192	278		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1716	1774	1863	1583			
Q Serve(g_s), s	1.7	0.0	0.0	0.0	25.4	25.4	16.2	9.0	16.8			
Cycle Q Clear(g_c), s	1.7	0.0	0.0	0.0	25.4	25.4	16.2	9.0	16.8			
Prop In Lane	1.00		0.00	0.00		0.48	1.00		1.00			
Lane Grp Cap(c), veh/h	704	2502	0	0	478	463	378	397	338			
V/C Ratio(X)	0.18	0.15	0.00	0.00	0.96	0.96	0.80	0.48	0.82			
Avail Cap(c_a), veh/h	704	2502	0	0	478	463	603	633	538			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.90	0.90	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	6.4	0.0	0.0	0.0	35.9	35.9	37.3	34.5	37.5			
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	31.6	32.2	4.0	0.9	5.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	0.0	16.6	16.2	8.3	4.7	7.9			
LnGrp Delay(d),s/veh	6.5	0.1	0.0	0.0	67.5	68.2	41.4	35.4	43.2			
LnGrp LOS	A	A			E	E	D	D	D			
Approach Vol, veh/h		496			900			773				
Approach Delay, s/veh		1.7			67.8			40.5				
Approach LOS		A			E			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		25.3		74.7			43.7	31.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+l1), s		18.8		2.0			3.7	27.4				
Green Ext Time (p_c), s		2.6		2.9			0.4	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				43.0								
HCM 2010 LOS				D								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	95	22	155	69	166	33	190	182	232	252	9
Future Volume (veh/h)	5	95	22	155	69	166	33	190	182	232	252	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	5	103	24	168	75	180	36	207	198	252	274	10
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	152	35	314	330	281	72	771	345	242	1111	497
Arrive On Green	0.10	0.10	0.10	0.18	0.18	0.18	0.04	0.22	0.22	0.14	0.31	0.31
Sat Flow, veh/h	1774	1462	341	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	5	0	127	168	75	180	36	207	198	252	274	10
Grp Sat Flow(s),veh/h/ln	1774	0	1803	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.1	0.0	3.0	3.8	1.5	4.6	0.9	2.1	4.9	6.0	2.5	0.2
Cycle Q Clear(g_c), s	0.1	0.0	3.0	3.8	1.5	4.6	0.9	2.1	4.9	6.0	2.5	0.2
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	184	0	187	314	330	281	72	771	345	242	1111	497
V/C Ratio(X)	0.03	0.00	0.68	0.53	0.23	0.64	0.50	0.27	0.57	1.04	0.25	0.02
Avail Cap(c_a), veh/h	1454	0	1478	727	764	649	242	1531	685	242	1531	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.7	0.0	19.0	16.4	15.5	16.8	20.6	14.3	15.4	19.0	11.2	10.4
Incr Delay (d2), s/veh	0.1	0.0	4.2	1.4	0.3	2.4	5.3	0.2	1.5	68.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.7	1.9	0.8	2.2	0.5	1.1	2.3	7.5	1.2	0.1
LnGrp Delay(d),s/veh	17.7	0.0	23.2	17.8	15.8	19.2	26.0	14.5	16.9	87.5	11.3	10.4
LnGrp LOS	B		C	B	B	B	C	B	B	F	B	B
Approach Vol, veh/h		132			423			441			536	
Approach Delay, s/veh		23.0			18.1			16.5			47.1	
Approach LOS		C			B			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	13.6		8.6	5.8	17.8		11.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	19.0			36.0	6.0	19.0		18.0				
Max Q Clear Time (g_c+I), s	6.9			5.0	2.9	4.5		6.6				
Green Ext Time (p_c), s	0.0	2.7		0.7	0.0	2.9		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			28.2									
HCM 2010 LOS			C									

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	208	261	2	10	266	460	4	220	13	296	139	119
Future Vol, veh/h	208	261	2	10	266	460	4	220	13	296	139	119
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	226	284	2	11	289	500	4	239	14	322	151	129

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	789	0	0	286	0	0	979	1548	285	1425	1299	395
Stage 1	-	-	-	-	-	-	737	737	-	561	561	-
Stage 2	-	-	-	-	-	-	242	811	-	864	738	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	829	-	-	1275	-	-	217	~ 114	753	~ 104	161	605
Stage 1	-	-	-	-	-	-	409	424	-	480	509	-
Stage 2	-	-	-	-	-	-	741	392	-	348	423	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	829	-	-	1275	-	-	~ 82	753	-	~ 116	605	
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 82	-	-	~ 116	-	
Stage 1	-	-	-	-	-	-	297	308	-	349	505	-
Stage 2	-	-	-	-	-	-	405	389	-	~ 56	308	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.8	0.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	829	-	-	1275	-	-	-
HCM Lane V/C Ratio	-	0.273	-	-	0.009	-	-	-
HCM Control Delay (s)	-	11	-	-	7.8	-	-	-
HCM Lane LOS	-	B	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	1.1	-	-	0	-	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	35.7
Intersection LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	0	592	227	0	136	560
Future Vol, veh/h	0	592	227	0	136	560
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	643	247	0	148	609
Number of Lanes	0	2	2	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	17.7	11.9	58.7
HCM LOS	C	B	F

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	100%	0%
Vol Thru, %	100%	100%	100%	100%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	296	296	114	114	136	560
LT Vol	0	0	0	0	136	0
Through Vol	296	296	114	114	0	0
RT Vol	0	0	0	0	0	560
Lane Flow Rate	322	322	123	123	148	609
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.642	0.483	0.265	0.204	0.3	1.031
Departure Headway (Hd)	7.29	5.51	7.866	6.073	7.311	6.095
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	499	660	459	595	489	590
Service Time	4.99	3.21	5.566	3.773	5.094	3.877
HCM Lane V/C Ratio	0.645	0.488	0.268	0.207	0.303	1.032
HCM Control Delay	22.1	13.2	13.4	10.3	13.2	69.8
HCM Lane LOS	C	B	B	B	B	F
HCM 95th-tile Q	4.5	2.6	1.1	0.8	1.2	16.2

Intersection												
Intersection Delay, s/veh	26.5											
Intersection LOS	D											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖		↖			
Traffic Vol, veh/h	305	178	212	161	168	48	62	146	218	0	0	0
Future Vol, veh/h	305	178	212	161	168	48	62	146	218	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	332	193	230	175	183	52	67	159	237	0	0	0
Number of Lanes	1	2	0	1	2	0	1	0	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	3
HCM Control Delay	25	16.1	38.2
HCM LOS	C	C	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	40%	0%	100%	22%	0%	100%	54%
Vol Right, %	0%	60%	0%	0%	78%	0%	0%	46%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	364	305	119	271	161	112	104
LT Vol	62	0	305	0	0	161	0	0
Through Vol	0	146	0	119	59	0	112	56
RT Vol	0	218	0	0	212	0	0	48
Lane Flow Rate	67	396	332	129	295	175	122	113
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.164	0.858	0.766	0.28	0.593	0.438	0.287	0.256
Departure Headway (Hd)	8.737	7.809	8.322	7.806	7.241	9.002	8.484	8.149
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	410	463	434	459	495	399	422	439
Service Time	6.514	5.586	6.098	5.582	5.016	6.788	6.269	5.934
HCM Lane V/C Ratio	0.163	0.855	0.765	0.281	0.596	0.439	0.289	0.257
HCM Control Delay	13.2	42.4	33.7	13.6	20.1	18.7	14.7	13.7
HCM Lane LOS	B	E	D	B	C	C	B	B
HCM 95th-tile Q	0.6	8.7	6.5	1.1	3.8	2.2	1.2	1

Intersection

Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗			↔		↖		
Traffic Vol, veh/h	3	227	4	39	308	208	13	5	35	137	0	0
Future Vol, veh/h	3	227	4	39	308	208	13	5	35	137	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	247	4	42	335	226	14	5	38	149	0	0




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	561	0	0	251	0	0	507	901	126	666	-	-
Stage 1	-	-	-	-	-	-	255	255	-	533	-	-
Stage 2	-	-	-	-	-	-	252	646	-	133	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	-
Pot Cap-1 Maneuver	1006	-	-	1311	-	-	449	276	901	345	0	0
Stage 1	-	-	-	-	-	-	727	695	-	498	0	0
Stage 2	-	-	-	-	-	-	730	465	-	857	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1006	-	-	1311	-	-	437	266	901	317	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	437	266	-	317	-	-
Stage 1	-	-	-	-	-	-	725	693	-	497	-	-
Stage 2	-	-	-	-	-	-	707	450	-	812	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.6			11.6			26		
HCM LOS							B			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	606	1006	-	-	1311	-	-	317
HCM Lane V/C Ratio	0.095	0.003	-	-	0.032	-	-	0.47
HCM Control Delay (s)	11.6	8.6	-	-	7.8	-	-	26
HCM Lane LOS	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	2.4

Redding Rancheria
22: I-5 SB On Ramp/Ventura St & Balls Ferry Rd

Cumulative (2040) plus Project (E) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	243	157	430	537	21	0	0	0	15	52	27
Future Volume (veh/h)	3	243	157	430	537	21	0	0	0	15	52	27
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863				1863	1863	1900
Adj Flow Rate, veh/h	3	264	171	467	584	23				16	57	29
Adj No. of Lanes	1	2	0	1	2	1				1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	7	331	207	1160	2859	1279				121	79	40
Arrive On Green	0.00	0.16	0.16	0.65	0.81	0.81				0.07	0.07	0.07
Sat Flow, veh/h	1774	2091	1311	1774	3539	1583				1774	1165	593
Grp Volume(v), veh/h	3	222	213	467	584	23				16	0	86
Grp Sat Flow(s),veh/h/ln	1774	1770	1631	1774	1770	1583				1774	0	1758
Q Serve(g_s), s	0.2	12.1	12.6	12.4	3.8	0.3				0.8	0.0	4.8
Cycle Q Clear(g_c), s	0.2	12.1	12.6	12.4	3.8	0.3				0.8	0.0	4.8
Prop In Lane	1.00		0.80	1.00		1.00				1.00		0.34
Lane Grp Cap(c), veh/h	7	280	258	1160	2859	1279				121	0	120
V/C Ratio(X)	0.42	0.79	0.83	0.40	0.20	0.02				0.13	0.00	0.72
Avail Cap(c_a), veh/h	89	354	326	1160	2859	1279				550	0	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.80				1.00	0.00	1.00
Uniform Delay (d), s/veh	49.7	40.5	40.8	8.1	2.2	1.9				43.8	0.0	45.6
Incr Delay (d2), s/veh	35.4	20.3	25.0	0.2	0.1	0.0				0.5	0.0	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	7.5	7.5	6.0	1.8	0.1				0.4	0.0	2.6
LnGrp Delay(d),s/veh	85.1	60.8	65.7	8.3	2.3	1.9				44.3	0.0	53.4
LnGrp LOS	F	E	E	A	A	A				D		D
Approach Vol, veh/h		438			1074						102	
Approach Delay, s/veh		63.4			4.9						52.0	
Approach LOS		E			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			69.4	19.8		10.8	4.4	84.8				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			37.0	20.0		31.0	5.0	52.0				
Max Q Clear Time (g_c+I1), s			14.4	14.6		6.8	2.2	5.8				
Green Ext Time (p_c), s			5.6	1.2		0.5	0.0	6.3				
Intersection Summary												
HCM 2010 Ctrl Delay			23.8									
HCM 2010 LOS			C									

Redding Rancheria
 23: I-5 NB Off Ramp/McMurray Dr & Balls Ferry Rd

Cumulative (2040) plus Project (E) Conditions
 Saturday PM Peak


















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↗	↖	↗		↖
Traffic Volume (veh/h)	61	186	0	0	512	137	276	132	148	162	0	233
Future Volume (veh/h)	61	186	0	0	512	137	276	132	148	162	0	233
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1863	1863	1863	1863	0	1863
Adj Flow Rate, veh/h	66	202	0	0	557	149	300	143	161	176	0	253
Adj No. of Lanes	1	2	0	0	2	0	1	1	1	1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	787	2542	0	0	649	173	358	376	319	0	0	0
Arrive On Green	0.89	1.00	0.00	0.00	0.23	0.23	0.20	0.20	0.20	0.00	0.00	0.00
Sat Flow, veh/h	1774	3632	0	0	2858	737	1774	1863	1583		0	
Grp Volume(v), veh/h	66	202	0	0	356	350	300	143	161		0.0	
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1733	1774	1863	1583			
Q Serve(g_s), s	0.5	0.0	0.0	0.0	19.3	19.4	16.2	6.6	9.0			
Cycle Q Clear(g_c), s	0.5	0.0	0.0	0.0	19.3	19.4	16.2	6.6	9.0			
Prop In Lane	1.00		0.00	0.00		0.43	1.00		1.00			
Lane Grp Cap(c), veh/h	787	2542	0	0	415	406	358	376	319			
V/C Ratio(X)	0.08	0.08	0.00	0.00	0.86	0.86	0.84	0.38	0.50			
Avail Cap(c_a), veh/h	787	2542	0	0	478	468	603	633	538			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.97	0.97	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	3.2	0.0	0.0	0.0	36.7	36.7	38.4	34.5	35.5			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	19.9	20.7	5.3	0.6	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.0	11.7	11.6	8.4	3.5	4.0			
LnGrp Delay(d),s/veh	3.2	0.1	0.0	0.0	56.5	57.4	43.6	35.1	36.7			
LnGrp LOS	A	A			E	E	D	D	D			
Approach Vol, veh/h		268			706			604				
Approach Delay, s/veh		0.8			57.0			39.8				
Approach LOS		A			E			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		24.2		75.8			48.4	27.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		34.0		36.0			5.0	27.0				
Max Q Clear Time (g_c+l1), s		18.2		2.0			2.5	21.4				
Green Ext Time (p_c), s		1.9		1.5			0.3	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				40.8								
HCM 2010 LOS				D								

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (F) Conditions
Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	98	80	609	88	249	55	565	458	378	815	20
Future Volume (veh/h)	20	98	80	609	88	249	55	565	458	378	815	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	107	87	662	227	184	60	614	498	411	886	22
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	320	143	691	486	413	324	1257	562	524	1149	514
Arrive On Green	0.02	0.09	0.09	0.19	0.26	0.26	0.18	0.36	0.36	0.15	0.32	0.32
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	22	107	87	662	227	184	60	614	498	411	886	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.9	2.2	4.1	14.2	7.9	4.9	2.2	10.4	22.8	8.9	17.4	0.6
Cycle Q Clear(g_c), s	0.9	2.2	4.1	14.2	7.9	4.9	2.2	10.4	22.8	8.9	17.4	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	320	143	691	486	413	324	1257	562	524	1149	514
V/C Ratio(X)	0.51	0.33	0.61	0.96	0.47	0.45	0.19	0.49	0.89	0.79	0.77	0.04
Avail Cap(c_a), veh/h	127	1860	832	691	1209	1027	324	1387	621	817	1975	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.1	32.9	33.7	30.7	24.0	10.2	26.6	19.4	23.4	31.5	23.4	11.7
Incr Delay (d2), s/veh	9.0	0.6	4.1	24.4	0.7	0.8	0.3	0.3	13.5	2.7	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	2.0	9.3	4.1	2.9	1.1	5.1	12.0	4.4	8.7	0.3
LnGrp Delay(d),s/veh	46.1	33.5	37.8	55.1	24.7	10.9	26.9	19.7	36.9	34.1	24.6	11.7
LnGrp LOS	D	C	D	E	C	B	C	B	D	C	C	B
Approach Vol, veh/h		216			1073			1172			1319	
Approach Delay, s/veh		36.5			41.1			27.4			27.3	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	31.4	19.0	11.0	18.1	29.0	5.9	24.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+l1), s	10.9	24.8	16.2	6.1	4.2	19.4	2.9	9.9				
Green Ext Time (p_c), s	0.9	2.6	0.0	0.9	0.2	5.6	0.0	4.8				
Intersection Summary												
HCM 2010 Ctrl Delay			31.8									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	 			 	 			
Traffic Volume (veh/h)	291	252	164	613	805	441		
Future Volume (veh/h)	291	252	164	613	805	441		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	316	274	178	666	875	479		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	801	369	228	2129	1381	618		
Arrive On Green	0.23	0.23	0.13	0.60	0.39	0.39		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	316	274	178	666	875	479		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	3.7	7.7	4.7	4.5	9.7	12.8		
Cycle Q Clear(g_c), s	3.7	7.7	4.7	4.5	9.7	12.8		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	801	369	228	2129	1381	618		
V/C Ratio(X)	0.39	0.74	0.78	0.31	0.63	0.78		
Avail Cap(c_a), veh/h	1283	590	368	2493	1466	656		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.6	17.2	20.4	4.7	11.9	12.9		
Incr Delay (d2), s/veh	0.3	3.0	5.8	0.1	0.8	5.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	6.8	2.6	2.2	4.8	6.4		
LnGrp Delay(d),s/veh	16.0	20.2	26.2	4.8	12.7	18.4		
LnGrp LOS	B	C	C	A	B	B		
Approach Vol, veh/h	590			844	1354			
Approach Delay, s/veh	17.9			9.3	14.7			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		33.0		15.2	10.2	22.8		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		34.0		18.0	10.0	20.0		
Max Q Clear Time (g_c+I1), s		6.5		9.7	6.7	14.8		
Green Ext Time (p_c), s		13.4		1.5	0.1	4.1		
Intersection Summary								
HCM 2010 Ctrl Delay			13.8					
HCM 2010 LOS			B					



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	147	43	26	645	965	85		
Future Volume (veh/h)	147	43	26	645	965	85		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	160	47	28	701	1049	92		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	243	217	60	2268	1755	785		
Arrive On Green	0.14	0.14	0.03	0.64	0.50	0.50		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	160	47	28	701	1049	92		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	3.1	1.0	0.6	3.2	7.7	1.1		
Cycle Q Clear(g_c), s	3.1	1.0	0.6	3.2	7.7	1.1		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	243	217	60	2268	1755	785		
V/C Ratio(X)	0.66	0.22	0.47	0.31	0.60	0.12		
Avail Cap(c_a), veh/h	1822	1626	246	5895	5011	2242		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	14.7	13.8	17.1	2.9	6.5	4.9		
Incr Delay (d2), s/veh	3.0	0.5	5.5	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.4	1.5	3.7	0.5		
LnGrp Delay(d),s/veh	17.7	14.3	22.6	3.0	6.8	4.9		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	207			729	1141			
Approach Delay, s/veh	17.0			3.7	6.7			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		27.1		8.9	5.2	21.9		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+l1), s		5.2		5.1	2.6	9.7		
Green Ext Time (p_c), s		4.7		0.6	1.0	8.2		
Intersection Summary								
HCM 2010 Ctrl Delay			6.7					
HCM 2010 LOS			A					

Redding Rancheria
13: SR-273 & Westside Rd/Girvan Rd

Cumulative (2040) plus Project (F) Conditions
Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗		↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	13	28	80	165	26	62	53	599	152	96	838	43
Future Volume (veh/h)	13	28	80	165	26	62	53	599	152	96	838	43
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	14	30	87	179	28	67	58	651	165	104	911	47
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	42	122	261	72	172	133	1267	567	133	1267	567
Arrive On Green	0.11	0.11	0.11	0.15	0.15	0.15	0.08	0.36	0.36	0.08	0.36	0.36
Sat Flow, veh/h	177	380	1102	1774	488	1168	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	131	0	0	179	0	95	58	651	165	104	911	47
Grp Sat Flow(s),veh/h/ln	1659	0	0	1774	0	1657	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	3.9	0.0	0.0	4.9	0.0	2.7	1.6	7.5	3.9	3.0	11.5	1.0
Cycle Q Clear(g_c), s	3.9	0.0	0.0	4.9	0.0	2.7	1.6	7.5	3.9	3.0	11.5	1.0
Prop In Lane	0.11		0.66	1.00		0.71	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	0	0	261	0	243	133	1267	567	133	1267	567
V/C Ratio(X)	0.72	0.00	0.00	0.69	0.00	0.39	0.44	0.51	0.29	0.78	0.72	0.08
Avail Cap(c_a), veh/h	1188	0	0	635	0	593	172	1267	567	172	1267	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	0.0	20.9	0.0	19.9	22.8	13.0	11.9	23.5	14.3	11.0
Incr Delay (d2), s/veh	5.2	0.0	0.0	3.2	0.0	1.0	2.2	1.5	1.3	15.9	3.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	2.6	0.0	1.3	0.9	3.9	1.9	2.0	6.2	0.5
LnGrp Delay(d),s/veh	27.4	0.0	0.0	24.1	0.0	21.0	25.1	14.5	13.2	39.4	17.9	11.3
LnGrp LOS	C			C		C	C	B	B	D	B	B
Approach Vol, veh/h		131			274			874			1062	
Approach Delay, s/veh		27.4			23.0			15.0			19.7	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	22.5		9.7	7.9	22.5		11.6				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.5			37.0	5.0	18.5		18.5				
Max Q Clear Time (g_c+I), s	9.5			5.9	3.6	13.5		6.9				
Green Ext Time (p_c), s	0.0	2.9		0.8	0.1	2.4		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				18.7								
HCM 2010 LOS				B								



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	378	99	118	555	644	497		
Future Volume (veh/h)	378	99	118	555	644	497		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	260	270	128	603	700	0		
Adj No. of Lanes	1	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	425	387	165	2027	1366	1075		
Arrive On Green	0.24	0.24	0.09	0.57	0.39	0.00		
Sat Flow, veh/h	1774	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	260	270	128	603	700	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	5.6	6.5	3.0	3.7	6.5	0.0		
Cycle Q Clear(g_c), s	5.6	6.5	3.0	3.7	6.5	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	425	387	165	2027	1366	1075		
V/C Ratio(X)	0.61	0.70	0.78	0.30	0.51	0.00		
Avail Cap(c_a), veh/h	1248	1136	333	3485	2489	1960		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	14.4	14.8	18.9	4.7	10.0	0.0		
Incr Delay (d2), s/veh	1.4	2.3	7.6	0.1	0.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.8	5.8	1.8	1.8	3.2	0.0		
LnGrp Delay(d),s/veh	15.9	17.1	26.5	4.8	10.3	0.0		
LnGrp LOS	B	B	C	A	B			
Approach Vol, veh/h	530			731	700			
Approach Delay, s/veh	16.5			8.6	10.3			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		28.4		14.2	8.0	20.5		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		
Max Q Clear Time (g_c+l1), s		5.7		8.5	5.0	8.5		
Green Ext Time (p_c), s		9.4		1.7	0.1	8.0		
Intersection Summary								
HCM 2010 Ctrl Delay			11.3					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
15: Canyon Rd & Redding Rancheria Rd

Cumulative (2040) plus Project (F) Conditions
Friday PM Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	351	235	14	226	230	17		
Future Volume (veh/h)	351	235	14	226	230	17		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	382	0	0	256	263	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	524	468	279	474	530	278		
Arrive On Green	0.30	0.00	0.00	0.15	0.15	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	382	0	0	256	263	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	5.7	0.0	0.0	2.2	2.0	0.0		
Cycle Q Clear(g_c), s	5.7	0.0	0.0	2.2	2.0	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	524	468	279	474	530	278		
V/C Ratio(X)	0.73	0.00	0.00	0.54	0.50	0.00		
Avail Cap(c_a), veh/h	1246	1112	1170	1989	2229	1170		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.4	0.0	0.0	11.6	11.6	0.0		
Incr Delay (d2), s/veh	2.0	0.0	0.0	1.0	0.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.0	1.0	0.0		
LnGrp Delay(d),s/veh	11.3	0.0	0.0	12.6	12.3	0.0		
LnGrp LOS	B			B	B			
Approach Vol, veh/h	382		256		263			
Approach Delay, s/veh	11.3		12.6		12.3			
Approach LOS	B		B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.4				8.4		12.8
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		18.6				18.6		20.8
Max Q Clear Time (g_c+l1), s		4.2				4.0		7.7
Green Ext Time (p_c), s		0.8				0.8		1.0
Intersection Summary								
HCM 2010 Ctrl Delay			12.0					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.



























Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	69	86	83	452	568	78		
Future Volume (veh/h)	69	86	83	452	568	78		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	75	93	90	491	617	85		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	100	125	151	2200	1469	657		
Arrive On Green	0.14	0.14	0.09	0.62	0.42	0.42		
Sat Flow, veh/h	739	916	1774	3632	3632	1583		
Grp Volume(v), veh/h	169	0	90	491	617	85		
Grp Sat Flow(s),veh/h/ln	1664	0	1774	1770	1770	1583		
Q Serve(g_s), s	3.2	0.0	1.6	2.0	4.1	1.1		
Cycle Q Clear(g_c), s	3.2	0.0	1.6	2.0	4.1	1.1		
Prop In Lane	0.44	0.55	1.00			1.00		
Lane Grp Cap(c), veh/h	226	0	151	2200	1469	657		
V/C Ratio(X)	0.75	0.00	0.60	0.22	0.42	0.13		
Avail Cap(c_a), veh/h	1513	0	376	5041	3861	1727		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.7	0.0	14.5	2.7	6.8	6.0		
Incr Delay (d2), s/veh	4.8	0.0	3.7	0.1	0.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.9	1.0	2.0	0.5		
LnGrp Delay(d),s/veh	18.6	0.0	18.3	2.8	7.0	6.1		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	169			581	702			
Approach Delay, s/veh	18.6			5.2	6.9			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		24.5		8.5	6.8	17.7		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+l1), s		4.0		5.2	3.6	6.1		
Green Ext Time (p_c), s		8.1		0.5	0.0	7.6		
Intersection Summary								
HCM 2010 Ctrl Delay			7.6					
HCM 2010 LOS			A					
Notes								
















User approved volume balancing among the lanes for turning movement.

Redding Rancheria
1: SR-273 & Cedars Rd/S Bonnyview Rd

Cumulative (2040) plus Project (F) Conditions
Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	63	448	63	160	35	469	329	266	479	10
Future Volume (veh/h)	0	54	63	448	63	160	35	469	329	266	479	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	59	68	487	148	121	38	510	358	289	521	11
Adj No. of Lanes	1	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	315	141	684	657	559	368	1084	485	437	799	358
Arrive On Green	0.00	0.09	0.09	0.19	0.35	0.35	0.21	0.31	0.31	0.13	0.23	0.23
Sat Flow, veh/h	1774	3539	1583	3548	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	0	59	68	487	148	121	38	510	358	289	521	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	0.0	0.9	2.3	7.2	3.1	1.8	1.0	6.6	11.4	4.5	7.5	0.3
Cycle Q Clear(g_c), s	0.0	0.9	2.3	7.2	3.1	1.8	1.0	6.6	11.4	4.5	7.5	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	315	141	684	657	559	368	1084	485	437	799	358
V/C Ratio(X)	0.00	0.19	0.48	0.71	0.23	0.22	0.10	0.47	0.74	0.66	0.65	0.03
Avail Cap(c_a), veh/h	174	2553	1142	948	1659	1410	368	1904	852	1122	2711	1213
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	23.7	24.3	21.2	12.8	4.3	18.0	15.8	17.5	23.4	19.7	14.0
Incr Delay (d2), s/veh	0.0	0.3	2.6	1.5	0.2	0.2	0.1	0.3	2.2	1.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	1.1	3.7	1.6	1.2	0.5	3.2	5.3	2.2	3.7	0.1
LnGrp Delay(d),s/veh	0.0	24.0	26.9	22.7	12.9	4.5	18.1	16.1	19.7	25.1	20.6	14.0
LnGrp LOS		C	C	C	B	A	B	B	B	C	C	B
Approach Vol, veh/h		127			756			906			821	
Approach Delay, s/veh		25.5			17.9			17.6			22.1	
Approach LOS		C			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.1	21.2	14.8	9.0	15.6	16.7	0.0	23.8				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.3	30.2	15.0	40.5	5.5	43.0	5.5	50.0				
Max Q Clear Time (g_c+I1), s	6.5	13.4	9.2	4.3	3.0	9.5	0.0	5.1				
Green Ext Time (p_c), s	0.7	3.8	1.6	0.5	0.3	3.2	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			19.5									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	 			 	 			
Traffic Volume (veh/h)	217	189	140	406	549	270		
Future Volume (veh/h)	217	189	140	406	549	270		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	236	205	152	441	597	293		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	706	325	198	2040	1258	563		
Arrive On Green	0.21	0.21	0.11	0.58	0.36	0.36		
Sat Flow, veh/h	3442	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	236	205	152	441	597	293		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1770	1770	1583		
Q Serve(g_s), s	2.1	4.3	3.0	2.2	4.8	5.4		
Cycle Q Clear(g_c), s	2.1	4.3	3.0	2.2	4.8	5.4		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	706	325	198	2040	1258	563		
V/C Ratio(X)	0.33	0.63	0.77	0.22	0.47	0.52		
Avail Cap(c_a), veh/h	1693	779	485	3288	1934	865		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.4	13.3	15.8	3.8	9.1	9.3		
Incr Delay (d2), s/veh	0.3	2.0	6.1	0.1	0.3	0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	3.9	1.8	1.1	2.4	2.4		
LnGrp Delay(d),s/veh	12.7	15.3	21.9	3.8	9.4	10.1		
LnGrp LOS	B	B	C	A	A	B		
Approach Vol, veh/h	441			593	890			
Approach Delay, s/veh	13.9			8.4	9.6			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		25.1		11.5	8.1	17.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		34.0		18.0	10.0	20.0		
Max Q Clear Time (g_c+l1), s		4.2		6.3	5.0	7.4		
Green Ext Time (p_c), s		8.0		1.3	0.1	5.7		
Intersection Summary								
HCM 2010 Ctrl Delay			10.3					
HCM 2010 LOS			B					



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	82	22	29	464	671	61		
Future Volume (veh/h)	82	22	29	464	671	61		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	89	24	32	504	729	66		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	187	167	70	2121	1459	653		
Arrive On Green	0.11	0.11	0.04	0.60	0.41	0.41		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	89	24	32	504	729	66		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	1.3	0.4	0.5	1.8	4.1	0.7		
Cycle Q Clear(g_c), s	1.3	0.4	0.5	1.8	4.1	0.7		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	187	167	70	2121	1459	653		
V/C Ratio(X)	0.47	0.14	0.46	0.24	0.50	0.10		
Avail Cap(c_a), veh/h	2421	2161	327	7832	6657	2978		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.4	11.0	12.7	2.5	5.9	4.9		
Incr Delay (d2), s/veh	1.9	0.4	4.6	0.1	0.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	0.4	0.3	0.9	2.0	0.3		
LnGrp Delay(d),s/veh	13.3	11.4	17.3	2.6	6.2	5.0		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	113			536	795			
Approach Delay, s/veh	12.9			3.5	6.1			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		20.2		6.9	5.1	15.2		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		60.0		37.0	5.0	51.0		
Max Q Clear Time (g_c+l1), s		3.8		3.3	2.5	6.1		
Green Ext Time (p_c), s		3.2		0.3	0.7	5.0		
Intersection Summary								
HCM 2010 Ctrl Delay			5.6					
HCM 2010 LOS			A					



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕↕	↕	↕	↕↕	↕
Traffic Volume (veh/h)	24	17	56	106	9	52	47	430	104	70	577	40
Future Volume (veh/h)	24	17	56	106	9	52	47	430	104	70	577	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	26	18	61	115	10	57	51	467	113	76	627	43
Adj No. of Lanes	0	1	0	1	1	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	25	84	187	25	145	119	1405	629	119	1405	629
Arrive On Green	0.09	0.09	0.09	0.11	0.11	0.11	0.07	0.40	0.40	0.07	0.40	0.40
Sat Flow, veh/h	414	286	971	1774	242	1378	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	105	0	0	115	0	67	51	467	113	76	627	43
Grp Sat Flow(s),veh/h/ln	671	0	0	1774	0	1620	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	2.9	0.0	0.0	2.9	0.0	1.8	1.3	4.3	2.2	1.9	6.0	0.8
Cycle Q Clear(g_c), s	2.9	0.0	0.0	2.9	0.0	1.8	1.3	4.3	2.2	1.9	6.0	0.8
Prop In Lane	0.25		0.58	1.00		0.85	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	0	0	187	0	171	119	1405	629	119	1405	629
V/C Ratio(X)	0.72	0.00	0.00	0.62	0.00	0.39	0.43	0.33	0.18	0.64	0.45	0.07
Avail Cap(c_a), veh/h	1327	0	0	704	0	643	190	1405	629	190	1405	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.7	0.0	0.0	19.9	0.0	19.5	20.9	9.8	9.1	21.2	10.3	8.7
Incr Delay (d2), s/veh	6.6	0.0	0.0	3.3	0.0	1.5	2.4	0.6	0.6	5.6	1.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	1.6	0.0	0.9	0.7	2.2	1.1	1.1	3.1	0.4
LnGrp Delay(d),s/veh	27.3	0.0	0.0	23.2	0.0	20.9	23.3	10.4	9.7	26.7	11.3	8.9
LnGrp LOS	C			C		C	C	B	A	C	B	A
Approach Vol, veh/h		105			182			631			746	
Approach Delay, s/veh		27.3			22.4			11.3			12.8	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	22.5		8.1	7.1	22.5		8.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	18.5			37.0	5.0	18.5		18.5				
Max Q Clear Time (g_c+I), s	6.3			4.9	3.3	8.0		4.9				
Green Ext Time (p_c), s	0.0	2.4		0.6	0.0	2.8		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				14.2								
HCM 2010 LOS				B								

Redding Rancheria
14: SR-273 & Canyon Rd

Cumulative (2040) plus Project (F) Conditions
Saturday PM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	↑↑↑		↑	↑↑	↑↑	↑↑		
Traffic Volume (veh/h)	312	67	110	326	360	403		
Future Volume (veh/h)	312	67	110	326	360	403		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	407	0	120	354	391	0		
Adj No. of Lanes	2	1	1	2	2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	744	339	185	1874	1043	821		
Arrive On Green	0.21	0.00	0.10	0.53	0.29	0.00		
Sat Flow, veh/h	3548	1615	1774	3632	3632	2787		
Grp Volume(v), veh/h	407	0	120	354	391	0		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1770	1393		
Q Serve(g_s), s	3.1	0.0	2.0	1.6	2.7	0.0		
Cycle Q Clear(g_c), s	3.1	0.0	2.0	1.6	2.7	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	744	339	185	1874	1043	821		
V/C Ratio(X)	0.55	0.00	0.65	0.19	0.38	0.00		
Avail Cap(c_a), veh/h	3471	1580	463	4848	3463	2726		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	10.8	0.0	13.2	3.8	8.6	0.0		
Incr Delay (d2), s/veh	0.6	0.0	3.8	0.0	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.6	0.0	1.2	0.8	1.3	0.0		
LnGrp Delay(d),s/veh	11.4	0.0	17.0	3.8	8.8	0.0		
LnGrp LOS	B		B	A	A			
Approach Vol, veh/h	407			474	391			
Approach Delay, s/veh	11.4			7.1	8.8			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		20.2		10.4	7.2	13.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		
Max Q Clear Time (g_c+l1), s		3.6		5.1	4.0	4.7		
Green Ext Time (p_c), s		4.6		1.5	0.1	4.3		
Intersection Summary								
HCM 2010 Ctrl Delay			9.0					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
15: Canyon Rd & Redding Rancheria Rd

Cumulative (2040) plus Project (F) Conditions
Saturday PM Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	196	272	16	217	186	11		
Future Volume (veh/h)	196	272	16	217	186	11		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	213	0	0	247	211	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	370	330	304	516	543	285		
Arrive On Green	0.21	0.00	0.00	0.16	0.15	0.00		
Sat Flow, veh/h	1774	1583	1863	3167	3548	1863		
Grp Volume(v), veh/h	213	0	0	247	211	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863		
Q Serve(g_s), s	2.7	0.0	0.0	1.8	1.4	0.0		
Cycle Q Clear(g_c), s	2.7	0.0	0.0	1.8	1.4	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	370	330	304	516	543	285		
V/C Ratio(X)	0.58	0.00	0.00	0.48	0.39	0.00		
Avail Cap(c_a), veh/h	1462	1305	1373	2334	2615	1373		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.0	0.0	0.0	9.6	9.6	0.0		
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.7	0.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.8	0.7	0.0		
LnGrp Delay(d),s/veh	10.4	0.0	0.0	10.3	10.1	0.0		
LnGrp LOS	B			B	B			
Approach Vol, veh/h	213		247			211		
Approach Delay, s/veh	10.4		10.3			10.1		
Approach LOS	B		B			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		8.1				7.9		9.3
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		18.6				18.6		20.8
Max Q Clear Time (g_c+I1), s		3.8				3.4		4.7
Green Ext Time (p_c), s		0.8				0.6		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			10.3					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	44	61	63	328	324	51		
Future Volume (veh/h)	44	61	63	328	324	51		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	48	66	68	357	352	55		
Adj No. of Lanes	0	0	1	2	2	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	76	105	134	2013	1178	527		
Arrive On Green	0.11	0.11	0.08	0.57	0.33	0.33		
Sat Flow, veh/h	693	953	1774	3632	3632	1583		
Grp Volume(v), veh/h	115	0	68	357	352	55		
Grp Sat Flow(s),veh/h/ln	660	0	1774	1770	1770	1583		
Q Serve(g_s), s	1.7	0.0	0.9	1.2	1.8	0.6		
Cycle Q Clear(g_c), s	1.7	0.0	0.9	1.2	1.8	0.6		
Prop In Lane	0.42	0.57	1.00			1.00		
Lane Grp Cap(c), veh/h	183	0	134	2013	1178	527		
V/C Ratio(X)	0.63	0.00	0.51	0.18	0.30	0.10		
Avail Cap(c_a), veh/h	1999	0	498	6676	5113	2288		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.6	0.0	11.1	2.6	6.2	5.7		
Incr Delay (d2), s/veh	3.5	0.0	3.0	0.0	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.5	0.6	0.9	0.3		
LnGrp Delay(d),s/veh	14.1	0.0	14.1	2.6	6.3	5.8		
LnGrp LOS	B		B	A	A	A		
Approach Vol, veh/h	115			425	407			
Approach Delay, s/veh	14.1			4.4	6.2			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		18.2		6.7	5.9	12.3		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		47.0		30.0	7.0	36.0		
Max Q Clear Time (g_c+l1), s		3.2		3.7	2.9	3.8		
Green Ext Time (p_c), s		4.6		0.3	0.0	4.5		
Intersection Summary								
HCM 2010 Ctrl Delay			6.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Friday Peak Hour

Intersection	BASE	
	Delay	LOS
Bonnyview Rd & Bechelli Ln	116.9	F
Bonnyview Rd & I-5 SB Exit	46.1	D
Bonnyview Rd & I-5 NB Exit	32.3	C
Bonnyview Rd & Churn Creek Rd	39.4	D
Bonnyview Rd & Alrose Rd	10.8	B

Saturday Peak Hour

Intersection	BASE	
	Delay	LOS
Bonnyview Rd & Bechelli Ln	89.2	F
Bonnyview Rd & I-5 SB Exit	38.1	D
Bonnyview Rd & I-5 NB Exit	19.7	B
Bonnyview Rd & Churn Creek Rd	20.5	C
Bonnyview Rd & Alrose Rd	1.6	A

Friday Peak Hour

Intersection	1A		1B		1C		1D	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Bonnyview Rd & Bechelli Ln	301.7	F	281.3	F	297.2	F	206.9	F
Bonnyview Rd & I-5 SB Exit	194.9	F	167.6	F	189.7	F	119.8	F
Bonnyview Rd & I-5 NB Exit	167.2	F	144.6	F	153.8	F	68.3	E
Bonnyview Rd & Churn Creek Rd	221.0	F	202.4	F	213.1	F	82.4	F
Bonnyview Rd & Alrose Rd	234.3	F	222.3	F	257.1	F	77.6	F

Saturday Peak Hour

Intersection	1A		1B		1C		1D	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Bonnyview Rd & Bechelli Ln	536.5	F	435.9	F	440.5	F	343.4	F
Bonnyview Rd & I-5 SB Exit	338.4	F	308.7	F	252.1	F	223.0	F
Bonnyview Rd & I-5 NB Exit	291.5	F	253.9	F	232.6	F	133.3	F
Bonnyview Rd & Churn Creek Rd	361.8	F	313.8	F	357.2	F	109.9	F
Bonnyview Rd & Alrose Rd	456.0	F	420.3	F	430.1	F	98.5	F

Friday Peak Hour

Intersection	2A		2B		2C		2D	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Bonnyview Rd & Bechelli Ln	291.5	F	256.8	F	244.9	F	185.3	F
Bonnyview Rd & I-5 SB Exit	181.9	F	148.7	F	155.6	F	104.9	F
Bonnyview Rd & I-5 NB Exit	130.8	F	99.7	F	117.6	F	56.5	E
Bonnyview Rd & Churn Creek Rd	178.4	F	125.0	F	147.4	F	72.6	E
Bonnyview Rd & Alrose Rd	201.1	F	127.9	F	171.2	F	64.2	F

Saturday Peak Hour

Intersection	2A		2B		2C		2D	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Bonnyview Rd & Bechelli Ln	405.8	F	285.9	F	373.2	F	250.6	F
Bonnyview Rd & I-5 SB Exit	325.7	F	240.8	F	298.5	F	181.7	F
Bonnyview Rd & I-5 NB Exit	229.8	F	149.4	F	193.6	F	97.4	F
Bonnyview Rd & Churn Creek Rd	273.6	F	147.4	F	188.7	F	97.7	F
Bonnyview Rd & Alrose Rd	281.3	F	133.9	F	181.7	F	88.6	F

Friday Peak Hour

Intersection	3A		3B		3C		3D	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Bonnyview Rd & Bechelli Ln	114.2	F	120.6	F	116.4	F	119.4	F
Bonnyview Rd & I-5 SB Exit	45.9	D	47.3	D	46.3	D	46.9	D
Bonnyview Rd & I-5 NB Exit	33.6	C	33.6	C	33.7	C	33.2	C
Bonnyview Rd & Churn Creek Rd	35.9	D	37.3	D	37.1	D	36.6	D
Bonnyview Rd & Alrose Rd	7.6	A	7.3	A	8.2	A	7.6	A

Saturday Peak Hour

Intersection	3A		3B		3C		3D	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Bonnyview Rd & Bechelli Ln	94.5	F	87.8	F	94.7	F	88.4	F
Bonnyview Rd & I-5 SB Exit	38.3	D	37.2	D	38.3	D	37.8	D
Bonnyview Rd & I-5 NB Exit	22.3	C	21.1	C	22.3	C	21.0	C
Bonnyview Rd & Churn Creek Rd	19.6	B	20.1	C	19.3	B	20.2	C
Bonnyview Rd & Alrose Rd	1.5	A	1.5	A	1.5	A	1.6	A

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 564 veh/h
Opposing direction volume, Vo 766 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	615 pc/h	835 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSD	42.4	mi/h
Percent Free Flow Speed, PFFS	77.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	613	833	pc/h
Base percent time-spent-following,(note-4) BPTSFD	61.7	%	
Adjustment for no-passing zones, fnp	26.8		
Percent time-spent-following, PTSFD	73.1	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.36	
Peak 15-min vehicle-miles of travel, VMT15	31	veh-mi
Peak-hour vehicle-miles of travel, VMT60	113	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	42.4	mi/h
Percent time-spent-following, PTSFD (from above)	73.1	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	613.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.86
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 766 veh/h
Opposing direction volume, Vo 564 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	835 pc/h	615 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.9	mi/h
Average travel speed, ATSD	41.9	mi/h
Percent Free Flow Speed, PFFS	76.2	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	833 pc/h	613 pc/h
Base percent time-spent-following, (note-4) BPTSFD	68.8 %	
Adjustment for no-passing zones, fnp	26.8	
Percent time-spent-following, PTSFD	84.2 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.49	
Peak 15-min vehicle-miles of travel, VMT15	42	veh-mi
Peak-hour vehicle-miles of travel, VMT60	153	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	41.9	mi/h
Percent time-spent-following, PTSFD (from above)	84.2	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	832.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.02
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

HCS7 Multi Lane Highway Segments Text Report

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_FRI_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (1A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1827	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	20.7	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1632	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1632	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	914	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	914	pc/h/l n
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	20.7	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/30/2018 10:26:32

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_FRI_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (1A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	2313	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	26.2	pc/mi/ln
Level of Service, LOS	D	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	2066	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	2066	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	1156	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	1156	pc/h/l n
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	26.2	pc/mi /l n
Level of service, LOS	D	

This Multilane Highway Segment text report was created on 5/30/2018 10:27:20

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Church Creek Road (EB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 891 veh/h
 Opposing direction volume, Vo 801 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	968 pc/h	871 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSD	43.2	mi/h
Percent Free Flow Speed, PFFS	73.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	968	871	pc/h
Base percent time-spent-following,(note-4) BPTSFD	75.4	%	
Adjustment for no-passing zones, fnp	21.0		
Percent time-spent-following, PTSFD	86.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.57	
Peak 15-min vehicle-miles of travel, VMT15	48	veh-mi
Peak-hour vehicle-miles of travel, VMT60	178	veh-mi
Peak 15-min total travel time, TT15	1.1	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	43.2	mi/h
Percent time-spent-following, PTSFD (from above)	86.5	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	968.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.10
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Church Creek Road (WB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (1A)

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 801 veh/h
 Opposing direction volume, Vo 891 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	871 pc/h	968 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM - mi/h
 Observed total demand,(note-3) V - veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS 60.0 mi/h
 Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
 Adj. for access point density,(note-3) fA 1.3 mi/h

Free-flow speed, FFSd 58.8 mi/h

Adjustment for no-passing zones, fnp 1.2 mi/h
 Average travel speed, ATSD 43.3 mi/h
 Percent Free Flow Speed, PFFS 73.6 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	871	968	pc/h
Base percent time-spent-following,(note-4) BPTSFd	73.4	%	
Adjustment for no-passing zones, fnp	21.0		
Percent time-spent-following, PTSFd	83.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.51	
Peak 15-min vehicle-miles of travel, VMT15	44	veh-mi
Peak-hour vehicle-miles of travel, VMT60	160	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	43.3	mi/h
Percent time-spent-following, PTSFd (from above)	83.3	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	870.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.04
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Smith Road (EB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 26 veh/h
 Opposing direction volume, Vo 53 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	29 pc/h	59 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	56.2	mi/h
Percent Free Flow Speed, PFFS	97.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	28	58	pc/h
Base percent time-spent-following, (note-4) BPTSFD	3.5	%	
Adjustment for no-passing zones, fnp	10.2		
Percent time-spent-following, PTSFD	6.8	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	16	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	56.2	mi/h
Percent time-spent-following, PTSFD (from above)	6.8	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	28.3
Effective width of outside lane, We	39.66
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.69
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Smith Road (WB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (1A)

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 53 veh/h
 Opposing direction volume, Vo 26 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	59 pc/h	29 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	56.2	mi/h
Percent Free Flow Speed, PFFS	97.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.997	0.997
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	58 pc/h	28 pc/h
Base percent time-spent-following, (note-4) BPTSFD	7.0 %	
Adjustment for no-passing zones, fnp	10.2	
Percent time-spent-following, PTSFD	13.9 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	9	veh-mi
Peak-hour vehicle-miles of travel, VMT60	32	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	56.2	mi/h
Percent time-spent-following, PTSFD (from above)	13.9	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	57.6
Effective width of outside lane, We	37.23
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.38
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Bechelli Lane (NB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 553 veh/h
 Opposing direction volume, Vo 921 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	603 pc/h	1001 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSD	41.5	mi/h
Percent Free Flow Speed, PFFS	75.4	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	601 pc/h	1001 pc/h
Base percent time-spent-following,(note-4) BPTSFD	62.7 %	
Adjustment for no-passing zones, fnp	22.9	
Percent time-spent-following, PTSFD	71.3 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	30	veh-mi
Peak-hour vehicle-miles of travel, VMT60	111	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	41.5	mi/h
Percent time-spent-following, PTSFD (from above)	71.3	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	601.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.85
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Bechelli Lane (SB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (1A)

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 921 veh/h
 Opposing direction volume, Vo 553 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1001 pc/h	603 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.9	mi/h
Average travel speed, ATSD	40.7	mi/h
Percent Free Flow Speed, PFFS	73.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	1001 pc/h	601 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	74.0	%	
Adjustment for no-passing zones, fnp	22.9		
Percent time-spent-following, PTSFD	88.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.59	
Peak 15-min vehicle-miles of travel, VMT15	50	veh-mi
Peak-hour vehicle-miles of travel, VMT60	184	veh-mi
Peak 15-min total travel time, TT15	1.2	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	40.7	mi/h
Percent time-spent-following, PTSFD (from above)	88.3	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1001.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.11
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_SAT_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (1A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1106	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	12.5	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	988	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	988	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	553	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	553	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	12.5	pc/mi/ln
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/30/2018 10:28:07

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_SAT_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (1A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1894	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	21.5	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1692	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	1692	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	947	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	947	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	21.5	pc/mi/ln
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/30/2018 10:28:27

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Church Creek Road (EB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 503 veh/h
 Opposing direction volume, Vo 572 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	550 pc/h	624 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	1.9	mi/h
Average travel speed, ATSD	47.7	mi/h
Percent Free Flow Speed, PFFS	81.2	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	547 pc/h	622 pc/h	
Base percent time-spent-following, (note-4) BPTSFD	55.0	%	
Adjustment for no-passing zones, fnp	34.6		
Percent time-spent-following, PTSFD	71.2	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.32	
Peak 15-min vehicle-miles of travel, VMT15	27	veh-mi
Peak-hour vehicle-miles of travel, VMT60	101	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	47.7	mi/h
Percent time-spent-following, PTSFD (from above)	71.2	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	546.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.81
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Church Creek Road (WB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 572 veh/h
 Opposing direction volume, Vo 503 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	624 pc/h	550 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.4	mi/h
Average travel speed, ATSD	47.3	mi/h
Percent Free Flow Speed, PFFS	80.4	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	622	547	pc/h
Base percent time-spent-following, (note-4) BPTSFD	58.7	%	
Adjustment for no-passing zones, fnp	34.6		
Percent time-spent-following, PTSFD	77.1	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.37	
Peak 15-min vehicle-miles of travel, VMT15	31	veh-mi
Peak-hour vehicle-miles of travel, VMT60	114	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	47.3	mi/h
Percent time-spent-following, PTSFD (from above)	77.1	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	621.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.87
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Smith Road (EB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 27 veh/h
 Opposing direction volume, Vo 32 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	30 pc/h	36 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATSD	55.4	mi/h
Percent Free Flow Speed, PFFS	94.3	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	29	35	pc/h
Base percent time-spent-following, (note-4) BPTSFD	3.6	%	
Adjustment for no-passing zones, fnp	53.0		
Percent time-spent-following, PTSFD	27.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	1	veh-mi
Peak-hour vehicle-miles of travel, VMT60	5	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	55.4	mi/h
Percent time-spent-following, PTSFD (from above)	27.6	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	29.3
Effective width of outside lane, We	39.57
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.63
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Smith Road (WB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 32 veh/h
 Opposing direction volume, Vo 27 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	36 pc/h	30 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATSD	55.4	mi/h
Percent Free Flow Speed, PFFS	94.3	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	35	29	pc/h
Base percent time-spent-following,(note-4) BPTSFD	4.4	%	
Adjustment for no-passing zones, fnp	53.0		
Percent time-spent-following, PTSFD	33.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	2	veh-mi
Peak-hour vehicle-miles of travel, VMT60	6	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	55.4	mi/h
Percent time-spent-following, PTSFD (from above)	33.4	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	34.8
Effective width of outside lane, We	39.12
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-3.36
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 436 veh/h
Opposing direction volume, Vo 577 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	477 pc/h	629 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.8	mi/h
Average travel speed, ATSD	44.6	mi/h
Percent Free Flow Speed, PFFS	81.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	474	627	pc/h
Base percent time-spent-following,(note-4) BPTSFD	51.4	%	
Adjustment for no-passing zones, fnp	35.3		
Percent time-spent-following, PTSFD	66.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.28	
Peak 15-min vehicle-miles of travel, VMT15	24	veh-mi
Peak-hour vehicle-miles of travel, VMT60	87	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.6	mi/h
Percent time-spent-following, PTSFD (from above)	66.6	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	473.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.73
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 577 veh/h
Opposing direction volume, Vo 436 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	629 pc/h	477 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.5	mi/h
Average travel speed, ATSD	44.0	mi/h
Percent Free Flow Speed, PFFS	79.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	627	474	pc/h
Base percent time-spent-following,(note-4) BPTSFd	58.2	%	
Adjustment for no-passing zones, fnp	35.3		
Percent time-spent-following, PTSFd	78.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.37	
Peak 15-min vehicle-miles of travel, VMT15	31	veh-mi
Peak-hour vehicle-miles of travel, VMT60	115	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.0	mi/h
Percent time-spent-following, PTSFd (from above)	78.3	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	627.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.88
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_FRI_Bonnyvi ew.xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (2A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1827	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	20.7	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1632	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, f _{lW}	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, f _{TLC}	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, f _M	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, f _A	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFS _{adj}	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1632	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	914	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	914	pc/h/l n
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	20.7	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/30/2018 10:29:09

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_FRI_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (2A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	2101	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	23.8	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1877	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1877	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	1050	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	1050	pc/h/l n
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	23.8	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/30/2018 10:29:43

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Church Creek Road (EB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (1A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 891 veh/h
 Opposing direction volume, Vo 801 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	968 pc/h	871 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSD	43.2	mi/h
Percent Free Flow Speed, PFFS	73.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)		
PCE for trucks, ET	1.0	1.0		
PCE for RVs, ER	1.0	1.0		
Heavy-vehicle adjustment factor, fHV	1.000	1.000		
Grade adjustment factor,(note-1) fg	1.00	1.00		
Directional flow rate,(note-2) vi	968	871	pc/h	pc/h
Base percent time-spent-following,(note-4) BPTSFd	75.4	%		
Adjustment for no-passing zones, fnp	21.0			
Percent time-spent-following, PTSFd	86.5	%		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D		
Volume to capacity ratio, v/c	0.57		
Peak 15-min vehicle-miles of travel, VMT15	48	veh-mi	
Peak-hour vehicle-miles of travel, VMT60	178	veh-mi	
Peak 15-min total travel time, TT15	1.1	veh-h	
Capacity from ATS, CdATS	1700	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	1700	veh/h	

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	43.2	mi/h
Percent time-spent-following, PTSFd (from above)	86.5	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	968.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.10
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Church Creek Road (WB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 801 veh/h
 Opposing direction volume, Vo 891 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	871 pc/h	968 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSD	43.3	mi/h
Percent Free Flow Speed, PFFS	73.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	871	968	pc/h
Base percent time-spent-following,(note-4) BPTSFd	73.4	%	
Adjustment for no-passing zones, fnp	21.0		
Percent time-spent-following, PTSFd	83.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.51	
Peak 15-min vehicle-miles of travel, VMT15	44	veh-mi
Peak-hour vehicle-miles of travel, VMT60	160	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	43.3	mi/h
Percent time-spent-following, PTSFd (from above)	83.3	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	870.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.04
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Smith Road (EB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (2A)

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 154 veh/h
 Opposing direction volume, Vo 242 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.6	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.982	0.988
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	170 pc/h	266 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	1.6	mi/h
Average travel speed, ATSD	52.5	mi/h
Percent Free Flow Speed, PFFS	91.4	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	168	264	pc/h
Base percent time-spent-following, (note-4) BPTSFD	20.5	%	
Adjustment for no-passing zones, fnp	14.2		
Percent time-spent-following, PTSFD	26.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.10	
Peak 15-min vehicle-miles of travel, VMT15	25	veh-mi
Peak-hour vehicle-miles of travel, VMT60	92	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	52.5	mi/h
Percent time-spent-following, PTSFD (from above)	26.0	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	167.4
Effective width of outside lane, We	28.14
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	1.13
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Smith Road (WB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 242 veh/h
 Opposing direction volume, Vo 154 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.6
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.988	0.982
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	266 pc/h	170 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	1.4	mi/h
Average travel speed, ATSD	52.7	mi/h
Percent Free Flow Speed, PFFS	91.7	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	264	168	pc/h
Base percent time-spent-following, (note-4) BPTSFD	27.2	%	
Adjustment for no-passing zones, fnp	14.2		
Percent time-spent-following, PTSFD	35.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.16	
Peak 15-min vehicle-miles of travel, VMT15	39	veh-mi
Peak-hour vehicle-miles of travel, VMT60	145	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1669	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1669	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	52.7	mi/h
Percent time-spent-following, PTSFD (from above)	35.9	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	263.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.43
Bicycle LOS	B

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Bechelli Lane (NB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 416 veh/h
 Opposing direction volume, Vo 681 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	455 pc/h	742 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	1.5	mi/h
Average travel speed, ATSD	44.2	mi/h
Percent Free Flow Speed, PFFS	80.3	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	452	740	pc/h
Base percent time-spent-following,(note-4) BPTSFD	51.0	%	
Adjustment for no-passing zones, fnp	31.1		
Percent time-spent-following, PTSFD	62.8	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	23	veh-mi
Peak-hour vehicle-miles of travel, VMT60	83	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.2	mi/h
Percent time-spent-following, PTSFD (from above)	62.8	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	452.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.71
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Bechelli Lane (SB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 681 veh/h
 Opposing direction volume, Vo 416 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	742 pc/h	455 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.6	mi/h
Average travel speed, ATSD	43.2	mi/h
Percent Free Flow Speed, PFFS	78.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	740	452	pc/h
Base percent time-spent-following,(note-4) BPTSFD	63.7	%	
Adjustment for no-passing zones, fnp	31.1		
Percent time-spent-following, PTSFD	83.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.44	
Peak 15-min vehicle-miles of travel, VMT15	37	veh-mi
Peak-hour vehicle-miles of travel, VMT60	136	veh-mi
Peak 15-min total travel time, TT15	0.9	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	43.2	mi/h
Percent time-spent-following, PTSFD (from above)	83.0	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	740.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.96
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_SAT_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (2A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1106	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	12.5	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	988	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	988	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	553	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	553	pc/h/l n
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	12.5	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/30/2018 10:30:25

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_SAT_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (2A)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1625	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	18.4	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1452	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	1452	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	812	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	812	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	18.4	pc/mi/ln
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/30/2018 10:30:48

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Church Creek Road (EB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (2A)

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 503 veh/h
 Opposing direction volume, Vo 572 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.994	0.997
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	550 pc/h	624 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	1.9	mi/h
Average travel speed, ATSD	47.7	mi/h
Percent Free Flow Speed, PFFS	81.2	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	547	622	pc/h
Base percent time-spent-following,(note-4) BPTSFD	55.0	%	
Adjustment for no-passing zones, fnp	34.6		
Percent time-spent-following, PTSFD	71.2	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.32	
Peak 15-min vehicle-miles of travel, VMT15	27	veh-mi
Peak-hour vehicle-miles of travel, VMT60	101	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	47.7	mi/h
Percent time-spent-following, PTSFD (from above)	71.2	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	546.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.81
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Church Creek Road (WB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 572 veh/h
 Opposing direction volume, Vo 503 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	624 pc/h	550 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.4	mi/h
Average travel speed, ATSD	47.3	mi/h
Percent Free Flow Speed, PFFS	80.4	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	622 pc/h	547	pc/h
Base percent time-spent-following, (note-4) BPTSFD	58.7	%	
Adjustment for no-passing zones, fnp	34.6		
Percent time-spent-following, PTSFD	77.1	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.37	
Peak 15-min vehicle-miles of travel, VMT15	31	veh-mi
Peak-hour vehicle-miles of travel, VMT60	114	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	47.3	mi/h
Percent time-spent-following, PTSFD (from above)	77.1	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	621.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.87
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Smith Road (EB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 164 veh/h
 Opposing direction volume, Vo 272 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.6	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.982	0.988
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	182 pc/h	299 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	3.9	mi/h
Average travel speed, ATSD	51.1	mi/h
Percent Free Flow Speed, PFFS	87.0	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	179	297	pc/h
Base percent time-spent-following, (note-4) BPTSFD	21.9	%	
Adjustment for no-passing zones, fnp	53.9		
Percent time-spent-following, PTSFD	42.2	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.11	
Peak 15-min vehicle-miles of travel, VMT15	9	veh-mi
Peak-hour vehicle-miles of travel, VMT60	33	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.1	mi/h
Percent time-spent-following, PTSFD (from above)	42.2	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	178.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.24
Bicycle LOS	B

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/258/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Smith Road (WB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (2A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 272 veh/h
 Opposing direction volume, Vo 164 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.6
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.988	0.982
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	299 pc/h	182 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	3.9	mi/h
Average travel speed, ATSD	51.1	mi/h
Percent Free Flow Speed, PFFS	86.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	297	179	pc/h
Base percent time-spent-following,(note-4) BPTSFD	30.0	%	
Adjustment for no-passing zones, fnp	53.9		
Percent time-spent-following, PTSFD	63.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.18	
Peak 15-min vehicle-miles of travel, VMT15	15	veh-mi
Peak-hour vehicle-miles of travel, VMT60	54	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1669	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1669	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.1	mi/h
Percent time-spent-following, PTSFD (from above)	63.6	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	295.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.49
Bicycle LOS	B

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

----- Directional Two-Lane Highway Segment Analysis -----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period
Highway Bechelli Lane (NB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (3A)

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 100 veh/h
Opposing direction volume, Vo 84 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.974	0.974
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	112 pc/h	94 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.7	mi/h
Average travel speed, ATSD	50.7	mi/h
Percent Free Flow Speed, PFFS	92.2	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	109	92	pc/h
Base percent time-spent-following, (note-4) BPTSFD	12.6	%	
Adjustment for no-passing zones, fnp	53.0		
Percent time-spent-following, PTSFD	41.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.07	
Peak 15-min vehicle-miles of travel, VMT15	5	veh-mi
Peak-hour vehicle-miles of travel, VMT60	20	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	50.7	mi/h
Percent time-spent-following, PTSFD (from above)	41.3	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	108.7
Effective width of outside lane, We	33.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-0.58
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period
Highway Bechelli Lane (SB)
From/To s/o Bonnyview Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 84 veh/h
Opposing direction volume, Vo 100 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	94 pc/h	112 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATSD	50.5	mi/h
Percent Free Flow Speed, PFFS	91.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	92	109	pc/h
Base percent time-spent-following,(note-4) BPTSFD	10.8	%	
Adjustment for no-passing zones, fnp	53.0		
Percent time-spent-following, PTSFD	35.1	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.06	
Peak 15-min vehicle-miles of travel, VMT15	5	veh-mi
Peak-hour vehicle-miles of travel, VMT60	17	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	50.5	mi/h
Percent time-spent-following, PTSFD (from above)	35.1	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	91.3
Effective width of outside lane, We	34.44
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.15
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_FRI_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (3A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1865	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	21.1	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1666	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	1666	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	932	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	932	pc/h/ln
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	21.1	pc/mi/ln
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/30/2018 10:31:31

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040_FRI_Bonnyvi ew. xuf
 Analyst: Kimley-Horn
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (3A)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: Bonnyvi ew Road, w/o Bechelli Lane
 Units: U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1927	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	21.9	pc/mi/ln
Level of Service, LOS	C	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1721	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1721	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	964	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	964	pc/h/l n
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	21.9	pc/mi /l n
Level of service, LOS	C	

This Multilane Highway Segment text report was created on 5/30/2018 10:32:01

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Church Creek Road (EB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 831 veh/h
 Opposing direction volume, Vo 718 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	903 pc/h	783 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	1.4	mi/h
Average travel speed, ATSD	44.2	mi/h
Percent Free Flow Speed, PFFS	75.3	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	903	780	pc/h
Base percent time-spent-following, (note-4) BPTSFD	73.0	%	
Adjustment for no-passing zones, fnp	23.5		
Percent time-spent-following, PTSFD	85.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.53	
Peak 15-min vehicle-miles of travel, VMT15	45	veh-mi
Peak-hour vehicle-miles of travel, VMT60	166	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.2	mi/h
Percent time-spent-following, PTSFD (from above)	85.6	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	903.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.06
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Church Creek Road (WB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 718 veh/h
 Opposing direction volume, Vo 831 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	783 pc/h	903 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSD	44.4	mi/h
Percent Free Flow Speed, PFFS	75.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	780	903	pc/h
Base percent time-spent-following,(note-4) BPTSFD	69.6	%	
Adjustment for no-passing zones, fnp	23.5		
Percent time-spent-following, PTSFD	80.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.46	
Peak 15-min vehicle-miles of travel, VMT15	39	veh-mi
Peak-hour vehicle-miles of travel, VMT60	144	veh-mi
Peak 15-min total travel time, TT15	0.9	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.4	mi/h
Percent time-spent-following, PTSFD (from above)	80.5	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	780.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.99
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Smith Road (EB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 40 veh/h
 Opposing direction volume, Vo 82 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	45 pc/h	92 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	55.8	mi/h
Percent Free Flow Speed, PFFS	97.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	44 pc/h	89 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	5.4 %		
Adjustment for no-passing zones, fnp	10.2		
Percent time-spent-following, PTSFD	8.8 %		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	7	veh-mi
Peak-hour vehicle-miles of travel, VMT60	24	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	55.8	mi/h
Percent time-spent-following, PTSFD (from above)	8.8	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	43.5
Effective width of outside lane, We	38.40
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.98
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/28/18
Analysis Time Period Friday PM Peak-Hour
Highway Smith Road (WB)
From/To w/o Churn Creek Road
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	10	/mi

Analysis direction volume, Vd 82 veh/h
Opposing direction volume, Vo 40 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	92 pc/h	45 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.5	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	55.8	mi/h
Percent Free Flow Speed, PFFS	97.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	89	44	pc/h
Base percent time-spent-following,(note-4) BPTSFD	10.5	%	
Adjustment for no-passing zones, fnp	10.2		
Percent time-spent-following, PTSFD	17.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	49	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	55.8	mi/h
Percent time-spent-following, PTSFD (from above)	17.3	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	89.1
Effective width of outside lane, We	34.62
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.23
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Bechelli Lane (NB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 53 veh/h
 Opposing direction volume, Vo 48 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	59 pc/h	54 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.7	mi/h
Average travel speed, ATSD	51.4	mi/h
Percent Free Flow Speed, PFFS	93.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	58	52	pc/h
Base percent time-spent-following,(note-4) BPTSFD	7.0	%	
Adjustment for no-passing zones, fnp	52.8		
Percent time-spent-following, PTSFD	34.8	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	11	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.4	mi/h
Percent time-spent-following, PTSFD (from above)	34.8	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	57.6
Effective width of outside lane, We	37.23
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.38
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Bechelli Lane (SB)
 From/To s/o Bonnyview Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	20	/mi

Analysis direction volume, Vd 48 veh/h
 Opposing direction volume, Vo 53 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	54 pc/h	59 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	5.0	mi/h
Free-flow speed, FFSd	55.0	mi/h
Adjustment for no-passing zones, fnp	2.7	mi/h
Average travel speed, ATSD	51.4	mi/h
Percent Free Flow Speed, PFFS	93.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	52	58	pc/h
Base percent time-spent-following,(note-4) BPTSFd	6.3	%	
Adjustment for no-passing zones, fnp	52.8		
Percent time-spent-following, PTSFd	31.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	10	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	51.4	mi/h
Percent time-spent-following, PTSFd (from above)	31.3	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	52.2
Effective width of outside lane, We	37.68
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.61
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name:	2040_SAT_Bonnyvi ew. xuf
Analyst:	Kimley-Horn
Agency:	
Jurisdiction:	
Date:	5/30/18
Analysis Year:	Cumulative (2040) plus Project (3A)
Time Period Analyzed:	Saturday PM Peak-Hour
Project Description:	Bonnyvi ew Road, w/o Bechelli Lane
Units:	U.S. Customary

Direction 1: EB

LOS and Performance Measures

Flow rate, v_p	1190	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	13.5	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1063	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1063	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	595	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	595	pc/h/l n
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	13.5	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/30/2018 10:32:54

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name:	2040_SAT_Bonnyvi ew. xuf
Analyst:	Kimley-Horn
Agency:	
Jurisdiction:	
Date:	5/30/18
Analysis Year:	Cumulative (2040) plus Project (3A)
Time Period Analyzed:	Saturday PM Peak-Hour
Project Description:	Bonnyvi ew Road, w/o Bechelli Lane
Units:	U.S. Customary

Direction 2: WB

LOS and Performance Measures

Flow rate, v_p	1333	pc/h/ln
Capacity, C	3800	pc/h/ln
Speed, S	44.1	mi/h
Density, D	15.1	pc/mi/ln
Level of Service, LOS	B	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1191	veh/h
Peak Hour Factor, PHF	0.92	
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	45.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	3	ft
Total Lateral Clearance, TLC	9.00	ft
Total Lateral Clearance Adjustment, fTLC	0.9	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	44.1	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	44.1	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	44.1	mi/h
Capacity, c	1900	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	1900	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1191	veh/h
Peak Hour Factor, PHF	0.92	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	3.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.03	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	0.971	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	666	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	666	pc/h/l n
Free-Flow Speed, FFS	45.0	mi/h
Capacity, c	1900	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	44.1	mi/h
Density, D	15.1	pc/mi /l n
Level of service, LOS	B	

This Multilane Highway Segment text report was created on 5/30/2018 10:33:15

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/.28/18
Analysis Time Period Saturday PM Peak-Hour
Highway Church Creek Road (EB)
From/To e/o Alrose Ln
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 461 veh/h
Opposing direction volume, Vo 498 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	504 pc/h	545 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.4	mi/h
Average travel speed, ATSD	48.2	mi/h
Percent Free Flow Speed, PFFS	82.0	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	501 pc/h	541 pc/h
Base percent time-spent-following, (note-4) BPTSFD	52.3 %	
Adjustment for no-passing zones, fnp	38.6	
Percent time-spent-following, PTSFD	70.9 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.30	
Peak 15-min vehicle-miles of travel, VMT15	25	veh-mi
Peak-hour vehicle-miles of travel, VMT60	92	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	48.2	mi/h
Percent time-spent-following, PTSFD (from above)	70.9	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	501.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.76
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Church Creek Road (WB)
 From/To e/o Alrose Ln
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (3A)

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 498 veh/h
 Opposing direction volume, Vo 461 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	545 pc/h	504 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.8	mi/h
Average travel speed, ATSD	47.8	mi/h
Percent Free Flow Speed, PFFS	81.4	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)		
PCE for trucks, ET	1.0	1.0		
PCE for RVs, ER	1.0	1.0		
Heavy-vehicle adjustment factor, fHV	1.000	1.000		
Grade adjustment factor,(note-1) fg	1.00	1.00		
Directional flow rate,(note-2) vi	541	501	pc/h	pc/h
Base percent time-spent-following,(note-4) BPTSFD	54.5	%		
Adjustment for no-passing zones, fnp	38.6			
Percent time-spent-following, PTSFD	74.5	%		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C		
Volume to capacity ratio, v/c	0.32		
Peak 15-min vehicle-miles of travel, VMT15	27	veh-mi	
Peak-hour vehicle-miles of travel, VMT60	100	veh-mi	
Peak 15-min total travel time, TT15	0.6	veh-h	
Capacity from ATS, CdATS	1690	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	1690	veh/h	

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	47.8	mi/h
Percent time-spent-following, PTSFD (from above)	74.5	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	541.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.80
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Smith Road (EB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 72 veh/h
 Opposing direction volume, Vo 58 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	80 pc/h	65 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATSD	54.8	mi/h
Percent Free Flow Speed, PFFS	93.2	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	78	63	pc/h
Base percent time-spent-following,(note-4) BPTSFD	9.3	%	
Adjustment for no-passing zones, fnp	53.1		
Percent time-spent-following, PTSFD	38.7	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	4	veh-mi
Peak-hour vehicle-miles of travel, VMT60	14	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	54.8	mi/h
Percent time-spent-following, PTSFD (from above)	38.7	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	78.3
Effective width of outside lane, We	35.52
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-1.61
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/28/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Smith Road (WB)
 From/To w/o Churn Creek Road
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (3A)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	5	/mi

Analysis direction volume, Vd 58 veh/h
 Opposing direction volume, Vo 72 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.974	0.974
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	65 pc/h	80 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.8	mi/h
Adjustment for no-passing zones, fnp	2.9	mi/h
Average travel speed, ATSD	54.8	mi/h
Percent Free Flow Speed, PFFS	93.2	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	63	78	pc/h
Base percent time-spent-following, (note-4) BPTSFD	7.6	%	
Adjustment for no-passing zones, fnp	53.1		
Percent time-spent-following, PTSFD	31.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	3	veh-mi
Peak-hour vehicle-miles of travel, VMT60	12	veh-mi
Peak 15-min total travel time, TT15	0.1	veh-h
Capacity from ATS, CdATS	1656	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1656	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	54.8	mi/h
Percent time-spent-following, PTSFD (from above)	31.3	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	63.0
Effective width of outside lane, We	36.78
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	-2.17
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway North Road, e/o Oak St (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 898 veh/h
Opposing direction volume, Vo 742 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	976 pc/h	809 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.4	mi/h
Average travel speed, ATSD	35.7	mi/h
Percent Free Flow Speed, PFFS	71.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	976	807	pc/h
Base percent time-spent-following, (note-4) BPTSFD	75.1	%	
Adjustment for no-passing zones, fnp	10.6		
Percent time-spent-following, PTSFD	80.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.57	
Peak 15-min vehicle-miles of travel, VMT15	49	veh-mi
Peak-hour vehicle-miles of travel, VMT60	180	veh-mi
Peak 15-min total travel time, TT15	1.4	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	35.7	mi/h
Percent time-spent-following, PTSFD (from above)	80.9	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	976.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.10
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/30/18
 Analysis Time Period Friday PM Peak-Hour
 Highway North Road, e/o Oak St (SB)
 From/To _____
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 742 veh/h
 Opposing direction volume, Vo 898 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	809 pc/h	976 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.4	mi/h
Average travel speed, ATSD	35.7	mi/h
Percent Free Flow Speed, PFFS	71.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	807	976	pc/h
Base percent time-spent-following, (note-4) BPTSFD	71.6	%	
Adjustment for no-passing zones, fnp	10.6		
Percent time-spent-following, PTSFD	76.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.48	
Peak 15-min vehicle-miles of travel, VMT15	40	veh-mi
Peak-hour vehicle-miles of travel, VMT60	148	veh-mi
Peak 15-min total travel time, TT15	1.1	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	35.7	mi/h
Percent time-spent-following, PTSFD (from above)	76.4	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	806.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.00
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, e/o Oak St (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 736 veh/h
Opposing direction volume, Vo 592 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	802 pc/h	645 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	38.2	mi/h
Percent Free Flow Speed, PFFS	76.4	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	800	643	pc/h
Base percent time-spent-following,(note-4) BPTSFd	68.2	%	
Adjustment for no-passing zones, fnp	12.1		
Percent time-spent-following, PTSFd	74.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	40	veh-mi
Peak-hour vehicle-miles of travel, VMT60	147	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	38.2	mi/h
Percent time-spent-following, PTSFd (from above)	74.9	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	800.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.00
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, e/o Oak St (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 592 veh/h
Opposing direction volume, Vo 736 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	645 pc/h	802 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.4	mi/h
Average travel speed, ATSD	38.4	mi/h
Percent Free Flow Speed, PFFS	76.7	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)		
PCE for trucks, ET	1.0	1.0		
PCE for RVs, ER	1.0	1.0		
Heavy-vehicle adjustment factor, fHV	1.000	1.000		
Grade adjustment factor, (note-1) fg	1.00	1.00		
Directional flow rate, (note-2) vi	643	800	pc/h	pc/h
Base percent time-spent-following, (note-4) BPTSFD	62.6	%		
Adjustment for no-passing zones, fnp	12.1			
Percent time-spent-following, PTSFD	68.0	%		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C		
Volume to capacity ratio, v/c	0.38		
Peak 15-min vehicle-miles of travel, VMT15	32	veh-mi	
Peak-hour vehicle-miles of travel, VMT60	118	veh-mi	
Peak 15-min total travel time, TT15	0.8	veh-h	
Capacity from ATS, CdATS	1695	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	1695	veh/h	

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	38.4	mi/h
Percent time-spent-following, PTSFD (from above)	68.0	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	643.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.89
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/30/18
 Analysis Time Period Friday PM Peak-Hour
 Highway North Road, w/o Oak St (NB)
 From/To _____
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 588 veh/h
 Opposing direction volume, Vo 623 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	641 pc/h	679 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSD	39.2	mi/h
Percent Free Flow Speed, PFFS	78.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	639 pc/h	677 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	61.6	%	
Adjustment for no-passing zones, fnp	13.1		
Percent time-spent-following, PTSFD	68.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.38	
Peak 15-min vehicle-miles of travel, VMT15	32	veh-mi
Peak-hour vehicle-miles of travel, VMT60	118	veh-mi
Peak 15-min total travel time, TT15	0.8	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	39.2	mi/h
Percent time-spent-following, PTSFD (from above)	68.0	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	639.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.88
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway North Road, w/o Oak St (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Projec
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 623 veh/h
Opposing direction volume, Vo 588 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	679 pc/h	641 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	39.2	mi/h
Percent Free Flow Speed, PFFS	78.4	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	677 pc/h	639 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	62.1	%	
Adjustment for no-passing zones, fnp	13.1		
Percent time-spent-following, PTSFD	68.8	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.40	
Peak 15-min vehicle-miles of travel, VMT15	34	veh-mi
Peak-hour vehicle-miles of travel, VMT60	125	veh-mi
Peak 15-min total travel time, TT15	0.9	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	39.2	mi/h
Percent time-spent-following, PTSFD (from above)	68.8	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	677.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.91
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, w/o Oak St (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 471 veh/h
Opposing direction volume, Vo 389 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.2	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.994	0.991
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	515 pc/h	427 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSD	41.7	mi/h
Percent Free Flow Speed, PFFS	83.3	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	512	423	pc/h
Base percent time-spent-following,(note-4) BPTSFD	50.4	%	
Adjustment for no-passing zones, fnp	14.2		
Percent time-spent-following, PTSFD	58.2	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.30	
Peak 15-min vehicle-miles of travel, VMT15	26	veh-mi
Peak-hour vehicle-miles of travel, VMT60	94	veh-mi
Peak 15-min total travel time, TT15	0.6	veh-h
Capacity from ATS, CdATS	1685	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1685	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	41.7	mi/h
Percent time-spent-following, PTSFD (from above)	58.2	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	512.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.77
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway North Road, w/o Oak St (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 389 veh/h
Opposing direction volume, Vo 471 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.2
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.991	0.994
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	427 pc/h	515 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.8	mi/h
Average travel speed, ATSD	41.9	mi/h
Percent Free Flow Speed, PFFS	83.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	423 pc/h	512 pc/h	
Base percent time-spent-following,(note-4) BPTSFd	46.2	%	
Adjustment for no-passing zones, fnp	14.2		
Percent time-spent-following, PTSFd	52.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.25	
Peak 15-min vehicle-miles of travel, VMT15	21	veh-mi
Peak-hour vehicle-miles of travel, VMT60	78	veh-mi
Peak 15-min total travel time, TT15	0.5	veh-h
Capacity from ATS, CdATS	1690	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1690	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	41.9	mi/h
Percent time-spent-following, PTSFd (from above)	52.6	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	422.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.68
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/30/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Oak St, n/o North St (NB)
 From/To _____
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 733 veh/h
 Opposing direction volume, Vo 518 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	799 pc/h	565 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.7	mi/h
Average travel speed, ATSD	38.7	mi/h
Percent Free Flow Speed, PFFS	77.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	797 pc/h	563 pc/h	
Base percent time-spent-following, (note-4) BPTSFD	67.0	%	
Adjustment for no-passing zones, fnp	12.1		
Percent time-spent-following, PTSFD	74.1	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	40	veh-mi
Peak-hour vehicle-miles of travel, VMT60	147	veh-mi
Peak 15-min total travel time, TT15	1.0	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	38.7	mi/h
Percent time-spent-following, PTSFD (from above)	74.1	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	796.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.00
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/30/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Oak St, n/o North St (SB)
 From/To _____
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 518 veh/h
 Opposing direction volume, Vo 733 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	565 pc/h	799 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.4	mi/h
Average travel speed, ATSD	39.0	mi/h
Percent Free Flow Speed, PFFS	78.0	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	563	797	pc/h
Base percent time-spent-following,(note-4) BPTSFD	58.7	%	
Adjustment for no-passing zones, fnp	12.1		
Percent time-spent-following, PTSFD	63.7	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.33	
Peak 15-min vehicle-miles of travel, VMT15	28	veh-mi
Peak-hour vehicle-miles of travel, VMT60	104	veh-mi
Peak 15-min total travel time, TT15	0.7	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	39.0	mi/h
Percent time-spent-following, PTSFD (from above)	63.7	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	563.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.82
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/30/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Oak St, n/o North St (NB)
 From/To _____
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 888 veh/h
 Opposing direction volume, Vo 554 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	0.997
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	965 pc/h	604 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSD	37.2	mi/h
Percent Free Flow Speed, PFFS	74.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	965	602	pc/h
Base percent time-spent-following,(note-4) BPTSFd	72.8	%	
Adjustment for no-passing zones, fnp	10.5		
Percent time-spent-following, PTSFd	79.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.57	
Peak 15-min vehicle-miles of travel, VMT15	48	veh-mi
Peak-hour vehicle-miles of travel, VMT60	178	veh-mi
Peak 15-min total travel time, TT15	1.3	veh-h
Capacity from ATS, CdATS	1695	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1695	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	37.2	mi/h
Percent time-spent-following, PTSFd (from above)	79.3	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	965.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.09
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Oak St, n/o North St (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Project
Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	0	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 554 veh/h
Opposing direction volume, Vo 888 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.997	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	604 pc/h	965 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	10.0	mi/h
Free-flow speed, FFSd	50.0	mi/h
Adjustment for no-passing zones, fnp	0.4	mi/h
Average travel speed, ATSD	37.4	mi/h
Percent Free Flow Speed, PFFS	74.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	602	965	pc/h
Base percent time-spent-following,(note-4) BPTSFD	62.2	%	
Adjustment for no-passing zones, fnp	10.5		
Percent time-spent-following, PTSFD	66.2	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.36	
Peak 15-min vehicle-miles of travel, VMT15	30	veh-mi
Peak-hour vehicle-miles of travel, VMT60	111	veh-mi
Peak 15-min total travel time, TT15	0.8	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	37.4	mi/h
Percent time-spent-following, PTSFD (from above)	66.2	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	602.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.85
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/30/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Oak St, s/o North St (NB)
 From/To _____
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 196 veh/h
 Opposing direction volume, Vo 149 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.7
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.985	0.979
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	216 pc/h	165 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSD	53.7	mi/h
Percent Free Flow Speed, PFFS	92.6	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	214	162	pc/h
Base percent time-spent-following,(note-4) BPTSFD	22.8	%	
Adjustment for no-passing zones, fnp	36.8		
Percent time-spent-following, PTSFD	43.7	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.13	
Peak 15-min vehicle-miles of travel, VMT15	16	veh-mi
Peak-hour vehicle-miles of travel, VMT60	59	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1664	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1664	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	53.7	mi/h
Percent time-spent-following, PTSFD (from above)	43.7	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	213.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.33
Bicycle LOS	B

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/30/18
 Analysis Time Period Friday PM Peak-Hour
 Highway Oak St, s/o North St (SB)
 From/To _____
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 149 veh/h
 Opposing direction volume, Vo 196 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.7	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.979	0.985
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	165 pc/h	216 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	1.7	mi/h
Average travel speed, ATSD	53.3	mi/h
Percent Free Flow Speed, PFFS	92.0	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	162	214	pc/h
Base percent time-spent-following, (note-4) BPTSFD	18.8	%	
Adjustment for no-passing zones, fnp	36.8		
Percent time-spent-following, PTSFD	34.7	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.10	
Peak 15-min vehicle-miles of travel, VMT15	12	veh-mi
Peak-hour vehicle-miles of travel, VMT60	45	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1675	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1675	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	53.3	mi/h
Percent time-spent-following, PTSFD (from above)	34.7	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	162.0
Effective width of outside lane, We	28.59
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	0.98
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/30/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Oak St, s/o North St (NB)
 From/To _____
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 237 veh/h
 Opposing direction volume, Vo 137 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.7
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.988	0.979
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	261 pc/h	152 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSD	53.6	mi/h
Percent Free Flow Speed, PFFS	92.4	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	258	149	pc/h
Base percent time-spent-following, (note-4) BPTSFD	26.7	%	
Adjustment for no-passing zones, fnp	34.2		
Percent time-spent-following, PTSFD	48.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	19	veh-mi
Peak-hour vehicle-miles of travel, VMT60	71	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1664	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1664	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	53.6	mi/h
Percent time-spent-following, PTSFD (from above)	48.4	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	257.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.42
Bicycle LOS	B

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst _____
 Agency/Co. _____
 Date Performed 5/30/18
 Analysis Time Period Saturday PM Peak-Hour
 Highway Oak St, s/o North St (SB)
 From/To _____
 Jurisdiction _____
 Analysis Year Cumulative (2040) plus Project
 Description Redding Rancheria (E)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 137 veh/h
 Opposing direction volume, Vo 237 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.7	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.979	0.988
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	152 pc/h	261 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	1.6	mi/h
Average travel speed, ATSD	53.2	mi/h
Percent Free Flow Speed, PFFS	91.7	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.997	0.997	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	149 pc/h	258 pc/h	
Base percent time-spent-following, (note-4) BPTSFD	17.6	%	
Adjustment for no-passing zones, fnp	34.2		
Percent time-spent-following, PTSFD	30.1	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.09	
Peak 15-min vehicle-miles of travel, VMT15	11	veh-mi
Peak-hour vehicle-miles of travel, VMT60	41	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1680	veh/h
Capacity from PTSF, CdPTSF	1695	veh/h
Directional Capacity	1680	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	53.2	mi/h
Percent time-spent-following, PTSFD (from above)	30.1	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	148.9
Effective width of outside lane, We	29.67
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	0.62
Bicycle LOS	A

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040+F_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (F)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	993	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	8.3	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	933	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	933	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	496	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	496	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	8.3	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 12:53:55

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040+F_273N_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (F)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	1214	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	10.1	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	1141	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	1141	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	607	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	607	pc/h/l n
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	10.1	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 12:54:26

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040+F_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (F)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	679	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	5.7	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	638	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	638	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	340	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	340	pc/h/l n
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi/l n
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	5.7	pc/mi/l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 12:55:24

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040+F_273N_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (F)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, n/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	812	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	6.8	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	763	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	763	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	406	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	406	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	6.8	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 12:55:43

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040+F_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (F)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	716	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	6.0	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	673	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	673	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	358	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	358	pc/h/l n
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	6.0	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 13:02:13

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040+F_273S_FRI.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (F)
 Time Period Analyzed: Friday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	790	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	6.6	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	743	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/l n
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/l n

Step 4: Adjust Demand Volume

Demand Volume, V	743	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	l n
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	395	pc/h/l n

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	395	pc/h/l n
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/l n
Breakpoint, BP	1400	pc/h/l n
Density at Capacity, D_c	45	pc/mi /l n
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	6.6	pc/mi /l n
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 13:02:42

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040+F_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (F)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 1: NB

LOS and Performance Measures

Flow rate, v_p	464	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	3.9	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	436	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	436	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	232	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	232	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	3.9	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 13:03:41

MULTI LANE HIGHWAY SEGMENT ANALYSIS

File Name: 2040+F_273S_SAT.xuf
 Analyst:
 Agency:
 Jurisdiction:
 Date: 5/30/18
 Analysis Year: Cumulative (2040) plus Project (F)
 Time Period Analyzed: Saturday PM Peak-Hour
 Project Description: SR 273, s/o Canyon Rd
 Units: U.S. Customary

Direction 2: SB

LOS and Performance Measures

Flow rate, v_p	454	pc/h/ln
Capacity, C	4400	pc/h/ln
Speed, S	60.0	mi/h
Density, D	3.8	pc/mi/ln
Level of Service, LOS	A	

Step 1: Input Data

Number of Lanes, N	2	ln
Lane Width	12	ft
Segment Length	-	ft
Terrain Type	Level	
Percent Grade	-	%
Grade Length	-	mi
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Median Type	Divided	
Access Point Density	0.0	access points/mi
Demand Volume, V	427	veh/h
Peak Hour Factor, PHF	0.94	
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%

Step 2: Estimate and Adjust FFS

Estimating FFS		
Measured or Base FFS	Base	
Base Free-Flow Speed, BFFS	60.0	mi/h
Lane width	12	ft
Lane Width Adjustment, fLW	0.0	mi/h
Right-Side Lateral Clearance, LCR	6	ft
Left-Side Lateral Clearance, LCL	6	ft
Total Lateral Clearance, TLC	12.00	ft
Total Lateral Clearance Adjustment, fTLC	0.0	mi/h
Median Type	Divided	
Median Type Adjustment, fM	0.0	mi/h
Access Point Density	0.0	access points/mi
Access Point Density Adjustment, fA	0.0	mi/h
Free-Flow Speed, FFS	60.0	mi/h
Speed Adjustments		
Driver Population	All Familiar	
Speed Adjustment Factor, SAF	1.000	
Adjusted Free-Flow Speed, FFSadj	60.0	mi/h

Step 3: Estimate and Adjust Capacity

Adjusted Free-flow Speed, FFSadj	60.0	mi/h
Capacity, c	2200	pc/h/ln
Capacity Adjustments		
Driver Population	All Familiar	
Capacity Adjustment Factor, CAF	1.000	
Adjusted Capacity, cadj	2200	pc/h/ln

Step 4: Adjust Demand Volume

Demand Volume, V	427	veh/h
Peak Hour Factor, PHF	0.94	
Number of Lanes, N	2	ln
Terrain type	Level	
Percent Grade	-	%
Grade Length	-	mi
Percent Total Trucks	0.00	%
Percent Single-Unit Trucks, SUT	-	%
Percent Tractor-Trailers, TT	-	%
Proportion of Total Trucks, PT	0.00	
Heavy Vehicle PCE, ET	2.000	
Heavy vehicle adjustment, f_{hv} :	1.000	
Demand Adjustment Factor, DAF	1.000	
Demand Flow Rate, v_p	227	pc/h/ln

Steps 5 and 6: Estimate Speed and Density and Determine LOS

Demand Flow Rate, v_p	227	pc/h/ln
Free-Flow Speed, FFS	60.0	mi/h
Capacity, c	2200	pc/h/ln
Breakpoint, BP	1400	pc/h/ln
Density at Capacity, D_c	45	pc/mi/ln
Mean Speed under Base Conditions, S	60.0	mi/h
Density, D	3.8	pc/mi/ln
Level of service, LOS	A	

This Multilane Highway Segment text report was created on 5/30/2018 13:04:00

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Canyon Road (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Proje
Description Redding Rancheria (F)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 240 veh/h
Opposing direction volume, Vo 368 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.3
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.977	0.982
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	267 pc/h	407 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	3.8	mi/h
Average travel speed, ATSD	50.9	mi/h
Percent Free Flow Speed, PFFS	84.9	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	0.994	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	262	402	pc/h
Base percent time-spent-following, (note-4) BPTSFD	31.2	%	
Adjustment for no-passing zones, fnp	50.0		
Percent time-spent-following, PTSFD	50.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.16	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	48	veh-mi
Peak 15-min total travel time, TT15	0.3	veh-h
Capacity from ATS, CdATS	1669	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1669	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	50.9	mi/h
Percent time-spent-following, PTSFD (from above)	50.9	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	260.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.31
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Friday PM Peak-Hour
Highway Canyon Road (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Proje
Description Redding Rancheria (F)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 368 veh/h
Opposing direction volume, Vo 240 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.982	0.977
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	407 pc/h	267 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	4.1	mi/h
Average travel speed, ATSD	50.7	mi/h
Percent Free Flow Speed, PFFS	84.5	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	0.994	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	402	262	pc/h
Base percent time-spent-following, (note-4) BPTSFD	39.2	%	
Adjustment for no-passing zones, fnp	50.0		
Percent time-spent-following, PTSFD	69.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.24	
Peak 15-min vehicle-miles of travel, VMT15	20	veh-mi
Peak-hour vehicle-miles of travel, VMT60	74	veh-mi
Peak 15-min total travel time, TT15	0.4	veh-h
Capacity from ATS, CdATS	1661	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1661	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	50.7	mi/h
Percent time-spent-following, PTSFD (from above)	69.5	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	400.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.52
Bicycle LOS	D

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Canyon Road (NB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Proje
Description Redding Rancheria (F)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 233 veh/h
Opposing direction volume, Vo 207 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.977	0.971
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	259 pc/h	232 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	4.2	mi/h
Average travel speed, ATSD	52.0	mi/h
Percent Free Flow Speed, PFFS	86.7	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	255 pc/h	226 pc/h
Base percent time-spent-following, (note-4) BPTSFD	27.2 %	
Adjustment for no-passing zones, fnp	60.2	
Percent time-spent-following, PTSFD	59.1 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	13	veh-mi
Peak-hour vehicle-miles of travel, VMT60	47	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1651	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1651	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	52.0	mi/h
Percent time-spent-following, PTSFD (from above)	59.1	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	253.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.29
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst
Agency/Co.
Date Performed 5/30/18
Analysis Time Period Saturday PM Peak-Hour
Highway Canyon Road (SB)
From/To
Jurisdiction
Analysis Year Cumulative (2040) plus Proje
Description Redding Rancheria (F)

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	0	/mi

Analysis direction volume, Vd 207 veh/h
Opposing direction volume, Vo 233 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.971	0.977
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	232 pc/h	259 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	0.0	mi/h
Free-flow speed, FFSd	60.0	mi/h
Adjustment for no-passing zones, fnp	4.1	mi/h
Average travel speed, ATSD	52.1	mi/h
Percent Free Flow Speed, PFFS	86.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.994	0.994	
Grade adjustment factor, (note-1) fg	1.00	1.00	
Directional flow rate, (note-2) vi	226	255	pc/h
Base percent time-spent-following, (note-4) BPTSFD	25.1	%	
Adjustment for no-passing zones, fnp	60.2		
Percent time-spent-following, PTSFD	53.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.14	
Peak 15-min vehicle-miles of travel, VMT15	11	veh-mi
Peak-hour vehicle-miles of travel, VMT60	41	veh-mi
Peak 15-min total travel time, TT15	0.2	veh-h
Capacity from ATS, CdATS	1661	veh/h
Capacity from PTSF, CdPTSF	1690	veh/h
Directional Capacity	1661	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	52.1	mi/h
Percent time-spent-following, PTSFD (from above)	53.4	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	225.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.23
Bicycle LOS	C

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Segment Inputs				2040														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
	Length (ft)	Number of Lanes (N)	Interchange Density (I/mi)	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
Southbound Northbound	Smith Rd to Bonnyview Rd	2400	3	0.33	2,947	2,425	1099.79	74.12	75	74.8898	14.685	B	904.9819	74.12	75	74.9001	12.1	B
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	2,010	1,680	750.109	74.12	75	74.3087	10.094	A	626.9565	74.12	75	73.4595	8.5347	A
	Bonnyview Rd to Cypress Ave	7000	3	0.33	3,300	2,628	1231.52	74.12	75	74.4066	16.551	B	980.7391	74.12	75	74.9959	13.077	B
	Cypress Ave to Bonnyview Rd	7000	3	0.33	4,126	3,360	1539.78	74.12	75	71.7747	21.453	C	1253.913	74.12	75	74.2863	16.879	B
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,910	2,398	1085.98	74.12	75	74.9182	14.496	B	894.9058	74.12	75	74.8777	11.952	B
	Bonnyview Rd to Smith Rd	2600	3	0.33	4,086	3,102	1524.85	74.12	75	71.9506	21.193	C	1157.63	74.12	75	74.7249	15.492	B
Universal Inputs:																		
PHF 0.92																		
(P _t) 6%																		
F _{HV} 0.970873786																		

Segment Inputs				2040																															
				Friday PM Flow Inputs			AM LOS Performance Measures								Saturday PM Flow Inputs			PM LOS Performance Measures																	
Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L _a)	Ramp Volume (R)	Downstream Volume (D)	Upstream Volume (F)	V ₀	V ₁	V ₂	V ₃ /S ₂₀	P ₃₀	V ₁₂	Capacity	V ₁	V ₁₂	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	V ₃ /S ₂₀	P ₃₀	V ₁₂	Capacity	V ₁	V ₁₂	w/c	D	LOS			
(ft)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)			
3	1	430		4237	2947	1290	4744	3299	1444	94	0.5895	1945.1	7200	677	1459	1945	0.6588	28.551	D	3373	2425	948	3776	2715	1061	78	0.5895	1600.6	7200	557	1200	1601	0.5245	23.054	C
3	1	380		5302	4126	1176	5936	4619	1317	132	0.5881	2716.8	7200	951	2038	2717	0.8244	33.947	D	4064	3360	704	4550	3762	788	107	0.5881	2212.4	7200	775	1659	2212	0.6319	26.135	C

Length 1500 (ft)
 V₀ 70 (mi/h)
 S₂₀ 35 (mi/h)
 P₃₀ 0.92
 P₃₀ 0%
 P₃₀ 0.970873786

Segment Inputs				2040																																	
Number of Lanes	Number of Ramp Lanes	L ₁₀	Length of Deceleration Lane (L _d)	AM Flow Inputs														PM Flow Inputs			PM LOS Performance Measures																
				Downstream Volume	Upstream Volume	Ramp Volume	V ₀	V ₁	V ₂	P ₁₀	V ₁₂	Capacity	V ₁	V _{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	P ₁₀	V ₁₂	Capacity	V ₁	V _{12a}	w/c	D	LOS						
(N)	(N)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)
3	1	1638	180	2010	2947	937	1361.39	3299.4	1049	0.436	2030.2	7200	635	1523	2030	0.4582	20.092	C	1680	2425	745	1077.02	2714.9	834.08	0.436	1654.1	7200	530	1241	1654	0.3771	16.858	B				
3	1	-	180	2910	4126	1216	-	4619.3	1361.4	0.5819	3257.2	7200	1362	2443	3257	0.6416	30.644	D	2398	3360	962	-	3761.7	1077	0.6164	2731.9	7200	1030	2049	2732	0.5225	26.126	C				

kmg 1500
 L_d 75
 P₁₀ 35
 P₁₀ 0.92
 P₁₀ 0%
 P₁₀ 0.970872786

Segment Inputs				2040														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
	Length (ft)	Number of Lanes (N)	Interchange Density (I/mi)	FRI Peak	SAT Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
Southbound Northbound	Smith Rd to Bonnyview Rd	2400	3	0.33	2,759	2,184	1029.63	74.12	75	74.9903	13.73	B	815.0435	74.12	75	74.6213	10.9	A
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	2,010	1,680	750.109	74.12	75	74.3087	10.094	A	626.9565	74.12	75	73.4595	8.5347	A
	Bonnyview Rd to Cypress Ave	7000	3	0.33	3,300	2,628	1231.52	74.12	75	74.4066	16.551	B	980.7391	74.12	75	74.9959	13.077	B
	Cypress Ave to Bonnyview Rd	7000	3	0.33	4,126	3,360	1539.78	74.12	75	71.7747	21.453	C	1253.913	74.12	75	74.2863	16.879	B
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	2,910	2,398	1085.98	74.12	75	74.9182	14.496	B	894.9058	74.12	75	74.8777	11.952	B
	Bonnyview Rd to Smith Rd	2600	3	0.33	3,958	2,966	1477.08	74.12	75	72.4804	20.379	C	1106.877	74.12	75	74.8736	14.783	B
Universal Inputs:																		
PHF 0.92																		
(P _t) 6%																		
F _{HV} 0.970873786																		

Segment Inputs				2040																															
				Friday PM Flow Inputs			AM LOS Performance Measures								Saturday PM Flow Inputs			PM LOS Performance Measures																	
Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L _a)	Ramp Volume (R)	Downstream Volume (D)	Upstream Volume (F)	V ₀	V ₁	V ₂	V _{5/S₂₅}	P ₉₅	V ₁₂	Capacity	V ₁	V _{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	V _{5/S₂₅}	P ₉₅	V ₁₂	Capacity	V ₁	V _{12a}	w/c	D	LOS			
(ft)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)			
3	1	430		4049	2759	1290	4533	3089	1444	88	0.5895	1821	7200	634	1366	1821	0.6296	27.584	C	3132	2184	948	3506	2445	1061	70	0.5895	1441.5	7200	502	1081	1442	0.487	21.813	C
3	1	380		5174	4126	1048	5793	4619	1173	132	0.5881	2716.8	7200	951	2038	2717	0.8045	32.896	D	3928	3360	568	4398	3762	636	107	0.5881	2212.4	7200	775	1659	2212	0.6108	25.017	C

Length 1500 (ft)
 L_a 70 (ft)
 S₂₅ 35 (mph)
 P₉₅ 0.92
 P₉₅ 0%
 P₉₅ 0.970873786

Segment Inputs		2040																																
		AM Flow Inputs													PM Flow Inputs			PM LOS Performance Measures																
		Number of Lanes	Number of Ramp Lanes	L ₁₀₀	Length of Deceleration Lane (L _d)	Downstream Volume	Upstream Volume	Ramp Volume	V ₀	V ₁	V ₂	P ₁₀	V ₁₂	Capacity	V ₃	V _{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	P ₁₀	V ₁₂	Capacity	V ₃	V _{12a}	w/c	D	LOS	
(N)	(R)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	
Bonnyview Rd Off	3	1	1452	180	2010	2759	749	1361.39	3088.9	838.55	0.436	1819.7	7200	635	1365	1820	0.429	18.281	B	1680	2184	504	1077.02	2445.1	564.26	0.436	1384.3	7200	530	1038	1384	0.3396	14.537	B
Bonnyview Rd Off	3	1	-	180	2910	4126	1216	-	4619.3	1361.4	0.5819	3257.2	7200	1362	2443	3257	0.6416	30.644	D	2398	3360	962	-	3761.7	1077	0.6164	2731.9	7200	1030	2049	2732	0.5225	26.126	C

kmg 1500
 L₁₀₀ 75
 P₁₀ 35
 P₁₀ 0.92
 P₁₀ 0%
 P₁₀ 0.970872786

Segment Inputs				2040														
				Flow Inputs		AM LOS Performance Measures					PM LOS Performance Measures							
	Length (ft)	Number of Lanes (N)	Interchange Density (I/mi)	AM Peak	PM Peak	V _p	FFS	S	D	LOS	V _p	FFS	S	D	LOS			
				(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)	(pc/h/ln)	(mi/h)	(mi/h)	(pc/mi/ln)					
Northbound	Knighton Rd to Smith Rd	1800	3	0.33	3,078	3,245	1148.67	74.12	75	74.7553	15.366	B	1210.996	74.12	75	74.5072	16.3	B
	Smith Rd Off to Smith Rd On	2000	3	0.33	2,864	2,967	1068.81	74.12	75	74.9476	14.261	B	1107.25	74.12	75	74.8727	14.788	B
	Smith Rd to Bonnyview Rd	2400	3	0.33	3,174	3,298	1184.5	74.12	75	74.6232	15.873	B	1230.775	74.12	75	74.4104	16.5	B
	Bonnyview Rd Off to Bonnyview Rd On	2300	3	0.33	2,324	2,700	867.29	74.12	75	74.805	11.594	B	1007.609	74.12	75	74.9994	13.435	B
	Bonnyview Rd to Cypress Ave	7000	3	0.33	3,410	3,431	1272.57	74.12	75	74.1775	17.156	B	1280.409	74.12	75	74.1296	17.273	B
Southbound	Cypress Ave to Bonnyview Rd	7000	3	0.33	4,290	4,413	1600.98	74.12	75	71.0018	22.548	C	1646.88	74.12	75	70.3677	23.404	C
	Bonnyview Rd Off to Bonnyview Rd On	2200	3	0.33	3,329	3,787	1242.34	74.12	75	74.3499	16.709	B	1413.264	74.12	75	73.1094	19.331	C
	Bonnyview Rd to Smith Rd	2600	3	0.33	4,523	4,542	1687.93	74.12	75	69.7611	24.196	C	1695.022	74.12	75	69.6526	24.335	C
	Smith Rd Off to Smith Rd On	2000	3	0.33	4,076	3,966	1521.12	74.12	75	71.9938	21.128	C	1480.065	74.12	75	72.4488	20.429	C
	Smith Rd to Knighton Rd	1400	3	0.33	4,229	4,129	1578.21	74.12	75	71.299	22.135	C	1540.895	74.12	75	71.7613	21.473	C
Universal Inputs:																		
PHF 0.92																		
(P-) 6%																		
I _{av} 0.970873786																		

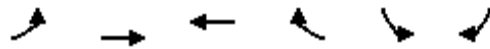
Segment Inputs				2040																																
				AM Flow Inputs			AM LOS Performance Measures										PM Flow Inputs			PM LOS Performance Measures																
ID	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L) (ft)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_0	v_1	v_2	w/S_{20}	P_{20}	v_{12}	Capacity	v_1	v_{12}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_0	v_1	v_2	w/S_{20}	P_{20}	v_{12}	Capacity	v_1	v_{12}	w/c	D	LOS			
				(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	(pc/h)	
RD	Smith Rd On Ramp	3	1	430	3388	3078	310	3793	3446	347	98	0.5895	2031.6	7200	707	1524	2032	0.5268	21.173	C	0			0	0	0	0	0.5895	0	7200	0	0	0	0	2.7789	A
	Bonnyview Rd On Ramp	3	1	430	4260	3174	1086	4769	3554	1216	102	0.5895	2094.9	7200	729	1571	2095	0.6624	28.044	D	3520	2916	604	3941	3265	676	93	0.5895	1924.6	7200	670	1443	1925	0.5473	22.755	C
RD	Bonnyview Rd On Ramp	3	1	380	5484	4290	1194	6140	4803	1337	137	0.5881	2824.8	7200	989	2119	2825	0.8527	34.938	D	4534	3866	668	5076	4328	748	124	0.5881	2545.6	7200	891	1909	2546	0.705	28.438	D
	Smith Rd On Ramp	3	1	380	4676	4523	153	5235	5064	171	145	0.5881	2978.2	7200	1043	2234	2978	0.7271	27.58	C	0			0	0	0	0	0.5881	0	7200	0	0	0	0	3.0924	A

Segment Inputs:
 Length 1500 (ft)
 S_u 70 (mi/h)
 S_d 35 (mi/h)
 P_{20} 0.92
 P_0 6%
 S_{20} 0.938872786

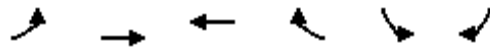
Segment Inputs		2040																																
		AM Flow Inputs													PM Flow Inputs			PM LOS Performance Measures																
		Number of Lanes	Number of Ramp Lanes	L ₁₀	Length of Deceleration Lane (L _d)	Downstream Volume	Upstream Volume	Ramp Volume	V ₀	V ₁	V ₂	P ₁₀	V ₁₂	Capacity	V ₂	V _{12a}	w/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	V ₀	V ₁	V ₂	P ₁₀	V ₁₂	Capacity	V ₂	V _{12a}	w/c	D	LOS	
(N)	(N)	(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(pc/h/ft)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	(veh/h)	
Smith Off	3	1	614	140	2300	2610	310	803.848	2922.1	347.07	0.436	1469.8	7200	726	1102	1470	0.4058	15.632	B	2437	2768	331	569.859	3099	370.58	0.436	1560.1	7200	769	1170	1560	0.4304	16.409	B
Bonnyview Rd Off	3	1	810	140	1270	1988	718	981.859	2225.7	803.85	0.436	1423.8	7200	401	1068	1424	0.3091	15.236	B	1803	2312	509	633.674	2588.4	569.86	0.436	1450	7200	569	1087	1450	0.3595	15.462	B
Bonnyview Rd Off	3	1	-	140	1887	2764	877	-	3094.5	981.86	0.6375	2328.6	7200	766	1746	2329	0.4298	23.018	C	2632	3198	566	-	3580.4	633.67	0.6413	2523.5	7200	1057	1893	2524	0.4973	24.694	C
Smith Rd Off	3	1	-	140	3350	3797	447	-	4251	500.45	0.6307	2865.9	7200	1385	2149	2866	0.5904	27.639	C	3290	3866	576	-	4328.2	644.87	0.6221	2936.4	7200	1392	2202	2936	0.6011	28.245	D

Speed 1500
 K₁ 70
 K₂ 35
 P₁₀ 0.92
 P₁₅ 0.8
 P₂₀ 0.7186

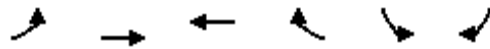
**OPENING YEAR (2025) PLUS PROJECT MITIGATED
ANALYSIS**



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations		↑↑	↑↑		↖	↗		
Traffic Volume (veh/h)	0	645	338	0	226	495		
Future Volume (veh/h)	0	645	338	0	226	495		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863		
Adj Flow Rate, veh/h	0	701	367	0	246	538		
Adj No. of Lanes	0	2	2	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	2	2	0	2	2		
Cap, veh/h	0	1282	1282	0	725	647		
Arrive On Green	0.00	0.36	0.36	0.00	0.41	0.41		
Sat Flow, veh/h	0	3725	3725	0	1774	1583		
Grp Volume(v), veh/h	0	701	367	0	246	538		
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1774	1583		
Q Serve(g_s), s	0.0	5.5	2.6	0.0	3.3	10.6		
Cycle Q Clear(g_c), s	0.0	5.5	2.6	0.0	3.3	10.6		
Prop In Lane	0.00			0.00	1.00	1.00		
Lane Grp Cap(c), veh/h	0	1282	1282	0	725	647		
V/C Ratio(X)	0.00	0.55	0.29	0.00	0.34	0.83		
Avail Cap(c_a), veh/h	0	1825	1825	0	966	862		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	0.0	8.9	7.9	0.0	7.1	9.2		
Incr Delay (d2), s/veh	0.0	0.4	0.1	0.0	0.3	5.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	2.7	1.2	0.0	1.6	5.4		
LnGrp Delay(d),s/veh	0.0	9.2	8.0	0.0	7.4	14.5		
LnGrp LOS		A	A		A	B		
Approach Vol, veh/h		701	367		784			
Approach Delay, s/veh		9.2	8.0		12.3			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				16.6		18.3		16.6
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		19.0		18.0
Max Q Clear Time (g_c+I1), s				7.5		12.6		4.6
Green Ext Time (p_c), s				5.1		1.6		6.0
Intersection Summary								
HCM 2010 Ctrl Delay			10.3					
HCM 2010 LOS			B					



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations		↑↑	↑↑		↘	↙		
Traffic Volume (veh/h)	0	525	206	0	135	515		
Future Volume (veh/h)	0	525	206	0	135	515		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863		
Adj Flow Rate, veh/h	0	571	224	0	147	560		
Adj No. of Lanes	0	2	2	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	2	2	0	2	2		
Cap, veh/h	0	1143	1143	0	756	675		
Arrive On Green	0.00	0.32	0.32	0.00	0.43	0.43		
Sat Flow, veh/h	0	3725	3725	0	1774	1583		
Grp Volume(v), veh/h	0	571	224	0	147	560		
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1774	1583		
Q Serve(g_s), s	0.0	4.2	1.5	0.0	1.7	10.0		
Cycle Q Clear(g_c), s	0.0	4.2	1.5	0.0	1.7	10.0		
Prop In Lane	0.00			0.00	1.00	1.00		
Lane Grp Cap(c), veh/h	0	1143	1143	0	756	675		
V/C Ratio(X)	0.00	0.50	0.20	0.00	0.19	0.83		
Avail Cap(c_a), veh/h	0	1997	1997	0	1056	943		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	0.0	8.7	7.8	0.0	5.7	8.1		
Incr Delay (d2), s/veh	0.0	0.3	0.1	0.0	0.1	4.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	2.0	0.7	0.0	0.8	5.0		
LnGrp Delay(d),s/veh	0.0	9.1	7.9	0.0	5.8	12.6		
LnGrp LOS		A	A		A	B		
Approach Vol, veh/h		571	224		707			
Approach Delay, s/veh		9.1	7.9		11.2			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				14.3		17.6		14.3
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		19.0		18.0
Max Q Clear Time (g_c+I1), s				6.2		12.0		3.5
Green Ext Time (p_c), s				4.2		1.6		4.6
Intersection Summary								
HCM 2010 Ctrl Delay			9.9					
HCM 2010 LOS			A					



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	198	443	399	73	75	157		
Future Volume (veh/h)	198	443	399	73	75	157		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	215	482	434	79	82	171		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	551	1070	882	160	113	235		
Arrive On Green	0.57	0.57	0.57	0.57	0.21	0.21		
Sat Flow, veh/h	884	1863	1534	279	530	1105		
Grp Volume(v), veh/h	215	482	0	513	254	0		
Grp Sat Flow(s),veh/h/ln	884	1863	0	1813	1641	0		
Q Serve(g_s), s	7.2	5.6	0.0	6.3	5.4	0.0		
Cycle Q Clear(g_c), s	13.5	5.6	0.0	6.3	5.4	0.0		
Prop In Lane	1.00			0.15	0.32	0.67		
Lane Grp Cap(c), veh/h	551	1070	0	1042	349	0		
V/C Ratio(X)	0.39	0.45	0.00	0.49	0.73	0.00		
Avail Cap(c_a), veh/h	725	1438	0	1399	786	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	8.7	4.6	0.0	4.7	13.8	0.0		
Incr Delay (d2), s/veh	0.5	0.3	0.0	0.4	2.9	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	2.9	0.0	3.1	2.7	0.0		
LnGrp Delay(d),s/veh	9.2	4.9	0.0	5.1	16.7	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		697	513		254			
Approach Delay, s/veh		6.2	5.1		16.7			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				25.6		12.0		25.6
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				29.0		18.0		29.0
Max Q Clear Time (g_c+I1), s				15.5		7.4		8.3
Green Ext Time (p_c), s				6.1		0.6		7.6
Intersection Summary								
HCM 2010 Ctrl Delay			7.6					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Intersection

Int Delay, s/veh 7.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	198	443	399	73	75	157
Future Vol, veh/h	198	443	399	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	482	434	79	82	171

Major/Minor

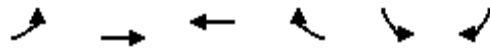
	Major1	Major2	Minor2
Conflicting Flow All	513	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1052	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1052	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

	EB	WB	SB
HCM Control Delay, s	2.9	0	33.4
HCM LOS			D

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1052	-	-	-	126	591
HCM Lane V/C Ratio	0.205	-	-	-	0.647	0.289
HCM Control Delay (s)	9.3	-	-	-	75.1	13.5
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.8	-	-	-	3.4	1.2



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	124	235	305	32	52	163		
Future Volume (veh/h)	124	235	305	32	52	163		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	135	255	332	35	57	177		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	599	829	737	78	92	285		
Arrive On Green	0.44	0.44	0.44	0.44	0.23	0.23		
Sat Flow, veh/h	1011	1863	1657	175	395	1225		
Grp Volume(v), veh/h	135	255	0	367	235	0		
Grp Sat Flow(s),veh/h/ln	1011	1863	0	1832	1627	0		
Q Serve(g_s), s	2.7	2.2	0.0	3.5	3.2	0.0		
Cycle Q Clear(g_c), s	6.1	2.2	0.0	3.5	3.2	0.0		
Prop In Lane	1.00			0.10	0.24	0.75		
Lane Grp Cap(c), veh/h	599	829	0	815	379	0		
V/C Ratio(X)	0.23	0.31	0.00	0.45	0.62	0.00		
Avail Cap(c_a), veh/h	882	1350	0	1328	1179	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.9	4.4	0.0	4.8	8.5	0.0		
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.4	1.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	1.1	0.0	1.8	1.6	0.0		
LnGrp Delay(d),s/veh	7.1	4.6	0.0	5.2	10.2	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		390	367		235			
Approach Delay, s/veh		5.5	5.2		10.2			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				15.1		9.8		15.1
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				8.1		5.2		5.5
Green Ext Time (p_c), s				3.0		0.6		3.4
Intersection Summary								
HCM 2010 Ctrl Delay			6.5					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Intersection

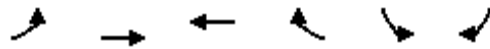
Int Delay, s/veh 4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	↘
Traffic Vol, veh/h	124	235	305	32	52	163
Future Vol, veh/h	124	235	305	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	255	332	35	57	177

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	366	0	-	0	874
Stage 1	-	-	-	-	349
Stage 2	-	-	-	-	525
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1193	-	-	-	320
Stage 1	-	-	-	-	714
Stage 2	-	-	-	-	593
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1193	-	-	-	284
Mov Cap-2 Maneuver		-	-	-	284
Stage 1	-	-	-	-	714
Stage 2	-	-	-	-	526

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1193	-	-	-	284	694
HCM Lane V/C Ratio	0.113	-	-	-	0.199	0.255
HCM Control Delay (s)	8.4	-	-	-	20.8	12
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	1



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	198	439	395	73	75	157		
Future Volume (veh/h)	198	439	395	73	75	157		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	215	477	429	79	82	171		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	528	979	804	148	118	247		
Arrive On Green	0.53	0.53	0.53	0.53	0.22	0.22		
Sat Flow, veh/h	888	1863	1531	282	530	1105		
Grp Volume(v), veh/h	215	477	0	508	254	0		
Grp Sat Flow(s),veh/h/ln	888	1863	0	1813	1641	0		
Q Serve(g_s), s	6.7	5.2	0.0	5.9	4.5	0.0		
Cycle Q Clear(g_c), s	12.6	5.2	0.0	5.9	4.5	0.0		
Prop In Lane	1.00			0.16	0.32	0.67		
Lane Grp Cap(c), veh/h	528	979	0	953	367	0		
V/C Ratio(X)	0.41	0.49	0.00	0.53	0.69	0.00		
Avail Cap(c_a), veh/h	564	1053	0	1024	927	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	9.1	4.8	0.0	5.0	11.4	0.0		
Incr Delay (d2), s/veh	0.5	0.4	0.0	0.5	2.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	2.8	0.0	2.9	2.3	0.0		
LnGrp Delay(d),s/veh	9.6	5.2	0.0	5.4	13.7	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		692	508		254			
Approach Delay, s/veh		6.6	5.4		13.7			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				20.7		11.1		20.7
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				14.6		6.5		7.9
Green Ext Time (p_c), s				2.1		0.6		5.1
Intersection Summary								
HCM 2010 Ctrl Delay			7.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Intersection

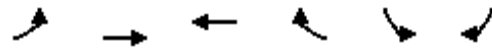
Int Delay, s/veh 7.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑		↘	↘
Traffic Vol, veh/h	198	439	395	73	75	157
Future Vol, veh/h	198	439	395	73	75	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	477	429	79	82	171

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	509	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1056	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1056	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	33
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1056	-	-	-	127	594
HCM Lane V/C Ratio	0.204	-	-	-	0.642	0.287
HCM Control Delay (s)	9.3	-	-	-	73.9	13.5
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.8	-	-	-	3.4	1.2



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	124	226	296	32	52	163		
Future Volume (veh/h)	124	226	296	32	52	163		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	135	246	322	35	57	177		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	604	820	727	79	92	287		
Arrive On Green	0.44	0.44	0.44	0.44	0.23	0.23		
Sat Flow, veh/h	1020	1863	1652	180	395	1225		
Grp Volume(v), veh/h	135	246	0	357	235	0		
Grp Sat Flow(s),veh/h/ln	1020	1863	0	1831	1627	0		
Q Serve(g_s), s	2.6	2.1	0.0	3.3	3.2	0.0		
Cycle Q Clear(g_c), s	5.9	2.1	0.0	3.3	3.2	0.0		
Prop In Lane	1.00			0.10	0.24	0.75		
Lane Grp Cap(c), veh/h	604	820	0	806	381	0		
V/C Ratio(X)	0.22	0.30	0.00	0.44	0.62	0.00		
Avail Cap(c_a), veh/h	903	1366	0	1343	1193	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.8	4.4	0.0	4.8	8.4	0.0		
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.4	1.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	1.1	0.0	1.7	1.5	0.0		
LnGrp Delay(d),s/veh	7.0	4.6	0.0	5.2	10.1	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		381	357		235			
Approach Delay, s/veh		5.5	5.2		10.1			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				14.8		9.7		14.8
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				7.9		5.2		5.3
Green Ext Time (p_c), s				2.9		0.6		3.3
Intersection Summary								
HCM 2010 Ctrl Delay			6.5					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

Intersection

Int Delay, s/veh 4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗		↘	↘
Traffic Vol, veh/h	124	226	296	32	52	163
Future Vol, veh/h	124	226	296	32	52	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	246	322	35	57	177

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	357	0	854
Stage 1	-	-	339
Stage 2	-	-	515
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1202	-	329
Stage 1	-	-	722
Stage 2	-	-	600
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1202	-	292
Mov Cap-2 Maneuver	-	-	292
Stage 1	-	-	722
Stage 2	-	-	533

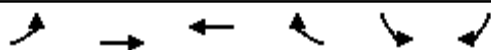
Approach	EB	WB	SB
HCM Control Delay, s	3	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1202	-	-	-	292	703
HCM Lane V/C Ratio	0.112	-	-	-	0.194	0.252
HCM Control Delay (s)	8.4	-	-	-	20.3	11.8
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	1

HCM 2010 Signalized Intersection Summary

8: S Bonnyview Rd & Victor Ave

06/01/2018

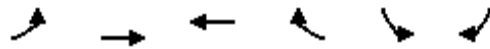


Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	156	405	316	73	67	111		
Future Volume (veh/h)	156	405	316	73	67	111		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	170	440	343	79	73	121		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	607	939	738	170	123	203		
Arrive On Green	0.50	0.50	0.50	0.50	0.20	0.20		
Sat Flow, veh/h	961	1863	1466	338	618	1024		
Grp Volume(v), veh/h	170	440	0	422	195	0		
Grp Sat Flow(s),veh/h/ln	961	1863	0	1803	1651	0		
Q Serve(g_s), s	3.7	4.1	0.0	4.1	2.9	0.0		
Cycle Q Clear(g_c), s	7.8	4.1	0.0	4.1	2.9	0.0		
Prop In Lane	1.00			0.19	0.37	0.62		
Lane Grp Cap(c), veh/h	607	939	0	909	327	0		
V/C Ratio(X)	0.28	0.47	0.00	0.46	0.60	0.00		
Avail Cap(c_a), veh/h	766	1248	0	1208	1106	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.8	4.3	0.0	4.3	9.8	0.0		
Incr Delay (d2), s/veh	0.2	0.4	0.0	0.4	1.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	2.2	0.0	2.1	1.5	0.0		
LnGrp Delay(d),s/veh	7.1	4.7	0.0	4.7	11.5	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		610	422		195			
Approach Delay, s/veh		5.4	4.7		11.5			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				17.5		9.3		17.5
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				9.8		4.9		6.1
Green Ext Time (p_c), s				3.7		0.4		4.7
Intersection Summary								
HCM 2010 Ctrl Delay			6.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary
 8: S Bonnyview Rd & Victor Ave

06/01/2018



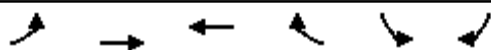
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	98	215	244	31	46	116		
Future Volume (veh/h)	98	215	244	31	46	116		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	107	234	265	34	50	126		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	639	751	652	84	106	267		
Arrive On Green	0.40	0.40	0.40	0.40	0.23	0.23		
Sat Flow, veh/h	1076	1863	1618	208	462	1163		
Grp Volume(v), veh/h	107	234	0	299	177	0		
Grp Sat Flow(s),veh/h/ln	1076	1863	0	1826	1634	0		
Q Serve(g_s), s	1.7	1.9	0.0	2.5	2.0	0.0		
Cycle Q Clear(g_c), s	4.3	1.9	0.0	2.5	2.0	0.0		
Prop In Lane	1.00			0.11	0.28	0.71		
Lane Grp Cap(c), veh/h	639	751	0	736	375	0		
V/C Ratio(X)	0.17	0.31	0.00	0.41	0.47	0.00		
Avail Cap(c_a), veh/h	1094	1540	0	1509	1351	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.2	4.4	0.0	4.6	7.2	0.0		
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.4	0.9	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.5	1.0	0.0	1.3	1.0	0.0		
LnGrp Delay(d),s/veh	6.3	4.7	0.0	5.0	8.2	0.0		
LnGrp LOS	A	A		A	A			
Approach Vol, veh/h		341	299		177			
Approach Delay, s/veh		5.2	5.0		8.2			
Approach LOS		A	A		A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				12.8		9.0		12.8
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				6.3		4.0		4.5
Green Ext Time (p_c), s				2.7		0.4		2.9
Intersection Summary								
HCM 2010 Ctrl Delay			5.8					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

8: S Bonnyview Rd & Victor Ave

06/01/2018

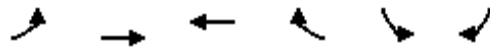


Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	156	397	300	73	67	111		
Future Volume (veh/h)	156	397	300	73	67	111		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	170	432	326	79	73	121		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	616	928	722	175	123	204		
Arrive On Green	0.50	0.50	0.50	0.50	0.20	0.20		
Sat Flow, veh/h	976	1863	1449	351	618	1024		
Grp Volume(v), veh/h	170	432	0	405	195	0		
Grp Sat Flow(s),veh/h/ln	976	1863	0	1801	1651	0		
Q Serve(g_s), s	3.6	4.0	0.0	3.9	2.8	0.0		
Cycle Q Clear(g_c), s	7.5	4.0	0.0	3.9	2.8	0.0		
Prop In Lane	1.00			0.20	0.37	0.62		
Lane Grp Cap(c), veh/h	616	928	0	897	329	0		
V/C Ratio(X)	0.28	0.47	0.00	0.45	0.59	0.00		
Avail Cap(c_a), veh/h	794	1267	0	1224	1123	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.7	4.3	0.0	4.3	9.6	0.0		
Incr Delay (d2), s/veh	0.2	0.4	0.0	0.4	1.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	2.1	0.0	1.9	1.4	0.0		
LnGrp Delay(d),s/veh	7.0	4.7	0.0	4.7	11.3	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		602	405		195			
Approach Delay, s/veh		5.3	4.7		11.3			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				17.2		9.3		17.2
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				9.5		4.8		5.9
Green Ext Time (p_c), s				3.7		0.4		4.6
Intersection Summary								
HCM 2010 Ctrl Delay			6.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

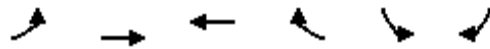
HCM 2010 Signalized Intersection Summary
 8: S Bonnyview Rd & Victor Ave

06/01/2018



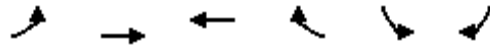
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	98	209	226	31	46	116		
Future Volume (veh/h)	98	209	226	31	46	116		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	107	227	246	34	50	126		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	401	591	508	70	218	550		
Arrive On Green	0.32	0.32	0.32	0.32	0.47	0.47		
Sat Flow, veh/h	1095	1863	1602	221	462	1163		
Grp Volume(v), veh/h	107	227	0	280	177	0		
Grp Sat Flow(s),veh/h/ln	1095	1863	0	1824	1634	0		
Q Serve(g_s), s	3.3	3.6	0.0	4.7	2.4	0.0		
Cycle Q Clear(g_c), s	8.0	3.6	0.0	4.7	2.4	0.0		
Prop In Lane	1.00			0.12	0.28	0.71		
Lane Grp Cap(c), veh/h	401	591	0	579	773	0		
V/C Ratio(X)	0.27	0.38	0.00	0.48	0.23	0.00		
Avail Cap(c_a), veh/h	571	880	0	862	773	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	13.7	10.1	0.0	10.5	5.9	0.0		
Incr Delay (d2), s/veh	0.4	0.4	0.0	0.6	0.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	1.9	0.0	2.4	1.2	0.0		
LnGrp Delay(d),s/veh	14.1	10.5	0.0	11.1	6.6	0.0		
LnGrp LOS	B	B		B	A			
Approach Vol, veh/h		334	280		177			
Approach Delay, s/veh		11.7	11.1		6.6			
Approach LOS		B	B		A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				16.1		22.0		16.1
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				10.0		4.4		6.7
Green Ext Time (p_c), s				2.1		0.4		2.5
Intersection Summary								
HCM 2010 Ctrl Delay			10.3					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.



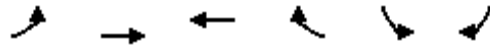
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	180	400	343	77	73	137		
Future Volume (veh/h)	180	400	343	77	73	137		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	196	435	373	84	79	149		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	570	958	757	170	121	228		
Arrive On Green	0.51	0.51	0.51	0.51	0.21	0.21		
Sat Flow, veh/h	931	1863	1473	332	568	1071		
Grp Volume(v), veh/h	196	435	0	457	229	0		
Grp Sat Flow(s),veh/h/ln	931	1863	0	1804	1645	0		
Q Serve(g_s), s	5.1	4.3	0.0	4.8	3.7	0.0		
Cycle Q Clear(g_c), s	9.9	4.3	0.0	4.8	3.7	0.0		
Prop In Lane	1.00			0.18	0.34	0.65		
Lane Grp Cap(c), veh/h	570	958	0	928	351	0		
V/C Ratio(X)	0.34	0.45	0.00	0.49	0.65	0.00		
Avail Cap(c_a), veh/h	662	1142	0	1106	1009	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	7.9	4.5	0.0	4.6	10.6	0.0		
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.4	2.1	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	2.3	0.0	2.4	1.9	0.0		
LnGrp Delay(d),s/veh	8.2	4.9	0.0	5.0	12.6	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		631	457		229			
Approach Delay, s/veh		5.9	5.0		12.6			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				19.1		10.3		19.1
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				11.9		5.7		6.8
Green Ext Time (p_c), s				3.2		0.5		4.8
Intersection Summary								
HCM 2010 Ctrl Delay			6.8					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.



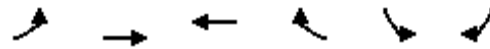
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	113	204	250	34	51	142		
Future Volume (veh/h)	113	204	250	34	51	142		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	123	222	272	37	55	154		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	638	773	666	91	97	271		
Arrive On Green	0.41	0.41	0.41	0.41	0.23	0.23		
Sat Flow, veh/h	1066	1863	1606	218	427	1196		
Grp Volume(v), veh/h	123	222	0	309	210	0		
Grp Sat Flow(s),veh/h/ln	1066	1863	0	1824	1630	0		
Q Serve(g_s), s	2.0	1.8	0.0	2.7	2.6	0.0		
Cycle Q Clear(g_c), s	4.7	1.8	0.0	2.7	2.6	0.0		
Prop In Lane	1.00			0.12	0.26	0.73		
Lane Grp Cap(c), veh/h	638	773	0	757	369	0		
V/C Ratio(X)	0.19	0.29	0.00	0.41	0.57	0.00		
Avail Cap(c_a), veh/h	1056	1503	0	1472	1315	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.3	4.3	0.0	4.6	7.7	0.0		
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.4	1.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.6	0.9	0.0	1.4	1.2	0.0		
LnGrp Delay(d),s/veh	6.4	4.5	0.0	5.0	9.0	0.0		
LnGrp LOS	A	A		A	A			
Approach Vol, veh/h		345	309		210			
Approach Delay, s/veh		5.2	5.0		9.0			
Approach LOS		A	A		A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				13.3		9.1		13.3
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				6.7		4.6		4.7
Green Ext Time (p_c), s				2.7		0.5		2.9
Intersection Summary								
HCM 2010 Ctrl Delay			6.0					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.



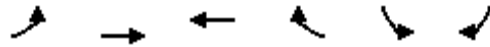
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	180	400	343	77	73	137		
Future Volume (veh/h)	180	400	343	77	73	137		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	196	435	373	84	79	149		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	570	958	757	170	121	228		
Arrive On Green	0.51	0.51	0.51	0.51	0.21	0.21		
Sat Flow, veh/h	931	1863	1473	332	568	1071		
Grp Volume(v), veh/h	196	435	0	457	229	0		
Grp Sat Flow(s),veh/h/ln	931	1863	0	1804	1645	0		
Q Serve(g_s), s	5.1	4.3	0.0	4.8	3.7	0.0		
Cycle Q Clear(g_c), s	9.9	4.3	0.0	4.8	3.7	0.0		
Prop In Lane	1.00			0.18	0.34	0.65		
Lane Grp Cap(c), veh/h	570	958	0	928	351	0		
V/C Ratio(X)	0.34	0.45	0.00	0.49	0.65	0.00		
Avail Cap(c_a), veh/h	662	1142	0	1106	1009	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	7.9	4.5	0.0	4.6	10.6	0.0		
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.4	2.1	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	2.3	0.0	2.4	1.9	0.0		
LnGrp Delay(d),s/veh	8.2	4.9	0.0	5.0	12.6	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		631	457		229			
Approach Delay, s/veh		5.9	5.0		12.6			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				19.1		10.3		19.1
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				11.9		5.7		6.8
Green Ext Time (p_c), s				3.2		0.5		4.8
Intersection Summary								
HCM 2010 Ctrl Delay			6.8					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.





















Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	113	204	250	34	51	142		
Future Volume (veh/h)	113	204	250	34	51	142		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	123	222	272	37	55	154		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	638	773	666	91	97	271		
Arrive On Green	0.41	0.41	0.41	0.41	0.23	0.23		
Sat Flow, veh/h	1066	1863	1606	218	427	1196		
Grp Volume(v), veh/h	123	222	0	309	210	0		
Grp Sat Flow(s),veh/h/ln	1066	1863	0	1824	1630	0		
Q Serve(g_s), s	2.0	1.8	0.0	2.7	2.6	0.0		
Cycle Q Clear(g_c), s	4.7	1.8	0.0	2.7	2.6	0.0		
Prop In Lane	1.00			0.12	0.26	0.73		
Lane Grp Cap(c), veh/h	638	773	0	757	369	0		
V/C Ratio(X)	0.19	0.29	0.00	0.41	0.57	0.00		
Avail Cap(c_a), veh/h	1056	1503	0	1472	1315	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.3	4.3	0.0	4.6	7.7	0.0		
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.4	1.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.6	0.9	0.0	1.4	1.2	0.0		
LnGrp Delay(d),s/veh	6.4	4.5	0.0	5.0	9.0	0.0		
LnGrp LOS	A	A		A	A			
Approach Vol, veh/h		345	309		210			
Approach Delay, s/veh		5.2	5.0		9.0			
Approach LOS		A	A		A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				13.3		9.1		13.3
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				6.7		4.6		4.7
Green Ext Time (p_c), s				2.7		0.5		2.9
Intersection Summary								
HCM 2010 Ctrl Delay			6.0					
HCM 2010 LOS			A					
Notes								



















User approved volume balancing among the lanes for turning movement.







































Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	180	400	343	77	73	137		
Future Volume (veh/h)	180	400	343	77	73	137		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	196	435	373	84	79	149		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	570	958	757	170	121	228		
Arrive On Green	0.51	0.51	0.51	0.51	0.21	0.21		
Sat Flow, veh/h	931	1863	1473	332	568	1071		
Grp Volume(v), veh/h	196	435	0	457	229	0		
Grp Sat Flow(s),veh/h/ln	931	1863	0	1804	1645	0		
Q Serve(g_s), s	5.1	4.3	0.0	4.8	3.7	0.0		
Cycle Q Clear(g_c), s	9.9	4.3	0.0	4.8	3.7	0.0		
Prop In Lane	1.00			0.18	0.34	0.65		
Lane Grp Cap(c), veh/h	570	958	0	928	351	0		
V/C Ratio(X)	0.34	0.45	0.00	0.49	0.65	0.00		
Avail Cap(c_a), veh/h	662	1142	0	1106	1009	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	7.9	4.5	0.0	4.6	10.6	0.0		
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.4	2.1	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	2.3	0.0	2.4	1.9	0.0		
LnGrp Delay(d),s/veh	8.2	4.9	0.0	5.0	12.6	0.0		
LnGrp LOS	A	A		A	B			
Approach Vol, veh/h		631	457		229			
Approach Delay, s/veh		5.9	5.0		12.6			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				19.1		10.3		19.1
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s				11.9		5.7		6.8
Green Ext Time (p_c), s				3.2		0.5		4.8
Intersection Summary								
HCM 2010 Ctrl Delay			6.8					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	344	4	12	429	379	3	176	16	274	127	114
Future Volume (veh/h)	176	344	4	12	429	379	3	176	16	274	127	114
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	191	374	4	13	466	412	3	191	17	298	138	124
Adj No. of Lanes	1	1	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	242	1063	11	512	629	555	82	412	36	0	222	200
Arrive On Green	0.14	0.58	0.58	0.35	0.35	0.35	0.25	0.25	0.25	0.00	0.25	0.25
Sat Flow, veh/h	1774	1840	20	1001	1782	1573	7	1677	148	0	906	814
Grp Volume(v), veh/h	191	0	378	13	463	415	211	0	0	0	0	262
Grp Sat Flow(s),veh/h/ln	1774	0	1859	1001	1770	1585	1832	0	0	0	0	1719
Q Serve(g_s), s	4.7	0.0	4.9	0.4	10.4	10.4	0.0	0.0	0.0	0.0	0.0	6.1
Cycle Q Clear(g_c), s	4.7	0.0	4.9	0.4	10.4	10.4	4.4	0.0	0.0	0.0	0.0	6.1
Prop In Lane	1.00		0.01	1.00		0.99	0.01		0.08	0.00		0.47
Lane Grp Cap(c), veh/h	242	0	1074	512	625	560	530	0	0	0	0	422
V/C Ratio(X)	0.79	0.00	0.35	0.03	0.74	0.74	0.40	0.00	0.00	0.00	0.00	0.62
Avail Cap(c_a), veh/h	314	0	1232	557	704	630	1008	0	0	0	0	1216
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	5.1	9.6	12.8	12.8	14.6	0.0	0.0	0.0	0.0	15.2
Incr Delay (d2), s/veh	9.8	0.0	0.2	0.0	3.7	4.1	0.5	0.0	0.0	0.0	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	2.5	0.1	5.7	5.1	2.3	0.0	0.0	0.0	0.0	3.1
LnGrp Delay(d),s/veh	28.7	0.0	5.3	9.6	16.5	17.0	15.0	0.0	0.0	0.0	0.0	16.7
LnGrp LOS	C		A	A	B	B	B					B
Approach Vol, veh/h		569			891			211				262
Approach Delay, s/veh		13.1			16.6			15.0				16.7
Approach LOS		B			B			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	0.0	15.1		30.1		15.1	10.2	20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s	5.0	23.0		30.0		32.0	8.0	18.0				
Max Q Clear Time (g_c+l1), s	0.0	6.4		6.9		8.1	6.7	12.4				
Green Ext Time (p_c), s	0.0	2.6		9.2		3.0	0.1	3.6				
Intersection Summary												
HCM 2010 Ctrl Delay			15.4									
HCM 2010 LOS			B									

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	350	217	296	151	252	32	92	210	199	0	0	0
Future Volume (veh/h)	350	217	296	151	252	32	92	210	199	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1900	1863			
Adj Flow Rate, veh/h	380	236	322	164	274	0	100	228	216			
Adj No. of Lanes	1	2	0	1	2	0	1	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	471	670	599	210	819	0	350	0	312			
Arrive On Green	0.27	0.38	0.38	0.12	0.23	0.00	0.20	0.20	0.20			
Sat Flow, veh/h	1774	1770	1583	1774	3632	0	1774	0	1583			
Grp Volume(v), veh/h	380	236	322	164	274	0	100	0	216			
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1774	0	1583			
Q Serve(g_s), s	7.9	3.8	6.2	3.5	2.5	0.0	1.9	0.0	5.0			
Cycle Q Clear(g_c), s	7.9	3.8	6.2	3.5	2.5	0.0	1.9	0.0	5.0			
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	471	670	599	210	819	0	350	0	312			
V/C Ratio(X)	0.81	0.35	0.54	0.78	0.33	0.00	0.29	0.00	0.69			
Avail Cap(c_a), veh/h	769	1263	1130	317	1624	0	814	0	727			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	13.5	8.7	9.5	16.8	12.6	0.0	13.4	0.0	14.6			
Incr Delay (d2), s/veh	3.3	0.3	0.8	6.9	0.2	0.0	0.4	0.0	2.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.2	1.9	2.8	2.1	1.2	0.0	1.0	0.0	2.4			
LnGrp Delay(d),s/veh	16.8	9.1	10.3	23.7	12.8	0.0	13.8	0.0	17.4			
LnGrp LOS	B	A	B	C	B		B		B			
Approach Vol, veh/h		938			438			316				
Approach Delay, s/veh		12.6			16.9			16.3				
Approach LOS		B			B			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4			7	8				
Phs Duration (G+Y+Rc), s		11.7	8.6	18.9			14.4	13.1				
Change Period (Y+Rc), s		4.0	4.0	4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.0	7.0	28.0			17.0	18.0				
Max Q Clear Time (g_c+l1), s		7.0	5.5	8.2			9.9	4.5				
Green Ext Time (p_c), s		0.8	0.1	5.4			0.7	4.6				
Intersection Summary												
HCM 2010 Ctrl Delay			14.4									
HCM 2010 LOS			B									

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	221	2	9	226	459	3	220	13	293	137	119
Future Volume (veh/h)	207	221	2	9	226	459	3	220	13	293	137	119
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	225	240	2	10	246	499	3	239	14	318	149	129
Adj No. of Lanes	1	1	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	282	1088	9	541	621	556	74	435	25	0	232	201
Arrive On Green	0.16	0.59	0.59	0.35	0.35	0.35	0.25	0.25	0.25	0.00	0.25	0.25
Sat Flow, veh/h	1774	1845	15	1133	1770	1583	6	1735	101	0	923	799
Grp Volume(v), veh/h	225	0	242	10	246	499	256	0	0	0	0	278
Grp Sat Flow(s),veh/h/ln	1774	0	1860	1133	1770	1583	1841	0	0	0	0	1722
Q Serve(g_s), s	6.1	0.0	3.1	0.3	5.3	15.0	0.0	0.0	0.0	0.0	0.0	7.2
Cycle Q Clear(g_c), s	6.1	0.0	3.1	0.3	5.3	15.0	6.1	0.0	0.0	0.0	0.0	7.2
Prop In Lane	1.00		0.01	1.00		1.00	0.01		0.05	0.00		0.46
Lane Grp Cap(c), veh/h	282	0	1097	541	621	556	535	0	0	0	0	432
V/C Ratio(X)	0.80	0.00	0.22	0.02	0.40	0.90	0.48	0.00	0.00	0.00	0.00	0.64
Avail Cap(c_a), veh/h	282	0	1111	549	634	567	913	0	0	0	0	1096
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	4.9	10.7	12.3	15.5	16.4	0.0	0.0	0.0	0.0	16.8
Incr Delay (d2), s/veh	14.7	0.0	0.1	0.0	0.4	16.9	0.7	0.0	0.0	0.0	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	1.6	0.1	2.6	9.1	3.2	0.0	0.0	0.0	0.0	3.6
LnGrp Delay(d),s/veh	35.0	0.0	5.0	10.7	12.7	32.4	17.0	0.0	0.0	0.0	0.0	18.4
LnGrp LOS	C		A	B	B	C	B					B
Approach Vol, veh/h		467			755			256				278
Approach Delay, s/veh		19.4			25.7			17.0				18.4
Approach LOS		B			C			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	0.0	16.6		33.6		16.6	12.0	21.6				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s	5.0	23.0		30.0		32.0	8.0	18.0				
Max Q Clear Time (g_c+I1), s	0.0	8.1		5.1		9.2	8.1	17.0				
Green Ext Time (p_c), s	0.0	2.9		7.3		3.4	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			21.6									
HCM 2010 LOS			C									

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	304	155	198	114	153	35	61	127	165	0	0	0
Future Volume (veh/h)	304	155	198	114	153	35	61	127	165	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1900	1863			
Adj Flow Rate, veh/h	330	168	215	124	166	0	66	138	179			
Adj No. of Lanes	1	2	0	1	2	0	1	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	431	597	534	185	703	0	328	0	292			
Arrive On Green	0.24	0.34	0.34	0.10	0.20	0.00	0.18	0.18	0.18			
Sat Flow, veh/h	1774	1770	1583	1774	3632	0	1774	0	1583			
Grp Volume(v), veh/h	330	168	215	124	166	0	66	0	179			
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1774	0	1583			
Q Serve(g_s), s	5.6	2.2	3.3	2.2	1.3	0.0	1.0	0.0	3.3			
Cycle Q Clear(g_c), s	5.6	2.2	3.3	2.2	1.3	0.0	1.0	0.0	3.3			
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	431	597	534	185	703	0	328	0	292			
V/C Ratio(X)	0.77	0.28	0.40	0.67	0.24	0.00	0.20	0.00	0.61			
Avail Cap(c_a), veh/h	884	1544	1381	387	2095	0	995	0	888			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	11.3	7.8	8.2	13.8	10.8	0.0	11.1	0.0	12.0			
Incr Delay (d2), s/veh	2.9	0.3	0.5	4.2	0.2	0.0	0.3	0.0	2.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.0	1.1	1.5	1.2	0.6	0.0	0.5	0.0	1.6			
LnGrp Delay(d),s/veh	14.2	8.0	8.6	18.0	11.0	0.0	11.4	0.0	14.1			
LnGrp LOS	B	A	A	B	B		B		B			
Approach Vol, veh/h		713			290			245				
Approach Delay, s/veh		11.1			14.0			13.4				
Approach LOS		B			B			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4			7	8				
Phs Duration (G+Y+Rc), s		9.9	7.3	14.8			11.8	10.4				
Change Period (Y+Rc), s		4.0	4.0	4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.0	7.0	28.0			16.0	19.0				
Max Q Clear Time (g_c+l1), s		5.3	4.2	5.3			7.6	3.3				
Green Ext Time (p_c), s		0.6	0.1	3.5			0.7	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			12.2									
HCM 2010 LOS			B									

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions - MIT

Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	163	543	1102	306	119	32	388	756	45	265
Future Volume (veh/h)	208	989	163	543	1102	306	119	32	388	756	45	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	226	1075	177	590	1198	333	129	0	445	822	49	288
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	1149	514	652	1309	585	169	0	901	895	61	360
Arrive On Green	0.14	0.32	0.32	0.19	0.37	0.37	0.10	0.00	0.10	0.26	0.26	0.26
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	235	1383
Grp Volume(v), veh/h	226	1075	177	590	1198	333	129	0	445	822	0	337
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1619
Q Serve(g_s), s	15.3	36.0	10.4	20.5	39.5	20.5	8.7	0.0	0.0	28.4	0.0	23.8
Cycle Q Clear(g_c), s	15.3	36.0	10.4	20.5	39.5	20.5	8.7	0.0	0.0	28.4	0.0	23.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.85
Lane Grp Cap(c), veh/h	256	1149	514	652	1309	585	169	0	901	895	0	421
V/C Ratio(X)	0.88	0.94	0.34	0.90	0.92	0.57	0.77	0.00	0.49	0.92	0.00	0.80
Avail Cap(c_a), veh/h	377	1172	524	717	1309	585	218	0	989	928	0	437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.3	40.1	31.4	48.5	36.7	30.8	54.0	0.0	36.4	44.0	0.0	42.3
Incr Delay (d2), s/veh	15.2	13.5	0.4	14.2	10.2	1.3	11.4	0.0	0.4	13.6	0.0	9.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	19.8	4.6	11.0	21.2	9.2	4.8	0.0	6.3	15.2	0.0	11.8
LnGrp Delay(d),s/veh	66.5	53.6	31.8	62.7	46.9	32.1	65.4	0.0	36.8	57.6	0.0	52.2
LnGrp LOS	E	D	C	E	D	C	E		D	E		D
Approach Vol, veh/h		1478			2121			574			1159	
Approach Delay, s/veh		52.9			49.0			43.3			56.0	
Approach LOS		D			D			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.6	27.2	43.7		35.8	21.7	49.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		15.0	25.5	40.5		33.0	26.0	40.0				
Max Q Clear Time (g_c+I1), s		10.7	22.5	38.0		30.4	17.3	41.5				
Green Ext Time (p_c), s		0.9	0.7	1.7		1.4	0.4	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			51.0									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	1418	715	300	1097	0	0	0	0	285	1	855
Future Volume (veh/h)	0	1418	715	300	1097	0	0	0	0	285	1	855
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1541	777	326	1192	0				310	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1508	704	331	2423	0				369	1	330
Arrive On Green	0.00	0.44	0.44	0.19	0.68	0.00				0.21	0.21	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1541	777	326	1192	0				311	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	33.4	33.4	13.7	12.0	0.0				12.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	33.4	33.4	13.7	12.0	0.0				12.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1508	704	331	2423	0				370	0	330
V/C Ratio(X)	0.00	1.02	1.10	0.98	0.49	0.00				0.84	0.00	0.00
Avail Cap(c_a), veh/h	0	1508	704	331	2423	0				551	0	492
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.34	0.34	0.09	0.09	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	20.8	20.8	30.4	5.6	0.0				28.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	19.5	54.5	11.5	0.1	0.0				7.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	19.6	25.1	7.8	5.8	0.0				6.9	0.0	0.0
LnGrp Delay(d),s/veh	0.0	40.4	75.3	41.8	5.7	0.0				35.8	0.0	0.0
LnGrp LOS		F	F	D	A					D		
Approach Vol, veh/h	2318			1518						311		
Approach Delay, s/veh	52.1			13.5						35.8		
Approach LOS	D			B						D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4	6		8					
Phs Duration (G+Y+Rc), s			18.0	37.4	19.6		55.4					
Change Period (Y+Rc), s			4.0	4.0	4.0		4.0					
Max Green Setting (Gmax), s			14.0	25.7	23.3		43.7					
Max Q Clear Time (g_c+l1), s			15.7	35.4	14.6		14.0					
Green Ext Time (p_c), s			0.0	0.0	1.1		27.3					
Intersection Summary												
HCM 2010 Ctrl Delay			36.7									
HCM 2010 LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	815	889	0	0	844	285	552	5	255	0	0	0
Future Volume (veh/h)	815	889	0	0	844	285	552	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	886	966	0	0	917	310	604	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	828	2684	0	0	914	409	621	0	277			
Arrive On Green	0.47	0.76	0.00	0.00	0.26	0.26	0.17	0.00	0.17			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	886	966	0	0	917	310	604	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	56.0	10.9	0.0	0.0	31.0	21.7	20.3	0.0	21.0			
Cycle Q Clear(g_c), s	56.0	10.9	0.0	0.0	31.0	21.7	20.3	0.0	21.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	828	2684	0	0	914	409	621	0	277			
V/C Ratio(X)	1.07	0.36	0.00	0.00	1.00	0.76	0.97	0.00	1.00			
Avail Cap(c_a), veh/h	828	2684	0	0	914	409	621	0	277			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.61	0.61	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.0	4.8	0.0	0.0	44.5	41.0	49.2	0.0	49.5			
Incr Delay (d2), s/veh	34.3	0.0	0.0	0.0	24.0	7.8	29.3	0.0	54.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	35.3	5.2	0.0	0.0	18.2	10.4	12.5	0.0	13.3			
LnGrp Delay(d),s/veh	66.3	4.9	0.0	0.0	68.5	48.9	78.5	0.0	103.5			
LnGrp LOS	F	A			F	D	E		F			
Approach Vol, veh/h		1852			1227			881				
Approach Delay, s/veh		34.3			63.5			86.3				
Approach LOS		C			E			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		25.0		95.0			60.0	35.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		21.0		91.0			56.0	31.0				
Max Q Clear Time (g_c+l1), s		23.0		12.9			58.0	33.0				
Green Ext Time (p_c), s		0.0		26.5			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				54.9								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔	↑↑			↔	↔		↔	↔↔
Traffic Volume (veh/h)	418	646	80	35	521	130	125	10	25	145	15	483
Future Volume (veh/h)	418	646	80	35	521	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	702	87	38	566	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	529	1333	596	55	714	177	445	36	428	285	29	491
Arrive On Green	0.15	0.38	0.38	0.03	0.25	0.25	0.27	0.27	0.27	0.18	0.18	0.18
Sat Flow, veh/h	3442	3539	1583	1774	2811	698	1647	133	1583	1618	164	2787
Grp Volume(v), veh/h	454	702	87	38	356	351	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1740	1780	0	1583	1782	0	1393
Q Serve(g_s), s	14.1	17.0	4.0	2.3	20.6	20.8	7.2	0.0	1.4	9.8	0.0	19.4
Cycle Q Clear(g_c), s	14.1	17.0	4.0	2.3	20.6	20.8	7.2	0.0	1.4	9.8	0.0	19.4
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	529	1333	596	55	450	442	481	0	428	314	0	491
V/C Ratio(X)	0.86	0.53	0.15	0.69	0.79	0.80	0.31	0.00	0.06	0.55	0.00	1.07
Avail Cap(c_a), veh/h	657	1480	662	97	499	490	481	0	428	314	0	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	26.7	22.6	52.7	38.3	38.3	31.9	0.0	29.8	41.3	0.0	45.3
Incr Delay (d2), s/veh	8.5	0.3	0.1	14.0	7.7	8.1	1.6	0.0	0.3	2.1	0.0	60.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	8.3	1.8	1.4	11.0	10.9	3.8	0.0	0.6	5.0	0.0	11.6
LnGrp Delay(d),s/veh	53.9	27.0	22.7	66.7	46.0	46.4	33.5	0.0	30.1	43.5	0.0	105.3
LnGrp LOS	D	C	C	E	D	D	C		C	D		F
Approach Vol, veh/h		1243			745			174			699	
Approach Delay, s/veh		36.5			47.3			33.0			89.9	
Approach LOS		D			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.7	7.4	45.4		23.4	20.9	31.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		22.6	6.0	46.0		19.4	21.0	31.0				
Max Q Clear Time (g_c+l1), s		9.2	4.3	19.0		21.4	16.1	22.8				
Green Ext Time (p_c), s		0.6	0.0	10.6		0.0	0.8	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay					52.1							
HCM 2010 LOS					D							

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	711	591	30	25	95
Future Vol, veh/h	105	711	591	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	773	642	33	27	103

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	675	0	0	1274	338
Stage 1	-	-	-	659	-
Stage 2	-	-	-	615	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	912	-	-	159	658
Stage 1	-	-	-	476	-
Stage 2	-	-	-	502	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	912	-	-	124	658
Mov Cap-2 Maneuver	-	-	-	124	-
Stage 1	-	-	-	476	-
Stage 2	-	-	-	392	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.2	0	17.9
HCM LOS			C

























Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	912	-	-	-	124	658
HCM Lane V/C Ratio	0.125	-	-	-	0.219	0.157
HCM Control Delay (s)	9.5	-	-	-	42	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1A) Conditions - MIT

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	201	669	783	174	122	23	396	271	44	112
Future Volume (veh/h)	113	721	201	669	783	174	122	23	396	271	44	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	123	784	218	727	851	189	133	0	447	295	48	122
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	1147	513	731	1590	711	254	0	1125	488	66	168
Arrive On Green	0.09	0.32	0.32	0.21	0.45	0.45	0.14	0.00	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	467	1187
Grp Volume(v), veh/h	123	784	218	727	851	189	133	0	447	295	0	170
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1653
Q Serve(g_s), s	6.1	17.2	9.7	18.9	15.6	6.7	6.2	0.0	9.5	7.2	0.0	8.8
Cycle Q Clear(g_c), s	6.1	17.2	9.7	18.9	15.6	6.7	6.2	0.0	9.5	7.2	0.0	8.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.72
Lane Grp Cap(c), veh/h	154	1147	513	731	1590	711	254	0	1125	488	0	235
V/C Ratio(X)	0.80	0.68	0.42	1.00	0.54	0.27	0.52	0.00	0.40	0.60	0.00	0.72
Avail Cap(c_a), veh/h	218	1325	593	731	1641	734	367	0	1327	1269	0	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.1	26.3	23.7	35.2	17.9	15.4	35.5	0.0	21.7	36.0	0.0	36.7
Incr Delay (d2), s/veh	12.8	1.2	0.6	32.0	0.3	0.2	1.7	0.0	0.2	1.2	0.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	8.6	4.3	12.1	7.6	2.9	3.1	0.0	4.2	3.5	0.0	4.3
LnGrp Delay(d),s/veh	52.9	27.5	24.3	67.2	18.2	15.6	37.2	0.0	21.9	37.3	0.0	41.0
LnGrp LOS	D	C	C	E	B	B	D		C	D		D
Approach Vol, veh/h		1125			1767			580			465	
Approach Delay, s/veh		29.6			38.1			25.4			38.6	
Approach LOS		C			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.8	23.0	33.0		16.7	11.8	44.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	19.0	33.5		33.0	11.0	41.5				
Max Q Clear Time (g_c+I1), s		11.5	20.9	19.2		10.8	8.1	17.6				
Green Ext Time (p_c), s		1.3	0.0	9.8		1.9	0.1	13.8				
Intersection Summary												
HCM 2010 Ctrl Delay			33.9									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	947	440	178	895	0	0	0	0	176	1	732
Future Volume (veh/h)	0	947	440	178	895	0	0	0	0	176	1	732
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1029	478	193	973	0				191	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1966	913	237	2698	0				243	1	218
Arrive On Green	0.00	0.58	0.58	0.04	0.25	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	3564	1578	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	1027	480	193	973	0				192	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1584	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	14.6	14.6	8.6	18.1	0.0				8.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	14.6	14.6	8.6	18.1	0.0				8.4	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1962	917	237	2698	0				245	0	218
V/C Ratio(X)	0.00	0.52	0.52	0.82	0.36	0.00				0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1962	917	333	2698	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.73	0.73	0.66	0.66	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	10.2	10.2	37.3	13.9	0.0				33.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	1.6	6.9	0.2	0.0				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.9	6.7	4.7	9.0	0.0				4.5	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.9	11.8	44.2	14.1	0.0				38.8	0.0	0.0
LnGrp LOS		B	B	D	B					D		
Approach Vol, veh/h		1507			1166						192	
Approach Delay, s/veh		11.2			19.1						38.8	
Approach LOS		B			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	50.3		15.0		65.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+l1), s			10.6	16.6		10.4		20.1				
Green Ext Time (p_c), s			0.2	8.3		0.8		18.8				
Intersection Summary												
HCM 2010 Ctrl Delay			16.3									
HCM 2010 LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	592	531	0	0	603	222	470	3	255	0	0	0
Future Volume (veh/h)	592	531	0	0	603	222	470	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	643	577	0	0	655	241	513	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2458	0	0	1219	545	729	0	325			
Arrive On Green	0.50	1.00	0.00	0.00	0.69	0.69	0.21	0.00	0.21			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	643	577	0	0	655	241	513	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	7.3	5.4	10.7	0.0	13.5			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	7.3	5.4	10.7	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	532	2458	0	0	1219	545	729	0	325			
V/C Ratio(X)	1.21	0.23	0.00	0.00	0.54	0.44	0.70	0.00	0.85			
Avail Cap(c_a), veh/h	532	2458	0	0	1219	545	820	0	366			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.44	0.44	0.00	0.00	0.76	0.76	1.00	0.00	1.00			
Uniform Delay (d), s/veh	20.0	0.0	0.0	0.0	9.3	9.0	29.5	0.0	30.6			
Incr Delay (d2), s/veh	101.6	0.1	0.0	0.0	1.3	2.0	2.4	0.0	15.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	26.3	0.0	0.0	0.0	3.7	2.6	5.5	0.0	7.3			
LnGrp Delay(d),s/veh	121.5	0.1	0.0	0.0	10.6	11.0	31.9	0.0	46.4			
LnGrp LOS	F	A			B	B	C		D			
Approach Vol, veh/h		1220			896		790					
Approach Delay, s/veh		64.1			10.7		37.0					
Approach LOS		E			B		D					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.4		59.6			28.0	31.6				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		15.5		2.0			26.0	9.3				
Green Ext Time (p_c), s		1.0		11.9			0.0	8.0				
Intersection Summary												
HCM 2010 Ctrl Delay				40.3								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖	↕			↕	↖		↕	↖↗
Traffic Volume (veh/h)	333	349	104	35	347	110	175	5	50	129	0	303
Future Volume (veh/h)	333	349	104	35	347	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	379	113	38	377	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	914	409	63	514	162	610	16	558	273	0	428
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.35	0.35	0.35	0.15	0.00	0.15
Sat Flow, veh/h	3442	3539	1583	1774	2652	833	1731	46	1583	1774	0	2787
Grp Volume(v), veh/h	362	379	113	38	250	247	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1716	1776	0	1583	1774	0	1393
Q Serve(g_s), s	8.0	5.9	3.7	1.7	10.6	10.8	6.4	0.0	1.8	5.8	0.0	9.1
Cycle Q Clear(g_c), s	8.0	5.9	3.7	1.7	10.6	10.8	6.4	0.0	1.8	5.8	0.0	9.1
Prop In Lane	1.00		1.00	1.00		0.49	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	914	409	63	343	333	626	0	558	273	0	428
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.73	0.74	0.31	0.00	0.10	0.51	0.00	0.77
Avail Cap(c_a), veh/h	344	951	426	111	409	397	626	0	558	410	0	644
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.6	17.9	38.0	30.3	30.4	18.9	0.0	17.4	31.1	0.0	32.5
Incr Delay (d2), s/veh	61.7	0.3	0.3	8.8	5.3	6.0	1.3	0.0	0.3	1.5	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.6	1.0	5.6	5.7	3.4	0.0	0.8	3.0	0.0	3.6
LnGrp Delay(d),s/veh	95.0	18.8	18.3	46.8	35.5	36.4	20.1	0.0	17.7	32.6	0.0	35.6
LnGrp LOS	F	B	B	D	D	D	C		B	C		D
Approach Vol, veh/h		854			535			249			469	
Approach Delay, s/veh		51.0			36.7			19.6			34.7	
Approach LOS		D			D			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.2	6.9	24.7		16.3	12.0	19.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	5.0	21.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.4	3.7	7.9		11.1	10.0	12.8				
Green Ext Time (p_c), s		0.8	0.0	4.7		1.2	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			40.1									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	451	418	30	10	74
Future Vol, veh/h	77	451	418	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	490	454	33	11	80

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	487	0	0	884	243
Stage 1	-	-	-	471	-
Stage 2	-	-	-	413	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1072	-	-	285	758
Stage 1	-	-	-	594	-
Stage 2	-	-	-	636	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1072	-	-	254	758
Mov Cap-2 Maneuver	-	-	-	254	-
Stage 1	-	-	-	594	-
Stage 2	-	-	-	567	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1072	-	-	-	254	758
HCM Lane V/C Ratio	0.078	-	-	-	0.043	0.106
HCM Control Delay (s)	8.6	-	-	-	19.8	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions - MIT

Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	141	455	1102	306	94	28	292	756	41	265
Future Volume (veh/h)	208	989	141	455	1102	306	94	28	292	756	41	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	226	1075	153	495	1198	333	102	0	337	822	45	288
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1130	506	526	1226	548	202	0	844	930	59	378
Arrive On Green	0.13	0.32	0.32	0.15	0.35	0.35	0.11	0.00	0.11	0.27	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	218	1398
Grp Volume(v), veh/h	226	1075	153	495	1198	333	102	0	337	822	0	333
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1616
Q Serve(g_s), s	14.0	33.0	8.1	15.8	37.2	19.4	6.0	0.0	9.7	25.5	0.0	21.1
Cycle Q Clear(g_c), s	14.0	33.0	8.1	15.8	37.2	19.4	6.0	0.0	9.7	25.5	0.0	21.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	223	1130	506	526	1226	548	202	0	844	930	0	437
V/C Ratio(X)	1.01	0.95	0.30	0.94	0.98	0.61	0.51	0.00	0.40	0.88	0.00	0.76
Avail Cap(c_a), veh/h	223	1130	506	526	1226	548	295	0	1011	1021	0	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	37.0	28.5	46.6	35.9	30.1	46.3	0.0	33.5	38.9	0.0	37.3
Incr Delay (d2), s/veh	63.3	16.4	0.3	25.3	20.4	1.9	2.0	0.0	0.3	8.8	0.0	6.5
Initial Q Delay(d3),s/veh	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	18.7	3.6	9.3	21.6	8.7	3.1	0.0	4.3	13.2	0.0	10.2
LnGrp Delay(d),s/veh	111.9	53.4	28.8	71.9	56.3	32.0	48.3	0.0	33.8	47.7	0.0	43.8
LnGrp LOS	F	D	C	E	E	C	D		C	D		D
Approach Vol, veh/h		1454			2026			439			1155	
Approach Delay, s/veh		59.9			56.1			37.1			46.6	
Approach LOS		E			E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.6	21.0	39.5		34.0	18.0	42.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	17.0	35.5		33.0	14.0	38.5				
Max Q Clear Time (g_c+I1), s		11.7	17.8	35.0		27.5	16.0	39.2				
Green Ext Time (p_c), s		0.9	0.0	0.5		2.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			53.4									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	1362	675	300	1056	0	0	0	0	285	1	808
Future Volume (veh/h)	0	1362	675	300	1056	0	0	0	0	285	1	808
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1480	734	326	1148	0				310	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1852	865	258	2577	0				352	1	315
Arrive On Green	0.00	0.55	0.55	0.15	0.73	0.00				0.20	0.20	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1480	734	326	1148	0				311	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	38.7	43.1	16.0	14.4	0.0				18.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	38.7	43.1	16.0	14.4	0.0				18.7	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1852	865	258	2577	0				353	0	315
V/C Ratio(X)	0.00	0.80	0.85	1.26	0.45	0.00				0.88	0.00	0.00
Avail Cap(c_a), veh/h	0	1852	865	258	2577	0				500	0	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.37	0.37	0.12	0.12	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	20.1	21.1	47.0	6.0	0.0				42.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	4.1	122.4	0.1	0.0				12.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	18.2	19.7	16.6	6.9	0.0				10.4	0.0	0.0
LnGrp Delay(d),s/veh	0.0	21.5	25.2	169.4	6.1	0.0				55.2	0.0	0.0
LnGrp LOS		C	C	F	A					E		
Approach Vol, veh/h		2214			1474						311	
Approach Delay, s/veh		22.7			42.2						55.2	
Approach LOS		C			D						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			20.0	64.1		25.9		84.1				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			16.0	51.0		31.0		71.0				
Max Q Clear Time (g_c+l1), s			18.0	45.1		20.7		16.4				
Green Ext Time (p_c), s			0.0	5.7		1.2		45.6				
Intersection Summary												
HCM 2010 Ctrl Delay			32.4									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↗	↖			
Traffic Volume (veh/h)	764	885	0	0	840	285	516	5	255	0	0	0
Future Volume (veh/h)	764	885	0	0	840	285	516	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	830	962	0	0	913	310	565	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	828	2684	0	0	914	409	621	0	277			
Arrive On Green	0.47	0.76	0.00	0.00	0.26	0.26	0.17	0.00	0.17			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	830	962	0	0	913	310	565	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	56.0	10.8	0.0	0.0	30.9	21.7	18.8	0.0	21.0			
Cycle Q Clear(g_c), s	56.0	10.8	0.0	0.0	30.9	21.7	18.8	0.0	21.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	828	2684	0	0	914	409	621	0	277			
V/C Ratio(X)	1.00	0.36	0.00	0.00	1.00	0.76	0.91	0.00	1.00			
Avail Cap(c_a), veh/h	828	2684	0	0	914	409	621	0	277			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.20	0.20	0.00	0.00	0.53	0.53	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.0	4.8	0.0	0.0	44.5	41.0	48.6	0.0	49.5			
Incr Delay (d2), s/veh	14.5	0.1	0.0	0.0	21.4	6.9	17.6	0.0	54.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	30.7	5.2	0.0	0.0	17.8	10.3	10.7	0.0	13.3			
LnGrp Delay(d),s/veh	46.5	4.9	0.0	0.0	65.9	48.0	66.1	0.0	103.5			
LnGrp LOS	F	A			E	D	E		F			
Approach Vol, veh/h		1792			1223			842				
Approach Delay, s/veh		24.2			61.4			78.4				
Approach LOS		C			E			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		25.0		95.0			60.0	35.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		21.0		91.0			56.0	31.0				
Max Q Clear Time (g_c+l1), s		23.0		12.8			58.0	32.9				
Green Ext Time (p_c), s		0.0		26.3			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				47.8								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
6: Dwy & S Bonnyview Rd & Churn Creek Rd

Opening Year (2025) plus Project (1B) Conditions - MIT

Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑			↖	↖		↖	↖
Traffic Volume (veh/h)	418	642	80	35	517	130	125	10	25	145	15	483
Future Volume (veh/h)	418	642	80	35	517	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	698	87	38	562	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	529	1330	595	55	711	178	447	36	429	285	29	523
Arrive On Green	0.15	0.38	0.38	0.03	0.25	0.25	0.27	0.27	0.27	0.18	0.18	0.18
Sat Flow, veh/h	3442	3539	1583	1774	2807	702	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	698	87	38	354	349	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1739	1780	0	1583	1782	0	1583
Q Serve(g_s), s	14.1	16.9	4.0	2.3	20.5	20.6	7.2	0.0	1.4	9.8	0.0	19.4
Cycle Q Clear(g_c), s	14.1	16.9	4.0	2.3	20.5	20.6	7.2	0.0	1.4	9.8	0.0	19.4
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	529	1330	595	55	448	440	483	0	429	314	0	523
V/C Ratio(X)	0.86	0.52	0.15	0.69	0.79	0.79	0.30	0.00	0.06	0.55	0.00	1.00
Avail Cap(c_a), veh/h	657	1480	662	97	499	490	483	0	429	314	0	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	26.7	22.7	52.7	38.3	38.4	31.8	0.0	29.7	41.3	0.0	36.8
Incr Delay (d2), s/veh	8.5	0.3	0.1	14.0	7.6	7.9	1.6	0.0	0.3	2.1	0.0	40.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	8.3	1.8	1.4	11.0	10.9	3.8	0.0	0.6	5.0	0.0	21.7
LnGrp Delay(d),s/veh	53.9	27.0	22.8	66.7	45.9	46.3	33.5	0.0	30.0	43.5	0.0	77.3
LnGrp LOS	D	C	C	E	D	D	C		C	D		F
Approach Vol, veh/h		1239			741			174			699	
Approach Delay, s/veh		36.6			47.2			32.9			68.9	
Approach LOS		D			D			C			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.8	7.4	45.3		23.4	20.9	31.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		22.6	6.0	46.0		19.4	21.0	31.0				
Max Q Clear Time (g_c+I1), s		9.2	4.3	18.9		21.4	16.1	22.6				
Green Ext Time (p_c), s		0.6	0.0	10.5		0.0	0.8	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay				47.0								
HCM 2010 LOS				D								

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	707	587	30	25	95
Future Vol, veh/h	105	707	587	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	768	638	33	27	103

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	671	0	0	1267	335
Stage 1	-	-	-	654	-
Stage 2	-	-	-	613	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	915	-	-	161	661
Stage 1	-	-	-	479	-
Stage 2	-	-	-	503	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	915	-	-	126	661
Mov Cap-2 Maneuver	-	-	-	126	-
Stage 1	-	-	-	479	-
Stage 2	-	-	-	394	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.2	0	17.7
HCM LOS			C

























Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	126	661
HCM Lane V/C Ratio	0.125	-	-	-	0.216	0.156
HCM Control Delay (s)	9.5	-	-	-	41.3	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1B) Conditions - MIT

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	151	474	783	174	74	14	208	271	35	112
Future Volume (veh/h)	113	721	151	474	783	174	74	14	208	271	35	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	123	784	164	515	851	189	80	0	236	295	38	122
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	1276	571	635	1616	723	171	0	889	497	56	181
Arrive On Green	0.09	0.36	0.36	0.18	0.46	0.46	0.10	0.00	0.10	0.14	0.14	0.14
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	390	1252
Grp Volume(v), veh/h	123	784	164	515	851	189	80	0	236	295	0	160
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1642
Q Serve(g_s), s	5.1	13.6	5.5	10.7	12.8	5.5	3.2	0.0	4.3	6.0	0.0	6.9
Cycle Q Clear(g_c), s	5.1	13.6	5.5	10.7	12.8	5.5	3.2	0.0	4.3	6.0	0.0	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	157	1276	571	635	1616	723	171	0	889	497	0	237
V/C Ratio(X)	0.78	0.61	0.29	0.81	0.53	0.26	0.47	0.00	0.27	0.59	0.00	0.68
Avail Cap(c_a), veh/h	262	1589	711	876	1969	881	440	0	1370	1522	0	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	19.6	17.0	29.2	14.5	12.5	31.9	0.0	20.9	29.9	0.0	30.3
Incr Delay (d2), s/veh	8.3	0.5	0.3	4.1	0.3	0.2	2.0	0.0	0.2	1.1	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.7	2.5	5.4	6.3	2.4	1.7	0.0	1.9	2.9	0.0	3.3
LnGrp Delay(d),s/veh	41.6	20.1	17.3	33.3	14.8	12.7	33.9	0.0	21.0	31.0	0.0	33.6
LnGrp LOS	D	C	B	C	B	B	C		C	C		C
Approach Vol, veh/h		1071			1555			316			455	
Approach Delay, s/veh		22.1			20.6			24.3			31.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.2	17.8	30.9		14.8	10.6	38.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	19.0	33.5		33.0	11.0	41.5				
Max Q Clear Time (g_c+I1), s		6.3	12.7	15.6		8.9	7.1	14.8				
Green Ext Time (p_c), s		0.9	1.1	11.3		1.9	0.1	14.5				
Intersection Summary												
HCM 2010 Ctrl Delay			23.0									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	838	362	178	804	0	0	0	0	176	1	627
Future Volume (veh/h)	0	838	362	178	804	0	0	0	0	176	1	627
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	911	393	193	874	0				191	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2018	869	237	2698	0				243	1	218
Arrive On Green	0.00	0.58	0.58	0.04	0.25	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	3654	1502	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	886	418	193	874	0				192	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1598	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	11.9	11.9	8.6	16.1	0.0				8.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	11.9	11.9	8.6	16.1	0.0				8.4	0.0	0.0
Prop In Lane	0.00		0.94	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1962	925	237	2698	0				245	0	218
V/C Ratio(X)	0.00	0.45	0.45	0.82	0.32	0.00				0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1962	925	333	2698	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.74	0.74	0.77	0.77	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.6	9.6	37.3	13.1	0.0				33.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	1.2	8.0	0.2	0.0				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.7	5.5	4.8	8.0	0.0				4.5	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.2	10.8	45.3	13.4	0.0				38.8	0.0	0.0
LnGrp LOS		B	B	D	B					D		
Approach Vol, veh/h	1304			1067						192		
Approach Delay, s/veh	10.4			19.2						38.8		
Approach LOS	B			B						D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4	6		8					
Phs Duration (G+Y+Rc), s			14.7	50.3	15.0		65.0					
Change Period (Y+Rc), s			4.0	4.0	4.0		4.0					
Max Green Setting (Gmax), s			15.0	26.2	26.8		45.2					
Max Q Clear Time (g_c+l1), s			10.6	13.9	10.4		18.1					
Green Ext Time (p_c), s			0.2	9.6	0.8		17.5					
Intersection Summary												
HCM 2010 Ctrl Delay			16.2									
HCM 2010 LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	492	522	0	0	594	222	388	3	255	0	0	0
Future Volume (veh/h)	492	522	0	0	594	222	388	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	535	567	0	0	646	241	424	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2462	0	0	1224	547	725	0	323			
Arrive On Green	0.60	1.00	0.00	0.00	0.69	0.69	0.20	0.00	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	535	567	0	0	646	241	424	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	7.1	5.4	8.6	0.0	13.5			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	7.1	5.4	8.6	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	532	2462	0	0	1224	547	725	0	323			
V/C Ratio(X)	1.01	0.23	0.00	0.00	0.53	0.44	0.58	0.00	0.86			
Avail Cap(c_a), veh/h	532	2462	0	0	1224	547	820	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.58	0.58	0.00	0.00	0.77	0.77	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.0	0.0	0.0	0.0	9.2	8.9	28.8	0.0	30.7			
Incr Delay (d2), s/veh	30.9	0.1	0.0	0.0	1.3	2.0	0.8	0.0	16.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	15.8	0.0	0.0	0.0	3.4	2.6	4.3	0.0	7.3			
LnGrp Delay(d),s/veh	46.9	0.1	0.0	0.0	10.4	10.9	29.6	0.0	47.1			
LnGrp LOS	F	A			B	B	C		D			
Approach Vol, veh/h		1102			887			701				
Approach Delay, s/veh		22.8			10.6			36.5				
Approach LOS		C			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.3		59.7			28.0	31.7				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		15.5		2.0			26.0	9.1				
Green Ext Time (p_c), s		0.8		11.7			0.0	7.9				
Intersection Summary												
HCM 2010 Ctrl Delay				22.4								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶↷	↶↷	↶	↶	↶↷			↶	↶		↶	↶
Traffic Volume (veh/h)	333	340	104	35	338	110	175	5	50	129	0	303
Future Volume (veh/h)	333	340	104	35	338	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	370	113	38	367	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	906	405	63	505	163	515	14	471	374	0	492
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.30	0.30	0.30	0.21	0.00	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2633	849	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	370	113	38	245	242	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1713	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.8	3.7	1.7	10.4	10.6	6.9	0.0	2.0	5.4	0.0	14.5
Cycle Q Clear(g_c), s	8.0	5.8	3.7	1.7	10.4	10.6	6.9	0.0	2.0	5.4	0.0	14.5
Prop In Lane	1.00		1.00	1.00		0.50	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	906	405	63	339	328	528	0	471	374	0	492
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.72	0.74	0.37	0.00	0.11	0.37	0.00	0.67
Avail Cap(c_a), veh/h	344	907	406	133	409	396	528	0	471	410	0	524
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.7	18.1	38.0	30.3	30.4	22.2	0.0	20.4	27.0	0.0	24.0
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	4.9	5.7	2.0	0.0	0.5	0.6	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.7	1.0	5.5	5.6	3.7	0.0	0.9	2.7	0.0	6.7
LnGrp Delay(d),s/veh	95.0	19.0	18.4	46.8	35.3	36.2	24.2	0.0	20.9	27.7	0.0	27.0
LnGrp LOS	F	B	B	D	D	D	C		C	C		C
Approach Vol, veh/h		845			525			249			469	
Approach Delay, s/veh		51.5			36.5			23.5			27.2	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.8	6.9	24.5		20.9	12.0	19.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	6.0	20.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+l1), s		8.9	3.7	7.8		16.5	10.0	12.6				
Green Ext Time (p_c), s		0.8	0.0	4.5		0.4	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay					38.9							
HCM 2010 LOS					D							

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	442	409	30	10	74
Future Vol, veh/h	77	442	409	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	480	445	33	11	80

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	477	0	0	869	239
Stage 1	-	-	-	461	-
Stage 2	-	-	-	408	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1082	-	-	291	762
Stage 1	-	-	-	601	-
Stage 2	-	-	-	640	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1082	-	-	260	762
Mov Cap-2 Maneuver	-	-	-	260	-
Stage 1	-	-	-	601	-
Stage 2	-	-	-	572	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1082	-	-	-	260	762
HCM Lane V/C Ratio	0.077	-	-	-	0.042	0.106
HCM Control Delay (s)	8.6	-	-	-	19.4	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions - MIT

Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	148	485	1102	306	104	29	330	756	42	265
Future Volume (veh/h)	208	989	148	485	1102	306	104	29	330	756	42	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	226	1075	161	527	1198	333	113	0	380	822	46	288
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	1143	511	580	1235	553	217	0	921	867	56	351
Arrive On Green	0.14	0.32	0.32	0.17	0.35	0.35	0.12	0.00	0.12	0.25	0.25	0.25
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	223	1394
Grp Volume(v), veh/h	226	1075	161	527	1198	333	113	0	380	822	0	334
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1617
Q Serve(g_s), s	14.9	35.1	9.1	17.9	39.6	20.6	7.1	0.0	11.5	27.9	0.0	23.2
Cycle Q Clear(g_c), s	14.9	35.1	9.1	17.9	39.6	20.6	7.1	0.0	11.5	27.9	0.0	23.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	252	1143	511	580	1235	553	217	0	921	867	0	407
V/C Ratio(X)	0.90	0.94	0.31	0.91	0.97	0.60	0.52	0.00	0.41	0.95	0.00	0.82
Avail Cap(c_a), veh/h	261	1145	512	593	1235	553	298	0	1066	868	0	408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.2	39.2	30.4	48.6	38.1	31.9	48.9	0.0	34.0	43.7	0.0	42.0
Incr Delay (d2), s/veh	29.6	14.6	0.3	17.9	18.8	1.8	1.9	0.0	0.3	19.1	0.0	12.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	19.5	4.0	9.9	22.5	9.3	3.6	0.0	5.1	15.5	0.0	11.8
LnGrp Delay(d),s/veh	79.7	53.8	30.7	66.4	56.9	33.8	50.9	0.0	34.3	62.9	0.0	54.5
LnGrp LOS	E	D	C	E	E	C	D		C	E		D
Approach Vol, veh/h		1462			2058			493			1156	
Approach Delay, s/veh		55.3			55.6			38.1			60.4	
Approach LOS		E			E			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.6	24.0	42.4		34.0	20.9	45.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		20.0	20.5	38.5		30.0	17.5	41.5				
Max Q Clear Time (g_c+I1), s		13.5	19.9	37.1		29.9	16.9	41.6				
Green Ext Time (p_c), s		1.0	0.1	1.3		0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			54.9									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	1384	691	300	1070	0	0	0	0	285	1	824
Future Volume (veh/h)	0	1384	691	300	1070	0	0	0	0	285	1	824
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1504	751	326	1163	0				310	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1695	792	319	2548	0				354	1	317
Arrive On Green	0.00	0.50	0.50	0.18	0.72	0.00				0.20	0.20	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1504	751	326	1163	0				311	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	39.9	45.1	18.0	13.7	0.0				17.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	39.9	45.1	18.0	13.7	0.0				17.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1695	792	319	2548	0				355	0	317
V/C Ratio(X)	0.00	0.89	0.95	1.02	0.46	0.00				0.88	0.00	0.00
Avail Cap(c_a), veh/h	0	1695	792	319	2548	0				479	0	427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.35	0.35	0.10	0.10	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	22.5	23.8	41.0	5.8	0.0				38.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.8	10.2	21.8	0.1	0.0				13.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	19.2	21.8	10.7	6.6	0.0				9.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	25.2	33.9	62.8	5.9	0.0				51.9	0.0	0.0
LnGrp LOS		C	C	F	A					D		
Approach Vol, veh/h		2255			1489						311	
Approach Delay, s/veh		28.1			18.4						51.9	
Approach LOS		C			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			22.0	54.0		24.0		76.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			18.0	43.0		27.0		65.0				
Max Q Clear Time (g_c+l1), s			20.0	47.1		19.0		15.7				
Green Ext Time (p_c), s			0.0	0.0		1.0		42.4				
Intersection Summary												
HCM 2010 Ctrl Delay			26.4									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	784	886	0	0	841	285	528	5	255	0	0	0
Future Volume (veh/h)	784	886	0	0	841	285	528	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	852	963	0	0	914	310	578	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	828	2684	0	0	914	409	621	0	277			
Arrive On Green	0.47	0.76	0.00	0.00	0.26	0.26	0.17	0.00	0.17			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	852	963	0	0	914	310	578	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	56.0	10.8	0.0	0.0	31.0	21.7	19.3	0.0	21.0			
Cycle Q Clear(g_c), s	56.0	10.8	0.0	0.0	31.0	21.7	19.3	0.0	21.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	828	2684	0	0	914	409	621	0	277			
V/C Ratio(X)	1.03	0.36	0.00	0.00	1.00	0.76	0.93	0.00	1.00			
Avail Cap(c_a), veh/h	828	2684	0	0	914	409	621	0	277			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.53	0.53	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.0	4.8	0.0	0.0	44.5	41.0	48.8	0.0	49.5			
Incr Delay (d2), s/veh	18.1	0.0	0.0	0.0	21.7	6.9	20.8	0.0	54.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	11.5	5.2	0.0	0.0	17.9	10.3	11.3	0.0	13.3			
LnGrp Delay(d),s/veh	50.1	4.8	0.0	0.0	66.2	48.0	69.6	0.0	103.5			
LnGrp LOS	F	A			E	D	E		F			
Approach Vol, veh/h		1815			1224			855				
Approach Delay, s/veh		26.1			61.5			80.6				
Approach LOS		C			E			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		25.0		95.0			60.0	35.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		21.0		91.0			56.0	31.0				
Max Q Clear Time (g_c+l1), s		23.0		12.8			58.0	33.0				
Green Ext Time (p_c), s		0.0		26.4			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				49.2								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑			↖	↖		↖	↖
Traffic Volume (veh/h)	418	643	80	35	518	130	125	10	25	145	15	483
Future Volume (veh/h)	418	643	80	35	518	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	699	87	38	563	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	529	1331	595	55	712	178	446	36	429	285	29	523
Arrive On Green	0.15	0.38	0.38	0.03	0.25	0.25	0.27	0.27	0.27	0.18	0.18	0.18
Sat Flow, veh/h	3442	3539	1583	1774	2808	701	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	699	87	38	354	350	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1739	1780	0	1583	1782	0	1583
Q Serve(g_s), s	14.1	16.9	4.0	2.3	20.5	20.7	7.2	0.0	1.4	9.8	0.0	19.4
Cycle Q Clear(g_c), s	14.1	16.9	4.0	2.3	20.5	20.7	7.2	0.0	1.4	9.8	0.0	19.4
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	529	1331	595	55	449	441	482	0	429	314	0	523
V/C Ratio(X)	0.86	0.53	0.15	0.69	0.79	0.79	0.30	0.00	0.06	0.55	0.00	1.00
Avail Cap(c_a), veh/h	657	1480	662	97	499	490	482	0	429	314	0	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	26.7	22.7	52.7	38.3	38.4	31.9	0.0	29.7	41.3	0.0	36.8
Incr Delay (d2), s/veh	8.5	0.3	0.1	14.0	7.6	8.0	1.6	0.0	0.3	2.1	0.0	40.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	8.3	1.8	1.4	11.0	10.9	3.8	0.0	0.6	5.0	0.0	21.7
LnGrp Delay(d),s/veh	53.9	27.0	22.8	66.7	45.9	46.3	33.5	0.0	30.0	43.5	0.0	77.3
LnGrp LOS	D	C	C	E	D	D	C		C	D		F
Approach Vol, veh/h		1240			742			174			699	
Approach Delay, s/veh		36.5			47.2			32.9			68.9	
Approach LOS		D			D			C			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.8	7.4	45.4		23.4	20.9	31.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		22.6	6.0	46.0		19.4	21.0	31.0				
Max Q Clear Time (g_c+l1), s		9.2	4.3	18.9		21.4	16.1	22.7				
Green Ext Time (p_c), s		0.6	0.0	10.5		0.0	0.8	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay				47.0								
HCM 2010 LOS				D								

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	708	588	30	25	95
Future Vol, veh/h	105	708	588	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	770	639	33	27	103

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	672	0	0	1268	336
Stage 1	-	-	-	655	-
Stage 2	-	-	-	613	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	915	-	-	160	660
Stage 1	-	-	-	479	-
Stage 2	-	-	-	503	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	915	-	-	125	660
Mov Cap-2 Maneuver	-	-	-	125	-
Stage 1	-	-	-	479	-
Stage 2	-	-	-	393	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.2	0	17.8
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	125	660
HCM Lane V/C Ratio	0.125	-	-	-	0.217	0.156
HCM Control Delay (s)	9.5	-	-	-	41.6	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1C) Conditions - MIT

Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	184	603	783	174	112	21	355	271	41	112
Future Volume (veh/h)	113	721	184	603	783	174	112	21	355	271	41	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	123	784	200	655	851	189	122	0	401	295	45	122
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	1167	522	728	1607	719	236	0	1091	487	63	171
Arrive On Green	0.09	0.33	0.33	0.21	0.45	0.45	0.13	0.00	0.13	0.14	0.14	0.14
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	445	1205
Grp Volume(v), veh/h	123	784	200	655	851	189	122	0	401	295	0	167
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1650
Q Serve(g_s), s	5.9	16.6	8.4	16.1	15.0	6.4	5.6	0.0	8.3	7.0	0.0	8.4
Cycle Q Clear(g_c), s	5.9	16.6	8.4	16.1	15.0	6.4	5.6	0.0	8.3	7.0	0.0	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.73
Lane Grp Cap(c), veh/h	155	1167	522	728	1607	719	236	0	1091	487	0	233
V/C Ratio(X)	0.80	0.67	0.38	0.90	0.53	0.26	0.52	0.00	0.37	0.61	0.00	0.72
Avail Cap(c_a), veh/h	225	1366	611	753	1692	757	378	0	1345	1308	0	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.9	25.1	22.3	33.3	17.0	14.7	35.0	0.0	21.4	35.0	0.0	35.6
Incr Delay (d2), s/veh	11.7	1.0	0.5	13.5	0.3	0.2	1.8	0.0	0.2	1.2	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	8.2	3.7	9.0	7.4	2.8	2.8	0.0	3.6	3.4	0.0	4.1
LnGrp Delay(d),s/veh	50.5	26.1	22.8	46.9	17.3	14.9	36.8	0.0	21.6	36.2	0.0	39.7
LnGrp LOS	D	C	C	D	B	B	D		C	D		D
Approach Vol, veh/h		1107			1695			523			462	
Approach Delay, s/veh		28.2			28.5			25.1			37.5	
Approach LOS		C			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.5	22.4	32.6		16.3	11.6	43.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	19.0	33.5		33.0	11.0	41.5				
Max Q Clear Time (g_c+l1), s		10.3	18.1	18.6		10.4	7.9	17.0				
Green Ext Time (p_c), s		1.3	0.3	10.1		1.9	0.1	14.0				
Intersection Summary												
HCM 2010 Ctrl Delay			29.0									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	923	423	178	864	0	0	0	0	176	1	696
Future Volume (veh/h)	0	923	423	178	864	0	0	0	0	176	1	696
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1003	460	193	939	0				191	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1981	908	234	2698	0				243	1	218
Arrive On Green	0.00	0.58	0.58	0.13	0.76	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	3580	1565	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	997	466	193	939	0				192	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1587	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	14.0	14.0	8.5	6.9	0.0				8.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	14.0	14.0	8.5	6.9	0.0				8.4	0.0	0.0
Prop In Lane	0.00		0.99	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1968	921	234	2698	0				245	0	218
V/C Ratio(X)	0.00	0.51	0.51	0.83	0.35	0.00				0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1968	921	333	2698	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.74	0.74	0.72	0.72	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	10.0	10.0	33.8	3.1	0.0				33.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	1.5	8.2	0.3	0.0				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.7	6.5	4.7	3.4	0.0				4.5	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.7	11.4	42.0	3.3	0.0				38.8	0.0	0.0
LnGrp LOS		B	B	D	A					D		
Approach Vol, veh/h		1463			1132						192	
Approach Delay, s/veh		10.9			9.9						38.8	
Approach LOS		B			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.5	50.4		15.0		65.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.5	16.0		10.4		8.9				
Green Ext Time (p_c), s			0.2	8.7		0.8		23.7				
Intersection Summary												
HCM 2010 Ctrl Delay			12.4									
HCM 2010 LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	570	529	0	0	600	222	442	3	255	0	0	0
Future Volume (veh/h)	570	529	0	0	600	222	442	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	620	575	0	0	652	241	482	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	650	2527	0	0	1073	480	699	0	312			
Arrive On Green	0.37	0.71	0.00	0.00	0.30	0.30	0.20	0.00	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	620	575	0	0	652	241	482	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	30.6	5.0	0.0	0.0	14.2	11.3	11.4	0.0	15.3			
Cycle Q Clear(g_c), s	30.6	5.0	0.0	0.0	14.2	11.3	11.4	0.0	15.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	650	2527	0	0	1073	480	699	0	312			
V/C Ratio(X)	0.95	0.23	0.00	0.00	0.61	0.50	0.69	0.00	0.89			
Avail Cap(c_a), veh/h	670	2527	0	0	1073	480	729	0	325			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.47	0.47	0.00	0.00	0.77	0.77	1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.8	4.4	0.0	0.0	26.8	25.8	33.6	0.0	35.2			
Incr Delay (d2), s/veh	13.9	0.1	0.0	0.0	2.0	2.9	2.6	0.0	23.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	17.5	2.4	0.0	0.0	7.2	5.3	5.8	0.0	8.8			
LnGrp Delay(d),s/veh	41.7	4.5	0.0	0.0	28.8	28.7	36.2	0.0	59.0			
LnGrp LOS	D	A			C	C	D		E			
Approach Vol, veh/h		1195			893		759					
Approach Delay, s/veh		23.8			28.7		44.5					
Approach LOS		C			C		D					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		21.7		68.3			37.0	31.3				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		63.5			34.0	25.5				
Max Q Clear Time (g_c+l1), s		17.3		7.0			32.6	16.2				
Green Ext Time (p_c), s		0.4		12.0			0.4	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay				30.9								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖	↕			↕	↖		↕	↖
Traffic Volume (veh/h)	333	347	104	35	344	110	175	5	50	129	0	303
Future Volume (veh/h)	333	347	104	35	344	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	377	113	38	374	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	910	407	63	510	161	513	13	469	374	0	492
Arrive On Green	0.10	0.26	0.26	0.04	0.19	0.19	0.30	0.30	0.30	0.21	0.00	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2646	838	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	377	113	38	248	246	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1715	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	7.1	4.6	1.7	10.6	10.8	6.9	0.0	2.0	5.4	0.0	14.5
Cycle Q Clear(g_c), s	8.0	7.1	4.6	1.7	10.6	10.8	6.9	0.0	2.0	5.4	0.0	14.5
Prop In Lane	1.00		1.00	1.00		0.49	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	910	407	63	341	330	526	0	469	374	0	492
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.73	0.74	0.37	0.00	0.12	0.37	0.00	0.67
Avail Cap(c_a), veh/h	344	910	407	133	409	397	526	0	469	410	0	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.0	24.7	23.8	38.0	30.3	30.4	22.2	0.0	20.5	27.0	0.0	24.0
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	5.2	6.0	2.0	0.0	0.5	0.6	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	3.5	2.0	1.0	5.6	5.7	3.7	0.0	0.9	2.7	0.0	6.7
LnGrp Delay(d),s/veh	97.7	25.0	24.1	46.8	35.6	36.5	24.2	0.0	21.0	27.7	0.0	27.0
LnGrp LOS	F	C	C	D	D	D	C		C	C		C
Approach Vol, veh/h		852			532			249			469	
Approach Delay, s/veh		55.8			36.8			23.5			27.2	
Approach LOS		E			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.7	6.9	24.6		20.9	12.0	19.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	6.0	20.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	9.1		16.5	10.0	12.8				
Green Ext Time (p_c), s		0.8	0.0	4.3		0.4	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			40.8									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	449	415	30	10	74
Future Vol, veh/h	77	449	415	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	488	451	33	11	80

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	484	0	0	878	242
Stage 1	-	-	-	467	-
Stage 2	-	-	-	411	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1075	-	-	287	759
Stage 1	-	-	-	597	-
Stage 2	-	-	-	638	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1075	-	-	256	759
Mov Cap-2 Maneuver	-	-	-	256	-
Stage 1	-	-	-	597	-
Stage 2	-	-	-	570	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1075	-	-	-	256	759
HCM Lane V/C Ratio	0.078	-	-	-	0.042	0.106
HCM Control Delay (s)	8.6	-	-	-	19.7	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions - MIT

Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	59	176	1102	306	58	21	167	756	26	265
Future Volume (veh/h)	208	989	59	176	1102	306	58	21	167	756	26	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	226	1075	64	191	1198	333	63	0	197	822	28	288
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	1481	663	254	1273	569	144	0	490	946	39	402
Arrive On Green	0.13	0.42	0.42	0.07	0.36	0.36	0.08	0.00	0.08	0.27	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	142	1462
Grp Volume(v), veh/h	226	1075	64	191	1198	333	63	0	197	822	0	316
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1605
Q Serve(g_s), s	13.4	26.7	2.6	5.7	34.6	18.0	3.6	0.0	5.9	24.0	0.0	18.7
Cycle Q Clear(g_c), s	13.4	26.7	2.6	5.7	34.6	18.0	3.6	0.0	5.9	24.0	0.0	18.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.91
Lane Grp Cap(c), veh/h	236	1481	663	254	1273	569	144	0	490	946	0	441
V/C Ratio(X)	0.96	0.73	0.10	0.75	0.94	0.58	0.44	0.00	0.40	0.87	0.00	0.72
Avail Cap(c_a), veh/h	236	1481	663	294	1292	578	311	0	789	1077	0	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	25.6	18.6	47.9	32.7	27.4	46.2	0.0	40.2	36.4	0.0	34.5
Incr Delay (d2), s/veh	47.2	1.8	0.1	9.0	13.3	1.5	2.1	0.0	0.5	7.1	0.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	13.4	1.1	3.0	19.2	8.1	1.8	0.0	2.6	12.3	0.0	8.9
LnGrp Delay(d),s/veh	92.7	27.4	18.6	56.9	46.0	28.9	48.3	0.0	40.7	43.5	0.0	38.7
LnGrp LOS	F	C	B	E	D	C	D		D	D		D
Approach Vol, veh/h		1365			1722			260			1138	
Approach Delay, s/veh		37.8			43.9			42.5			42.2	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.5	11.8	48.1		33.0	18.0	41.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	9.0	43.5		33.0	14.0	38.5				
Max Q Clear Time (g_c+I1), s		7.9	7.7	28.7		26.0	15.4	36.6				
Green Ext Time (p_c), s		0.6	0.1	12.4		3.0	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			41.5									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	1288	624	300	927	0	0	0	0	285	1	658
Future Volume (veh/h)	0	1288	624	300	927	0	0	0	0	285	1	658
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1400	678	326	1008	0				310	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1695	792	319	2548	0				354	1	317
Arrive On Green	0.00	0.50	0.50	0.18	0.72	0.00				0.20	0.20	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1400	678	326	1008	0				311	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	35.2	37.4	18.0	11.2	0.0				17.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	35.2	37.4	18.0	11.2	0.0				17.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1695	792	319	2548	0				355	0	317
V/C Ratio(X)	0.00	0.83	0.86	1.02	0.40	0.00				0.88	0.00	0.00
Avail Cap(c_a), veh/h	0	1695	792	319	2548	0				479	0	427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.55	0.55	0.37	0.37	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	21.3	21.9	41.0	5.5	0.0				38.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.7	6.7	36.1	0.2	0.0				13.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.0	17.7	12.0	5.4	0.0				9.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	24.0	28.6	77.2	5.7	0.0				51.9	0.0	0.0
LnGrp LOS		C	C	F	A					D		
Approach Vol, veh/h		2078			1334						311	
Approach Delay, s/veh		25.5			23.1						51.9	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			22.0	54.0		24.0		76.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			18.0	43.0		27.0		65.0				
Max Q Clear Time (g_c+I1), s			20.0	39.4		19.0		13.2				
Green Ext Time (p_c), s			0.0	3.4		1.0		40.4				
Intersection Summary												
HCM 2010 Ctrl Delay			26.8									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	696	878	0	0	825	285	402	5	255	0	0	0
Future Volume (veh/h)	696	878	0	0	825	285	402	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	757	954	0	0	897	310	441	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	670	2528	0	0	1034	463	698	0	312			
Arrive On Green	0.38	0.71	0.00	0.00	0.29	0.29	0.20	0.00	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	757	954	0	0	897	310	441	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	34.0	9.5	0.0	0.0	21.6	15.5	10.3	0.0	15.3			
Cycle Q Clear(g_c), s	34.0	9.5	0.0	0.0	21.6	15.5	10.3	0.0	15.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	670	2528	0	0	1034	463	698	0	312			
V/C Ratio(X)	1.13	0.38	0.00	0.00	0.87	0.67	0.63	0.00	0.89			
Avail Cap(c_a), veh/h	670	2528	0	0	1034	463	729	0	325			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.19	0.19	0.00	0.00	0.54	0.54	1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.0	5.0	0.0	0.0	30.2	28.0	33.2	0.0	35.2			
Incr Delay (d2), s/veh	62.4	0.1	0.0	0.0	5.7	4.2	1.7	0.0	24.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	28.2	4.5	0.0	0.0	11.4	7.3	5.2	0.0	8.8			
LnGrp Delay(d),s/veh	90.4	5.1	0.0	0.0	35.9	32.2	34.8	0.0	59.2			
LnGrp LOS	F	A			D	C	C		E			
Approach Vol, veh/h		1711			1207			718				
Approach Delay, s/veh		42.8			34.9			44.2				
Approach LOS		D			C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		21.7		68.3			38.0	30.3				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		63.5			34.0	25.5				
Max Q Clear Time (g_c+l1), s		17.3		11.5			36.0	23.6				
Green Ext Time (p_c), s		0.4		22.8			0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay				40.5								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↕	↗	↖	↕			↕	↗		↕	↗
Traffic Volume (veh/h)	418	635	80	35	502	130	125	10	25	145	15	483
Future Volume (veh/h)	418	635	80	35	502	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	690	87	38	546	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	529	1320	590	55	698	180	452	37	434	285	29	523
Arrive On Green	0.15	0.37	0.37	0.03	0.25	0.25	0.27	0.27	0.27	0.18	0.18	0.18
Sat Flow, veh/h	3442	3539	1583	1774	2788	717	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	690	87	38	346	341	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1736	1780	0	1583	1782	0	1583
Q Serve(g_s), s	14.1	16.7	4.0	2.3	20.0	20.2	7.2	0.0	1.4	9.8	0.0	19.4
Cycle Q Clear(g_c), s	14.1	16.7	4.0	2.3	20.0	20.2	7.2	0.0	1.4	9.8	0.0	19.4
Prop In Lane	1.00		1.00	1.00		0.41	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	529	1320	590	55	443	435	488	0	434	314	0	523
V/C Ratio(X)	0.86	0.52	0.15	0.69	0.78	0.79	0.30	0.00	0.06	0.55	0.00	1.00
Avail Cap(c_a), veh/h	657	1480	662	97	499	489	488	0	434	314	0	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	26.9	22.9	52.7	38.4	38.5	31.6	0.0	29.5	41.3	0.0	36.8
Incr Delay (d2), s/veh	8.5	0.3	0.1	14.0	7.0	7.4	1.6	0.0	0.3	2.1	0.0	40.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	8.2	1.8	1.4	10.7	10.6	3.8	0.0	0.6	5.0	0.0	21.7
LnGrp Delay(d),s/veh	53.9	27.2	23.0	66.7	45.4	45.9	33.2	0.0	29.8	43.5	0.0	77.3
LnGrp LOS	D	C	C	E	D	D	C		C	D		F
Approach Vol, veh/h		1231			725			174			699	
Approach Delay, s/veh		36.7			46.7			32.6			68.9	
Approach LOS		D			D			C			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		34.2	7.4	45.0		23.4	20.9	31.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		22.6	6.0	46.0		19.4	21.0	31.0				
Max Q Clear Time (g_c+l1), s		9.2	4.3	18.7		21.4	16.1	22.2				
Green Ext Time (p_c), s		0.6	0.0	10.3		0.0	0.8	5.4				
Intersection Summary												
HCM 2010 Ctrl Delay				47.0								
HCM 2010 LOS				D								

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	700	572	30	25	95
Future Vol, veh/h	105	700	572	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	761	622	33	27	103

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	654	0	0	1247	327
Stage 1	-	-	-	638	-
Stage 2	-	-	-	609	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	929	-	-	166	669
Stage 1	-	-	-	488	-
Stage 2	-	-	-	505	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	929	-	-	131	669
Mov Cap-2 Maneuver	-	-	-	131	-
Stage 1	-	-	-	488	-
Stage 2	-	-	-	397	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.2	0	17.3
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	929	-	-	-	131	669
HCM Lane V/C Ratio	0.123	-	-	-	0.207	0.154
HCM Control Delay (s)	9.4	-	-	-	39.5	11.4
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions - MIT

Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	86	271	783	174	78	15	247	271	23	112
Future Volume (veh/h)	113	721	86	271	783	174	78	15	247	271	23	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	123	784	93	295	851	189	85	0	279	295	25	122
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	1368	612	420	1485	664	208	0	757	485	39	190
Arrive On Green	0.09	0.39	0.39	0.12	0.42	0.42	0.12	0.00	0.12	0.14	0.14	0.14
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	276	1348
Grp Volume(v), veh/h	123	784	93	295	851	189	85	0	279	295	0	147
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1625
Q Serve(g_s), s	4.7	12.0	2.6	5.6	12.6	5.4	3.0	0.0	5.0	5.5	0.0	5.9
Cycle Q Clear(g_c), s	4.7	12.0	2.6	5.6	12.6	5.4	3.0	0.0	5.0	5.5	0.0	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.83
Lane Grp Cap(c), veh/h	158	1368	612	420	1485	664	208	0	757	485	0	229
V/C Ratio(X)	0.78	0.57	0.15	0.70	0.57	0.28	0.41	0.00	0.37	0.61	0.00	0.64
Avail Cap(c_a), veh/h	285	1729	773	953	2141	958	479	0	1240	1656	0	782
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.6	16.6	13.7	28.9	15.2	13.1	28.1	0.0	21.8	27.7	0.0	27.8
Incr Delay (d2), s/veh	8.0	0.4	0.1	2.2	0.4	0.2	1.3	0.0	0.3	1.2	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	5.8	1.2	2.8	6.2	2.4	1.6	0.0	2.2	2.7	0.0	2.8
LnGrp Delay(d),s/veh	38.6	17.0	13.8	31.1	15.6	13.3	29.4	0.0	22.1	28.9	0.0	30.8
LnGrp LOS	D	B	B	C	B	B	C		C	C		C
Approach Vol, veh/h		1000			1335			364			442	
Approach Delay, s/veh		19.3			18.7			23.8			29.5	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.0	12.4	30.5		13.7	10.1	32.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	19.0	33.5		33.0	11.0	41.5				
Max Q Clear Time (g_c+I1), s		7.0	7.6	14.0		7.9	6.7	14.6				
Green Ext Time (p_c), s		1.0	0.8	11.7		1.8	0.1	14.2				
Intersection Summary												
HCM 2010 Ctrl Delay			21.0									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (1D) Conditions - MIT

Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	859	380	178	711	0	0	0	0	176	1	517
Future Volume (veh/h)	0	859	380	178	711	0	0	0	0	176	1	517
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	934	413	193	773	0				191	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2007	887	234	2698	0				243	1	218
Arrive On Green	0.00	0.58	0.58	0.13	0.76	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	3624	1527	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	916	431	193	773	0				192	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1593	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	12.4	12.4	8.5	5.3	0.0				8.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	12.4	12.4	8.5	5.3	0.0				8.4	0.0	0.0
Prop In Lane	0.00		0.96	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1968	925	234	2698	0				245	0	218
V/C Ratio(X)	0.00	0.47	0.47	0.83	0.29	0.00				0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1968	925	333	2698	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.78	0.78	0.84	0.84	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.6	9.6	33.8	2.9	0.0				33.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	1.3	9.4	0.2	0.0				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.9	5.7	4.7	2.7	0.0				4.5	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.3	11.0	43.2	3.1	0.0				38.8	0.0	0.0
LnGrp LOS		B	B	D	A					D		
Approach Vol, veh/h		1347			966						192	
Approach Delay, s/veh		10.5			11.1						38.8	
Approach LOS		B			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.5	50.4		15.0		65.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.5	14.4		10.4		7.3				
Green Ext Time (p_c), s			0.2	9.1		0.8		20.8				
Intersection Summary												
HCM 2010 Ctrl Delay			12.9									
HCM 2010 LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	511	523	0	0	582	222	307	3	255	0	0	0
Future Volume (veh/h)	511	523	0	0	582	222	307	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	555	568	0	0	633	241	336	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	594	2530	0	0	1188	531	696	0	311			
Arrive On Green	0.33	0.71	0.00	0.00	0.34	0.34	0.20	0.00	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	555	568	0	0	633	241	336	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	27.3	4.9	0.0	0.0	13.0	10.7	7.6	0.0	15.3			
Cycle Q Clear(g_c), s	27.3	4.9	0.0	0.0	13.0	10.7	7.6	0.0	15.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	594	2530	0	0	1188	531	696	0	311			
V/C Ratio(X)	0.93	0.22	0.00	0.00	0.53	0.45	0.48	0.00	0.89			
Avail Cap(c_a), veh/h	670	2530	0	0	1188	531	729	0	325			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.66	0.66	0.00	0.00	0.78	0.78	1.00	0.00	1.00			
Uniform Delay (d), s/veh	29.0	4.4	0.0	0.0	24.2	23.4	32.1	0.0	35.2			
Incr Delay (d2), s/veh	14.1	0.1	0.0	0.0	1.3	2.2	0.5	0.0	24.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	15.6	2.4	0.0	0.0	6.6	5.0	3.7	0.0	8.8			
LnGrp Delay(d),s/veh	43.0	4.5	0.0	0.0	25.5	25.6	32.6	0.0	59.6			
LnGrp LOS	D	A			C	C	C		E			
Approach Vol, veh/h		1123			874			613				
Approach Delay, s/veh		23.5			25.6			44.8				
Approach LOS		C			C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		21.7		68.3			34.1	34.2				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		63.5			34.0	25.5				
Max Q Clear Time (g_c+l1), s		17.3		6.9			29.3	15.0				
Green Ext Time (p_c), s		0.3		11.6			0.9	5.9				
Intersection Summary												
HCM 2010 Ctrl Delay				29.2								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	341	104	35	326	110	175	5	50	129	0	303
Future Volume (veh/h)	333	341	104	35	326	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	371	113	38	354	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	897	401	63	493	165	519	14	475	374	0	492
Arrive On Green	0.10	0.25	0.25	0.04	0.19	0.19	0.30	0.30	0.30	0.21	0.00	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2608	871	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	371	113	38	239	235	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1709	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	7.0	4.6	1.7	10.1	10.4	6.9	0.0	2.0	5.4	0.0	14.5
Cycle Q Clear(g_c), s	8.0	7.0	4.6	1.7	10.1	10.4	6.9	0.0	2.0	5.4	0.0	14.5
Prop In Lane	1.00		1.00	1.00		0.51	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	897	401	63	335	323	533	0	475	374	0	492
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.71	0.73	0.37	0.00	0.11	0.37	0.00	0.67
Avail Cap(c_a), veh/h	344	907	406	133	409	395	533	0	475	410	0	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.0	24.9	24.0	38.0	30.4	30.5	22.0	0.0	20.3	27.0	0.0	24.0
Incr Delay (d2), s/veh	61.6	0.3	0.4	8.8	4.5	5.3	1.9	0.0	0.5	0.6	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	3.4	2.0	1.0	5.3	5.4	3.6	0.0	0.9	2.7	0.0	6.7
LnGrp Delay(d),s/veh	97.6	25.2	24.4	46.8	34.9	35.8	24.0	0.0	20.8	27.7	0.0	27.0
LnGrp LOS	F	C	C	D	C	D	C		C	C		C
Approach Vol, veh/h		846			512			249			469	
Approach Delay, s/veh		56.1			36.2			23.3			27.2	
Approach LOS		E			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.0	6.9	24.3		20.9	12.0	19.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	6.0	20.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	9.0		16.5	10.0	12.4				
Green Ext Time (p_c), s		0.8	0.0	4.2		0.4	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			40.7									
HCM 2010 LOS			D									

Intersection

























Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	443	397	30	10	74
Future Vol, veh/h	77	443	397	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	482	432	33	11	80

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	464	0	856
Stage 1	-	-	448
Stage 2	-	-	408
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1094	-	297
Stage 1	-	-	611
Stage 2	-	-	640
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1094	-	266
Mov Cap-2 Maneuver	-	-	266
Stage 1	-	-	611
Stage 2	-	-	573

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1094	-	-	-	266	770
HCM Lane V/C Ratio	0.077	-	-	-	0.041	0.104
HCM Control Delay (s)	8.6	-	-	-	19.1	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	163	354	1102	306	119	32	260	756	45	265
Future Volume (veh/h)	208	989	163	354	1102	306	119	32	260	756	45	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	226	1075	177	385	1198	333	129	0	306	822	49	288
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	1234	552	436	1234	552	193	0	746	933	64	375
Arrive On Green	0.13	0.35	0.35	0.13	0.35	0.35	0.11	0.00	0.11	0.27	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	235	1383
Grp Volume(v), veh/h	226	1075	177	385	1198	333	129	0	306	822	0	337
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1619
Q Serve(g_s), s	14.0	31.4	9.1	12.1	36.8	19.2	7.7	0.0	9.0	25.3	0.0	21.2
Cycle Q Clear(g_c), s	14.0	31.4	9.1	12.1	36.8	19.2	7.7	0.0	9.0	25.3	0.0	21.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.85
Lane Grp Cap(c), veh/h	225	1234	552	436	1234	552	193	0	746	933	0	439
V/C Ratio(X)	1.00	0.87	0.32	0.88	0.97	0.60	0.67	0.00	0.41	0.88	0.00	0.77
Avail Cap(c_a), veh/h	225	1234	552	436	1234	552	297	0	932	1029	0	484
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.2	33.6	26.4	47.4	35.4	29.7	47.3	0.0	35.7	38.5	0.0	37.1
Incr Delay (d2), s/veh	61.2	7.0	0.3	18.6	18.9	1.9	4.0	0.0	0.4	8.5	0.0	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	16.4	4.0	6.9	21.2	8.6	4.0	0.0	4.0	13.1	0.0	10.3
LnGrp Delay(d),s/veh	109.4	40.6	26.7	66.0	54.3	31.5	51.3	0.0	36.1	47.0	0.0	43.8
LnGrp LOS	F	D	C	E	D	C	D		D	D		D
Approach Vol, veh/h		1478			1916			435			1159	
Approach Delay, s/veh		49.5			52.7			40.6			46.1	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.0	18.0	42.5		33.9	18.0	42.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	14.0	38.5		33.0	14.0	38.5				
Max Q Clear Time (g_c+I1), s		11.0	14.1	33.4		27.3	16.0	38.8				
Green Ext Time (p_c), s		1.0	0.0	4.7		2.7	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			49.2									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↖	↑↑						↙	↗
Traffic Volume (veh/h)	0	1418	587	300	908	0	0	0	0	285	1	855
Future Volume (veh/h)	0	1418	587	300	908	0	0	0	0	285	1	855
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1541	638	326	987	0				310	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1785	716	319	2548	0				354	1	317
Arrive On Green	0.00	0.50	0.50	0.18	0.72	0.00				0.20	0.20	0.00
Sat Flow, veh/h	0	3737	1431	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1461	718	326	987	0				311	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1610	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	37.9	40.2	18.0	10.8	0.0				17.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	37.9	40.2	18.0	10.8	0.0				17.0	0.0	0.0
Prop In Lane	0.00		0.89	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1695	805	319	2548	0				355	0	317
V/C Ratio(X)	0.00	0.86	0.89	1.02	0.39	0.00				0.88	0.00	0.00
Avail Cap(c_a), veh/h	0	1695	805	319	2548	0				479	0	427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.42	0.42	0.18	0.18	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	22.0	22.6	41.0	5.4	0.0				38.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.7	6.8	26.9	0.1	0.0				13.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	18.3	19.3	11.2	5.2	0.0				9.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	24.6	29.3	68.0	5.5	0.0				51.9	0.0	0.0
LnGrp LOS		C	C	F	A					D		
Approach Vol, veh/h		2179			1313						311	
Approach Delay, s/veh		26.2			21.0						51.9	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			22.0	54.0		24.0		76.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			18.0	43.0		27.0		65.0				
Max Q Clear Time (g_c+l1), s			20.0	42.2		19.0		12.8				
Green Ext Time (p_c), s			0.0	0.8		1.0		41.7				
Intersection Summary												
HCM 2010 Ctrl Delay			26.5									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	815	889	0	0	844	285	364	5	255	0	0	0
Future Volume (veh/h)	815	889	0	0	844	285	364	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	886	966	0	0	917	310	400	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	857	2758	0	0	929	416	547	0	244			
Arrive On Green	0.48	0.78	0.00	0.00	0.26	0.26	0.15	0.00	0.15			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	886	966	0	0	917	310	400	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	58.0	9.9	0.0	0.0	30.9	21.5	12.9	0.0	18.5			
Cycle Q Clear(g_c), s	58.0	9.9	0.0	0.0	30.9	21.5	12.9	0.0	18.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	857	2758	0	0	929	416	547	0	244			
V/C Ratio(X)	1.03	0.35	0.00	0.00	0.99	0.75	0.73	0.00	1.13			
Avail Cap(c_a), veh/h	857	2758	0	0	929	416	547	0	244			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.53	0.53	1.00	0.00	1.00			
Uniform Delay (d), s/veh	31.0	4.0	0.0	0.0	44.0	40.6	48.4	0.0	50.8			
Incr Delay (d2), s/veh	19.5	0.0	0.0	0.0	18.7	6.4	5.0	0.0	98.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	33.0	4.8	0.0	0.0	17.6	10.1	6.7	0.0	14.8			
LnGrp Delay(d),s/veh	50.5	4.1	0.0	0.0	62.7	47.0	53.4	0.0	149.5			
LnGrp LOS	F	A			E	D	D		F			
Approach Vol, veh/h		1852			1227			677				
Approach Delay, s/veh		26.3			58.7			92.7				
Approach LOS		C			E			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.5		97.5			62.0	35.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		93.5			58.0	31.5				
Max Q Clear Time (g_c+l1), s		20.5		11.9			60.0	32.9				
Green Ext Time (p_c), s		0.0		26.8			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				48.9								
HCM 2010 LOS				D								
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑			↖	↖		↖	↖
Traffic Volume (veh/h)	418	646	80	35	521	130	125	10	25	145	15	483
Future Volume (veh/h)	418	646	80	35	521	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	702	87	38	566	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	529	1333	596	55	714	177	445	36	428	285	29	523
Arrive On Green	0.15	0.38	0.38	0.03	0.25	0.25	0.27	0.27	0.27	0.18	0.18	0.18
Sat Flow, veh/h	3442	3539	1583	1774	2811	698	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	702	87	38	356	351	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1740	1780	0	1583	1782	0	1583
Q Serve(g_s), s	14.1	17.0	4.0	2.3	20.6	20.8	7.2	0.0	1.4	9.8	0.0	19.4
Cycle Q Clear(g_c), s	14.1	17.0	4.0	2.3	20.6	20.8	7.2	0.0	1.4	9.8	0.0	19.4
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	529	1333	596	55	450	442	481	0	428	314	0	523
V/C Ratio(X)	0.86	0.53	0.15	0.69	0.79	0.80	0.31	0.00	0.06	0.55	0.00	1.00
Avail Cap(c_a), veh/h	657	1480	662	97	499	490	481	0	428	314	0	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	26.7	22.6	52.7	38.3	38.3	31.9	0.0	29.8	41.3	0.0	36.8
Incr Delay (d2), s/veh	8.5	0.3	0.1	14.0	7.7	8.1	1.6	0.0	0.3	2.1	0.0	40.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	8.3	1.8	1.4	11.0	10.9	3.8	0.0	0.6	5.0	0.0	21.7
LnGrp Delay(d),s/veh	53.9	27.0	22.7	66.7	46.0	46.4	33.5	0.0	30.1	43.5	0.0	77.3
LnGrp LOS	D	C	C	E	D	D	C		C	D		F
Approach Vol, veh/h		1243			745			174			699	
Approach Delay, s/veh		36.5			47.3			33.0			68.9	
Approach LOS		D			D			C			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.7	7.4	45.4		23.4	20.9	31.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		22.6	6.0	46.0		19.4	21.0	31.0				
Max Q Clear Time (g_c+l1), s		9.2	4.3	19.0		21.4	16.1	22.8				
Green Ext Time (p_c), s		0.6	0.0	10.6		0.0	0.8	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay				47.0								
HCM 2010 LOS				D								

Intersection

























Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	711	591	30	25	95
Future Vol, veh/h	105	711	591	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	773	642	33	27	103

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	675	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	912	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	912	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	912	-	-	-	124	658
HCM Lane V/C Ratio	0.125	-	-	-	0.219	0.157
HCM Control Delay (s)	9.5	-	-	-	42	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	201	429	783	174	122	23	259	271	44	112
Future Volume (veh/h)	113	721	201	429	783	174	122	23	259	271	44	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	123	784	218	466	851	189	133	0	299	295	48	122
Adj No. of Lanes	1	2	1	2	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	1263	565	583	1551	694	205	0	903	512	69	177
Arrive On Green	0.09	0.36	0.36	0.17	0.44	0.44	0.12	0.00	0.12	0.15	0.15	0.15
Sat Flow, veh/h	1774	3539	1583	3442	3539	1583	1774	0	3167	3442	467	1187
Grp Volume(v), veh/h	123	784	218	466	851	189	133	0	299	295	0	170
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1721	1770	1583	1774	0	1583	1721	0	1653
Q Serve(g_s), s	5.2	14.0	7.9	10.0	13.6	5.8	5.5	0.0	5.7	6.1	0.0	7.5
Cycle Q Clear(g_c), s	5.2	14.0	7.9	10.0	13.6	5.8	5.5	0.0	5.7	6.1	0.0	7.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.72
Lane Grp Cap(c), veh/h	157	1263	565	583	1551	694	205	0	903	512	0	246
V/C Ratio(X)	0.79	0.62	0.39	0.80	0.55	0.27	0.65	0.00	0.33	0.58	0.00	0.69
Avail Cap(c_a), veh/h	255	1549	693	854	1919	859	429	0	1302	1484	0	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.2	20.3	18.4	30.5	15.9	13.7	32.3	0.0	21.6	30.3	0.0	30.9
Incr Delay (d2), s/veh	8.4	0.5	0.4	3.4	0.3	0.2	3.4	0.0	0.2	1.0	0.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	7.0	3.5	5.0	6.7	2.6	2.9	0.0	2.5	3.0	0.0	3.6
LnGrp Delay(d),s/veh	42.6	20.9	18.8	33.9	16.2	13.9	35.7	0.0	21.8	31.4	0.0	34.4
LnGrp LOS	D	C	B	C	B	B	D		C	C		C
Approach Vol, veh/h		1125			1506			432			465	
Approach Delay, s/veh		22.8			21.4			26.1			32.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.9	17.0	31.3		15.4	10.8	37.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	19.0	33.5		33.0	11.0	41.5				
Max Q Clear Time (g_c+I1), s		7.7	12.0	16.0		9.5	7.2	15.6				
Green Ext Time (p_c), s		1.2	1.0	11.3		1.9	0.1	14.5				
Intersection Summary												
HCM 2010 Ctrl Delay			23.9									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↙	↗
Traffic Volume (veh/h)	0	947	304	178	654	0	0	0	0	176	1	732
Future Volume (veh/h)	0	947	304	178	654	0	0	0	0	176	1	732
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1029	330	193	711	0				191	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2214	710	234	2698	0				243	1	218
Arrive On Green	0.00	0.58	0.58	0.13	0.76	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	3982	1223	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	914	445	193	711	0				192	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1647	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	12.4	12.4	8.5	4.8	0.0				8.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	12.4	12.4	8.5	4.8	0.0				8.4	0.0	0.0
Prop In Lane	0.00		0.74	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1968	956	234	2698	0				245	0	218
V/C Ratio(X)	0.00	0.46	0.46	0.83	0.26	0.00				0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1968	956	333	2698	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.75	0.75	0.80	0.80	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.6	9.6	33.8	2.8	0.0				33.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	1.2	9.0	0.2	0.0				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.9	5.9	4.7	2.3	0.0				4.5	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.2	10.9	42.8	3.0	0.0				38.8	0.0	0.0
LnGrp LOS		B	B	D	A					D		
Approach Vol, veh/h		1359			904						192	
Approach Delay, s/veh		10.4			11.5						38.8	
Approach LOS		B			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.5	50.4		15.0		65.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.5	14.4		10.4		6.8				
Green Ext Time (p_c), s			0.2	9.0		0.8		20.2				
Intersection Summary												
HCM 2010 Ctrl Delay			13.1									
HCM 2010 LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	592	531	0	0	603	222	229	3	255	0	0	0
Future Volume (veh/h)	592	531	0	0	603	222	229	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	643	577	0	0	655	241	251	0	277			
Adj No. of Lanes	1	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	669	2532	0	0	1041	466	694	0	310			
Arrive On Green	0.38	0.72	0.00	0.00	0.29	0.29	0.20	0.00	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	3548	0	1583			
Grp Volume(v), veh/h	643	577	0	0	655	241	251	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1774	0	1583			
Q Serve(g_s), s	31.9	5.0	0.0	0.0	14.4	11.4	5.5	0.0	15.3			
Cycle Q Clear(g_c), s	31.9	5.0	0.0	0.0	14.4	11.4	5.5	0.0	15.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	669	2532	0	0	1041	466	694	0	310			
V/C Ratio(X)	0.96	0.23	0.00	0.00	0.63	0.52	0.36	0.00	0.89			
Avail Cap(c_a), veh/h	670	2532	0	0	1041	466	729	0	325			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.54	0.54	0.00	0.00	0.77	0.77	1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.4	4.4	0.0	0.0	27.5	26.4	31.3	0.0	35.3			
Incr Delay (d2), s/veh	17.2	0.1	0.0	0.0	2.2	3.1	0.3	0.0	24.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	18.7	2.4	0.0	0.0	7.3	5.4	2.7	0.0	8.8			
LnGrp Delay(d),s/veh	44.6	4.5	0.0	0.0	29.7	29.6	31.6	0.0	60.0			
LnGrp LOS	D	A			C	C	C		E			
Approach Vol, veh/h		1220			896			528				
Approach Delay, s/veh		25.6			29.7			46.5				
Approach LOS		C			C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		21.6		68.4			37.9	30.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		63.5			34.0	25.5				
Max Q Clear Time (g_c+l1), s		17.3		7.0			33.9	16.4				
Green Ext Time (p_c), s		0.3		12.0			0.0	5.4				
Intersection Summary												
HCM 2010 Ctrl Delay				31.2								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↖	↖	↖	↖↖			↖	↖		↖	↖
Traffic Volume (veh/h)	333	349	104	35	347	110	175	5	50	129	0	303
Future Volume (veh/h)	333	349	104	35	347	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	379	113	38	377	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	911	407	63	512	161	512	13	469	374	0	492
Arrive On Green	0.10	0.26	0.26	0.04	0.19	0.19	0.30	0.30	0.30	0.21	0.00	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2652	833	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	379	113	38	250	247	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1716	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	7.1	4.6	1.7	10.6	10.9	6.9	0.0	2.0	5.4	0.0	14.5
Cycle Q Clear(g_c), s	8.0	7.1	4.6	1.7	10.6	10.9	6.9	0.0	2.0	5.4	0.0	14.5
Prop In Lane	1.00		1.00	1.00		0.49	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	911	407	63	342	331	526	0	469	374	0	492
V/C Ratio(X)	1.05	0.42	0.28	0.60	0.73	0.75	0.37	0.00	0.12	0.37	0.00	0.67
Avail Cap(c_a), veh/h	344	911	407	133	409	397	526	0	469	410	0	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.0	24.7	23.8	38.0	30.3	30.4	22.3	0.0	20.5	27.0	0.0	24.0
Incr Delay (d2), s/veh	61.5	0.3	0.3	8.8	5.4	6.2	2.0	0.0	0.5	0.6	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	3.5	2.0	1.0	5.7	5.7	3.7	0.0	0.9	2.7	0.0	6.7
LnGrp Delay(d),s/veh	97.5	25.0	24.1	46.8	35.7	36.6	24.3	0.0	21.0	27.7	0.0	27.0
LnGrp LOS	F	C	C	D	D	D	C		C	C		C
Approach Vol, veh/h		854			535			249			469	
Approach Delay, s/veh		55.6			36.9			23.6			27.2	
Approach LOS		E			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.7	6.9	24.6		20.9	12.0	19.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	6.0	20.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	9.1		16.5	10.0	12.9				
Green Ext Time (p_c), s		0.8	0.0	4.3		0.4	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			40.8									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	451	418	30	10	74
Future Vol, veh/h	77	451	418	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	490	454	33	11	80

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	487	0	0	884	243
Stage 1	-	-	-	471	-
Stage 2	-	-	-	413	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1072	-	-	285	758
Stage 1	-	-	-	594	-
Stage 2	-	-	-	636	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1072	-	-	254	758
Mov Cap-2 Maneuver	-	-	-	254	-
Stage 1	-	-	-	594	-
Stage 2	-	-	-	567	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1072	-	-	-	254	758
HCM Lane V/C Ratio	0.078	-	-	-	0.043	0.106
HCM Control Delay (s)	8.6	-	-	-	19.8	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	141	297	1102	306	94	28	198	756	41	265
Future Volume (veh/h)	208	989	141	297	1102	306	94	28	198	756	41	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	226	1075	153	323	1198	333	102	0	235	822	45	288
Adj No. of Lanes	1	2	1	1	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	254	1180	528	322	1315	588	150	0	842	891	57	362
Arrive On Green	0.14	0.33	0.33	0.18	0.37	0.37	0.08	0.00	0.08	0.26	0.26	0.26
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	0	3167	3442	218	1398
Grp Volume(v), veh/h	226	1075	153	323	1198	333	102	0	235	822	0	333
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1583	1721	0	1616
Q Serve(g_s), s	14.1	32.8	8.1	20.5	36.3	18.9	6.3	0.0	6.6	26.3	0.0	21.7
Cycle Q Clear(g_c), s	14.1	32.8	8.1	20.5	36.3	18.9	6.3	0.0	6.6	26.3	0.0	21.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	254	1180	528	322	1315	588	150	0	842	891	0	418
V/C Ratio(X)	0.89	0.91	0.29	1.00	0.91	0.57	0.68	0.00	0.28	0.92	0.00	0.80
Avail Cap(c_a), veh/h	275	1207	540	322	1315	588	314	0	1136	914	0	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.5	36.0	27.8	46.2	33.7	28.2	50.2	0.0	32.9	40.7	0.0	39.1
Incr Delay (d2), s/veh	26.5	10.3	0.3	50.9	9.7	1.3	5.4	0.0	0.2	14.4	0.0	9.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	17.7	3.6	14.6	19.4	8.4	3.3	0.0	2.9	14.2	0.0	10.9
LnGrp Delay(d),s/veh	74.0	46.3	28.1	97.1	43.4	29.5	55.6	0.0	33.0	55.1	0.0	48.9
LnGrp LOS	E	D	C	F	D	C	E		C	E		D
Approach Vol, veh/h		1454			1854			337			1155	
Approach Delay, s/veh		48.7			50.3			39.9			53.3	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.5	24.5	41.7		33.2	20.2	46.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		20.0	20.5	38.5		30.0	17.5	41.5				
Max Q Clear Time (g_c+I1), s		8.6	22.5	34.8		28.3	16.1	38.3				
Green Ext Time (p_c), s		0.9	0.0	2.8		1.0	0.1	3.0				
Intersection Summary												
HCM 2010 Ctrl Delay			49.8									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↖	↑↑						↙	↗
Traffic Volume (veh/h)	0	1362	581	300	898	0	0	0	0	285	1	808
Future Volume (veh/h)	0	1362	581	300	898	0	0	0	0	285	1	808
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1480	632	326	976	0				310	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1764	733	319	2548	0				354	1	317
Arrive On Green	0.00	0.50	0.50	0.36	1.00	0.00				0.20	0.20	0.00
Sat Flow, veh/h	0	3696	1466	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1421	691	326	976	0				311	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1604	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	36.1	37.9	18.0	0.0	0.0				17.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	36.1	37.9	18.0	0.0	0.0				17.0	0.0	0.0
Prop In Lane	0.00		0.91	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1695	802	319	2548	0				355	0	317
V/C Ratio(X)	0.00	0.84	0.86	1.02	0.38	0.00				0.88	0.00	0.00
Avail Cap(c_a), veh/h	0	1695	802	319	2548	0				479	0	427
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.34	0.34	0.09	0.09	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	21.5	22.0	32.0	0.0	0.0				38.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.8	4.5	20.7	0.0	0.0				13.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.2	17.7	10.5	0.0	0.0				9.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	23.3	26.4	52.7	0.0	0.0				51.9	0.0	0.0
LnGrp LOS		C	C	F	A					D		
Approach Vol, veh/h		2112			1302						311	
Approach Delay, s/veh		24.4			13.2						51.9	
Approach LOS		C			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			22.0	54.0		24.0		76.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			18.0	43.0		27.0		65.0				
Max Q Clear Time (g_c+l1), s			20.0	39.9		19.0		2.0				
Green Ext Time (p_c), s			0.0	3.0		1.0		46.9				
Intersection Summary												
HCM 2010 Ctrl Delay			22.8									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	764	885	0	0	840	285	358	5	255	0	0	0
Future Volume (veh/h)	764	885	0	0	840	285	358	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	830	962	0	0	913	310	389	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	745	2513	0	0	885	396	368	5	332			
Arrive On Green	0.84	1.00	0.00	0.00	0.25	0.25	0.21	0.21	0.21			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	23	1583			
Grp Volume(v), veh/h	830	962	0	0	913	310	394	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	42.0	0.0	0.0	0.0	25.0	18.3	21.0	0.0	16.8			
Cycle Q Clear(g_c), s	42.0	0.0	0.0	0.0	25.0	18.3	21.0	0.0	16.8			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	745	2513	0	0	885	396	373	0	332			
V/C Ratio(X)	1.11	0.38	0.00	0.00	1.03	0.78	1.06	0.00	0.83			
Avail Cap(c_a), veh/h	745	2513	0	0	885	396	373	0	332			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.15	0.15	0.00	0.00	0.53	0.53	1.00	0.00	1.00			
Uniform Delay (d), s/veh	8.0	0.0	0.0	0.0	37.5	35.0	39.5	0.0	37.8			
Incr Delay (d2), s/veh	54.6	0.1	0.0	0.0	30.8	8.1	62.4	0.0	16.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	29.5	0.0	0.0	0.0	15.9	8.9	16.7	0.0	8.8			
LnGrp Delay(d),s/veh	62.6	0.1	0.0	0.0	68.3	43.1	101.9	0.0	54.2			
LnGrp LOS	F	A			F	D	F		D			
Approach Vol, veh/h		1792			1223			671				
Approach Delay, s/veh		29.0			61.9			82.2				
Approach LOS		C			E			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		25.0		75.0			46.0	29.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		21.0		71.0			42.0	25.0				
Max Q Clear Time (g_c+l1), s		23.0		2.0			44.0	27.0				
Green Ext Time (p_c), s		0.0		25.5			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				49.6								
HCM 2010 LOS				D								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖	↕			↕	↖		↕	↖
Traffic Volume (veh/h)	418	642	80	35	517	130	125	10	25	145	15	483
Future Volume (veh/h)	418	642	80	35	517	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	698	87	38	562	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	529	1330	595	55	711	178	447	36	429	285	29	523
Arrive On Green	0.15	0.38	0.38	0.03	0.25	0.25	0.27	0.27	0.27	0.18	0.18	0.18
Sat Flow, veh/h	3442	3539	1583	1774	2807	702	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	698	87	38	354	349	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1739	1780	0	1583	1782	0	1583
Q Serve(g_s), s	14.1	16.9	4.0	2.3	20.5	20.6	7.2	0.0	1.4	9.8	0.0	19.4
Cycle Q Clear(g_c), s	14.1	16.9	4.0	2.3	20.5	20.6	7.2	0.0	1.4	9.8	0.0	19.4
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	529	1330	595	55	448	440	483	0	429	314	0	523
V/C Ratio(X)	0.86	0.52	0.15	0.69	0.79	0.79	0.30	0.00	0.06	0.55	0.00	1.00
Avail Cap(c_a), veh/h	657	1480	662	97	499	490	483	0	429	314	0	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	26.7	22.7	52.7	38.3	38.4	31.8	0.0	29.7	41.3	0.0	36.8
Incr Delay (d2), s/veh	8.5	0.3	0.1	14.0	7.6	7.9	1.6	0.0	0.3	2.1	0.0	40.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	8.3	1.8	1.4	11.0	10.9	3.8	0.0	0.6	5.0	0.0	21.7
LnGrp Delay(d),s/veh	53.9	27.0	22.8	66.7	45.9	46.3	33.5	0.0	30.0	43.5	0.0	77.3
LnGrp LOS	D	C	C	E	D	D	C		C	D		F
Approach Vol, veh/h		1239			741			174			699	
Approach Delay, s/veh		36.5			47.2			32.9			68.9	
Approach LOS		D			D			C			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.8	7.4	45.3		23.4	20.9	31.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		22.6	6.0	46.0		19.4	21.0	31.0				
Max Q Clear Time (g_c+l1), s		9.2	4.3	18.9		21.4	16.1	22.6				
Green Ext Time (p_c), s		0.6	0.0	10.5		0.0	0.8	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay				47.0								
HCM 2010 LOS				D								

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	707	587	30	25	95
Future Vol, veh/h	105	707	587	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	768	638	33	27	103

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	671	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	915	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	915	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	126	661
HCM Lane V/C Ratio	0.125	-	-	-	0.216	0.156
HCM Control Delay (s)	9.5	-	-	-	41.3	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2B) Conditions - MIT

Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	151	303	783	174	74	14	138	271	35	112
Future Volume (veh/h)	113	721	151	303	783	174	74	14	138	271	35	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	164	329	851	189	80	15	150	322	0	122
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	1239	554	371	1668	746	158	30	498	465	0	207
Arrive On Green	0.09	0.35	0.35	0.21	0.47	0.47	0.11	0.11	0.11	0.13	0.00	0.13
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1505	282	1583	3548	0	1583
Grp Volume(v), veh/h	123	784	164	329	851	189	95	0	150	322	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1787	0	1583	1774	0	1583
Q Serve(g_s), s	5.3	14.5	5.9	14.1	13.1	5.6	3.9	0.0	5.6	6.8	0.0	5.7
Cycle Q Clear(g_c), s	5.3	14.5	5.9	14.1	13.1	5.6	3.9	0.0	5.6	6.8	0.0	5.7
Prop In Lane	1.00		1.00	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	1239	554	371	1668	746	188	0	498	465	0	207
V/C Ratio(X)	0.79	0.63	0.30	0.89	0.51	0.25	0.51	0.00	0.30	0.69	0.00	0.59
Avail Cap(c_a), veh/h	249	1515	678	431	1876	839	422	0	706	1496	0	668
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.0	21.2	18.4	30.0	14.4	12.4	33.1	0.0	20.3	32.5	0.0	32.0
Incr Delay (d2), s/veh	8.5	0.6	0.3	17.7	0.2	0.2	2.1	0.0	0.3	1.9	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	7.2	2.6	8.7	6.4	2.5	2.0	0.0	2.5	3.4	0.0	2.6
LnGrp Delay(d),s/veh	43.4	21.8	18.7	47.7	14.6	12.6	35.2	0.0	20.7	34.4	0.0	34.7
LnGrp LOS	D	C	B	D	B	B	D		C	C		C
Approach Vol, veh/h		1071			1369			245			444	
Approach Delay, s/veh		23.8			22.3			26.3			34.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.2	20.4	31.4		14.2	10.9	40.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	19.0	33.5		33.0	11.0	41.5				
Max Q Clear Time (g_c+I1), s		7.6	16.1	16.5		8.8	7.3	15.1				
Green Ext Time (p_c), s		0.7	0.3	10.9		1.5	0.1	14.4				
Intersection Summary												
HCM 2010 Ctrl Delay			24.9									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	838	292	178	632	0	0	0	0	176	1	627
Future Volume (veh/h)	0	838	292	178	632	0	0	0	0	176	1	627
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	911	317	193	687	0				191	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2159	749	237	2698	0				243	1	218
Arrive On Green	0.00	0.58	0.58	0.04	0.25	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	3898	1294	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	828	400	193	687	0				192	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1634	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	10.9	10.9	8.6	12.4	0.0				8.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.9	10.9	8.6	12.4	0.0				8.4	0.0	0.0
Prop In Lane	0.00		0.79	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1962	946	237	2698	0				245	0	218
V/C Ratio(X)	0.00	0.42	0.42	0.82	0.25	0.00				0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1962	946	333	2698	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.73	0.73	0.78	0.78	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.4	9.4	37.3	11.8	0.0				33.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.0	8.2	0.2	0.0				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.2	5.2	4.8	6.2	0.0				4.5	0.0	0.0
LnGrp Delay(d),s/veh	0.0	9.9	10.4	45.4	11.9	0.0				38.8	0.0	0.0
LnGrp LOS		A	B	D	B					D		
Approach Vol, veh/h		1228			880						192	
Approach Delay, s/veh		10.1			19.3						38.8	
Approach LOS		B			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.7	50.3		15.0		65.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.6	12.9		10.4		14.4				
Green Ext Time (p_c), s			0.2	9.3		0.8		16.3				
Intersection Summary												
HCM 2010 Ctrl Delay			16.0									
HCM 2010 LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	492	522	0	0	594	222	216	3	255	0	0	0
Future Volume (veh/h)	492	522	0	0	594	222	216	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	535	567	0	0	646	241	235	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2468	0	0	1229	550	355	5	321			
Arrive On Green	0.60	1.00	0.00	0.00	0.69	0.69	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	22	1583			
Grp Volume(v), veh/h	535	567	0	0	646	241	238	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	0.0	0.0	0.0	7.0	5.3	9.9	0.0	13.5			
Cycle Q Clear(g_c), s	24.0	0.0	0.0	0.0	7.0	5.3	9.9	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2468	0	0	1229	550	360	0	321			
V/C Ratio(X)	1.01	0.23	0.00	0.00	0.53	0.44	0.66	0.00	0.86			
Avail Cap(c_a), veh/h	532	2468	0	0	1229	550	410	0	366			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.62	0.62	0.00	0.00	0.77	0.77	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.0	0.0	0.0	0.0	9.0	8.8	29.4	0.0	30.8			
Incr Delay (d2), s/veh	32.0	0.1	0.0	0.0	1.2	2.0	3.3	0.0	17.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	16.0	0.0	0.0	0.0	3.4	2.6	5.2	0.0	7.4			
LnGrp Delay(d),s/veh	48.1	0.1	0.0	0.0	10.3	10.8	32.6	0.0	47.9			
LnGrp LOS	F	A			B	B	C		D			
Approach Vol, veh/h		1102			887			515				
Approach Delay, s/veh		23.4			10.4			40.8				
Approach LOS		C			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.2		59.8			28.0	31.8				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		15.5		2.0			26.0	9.0				
Green Ext Time (p_c), s		0.7		11.7			0.0	7.9				
Intersection Summary												
HCM 2010 Ctrl Delay				22.4								
HCM 2010 LOS				C								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶↷	↶↷	↶	↶	↶↷			↶	↶		↶	↶
Traffic Volume (veh/h)	333	340	104	35	338	110	175	5	50	129	0	303
Future Volume (veh/h)	333	340	104	35	338	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	370	113	38	367	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	906	405	63	505	163	515	14	471	374	0	492
Arrive On Green	0.17	0.43	0.43	0.04	0.19	0.19	0.30	0.30	0.30	0.21	0.00	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2633	849	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	370	113	38	245	242	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1713	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.8	3.7	1.7	10.4	10.6	6.9	0.0	2.0	5.4	0.0	14.5
Cycle Q Clear(g_c), s	8.0	5.8	3.7	1.7	10.4	10.6	6.9	0.0	2.0	5.4	0.0	14.5
Prop In Lane	1.00		1.00	1.00		0.50	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	906	405	63	339	328	528	0	471	374	0	492
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.72	0.74	0.37	0.00	0.11	0.37	0.00	0.67
Avail Cap(c_a), veh/h	344	907	406	133	409	396	528	0	471	410	0	524
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.7	18.1	38.0	30.3	30.4	22.2	0.0	20.4	27.0	0.0	24.0
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	4.9	5.7	2.0	0.0	0.5	0.6	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.7	1.0	5.5	5.6	3.7	0.0	0.9	2.7	0.0	6.7
LnGrp Delay(d),s/veh	95.0	19.0	18.4	46.8	35.3	36.2	24.2	0.0	20.9	27.7	0.0	27.0
LnGrp LOS	F	B	B	D	D	D	C		C	C		C
Approach Vol, veh/h		845			525			249			469	
Approach Delay, s/veh		51.5			36.5			23.5			27.2	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.8	6.9	24.5		20.9	12.0	19.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	6.0	20.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.9	3.7	7.8		16.5	10.0	12.6				
Green Ext Time (p_c), s		0.8	0.0	4.5		0.4	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay					38.9							
HCM 2010 LOS					D							

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	442	409	30	10	74
Future Vol, veh/h	77	442	409	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	480	445	33	11	80

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	477	0	0	869	239
Stage 1	-	-	-	461	-
Stage 2	-	-	-	408	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1082	-	-	291	762
Stage 1	-	-	-	601	-
Stage 2	-	-	-	640	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1082	-	-	260	762
Mov Cap-2 Maneuver	-	-	-	260	-
Stage 1	-	-	-	601	-
Stage 2	-	-	-	572	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

























Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1082	-	-	-	260	762
HCM Lane V/C Ratio	0.077	-	-	-	0.042	0.106
HCM Control Delay (s)	8.6	-	-	-	19.4	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions - MIT

Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	148	317	1102	306	104	29	223	756	42	265
Future Volume (veh/h)	208	989	148	317	1102	306	104	29	223	756	42	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	226	1075	161	345	1198	333	113	0	263	822	46	288
Adj No. of Lanes	1	2	1	1	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	1128	505	353	1363	610	157	0	910	900	58	365
Arrive On Green	0.13	0.32	0.32	0.20	0.38	0.38	0.09	0.00	0.09	0.26	0.26	0.26
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	0	3167	3442	223	1394
Grp Volume(v), veh/h	226	1075	161	345	1198	333	113	0	263	822	0	334
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1583	1721	0	1617
Q Serve(g_s), s	15.3	35.9	9.3	23.3	38.0	19.8	7.5	0.0	7.8	28.0	0.0	23.2
Cycle Q Clear(g_c), s	15.3	35.9	9.3	23.3	38.0	19.8	7.5	0.0	7.8	28.0	0.0	23.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	235	1128	505	353	1363	610	157	0	910	900	0	423
V/C Ratio(X)	0.96	0.95	0.32	0.98	0.88	0.55	0.72	0.00	0.29	0.91	0.00	0.79
Avail Cap(c_a), veh/h	235	1129	505	353	1363	610	272	0	1115	941	0	442
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.0	40.2	31.2	48.1	34.5	28.9	53.6	0.0	33.4	43.2	0.0	41.5
Incr Delay (d2), s/veh	47.7	16.7	0.4	41.9	6.9	1.0	6.1	0.0	0.2	12.7	0.0	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	20.1	4.1	15.5	19.8	8.8	3.9	0.0	3.4	14.8	0.0	11.5
LnGrp Delay(d),s/veh	99.7	57.0	31.5	90.0	41.4	29.9	59.7	0.0	33.6	56.0	0.0	50.5
LnGrp LOS	F	E	C	F	D	C	E		C	E		D
Approach Vol, veh/h		1462			1876			376			1156	
Approach Delay, s/veh		60.8			48.3			41.4			54.4	
Approach LOS		E			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		14.7	28.0	42.5		35.6	20.0	50.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	24.0	38.5		33.0	16.0	46.5				
Max Q Clear Time (g_c+I1), s		9.8	25.3	37.9		30.0	17.3	40.0				
Green Ext Time (p_c), s		0.9	0.0	0.6		1.6	0.0	5.9				
Intersection Summary												
HCM 2010 Ctrl Delay			53.0									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	1384	584	300	902	0	0	0	0	285	1	824
Future Volume (veh/h)	0	1384	584	300	902	0	0	0	0	285	1	824
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1504	635	326	980	0				310	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1772	727	319	2548	0				354	1	317
Arrive On Green	0.00	0.50	0.50	0.36	1.00	0.00				0.20	0.20	0.00
Sat Flow, veh/h	0	3711	1453	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1437	702	326	980	0				311	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1606	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	36.8	38.8	18.0	0.0	0.0				17.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	36.8	38.8	18.0	0.0	0.0				17.0	0.0	0.0
Prop In Lane	0.00		0.90	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1695	803	319	2548	0				355	0	317
V/C Ratio(X)	0.00	0.85	0.87	1.02	0.38	0.00				0.88	0.00	0.00
Avail Cap(c_a), veh/h	0	1695	803	319	2548	0				479	0	427
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.30	0.30	0.11	0.11	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	21.7	22.2	32.0	0.0	0.0				38.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	4.3	21.9	0.0	0.0				13.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.6	18.1	10.6	0.0	0.0				9.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	23.4	26.5	54.0	0.0	0.0				51.9	0.0	0.0
LnGrp LOS		C	C	F	A					D		
Approach Vol, veh/h		2139			1306						311	
Approach Delay, s/veh		24.4			13.5						51.9	
Approach LOS		C			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			22.0	54.0		24.0		76.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			18.0	43.0		27.0		65.0				
Max Q Clear Time (g_c+l1), s			20.0	40.8		19.0		2.0				
Green Ext Time (p_c), s			0.0	2.1		1.0		47.5				
Intersection Summary												
HCM 2010 Ctrl Delay			22.9									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	784	886	0	0	841	285	360	5	255	0	0	0
Future Volume (veh/h)	784	886	0	0	841	285	360	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	852	963	0	0	914	310	391	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	745	2548	0	0	920	412	351	4	317			
Arrive On Green	0.84	1.00	0.00	0.00	0.26	0.26	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	22	1583			
Grp Volume(v), veh/h	852	963	0	0	914	310	396	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	42.0	0.0	0.0	0.0	25.8	18.0	20.0	0.0	17.0			
Cycle Q Clear(g_c), s	42.0	0.0	0.0	0.0	25.8	18.0	20.0	0.0	17.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	745	2548	0	0	920	412	355	0	317			
V/C Ratio(X)	1.14	0.38	0.00	0.00	0.99	0.75	1.12	0.00	0.87			
Avail Cap(c_a), veh/h	745	2548	0	0	920	412	355	0	317			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.12	0.12	0.00	0.00	0.52	0.52	1.00	0.00	1.00			
Uniform Delay (d), s/veh	8.0	0.0	0.0	0.0	36.9	34.0	40.0	0.0	38.8			
Incr Delay (d2), s/veh	66.8	0.1	0.0	0.0	19.9	6.5	82.7	0.0	22.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	32.0	0.0	0.0	0.0	15.1	8.6	17.9	0.0	9.4			
LnGrp Delay(d),s/veh	74.8	0.1	0.0	0.0	56.8	40.6	122.7	0.0	61.5			
LnGrp LOS	F	A			E	D	F		E			
Approach Vol, veh/h		1815			1224			673				
Approach Delay, s/veh		35.1			52.7			97.5				
Approach LOS		D			D			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		24.0		76.0			46.0	30.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		20.0		72.0			42.0	26.0				
Max Q Clear Time (g_c+l1), s		22.0		2.0			44.0	27.8				
Green Ext Time (p_c), s		0.0		25.7			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				52.2								
HCM 2010 LOS				D								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↖	↑↑			↖	↗		↖	↗
Traffic Volume (veh/h)	418	643	80	35	518	130	125	10	25	145	15	483
Future Volume (veh/h)	418	643	80	35	518	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	699	87	38	563	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	530	1220	546	60	632	158	392	32	376	333	34	569
Arrive On Green	0.15	0.34	0.34	0.03	0.23	0.23	0.24	0.24	0.24	0.21	0.21	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2808	701	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	699	87	38	354	350	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1739	1780	0	1583	1782	0	1583
Q Serve(g_s), s	11.6	14.5	3.4	1.9	17.5	17.6	6.2	0.0	1.2	7.7	0.0	18.5
Cycle Q Clear(g_c), s	11.6	14.5	3.4	1.9	17.5	17.6	6.2	0.0	1.2	7.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.40	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	530	1220	546	60	398	391	423	0	376	366	0	569
V/C Ratio(X)	0.86	0.57	0.16	0.63	0.89	0.89	0.35	0.00	0.07	0.48	0.00	0.92
Avail Cap(c_a), veh/h	574	1220	546	118	421	414	423	0	376	366	0	569
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	24.1	20.4	42.9	33.8	33.8	28.5	0.0	26.6	31.5	0.0	27.6
Incr Delay (d2), s/veh	10.7	0.6	0.1	10.3	19.6	20.5	2.2	0.0	0.4	1.0	0.0	20.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	7.2	1.5	1.1	10.7	10.7	3.3	0.0	0.6	3.9	0.0	15.8
LnGrp Delay(d),s/veh	47.8	24.7	20.6	53.2	53.4	54.4	30.7	0.0	27.0	32.4	0.0	48.4
LnGrp LOS	D	C	C	D	D	D	C		C	C		D
Approach Vol, veh/h		1240			742			174			699	
Approach Delay, s/veh		32.8			53.8			30.2			44.4	
Approach LOS		C			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.4	7.1	35.0		22.5	17.8	24.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.1	6.0	30.4		18.5	15.0	21.4				
Max Q Clear Time (g_c+l1), s		8.2	3.9	16.5		20.5	13.6	19.6				
Green Ext Time (p_c), s		0.5	0.0	7.5		0.0	0.3	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			41.0									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	708	588	30	25	95
Future Vol, veh/h	105	708	588	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	770	639	33	27	103

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	672	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	915	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	915	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-
























Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	17.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	125	660
HCM Lane V/C Ratio	0.125	-	-	-	0.217	0.156
HCM Control Delay (s)	9.5	-	-	-	41.6	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8	0.6

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions - MIT

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	184	386	783	174	112	21	233	271	41	112
Future Volume (veh/h)	113	721	184	386	783	174	112	21	233	271	41	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	200	420	851	189	122	23	253	327	0	122
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	1093	489	457	1697	759	215	41	634	443	0	198
Arrive On Green	0.09	0.31	0.31	0.26	0.48	0.48	0.14	0.14	0.14	0.12	0.00	0.12
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1504	284	1583	3548	0	1583
Grp Volume(v), veh/h	123	784	200	420	851	189	145	0	253	327	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1788	0	1583	1774	0	1583
Q Serve(g_s), s	6.6	19.0	9.6	22.2	15.9	6.8	7.3	0.0	11.0	8.6	0.0	7.0
Cycle Q Clear(g_c), s	6.6	19.0	9.6	22.2	15.9	6.8	7.3	0.0	11.0	8.6	0.0	7.0
Prop In Lane	1.00		1.00	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	154	1093	489	457	1697	759	255	0	634	443	0	198
V/C Ratio(X)	0.80	0.72	0.41	0.92	0.50	0.25	0.57	0.00	0.40	0.74	0.00	0.62
Avail Cap(c_a), veh/h	294	1230	550	534	1707	764	343	0	711	1214	0	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.2	29.6	26.4	34.8	17.2	14.8	38.5	0.0	20.6	40.7	0.0	40.0
Incr Delay (d2), s/veh	9.0	1.8	0.5	19.5	0.2	0.2	2.0	0.0	0.4	2.4	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	9.5	4.3	13.3	7.7	3.0	3.7	0.0	4.8	4.3	0.0	3.2
LnGrp Delay(d),s/veh	52.2	31.4	26.9	54.3	17.4	15.0	40.5	0.0	21.0	43.1	0.0	43.1
LnGrp LOS	D	C	C	D	B	B	D		C	D		D
Approach Vol, veh/h		1107			1460			398			449	
Approach Delay, s/veh		32.9			27.7			28.1			43.1	
Approach LOS		C			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		17.8	28.8	33.8		16.0	12.4	50.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	29.0	33.5		33.0	16.0	46.5				
Max Q Clear Time (g_c+I1), s		13.0	24.2	21.0		10.6	8.6	17.9				
Green Ext Time (p_c), s		0.8	0.6	8.8		1.5	0.2	15.2				
Intersection Summary												
HCM 2010 Ctrl Delay			31.5									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (2C) Conditions - MIT

Saturday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↙	↗
Traffic Volume (veh/h)	0	923	301	178	647	0	0	0	0	176	1	696
Future Volume (veh/h)	0	923	301	178	647	0	0	0	0	176	1	696
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1003	327	193	703	0				191	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2205	718	234	2698	0				243	1	218
Arrive On Green	0.00	0.58	0.58	0.13	0.76	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	3965	1237	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	895	435	193	703	0				192	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1644	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	12.0	12.1	8.5	4.7	0.0				8.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	12.0	12.1	8.5	4.7	0.0				8.4	0.0	0.0
Prop In Lane	0.00		0.75	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1968	955	234	2698	0				245	0	218
V/C Ratio(X)	0.00	0.45	0.46	0.83	0.26	0.00				0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1968	955	333	2698	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.67	0.67	0.77	0.77	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.6	9.6	33.8	2.8	0.0				33.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.1	8.7	0.2	0.0				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.7	5.7	4.7	2.3	0.0				4.5	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.1	10.6	42.5	3.0	0.0				38.8	0.0	0.0
LnGrp LOS		B	B	D	A					D		
Approach Vol, veh/h		1330			896						192	
Approach Delay, s/veh		10.3			11.5						38.8	
Approach LOS		B			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.5	50.4		15.0		65.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+l1), s			10.5	14.1		10.4		6.7				
Green Ext Time (p_c), s			0.2	9.1		0.8		19.7				
Intersection Summary												
HCM 2010 Ctrl Delay			13.0									
HCM 2010 LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	570	529	0	0	600	222	225	3	255	0	0	0
Future Volume (veh/h)	570	529	0	0	600	222	225	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	620	575	0	0	652	241	245	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	650	2531	0	0	1076	481	344	4	311			
Arrive On Green	0.37	0.72	0.00	0.00	0.30	0.30	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1754	21	1583			
Grp Volume(v), veh/h	620	575	0	0	652	241	248	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	30.6	5.0	0.0	0.0	14.1	11.2	11.7	0.0	15.3			
Cycle Q Clear(g_c), s	30.6	5.0	0.0	0.0	14.1	11.2	11.7	0.0	15.3			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	650	2531	0	0	1076	481	348	0	311			
V/C Ratio(X)	0.95	0.23	0.00	0.00	0.61	0.50	0.71	0.00	0.89			
Avail Cap(c_a), veh/h	670	2531	0	0	1076	481	365	0	325			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.56	0.56	0.00	0.00	0.77	0.77	1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.8	4.4	0.0	0.0	26.7	25.7	33.8	0.0	35.2			
Incr Delay (d2), s/veh	15.9	0.1	0.0	0.0	2.0	2.9	6.1	0.0	24.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	17.8	2.4	0.0	0.0	7.2	5.3	6.3	0.0	8.8			
LnGrp Delay(d),s/veh	43.6	4.5	0.0	0.0	28.7	28.6	39.9	0.0	59.7			
LnGrp LOS	D	A			C	C	D		E			
Approach Vol, veh/h		1195			893			525				
Approach Delay, s/veh		24.8			28.7			50.3				
Approach LOS		C			C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		21.6		68.4			37.0	31.4				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		63.5			34.0	25.5				
Max Q Clear Time (g_c+l1), s		17.3		7.0			32.6	16.1				
Green Ext Time (p_c), s		0.3		12.0			0.4	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay				31.2								
HCM 2010 LOS				C								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↖	↖	↖	↖↖			↖	↖		↖	↖
Traffic Volume (veh/h)	333	347	104	35	344	110	175	5	50	129	0	303
Future Volume (veh/h)	333	347	104	35	344	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	377	113	38	374	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	910	407	63	510	161	513	13	469	374	0	492
Arrive On Green	0.10	0.26	0.26	0.04	0.19	0.19	0.30	0.30	0.30	0.21	0.00	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2646	838	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	377	113	38	248	246	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1715	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	7.1	4.6	1.7	10.6	10.8	6.9	0.0	2.0	5.4	0.0	14.5
Cycle Q Clear(g_c), s	8.0	7.1	4.6	1.7	10.6	10.8	6.9	0.0	2.0	5.4	0.0	14.5
Prop In Lane	1.00		1.00	1.00		0.49	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	910	407	63	341	330	526	0	469	374	0	492
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.73	0.74	0.37	0.00	0.12	0.37	0.00	0.67
Avail Cap(c_a), veh/h	344	910	407	133	409	397	526	0	469	410	0	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.0	24.7	23.8	38.0	30.3	30.4	22.2	0.0	20.5	27.0	0.0	24.0
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	5.2	6.0	2.0	0.0	0.5	0.6	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	3.5	2.0	1.0	5.6	5.7	3.7	0.0	0.9	2.7	0.0	6.7
LnGrp Delay(d),s/veh	97.7	25.0	24.1	46.8	35.6	36.5	24.2	0.0	21.0	27.7	0.0	27.0
LnGrp LOS	F	C	C	D	D	D	C		C	C		C
Approach Vol, veh/h		852			532			249			469	
Approach Delay, s/veh		55.8			36.8			23.5			27.2	
Approach LOS		E			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.7	6.9	24.6		20.9	12.0	19.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	6.0	20.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+l1), s		8.9	3.7	9.1		16.5	10.0	12.8				
Green Ext Time (p_c), s		0.8	0.0	4.3		0.4	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			40.8									
HCM 2010 LOS			D									

Redding Rancheria
 7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Opening Year (2025) plus Project (2C) Conditions - MIT

Saturday PM Peak

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	449	415	30	10	74
Future Vol, veh/h	77	449	415	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	488	451	33	11	80

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	484	0	0	878	242
Stage 1	-	-	-	467	-
Stage 2	-	-	-	411	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1075	-	-	287	759
Stage 1	-	-	-	597	-
Stage 2	-	-	-	638	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1075	-	-	256	759
Mov Cap-2 Maneuver	-	-	-	256	-
Stage 1	-	-	-	597	-
Stage 2	-	-	-	570	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1075	-	-	-	256	759
HCM Lane V/C Ratio	0.078	-	-	-	0.042	0.106
HCM Control Delay (s)	8.6	-	-	-	19.7	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1	0.4

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions - MIT

Friday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	989	59	130	1102	306	58	21	122	756	26	265
Future Volume (veh/h)	208	989	59	130	1102	306	58	21	122	756	26	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	226	1075	64	141	1198	333	63	0	148	822	28	288
Adj No. of Lanes	1	2	1	1	2	1	1	0	2	2	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	1436	642	170	1300	581	123	0	220	949	39	403
Arrive On Green	0.13	0.41	0.41	0.10	0.37	0.37	0.07	0.00	0.07	0.28	0.28	0.28
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	0	3167	3442	142	1462
Grp Volume(v), veh/h	226	1075	64	141	1198	333	63	0	148	822	0	316
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	0	1583	1721	0	1605
Q Serve(g_s), s	13.2	27.1	2.6	8.1	33.8	17.6	3.6	0.0	4.8	23.7	0.0	18.5
Cycle Q Clear(g_c), s	13.2	27.1	2.6	8.1	33.8	17.6	3.6	0.0	4.8	23.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.91
Lane Grp Cap(c), veh/h	238	1436	642	170	1300	581	123	0	220	949	0	443
V/C Ratio(X)	0.95	0.75	0.10	0.83	0.92	0.57	0.51	0.00	0.67	0.87	0.00	0.71
Avail Cap(c_a), veh/h	238	1441	645	170	1306	584	314	0	561	1088	0	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.8	26.5	19.2	46.4	31.6	26.5	46.8	0.0	47.4	36.0	0.0	34.1
Incr Delay (d2), s/veh	44.4	2.2	0.1	28.0	10.9	1.3	3.3	0.0	3.5	6.8	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	13.6	1.1	5.3	18.4	7.9	1.9	0.0	2.2	12.2	0.0	8.7
LnGrp Delay(d),s/veh	89.3	28.7	19.3	74.4	42.4	27.8	50.1	0.0	50.9	42.7	0.0	38.1
LnGrp LOS	F	C	B	E	D	C	D		D	D		D
Approach Vol, veh/h		1365			1672			211			1138	
Approach Delay, s/veh		38.3			42.2			50.7			41.4	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.3	14.0	46.4		32.8	18.0	42.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	10.0	42.5		33.0	14.0	38.5				
Max Q Clear Time (g_c+I1), s		6.8	10.1	29.1		25.7	15.2	35.8				
Green Ext Time (p_c), s		0.5	0.0	11.4		3.1	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			41.2									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↙	↗
Traffic Volume (veh/h)	0	1288	579	300	882	0	0	0	0	285	1	658
Future Volume (veh/h)	0	1288	579	300	882	0	0	0	0	285	1	658
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1400	629	326	959	0				310	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1731	761	319	2548	0				354	1	317
Arrive On Green	0.00	0.50	0.50	0.18	0.72	0.00				0.20	0.20	0.00
Sat Flow, veh/h	0	3630	1522	1774	3632	0				1769	6	1583
Grp Volume(v), veh/h	0	1370	659	326	959	0				311	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1594	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	33.9	35.2	18.0	10.4	0.0				17.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	33.9	35.2	18.0	10.4	0.0				17.0	0.0	0.0
Prop In Lane	0.00		0.95	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1695	797	319	2548	0				355	0	317
V/C Ratio(X)	0.00	0.81	0.83	1.02	0.38	0.00				0.88	0.00	0.00
Avail Cap(c_a), veh/h	0	1695	797	319	2548	0				479	0	427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.52	0.52	0.19	0.19	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	21.0	21.3	41.0	5.4	0.0				38.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.3	5.2	27.4	0.1	0.0				13.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	16.3	16.5	11.2	5.1	0.0				9.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	23.2	26.5	68.4	5.5	0.0				51.9	0.0	0.0
LnGrp LOS		C	C	F	A					D		
Approach Vol, veh/h		2029			1285						311	
Approach Delay, s/veh		24.3			21.4						51.9	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			22.0	54.0		24.0		76.0				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			18.0	43.0		27.0		65.0				
Max Q Clear Time (g_c+l1), s			20.0	37.2		19.0		12.4				
Green Ext Time (p_c), s			0.0	5.5		1.0		39.5				
Intersection Summary												
HCM 2010 Ctrl Delay			25.7									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	696	878	0	0	825	285	356	5	255	0	0	0
Future Volume (veh/h)	696	878	0	0	825	285	356	5	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	757	954	0	0	897	310	387	5	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	739	2531	0	0	938	420	383	5	346			
Arrive On Green	0.42	0.72	0.00	0.00	0.27	0.27	0.22	0.22	0.22			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1752	23	1583			
Grp Volume(v), veh/h	757	954	0	0	897	310	392	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	50.0	12.6	0.0	0.0	29.9	21.5	26.2	0.0	19.9			
Cycle Q Clear(g_c), s	50.0	12.6	0.0	0.0	29.9	21.5	26.2	0.0	19.9			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	739	2531	0	0	938	420	388	0	346			
V/C Ratio(X)	1.02	0.38	0.00	0.00	0.96	0.74	1.01	0.00	0.80			
Avail Cap(c_a), veh/h	739	2531	0	0	938	420	388	0	346			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.23	0.23	0.00	0.00	0.53	0.53	1.00	0.00	1.00			
Uniform Delay (d), s/veh	35.0	6.7	0.0	0.0	43.4	40.3	46.9	0.0	44.4			
Incr Delay (d2), s/veh	22.5	0.1	0.0	0.0	13.3	6.1	48.6	0.0	12.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0			
%ile BackOfQ(50%),veh	29.1	6.1	0.0	0.0	16.3	10.1	18.0	0.0	9.9			
LnGrp Delay(d),s/veh	57.5	6.8	0.0	0.0	56.7	46.4	95.6	0.0	57.1			
LnGrp LOS	F	A			E	D	F		E			
Approach Vol, veh/h		1711			1207			669				
Approach Delay, s/veh		29.2			54.1			79.6				
Approach LOS		C			D			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		30.2		89.8			54.0	35.8				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		26.2		85.8			50.0	31.8				
Max Q Clear Time (g_c+l1), s		28.2		14.6			52.0	31.9				
Green Ext Time (p_c), s		0.0		25.1			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				47.0								
HCM 2010 LOS				D								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↖	↑↑			↖	↗		↖	↗
Traffic Volume (veh/h)	418	635	80	35	502	130	125	10	25	145	15	483
Future Volume (veh/h)	418	635	80	35	502	130	125	10	25	145	15	483
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	454	690	87	38	546	141	136	11	27	158	16	525
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	530	1204	539	60	615	158	399	32	384	333	34	569
Arrive On Green	0.15	0.34	0.34	0.03	0.22	0.22	0.24	0.24	0.24	0.21	0.21	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2788	717	1647	133	1583	1618	164	1583
Grp Volume(v), veh/h	454	690	87	38	346	341	147	0	27	174	0	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1736	1780	0	1583	1782	0	1583
Q Serve(g_s), s	11.6	14.4	3.5	1.9	17.0	17.2	6.1	0.0	1.2	7.7	0.0	18.5
Cycle Q Clear(g_c), s	11.6	14.4	3.5	1.9	17.0	17.2	6.1	0.0	1.2	7.7	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.41	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	530	1204	539	60	390	383	431	0	384	366	0	569
V/C Ratio(X)	0.86	0.57	0.16	0.63	0.89	0.89	0.34	0.00	0.07	0.48	0.00	0.92
Avail Cap(c_a), veh/h	574	1204	539	118	413	405	431	0	384	366	0	569
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	24.3	20.7	42.9	34.0	34.0	28.2	0.0	26.3	31.5	0.0	27.6
Incr Delay (d2), s/veh	10.7	0.6	0.1	10.3	19.4	20.5	2.1	0.0	0.4	1.0	0.0	20.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	7.1	1.5	1.1	10.5	10.4	3.3	0.0	0.6	3.9	0.0	15.8
LnGrp Delay(d),s/veh	47.9	24.9	20.9	53.2	53.4	54.5	30.3	0.0	26.6	32.4	0.0	48.4
LnGrp LOS	D	C	C	D	D	D	C		C	C		D
Approach Vol, veh/h		1231			725			174			699	
Approach Delay, s/veh		33.1			53.9			29.7			44.4	
Approach LOS		C			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.8	7.1	34.6		22.5	17.8	23.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.5	6.0	30.0		18.5	15.0	21.0				
Max Q Clear Time (g_c+I1), s		8.1	3.9	16.4		20.5	13.6	19.2				
Green Ext Time (p_c), s		0.5	0.0	7.2		0.0	0.3	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay				41.0								
HCM 2010 LOS				D								

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	105	700	572	30	25	95
Future Vol, veh/h	105	700	572	30	25	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	761	622	33	27	103

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	654	0	0	1247	327
Stage 1	-	-	-	638	-
Stage 2	-	-	-	609	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	929	-	-	166	669
Stage 1	-	-	-	488	-
Stage 2	-	-	-	505	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	929	-	-	131	669
Mov Cap-2 Maneuver	-	-	-	131	-
Stage 1	-	-	-	488	-
Stage 2	-	-	-	397	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.2	0	17.3
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	929	-	-	-	131	669
HCM Lane V/C Ratio	0.123	-	-	-	0.207	0.154
HCM Control Delay (s)	9.4	-	-	-	39.5	11.4
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	0.5

Redding Rancheria
 3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (2D) Conditions - MIT

Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	86	187	783	174	78	15	170	271	23	112
Future Volume (veh/h)	113	721	86	187	783	174	78	15	170	271	23	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	123	784	93	203	851	189	85	16	185	313	0	122
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	126	1330	595	202	1481	663	226	43	238	471	0	210
Arrive On Green	0.07	0.38	0.38	0.11	0.42	0.42	0.15	0.15	0.15	0.13	0.00	0.13
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1504	283	1583	3548	0	1583
Grp Volume(v), veh/h	123	784	93	203	851	189	101	0	185	313	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1788	0	1583	1774	0	1583
Q Serve(g_s), s	4.9	12.5	2.7	8.0	12.9	5.5	3.6	0.0	7.9	5.9	0.0	5.1
Cycle Q Clear(g_c), s	4.9	12.5	2.7	8.0	12.9	5.5	3.6	0.0	7.9	5.9	0.0	5.1
Prop In Lane	1.00		1.00	1.00		1.00	0.84		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	126	1330	595	202	1481	663	268	0	238	471	0	210
V/C Ratio(X)	0.97	0.59	0.16	1.01	0.57	0.29	0.38	0.00	0.78	0.66	0.00	0.58
Avail Cap(c_a), veh/h	126	1737	777	202	1888	845	470	0	417	1666	0	743
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.6	17.6	14.6	31.2	15.7	13.5	26.9	0.0	28.7	29.0	0.0	28.6
Incr Delay (d2), s/veh	72.1	0.4	0.1	64.8	0.4	0.2	0.9	0.0	5.4	1.6	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	6.2	1.2	7.5	6.3	2.5	1.8	0.0	3.8	3.0	0.0	2.4
LnGrp Delay(d),s/veh	104.7	18.0	14.7	95.9	16.0	13.7	27.8	0.0	34.2	30.6	0.0	31.2
LnGrp LOS	F	B	B	F	B	B	C		C	C		C
Approach Vol, veh/h		1000			1243			286			435	
Approach Delay, s/veh		28.4			28.7			31.9			30.8	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		14.6	12.0	30.4		13.3	9.0	33.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	8.0	34.5		33.0	5.0	37.5				
Max Q Clear Time (g_c+l1), s		9.9	10.0	14.5		7.9	6.9	14.9				
Green Ext Time (p_c), s		0.7	0.0	11.9		1.4	0.0	12.8				
Intersection Summary												
HCM 2010 Ctrl Delay			29.2									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	859	303	178	628	0	0	0	0	176	1	517
Future Volume (veh/h)	0	859	303	178	628	0	0	0	0	176	1	517
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	934	329	193	683	0				191	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2050	721	218	2606	0				248	1	223
Arrive On Green	0.00	0.55	0.55	0.12	0.74	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	3884	1306	1774	3632	0				1765	9	1583
Grp Volume(v), veh/h	0	852	411	193	683	0				192	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1632	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	9.8	9.8	7.0	4.1	0.0				6.8	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.8	9.8	7.0	4.1	0.0				6.8	0.0	0.0
Prop In Lane	0.00		0.80	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1870	900	218	2606	0				250	0	223
V/C Ratio(X)	0.00	0.46	0.46	0.88	0.26	0.00				0.77	0.00	0.00
Avail Cap(c_a), veh/h	0	1870	900	218	2606	0				546	0	487
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.73	0.73	0.75	0.75	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	8.7	8.7	28.0	2.8	0.0				26.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	1.2	25.8	0.2	0.0				5.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.6	4.6	4.9	2.1	0.0				3.7	0.0	0.0
LnGrp Delay(d),s/veh	0.0	9.3	10.0	53.9	3.0	0.0				31.9	0.0	0.0
LnGrp LOS		A	A	D	A					C		
Approach Vol, veh/h		1263			876						192	
Approach Delay, s/veh		9.5			14.2						31.9	
Approach LOS		A			B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			12.0	39.9		13.1		51.9				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			8.0	25.0		20.0		37.0				
Max Q Clear Time (g_c+I1), s			9.0	11.8		8.8		6.1				
Green Ext Time (p_c), s			0.0	9.4		0.7		16.6				
Intersection Summary												
HCM 2010 Ctrl Delay			13.1									
HCM 2010 LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	511	523	0	0	582	222	224	3	255	0	0	0
Future Volume (veh/h)	511	523	0	0	582	222	224	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	555	568	0	0	633	241	243	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	532	2467	0	0	1228	550	356	4	321			
Arrive On Green	0.30	0.70	0.00	0.00	0.69	0.69	0.20	0.20	0.20			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1753	22	1583			
Grp Volume(v), veh/h	555	568	0	0	633	241	246	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	24.0	4.6	0.0	0.0	6.8	5.4	10.3	0.0	13.5			
Cycle Q Clear(g_c), s	24.0	4.6	0.0	0.0	6.8	5.4	10.3	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	532	2467	0	0	1228	550	360	0	321			
V/C Ratio(X)	1.04	0.23	0.00	0.00	0.52	0.44	0.68	0.00	0.86			
Avail Cap(c_a), veh/h	532	2467	0	0	1228	550	410	0	366			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.73	0.73	0.00	0.00	0.78	0.78	1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.0	4.4	0.0	0.0	9.0	8.8	29.5	0.0	30.8			
Incr Delay (d2), s/veh	45.1	0.2	0.0	0.0	1.2	2.0	3.9	0.0	17.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	18.3	2.3	0.0	0.0	3.4	2.6	5.4	0.0	7.4			
LnGrp Delay(d),s/veh	73.1	4.5	0.0	0.0	10.2	10.8	33.4	0.0	47.8			
LnGrp LOS	F	A			B	B	C		D			
Approach Vol, veh/h		1123			874			523				
Approach Delay, s/veh		38.4			10.4			41.0				
Approach LOS		D			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.2		59.8			28.0	31.8				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		53.5			24.0	25.5				
Max Q Clear Time (g_c+l1), s		15.5		6.6			26.0	8.8				
Green Ext Time (p_c), s		0.7		11.3			0.0	7.9				
Intersection Summary												
HCM 2010 Ctrl Delay				29.2								
HCM 2010 LOS				C								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	341	104	35	326	110	175	5	50	129	0	303
Future Volume (veh/h)	333	341	104	35	326	110	175	5	50	129	0	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	362	371	113	38	354	120	190	5	54	140	0	329
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	897	401	63	493	165	519	14	475	374	0	492
Arrive On Green	0.17	0.42	0.42	0.04	0.19	0.19	0.30	0.30	0.30	0.21	0.00	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2608	871	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	362	371	113	38	239	235	195	0	54	140	0	329
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1709	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.9	3.7	1.7	10.1	10.4	6.9	0.0	2.0	5.4	0.0	14.5
Cycle Q Clear(g_c), s	8.0	5.9	3.7	1.7	10.1	10.4	6.9	0.0	2.0	5.4	0.0	14.5
Prop In Lane	1.00		1.00	1.00		0.51	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	897	401	63	335	323	533	0	475	374	0	492
V/C Ratio(X)	1.05	0.41	0.28	0.60	0.71	0.73	0.37	0.00	0.11	0.37	0.00	0.67
Avail Cap(c_a), veh/h	344	907	406	133	409	395	533	0	475	410	0	524
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	18.9	18.3	38.0	30.4	30.5	22.0	0.0	20.3	27.0	0.0	24.0
Incr Delay (d2), s/veh	61.7	0.3	0.4	8.8	4.5	5.3	1.9	0.0	0.5	0.6	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	2.9	1.7	1.0	5.3	5.4	3.6	0.0	0.9	2.7	0.0	6.7
LnGrp Delay(d),s/veh	95.0	19.2	18.7	46.8	34.9	35.8	24.0	0.0	20.8	27.7	0.0	27.0
LnGrp LOS	F	B	B	D	C	D	C		C	C		C
Approach Vol, veh/h		846			512			249			469	
Approach Delay, s/veh		51.6			36.2			23.3			27.2	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.0	6.9	24.3		20.9	12.0	19.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	6.0	20.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+l1), s		8.9	3.7	7.9		16.5	10.0	12.4				
Green Ext Time (p_c), s		0.8	0.0	4.4		0.4	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay				38.9								
HCM 2010 LOS				D								

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	77	443	397	30	10	74
Future Vol, veh/h	77	443	397	30	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	482	432	33	11	80

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	464	0	0	856	232
Stage 1	-	-	-	448	-
Stage 2	-	-	-	408	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1094	-	-	297	770
Stage 1	-	-	-	611	-
Stage 2	-	-	-	640	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1094	-	-	266	770
Mov Cap-2 Maneuver	-	-	-	266	-
Stage 1	-	-	-	611	-
Stage 2	-	-	-	573	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	11.3
HCM LOS			B























Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1094	-	-	-	266	770
HCM Lane V/C Ratio	0.077	-	-	-	0.041	0.104
HCM Control Delay (s)	8.6	-	-	-	19.1	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3A) Conditions - MIT

Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1142	15	42	1222	335	21	15	38	797	10	242
Future Volume (veh/h)	212	1142	15	42	1222	335	21	15	38	797	10	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	230	1241	16	46	1328	364	23	16	41	874	0	263
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	1565	20	68	1442	645	52	36	77	1038	0	463
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.05	0.05	0.05	0.29	0.00	0.29
Sat Flow, veh/h	1774	3578	46	1774	3539	1583	1067	742	1583	3548	0	1583
Grp Volume(v), veh/h	230	614	643	46	1328	364	39	0	41	874	0	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1809	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	26.2	26.2	2.2	31.2	15.5	1.8	0.0	2.2	20.3	0.0	12.3
Cycle Q Clear(g_c), s	6.0	26.2	26.2	2.2	31.2	15.5	1.8	0.0	2.2	20.3	0.0	12.3
Prop In Lane	1.00		0.02	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	121	774	811	68	1442	645	89	0	77	1038	0	463
V/C Ratio(X)	1.89	0.79	0.79	0.67	0.92	0.56	0.44	0.00	0.53	0.84	0.00	0.57
Avail Cap(c_a), veh/h	121	774	811	101	1475	660	382	0	334	1336	0	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.8	21.2	21.2	41.6	24.6	20.0	40.5	0.0	40.7	29.1	0.0	26.3
Incr Delay (d2), s/veh	431.1	5.7	5.4	11.0	9.7	1.1	3.4	0.0	5.5	4.0	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.5	13.8	14.4	1.3	17.1	7.0	1.0	0.0	1.1	10.4	0.0	5.5
LnGrp Delay(d),s/veh	471.9	26.9	26.6	52.6	34.3	21.0	43.9	0.0	46.2	33.1	0.0	27.4
LnGrp LOS	F	C	C	D	C	C	D		D	C		C
Approach Vol, veh/h		1487			1738			80			1137	
Approach Delay, s/veh		95.6			32.0			45.1			31.8	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.4	42.3		29.6	10.0	39.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.2	4.2	28.2		22.3	8.0	33.2				
Green Ext Time (p_c), s		0.2	0.0	8.5		3.4	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			53.5									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	1236	741	291	979	0	0	0	0	256	1	620
Future Volume (veh/h)	0	1236	741	291	979	0	0	0	0	256	1	620
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1343	805	316	1064	0				278	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1848	863	266	2602	0				327	1	293
Arrive On Green	0.00	0.55	0.55	0.30	1.00	0.00				0.18	0.18	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1768	6	1583
Grp Volume(v), veh/h	0	1343	805	316	1064	0				279	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	29.8	47.0	15.0	0.0	0.0				15.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	29.8	47.0	15.0	0.0	0.0				15.2	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1848	863	266	2602	0				328	0	293
V/C Ratio(X)	0.00	0.73	0.93	1.19	0.41	0.00				0.85	0.00	0.00
Avail Cap(c_a), veh/h	0	1848	863	266	2602	0				586	0	523
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.47	0.47	0.21	0.21	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	17.1	21.0	35.0	0.0	0.0				39.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	10.1	92.5	0.1	0.0				6.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.1	22.8	14.1	0.0	0.0				8.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	18.3	31.2	127.5	0.1	0.0				45.6	0.0	0.0
LnGrp LOS		B	C	F	A					D		
Approach Vol, veh/h		2148			1380						279	
Approach Delay, s/veh		23.1			29.3						45.6	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	58.5		22.5		77.5				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	40.0		33.0		59.0				
Max Q Clear Time (g_c+l1), s			17.0	49.0		17.2		2.0				
Green Ext Time (p_c), s			0.0	0.0		1.3		45.5				
Intersection Summary												
HCM 2010 Ctrl Delay			27.0									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	641	851	0	0	798	261	472	5	249	0	0	0
Future Volume (veh/h)	641	851	0	0	798	261	472	5	249	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	697	925	0	0	867	284	513	5	271			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	621	2293	0	0	913	409	478	5	431			
Arrive On Green	0.70	1.00	0.00	0.00	0.26	0.26	0.27	0.27	0.27			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1758	17	1583			
Grp Volume(v), veh/h	697	925	0	0	867	284	518	0	271			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	35.0	0.0	0.0	0.0	24.1	16.2	27.2	0.0	15.0			
Cycle Q Clear(g_c), s	35.0	0.0	0.0	0.0	24.1	16.2	27.2	0.0	15.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	621	2293	0	0	913	409	483	0	431			
V/C Ratio(X)	1.12	0.40	0.00	0.00	0.95	0.70	1.07	0.00	0.63			
Avail Cap(c_a), veh/h	621	2293	0	0	913	409	483	0	431			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.58	0.58	1.00	0.00	1.00			
Uniform Delay (d), s/veh	15.0	0.0	0.0	0.0	36.5	33.5	36.4	0.0	32.0			
Incr Delay (d2), s/veh	57.4	0.0	0.0	0.0	13.5	5.6	61.9	0.0	2.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	26.1	0.0	0.0	0.0	13.4	7.7	21.6	0.0	6.9			
LnGrp Delay(d),s/veh	72.4	0.0	0.0	0.0	50.0	39.1	98.3	0.0	34.9			
LnGrp LOS	F	A			D	D	F		C			
Approach Vol, veh/h		1622			1151			789				
Approach Delay, s/veh		31.2			47.3			76.5				
Approach LOS		C			D			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		31.2		68.8			39.0	29.8				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		27.2		64.8			35.0	25.8				
Max Q Clear Time (g_c+l1), s		29.2		2.0			37.0	26.1				
Green Ext Time (p_c), s		0.0		22.7			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			46.4									
HCM 2010 LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↖	↖	↖	↖↖			↖	↖		↖	↖
Traffic Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Future Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	459	650	87	38	501	122	136	11	27	154	16	514
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	534	1161	519	60	585	142	419	34	403	332	34	571
Arrive On Green	0.16	0.33	0.33	0.03	0.21	0.21	0.25	0.25	0.25	0.21	0.21	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2827	685	1647	133	1583	1614	168	1583
Grp Volume(v), veh/h	459	650	87	38	313	310	147	0	27	170	0	514
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1742	1780	0	1583	1782	0	1583
Q Serve(g_s), s	11.7	13.6	3.5	1.9	15.3	15.5	6.0	0.0	1.2	7.5	0.0	18.5
Cycle Q Clear(g_c), s	11.7	13.6	3.5	1.9	15.3	15.5	6.0	0.0	1.2	7.5	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.39	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	534	1161	519	60	366	361	453	0	403	366	0	571
V/C Ratio(X)	0.86	0.56	0.17	0.63	0.85	0.86	0.32	0.00	0.07	0.46	0.00	0.90
Avail Cap(c_a), veh/h	574	1161	519	118	393	387	453	0	403	366	0	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	24.9	21.5	42.9	34.4	34.4	27.3	0.0	25.4	31.4	0.0	27.2
Incr Delay (d2), s/veh	11.0	0.6	0.1	10.3	15.7	16.8	1.9	0.0	0.3	0.9	0.0	17.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	6.7	1.5	1.1	9.1	9.1	3.2	0.0	0.5	3.8	0.0	14.8
LnGrp Delay(d),s/veh	48.1	25.4	21.6	53.2	50.1	51.2	29.1	0.0	25.8	32.3	0.0	44.5
LnGrp LOS	D	C	C	D	D	D	C		C	C		D
Approach Vol, veh/h		1196			661			174			684	
Approach Delay, s/veh		33.9			50.8			28.6			41.5	
Approach LOS		C			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.9	7.1	33.5		22.5	18.0	22.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		20.5	6.0	29.0		18.5	15.0	20.0				
Max Q Clear Time (g_c+l1), s		8.0	3.9	15.6		20.5	13.7	17.5				
Green Ext Time (p_c), s		0.6	0.0	6.7		0.0	0.3	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			39.6									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	106	659	515	26	24	93
Future Vol, veh/h	106	659	515	26	24	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	716	560	28	26	101

Major/Minor























	Major1	Major2	Minor2		
Conflicting Flow All	588	0	-	0	1163
Stage 1	-	-	-	-	574
Stage 2	-	-	-	-	589
Critical Hdwy	4.14	-	-	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	2.22	-	-	-	3.52
Pot Cap-1 Maneuver	983	-	-	-	188
Stage 1	-	-	-	-	527
Stage 2	-	-	-	-	517
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	983	-	-	-	152
Mov Cap-2 Maneuver	-	-	-	-	152
Stage 1	-	-	-	-	527
Stage 2	-	-	-	-	417

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	152	702
HCM Lane V/C Ratio	0.117	-	-	-	0.172	0.144
HCM Control Delay (s)	9.1	-	-	-	33.5	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6	0.5

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	910	15	18	882	199	18	5	16	309	6	102
Future Volume (veh/h)	115	910	15	18	882	199	18	5	16	309	6	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	125	989	16	20	959	216	20	5	17	341	0	111
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1887	31	42	1640	734	60	15	66	522	0	233
Arrive On Green	0.09	0.53	0.53	0.02	0.46	0.46	0.04	0.04	0.04	0.15	0.00	0.15
Sat Flow, veh/h	1774	3565	58	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	125	491	514	20	959	216	25	0	17	341	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1853	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	4.3	11.2	11.2	0.7	12.3	5.2	0.8	0.0	0.6	5.6	0.0	4.0
Cycle Q Clear(g_c), s	4.3	11.2	11.2	0.7	12.3	5.2	0.8	0.0	0.6	5.6	0.0	4.0
Prop In Lane	1.00		0.03	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	937	981	42	1640	734	74	0	66	522	0	233
V/C Ratio(X)	0.79	0.52	0.52	0.48	0.58	0.29	0.34	0.00	0.26	0.65	0.00	0.48
Avail Cap(c_a), veh/h	172	1072	1122	143	2086	933	535	0	473	1891	0	844
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.6	9.5	9.5	29.9	12.2	10.3	28.8	0.0	28.7	24.9	0.0	24.2
Incr Delay (d2), s/veh	19.9	0.5	0.4	8.3	0.3	0.2	2.6	0.0	2.0	1.4	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	5.6	5.8	0.4	6.1	2.3	0.5	0.0	0.3	2.8	0.0	1.8
LnGrp Delay(d),s/veh	47.5	9.9	9.9	38.2	12.6	10.5	31.5	0.0	30.8	26.3	0.0	25.7
LnGrp LOS	D	A	A	D	B	B	C		C	C		C
Approach Vol, veh/h		1130			1195			42			452	
Approach Delay, s/veh		14.1			12.6			31.2			26.2	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.6	5.5	36.8		13.1	9.5	32.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		2.8	2.7	13.2		7.6	6.3	14.3				
Green Ext Time (p_c), s		0.1	0.0	15.2		1.5	0.0	14.3				
Intersection Summary												
HCM 2010 Ctrl Delay			15.7									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	740	495	172	692	0	0	0	0	158	1	407
Future Volume (veh/h)	0	740	495	172	692	0	0	0	0	158	1	407
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	538	187	752	0				172	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1992	930	148	2610	0				228	1	204
Arrive On Green	0.00	0.59	0.59	0.08	0.74	0.00				0.13	0.13	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1764	10	1583
Grp Volume(v), veh/h	0	804	538	187	752	0				173	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	7.7	12.7	5.0	4.2	0.0				5.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	7.7	12.7	5.0	4.2	0.0				5.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1992	930	148	2610	0				229	0	204
V/C Ratio(X)	0.00	0.40	0.58	1.26	0.29	0.00				0.75	0.00	0.00
Avail Cap(c_a), veh/h	0	1992	930	148	2610	0				547	0	488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.84	0.84	0.85	0.85	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	6.7	7.7	27.5	2.6	0.0				25.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	2.2	156.7	0.2	0.0				5.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.7	6.1	8.9	2.1	0.0				3.1	0.0	0.0
LnGrp Delay(d),s/veh	0.0	7.2	9.9	184.2	2.9	0.0				30.2	0.0	0.0
LnGrp LOS		A	A	F	A					C		
Approach Vol, veh/h		1342			939						173	
Approach Delay, s/veh		8.3			39.0						30.2	
Approach LOS		A			D						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			9.0	39.3		11.7		48.3				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			5.0	24.5		18.5		33.5				
Max Q Clear Time (g_c+I1), s			7.0	14.7		7.6		6.2				
Green Ext Time (p_c), s			0.0	7.8		0.6		17.0				
Intersection Summary												
HCM 2010 Ctrl Delay			21.6									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	500	0	0	536	257	328	3	255	0	0	0
Future Volume (veh/h)	398	500	0	0	536	257	328	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	433	543	0	0	583	279	357	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	469	2370	0	0	1257	562	405	3	365			
Arrive On Green	0.26	0.67	0.00	0.00	0.71	0.71	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1760	15	1583			
Grp Volume(v), veh/h	433	543	0	0	583	279	360	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	19.0	4.8	0.0	0.0	5.7	6.3	15.7	0.0	13.1			
Cycle Q Clear(g_c), s	19.0	4.8	0.0	0.0	5.7	6.3	15.7	0.0	13.1			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	469	2370	0	0	1257	562	409	0	365			
V/C Ratio(X)	0.92	0.23	0.00	0.00	0.46	0.50	0.88	0.00	0.76			
Avail Cap(c_a), veh/h	488	2370	0	0	1257	562	444	0	396			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.71	0.71	0.00	0.00	0.81	0.81	1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.6	5.2	0.0	0.0	8.3	8.4	29.7	0.0	28.7			
Incr Delay (d2), s/veh	17.8	0.2	0.0	0.0	1.0	2.5	17.3	0.0	7.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.6	2.4	0.0	0.0	2.8	3.0	9.7	0.0	6.5			
LnGrp Delay(d),s/veh	46.4	5.3	0.0	0.0	9.3	10.9	47.1	0.0	36.4			
LnGrp LOS	D	A			A	B	D		D			
Approach Vol, veh/h		976			862		637					
Approach Delay, s/veh		23.5			9.8		42.4					
Approach LOS		C			A		D					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		22.4		57.6			25.2	32.4				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		20.0		52.0			22.0	26.0				
Max Q Clear Time (g_c+l1), s		17.7		6.8			21.0	8.3				
Green Ext Time (p_c), s		0.8		10.6			0.2	7.8				
Intersection Summary												
HCM 2010 Ctrl Delay				23.6								
HCM 2010 LOS				C								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Future Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	365	342	113	38	350	75	190	5	54	137	0	322
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	848	379	63	509	108	549	14	502	368	0	487
Arrive On Green	0.17	0.40	0.40	0.04	0.18	0.18	0.32	0.32	0.32	0.21	0.00	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2908	616	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	365	342	113	38	211	214	195	0	54	137	0	322
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1754	1776	0	1583	1774	0	1583
Q Serve(g_s), s	8.0	5.5	3.9	1.7	9.0	9.1	6.7	0.0	1.9	5.3	0.0	14.1
Cycle Q Clear(g_c), s	8.0	5.5	3.9	1.7	9.0	9.1	6.7	0.0	1.9	5.3	0.0	14.1
Prop In Lane	1.00		1.00	1.00		0.35	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	848	379	63	310	307	563	0	502	368	0	487
V/C Ratio(X)	1.06	0.40	0.30	0.60	0.68	0.69	0.35	0.00	0.11	0.37	0.00	0.66
Avail Cap(c_a), veh/h	344	907	406	133	409	406	563	0	502	410	0	524
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	19.9	19.4	38.0	30.9	31.0	21.0	0.0	19.3	27.2	0.0	24.1
Incr Delay (d2), s/veh	64.4	0.3	0.4	8.8	3.0	3.4	1.7	0.0	0.4	0.6	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	2.7	1.7	1.0	4.6	4.7	3.6	0.0	0.9	2.7	0.0	6.5
LnGrp Delay(d),s/veh	97.8	20.2	19.8	46.8	33.9	34.3	22.6	0.0	19.7	27.8	0.0	26.9
LnGrp LOS	F	C	B	D	C	C	C		B	C		C
Approach Vol, veh/h		820			463			249			459	
Approach Delay, s/veh		54.7			35.1			22.0			27.2	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.4	6.9	23.2		20.6	12.0	18.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0	6.0	20.5		18.5	8.0	18.5				
Max Q Clear Time (g_c+I1), s		8.7	3.7	7.5		16.1	10.0	11.1				
Green Ext Time (p_c), s		0.8	0.0	4.0		0.5	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				39.7								
HCM 2010 LOS				D								

Redding Rancheria
 7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Opening Year (2025) plus Project (3A) Conditions - MIT

Saturday PM Peak

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	78	413	354	26	10	72
Future Vol, veh/h	78	413	354	26	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	449	385	28	11	78

Major/Minor























	Major1	Major2	Minor2		
Conflicting Flow All	413	0	0	793	207
Stage 1	-	-	-	399	-
Stage 2	-	-	-	394	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1142	-	-	326	799
Stage 1	-	-	-	647	-
Stage 2	-	-	-	650	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1142	-	-	294	799
Mov Cap-2 Maneuver	-	-	-	294	-
Stage 1	-	-	-	647	-
Stage 2	-	-	-	586	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1142	-	-	-	294	799
HCM Lane V/C Ratio	0.074	-	-	-	0.037	0.098
HCM Control Delay (s)	8.4	-	-	-	17.7	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1120	15	42	1197	331	21	15	38	793	10	242
Future Volume (veh/h)	212	1120	15	42	1197	331	21	15	38	793	10	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	230	1217	16	46	1301	360	23	16	41	870	0	263
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	1566	21	68	1443	645	52	36	78	1035	0	462
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.05	0.05	0.05	0.29	0.00	0.29
Sat Flow, veh/h	1774	3577	47	1774	3539	1583	1067	742	1583	3548	0	1583
Grp Volume(v), veh/h	230	602	631	46	1301	360	39	0	41	870	0	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1583	1809	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	25.3	25.3	2.2	30.1	15.2	1.8	0.0	2.2	20.1	0.0	12.3
Cycle Q Clear(g_c), s	6.0	25.3	25.3	2.2	30.1	15.2	1.8	0.0	2.2	20.1	0.0	12.3
Prop In Lane	1.00		0.03	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	775	812	68	1443	645	89	0	78	1035	0	462
V/C Ratio(X)	1.89	0.78	0.78	0.67	0.90	0.56	0.44	0.00	0.53	0.84	0.00	0.57
Avail Cap(c_a), veh/h	122	775	812	101	1478	661	383	0	335	1340	0	598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.7	20.9	20.9	41.5	24.2	19.8	40.4	0.0	40.6	29.1	0.0	26.3
Incr Delay (d2), s/veh	429.2	5.0	4.8	11.0	7.9	1.0	3.4	0.0	5.5	3.9	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.4	13.5	14.1	1.3	16.2	6.8	1.0	0.0	1.1	10.4	0.0	5.5
LnGrp Delay(d),s/veh	469.9	25.9	25.7	52.4	32.1	20.8	43.8	0.0	46.1	33.0	0.0	27.4
LnGrp LOS	F	C	C	D	C	C	D		D	C		C
Approach Vol, veh/h		1463			1707			80			1133	
Approach Delay, s/veh		95.7			30.3			45.0			31.7	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.4	42.3		29.5	10.0	39.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.2	4.2	27.3		22.1	8.0	32.1				
Green Ext Time (p_c), s		0.2	0.0	9.1		3.4	0.0	3.5				
Intersection Summary												
HCM 2010 Ctrl Delay			52.7									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	1236	715	291	950	0	0	0	0	256	1	620
Future Volume (veh/h)	0	1236	715	291	950	0	0	0	0	256	1	620
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1343	777	316	1033	0				278	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1732	809	266	2516	0				334	1	299
Arrive On Green	0.00	0.51	0.51	0.15	0.71	0.00				0.19	0.19	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1768	6	1583
Grp Volume(v), veh/h	0	1343	777	316	1033	0				279	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	25.7	37.7	12.0	9.5	0.0				12.1	0.0	0.0
Cycle Q Clear(g_c), s	0.0	25.7	37.7	12.0	9.5	0.0				12.1	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1732	809	266	2516	0				336	0	299
V/C Ratio(X)	0.00	0.78	0.96	1.19	0.41	0.00				0.83	0.00	0.00
Avail Cap(c_a), veh/h	0	1732	809	266	2516	0				554	0	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.49	0.49	0.22	0.22	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	15.8	18.8	34.0	4.7	0.0				31.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	14.6	93.1	0.1	0.0				5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	12.4	19.7	12.7	4.6	0.0				6.4	0.0	0.0
LnGrp Delay(d),s/veh	0.0	17.6	33.4	127.1	4.8	0.0				36.7	0.0	0.0
LnGrp LOS		B	C	F	A					D		
Approach Vol, veh/h		2120			1349						279	
Approach Delay, s/veh		23.4			33.5						36.7	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			16.0	44.9		19.1		60.9				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			12.0	31.0		25.0		47.0				
Max Q Clear Time (g_c+l1), s			14.0	39.7		14.1		11.5				
Green Ext Time (p_c), s			0.0	0.0		1.1		30.2				
Intersection Summary												
HCM 2010 Ctrl Delay			28.0									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	641	851	0	0	798	261	443	5	249	0	0	0
Future Volume (veh/h)	641	851	0	0	798	261	443	5	249	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	697	925	0	0	867	284	482	5	271			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	639	2336	0	0	920	412	457	5	412			
Arrive On Green	0.36	0.66	0.00	0.00	0.26	0.26	0.26	0.26	0.26			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1757	18	1583			
Grp Volume(v), veh/h	697	925	0	0	867	284	487	0	271			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	36.0	12.0	0.0	0.0	24.0	16.2	26.0	0.0	15.3			
Cycle Q Clear(g_c), s	36.0	12.0	0.0	0.0	24.0	16.2	26.0	0.0	15.3			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	639	2336	0	0	920	412	461	0	412			
V/C Ratio(X)	1.09	0.40	0.00	0.00	0.94	0.69	1.06	0.00	0.66			
Avail Cap(c_a), veh/h	639	2336	0	0	920	412	461	0	412			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.58	0.58	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.0	7.8	0.0	0.0	36.3	33.4	37.0	0.0	33.0			
Incr Delay (d2), s/veh	43.9	0.0	0.0	0.0	12.5	5.4	57.2	0.0	3.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	25.4	5.8	0.0	0.0	13.3	7.6	20.0	0.0	7.1			
LnGrp Delay(d),s/veh	75.9	7.9	0.0	0.0	48.8	38.8	94.2	0.0	36.9			
LnGrp LOS	F	A			D	D	F		D			
Approach Vol, veh/h		1622			1151		758					
Approach Delay, s/veh		37.1			46.3		73.7					
Approach LOS		D			D		E					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		30.0		70.0			40.0	30.0				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		26.0		66.0			36.0	26.0				
Max Q Clear Time (g_c+l1), s		28.0		14.0			38.0	26.0				
Green Ext Time (p_c), s		0.0		21.4			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				48.0								
HCM 2010 LOS				D								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔	↑↑			↔	↔		↔	↔
Traffic Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Future Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	459	650	87	38	501	122	136	11	27	154	16	514
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	534	1161	519	60	585	142	419	34	403	332	34	571
Arrive On Green	0.16	0.33	0.33	0.03	0.21	0.21	0.25	0.25	0.25	0.21	0.21	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2827	685	1647	133	1583	1614	168	1583
Grp Volume(v), veh/h	459	650	87	38	313	310	147	0	27	170	0	514
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1742	1780	0	1583	1782	0	1583
Q Serve(g_s), s	11.7	13.6	3.5	1.9	15.3	15.5	6.0	0.0	1.2	7.5	0.0	18.5
Cycle Q Clear(g_c), s	11.7	13.6	3.5	1.9	15.3	15.5	6.0	0.0	1.2	7.5	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.39	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	534	1161	519	60	366	361	453	0	403	366	0	571
V/C Ratio(X)	0.86	0.56	0.17	0.63	0.85	0.86	0.32	0.00	0.07	0.46	0.00	0.90
Avail Cap(c_a), veh/h	574	1161	519	118	393	387	453	0	403	366	0	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	24.9	21.5	42.9	34.4	34.4	27.3	0.0	25.4	31.4	0.0	27.2
Incr Delay (d2), s/veh	11.0	0.6	0.1	10.3	15.7	16.8	1.9	0.0	0.3	0.9	0.0	17.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	6.7	1.5	1.1	9.1	9.1	3.2	0.0	0.5	3.8	0.0	14.8
LnGrp Delay(d),s/veh	48.1	25.4	21.6	53.2	50.1	51.2	29.1	0.0	25.8	32.3	0.0	44.5
LnGrp LOS	D	C	C	D	D	D	C		C	C		D
Approach Vol, veh/h		1196			661			174			684	
Approach Delay, s/veh		33.9			50.8			28.6			41.5	
Approach LOS		C			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.9	7.1	33.5		22.5	18.0	22.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		20.5	6.0	29.0		18.5	15.0	20.0				
Max Q Clear Time (g_c+I1), s		8.0	3.9	15.6		20.5	13.7	17.5				
Green Ext Time (p_c), s		0.6	0.0	6.7		0.0	0.3	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			39.6									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	106	659	515	26	24	93
Future Vol, veh/h	106	659	515	26	24	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	716	560	28	26	101

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	588	0	0	1163	294
Stage 1	-	-	-	574	-
Stage 2	-	-	-	589	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	983	-	-	188	702
Stage 1	-	-	-	527	-
Stage 2	-	-	-	517	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	983	-	-	152	702
Mov Cap-2 Maneuver	-	-	-	152	-
Stage 1	-	-	-	527	-
Stage 2	-	-	-	417	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	152	702
HCM Lane V/C Ratio	0.117	-	-	-	0.172	0.144
HCM Control Delay (s)	9.1	-	-	-	33.5	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	860	15	18	834	190	18	5	16	300	6	102
Future Volume (veh/h)	115	860	15	18	834	190	18	5	16	300	6	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	125	935	16	20	907	207	20	5	17	331	0	111
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1855	32	42	1610	720	60	15	66	517	0	231
Arrive On Green	0.09	0.52	0.52	0.02	0.45	0.45	0.04	0.04	0.04	0.15	0.00	0.15
Sat Flow, veh/h	1774	3561	61	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	125	465	486	20	907	207	25	0	17	331	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1852	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	4.1	10.2	10.2	0.7	11.2	4.9	0.8	0.0	0.6	5.3	0.0	3.8
Cycle Q Clear(g_c), s	4.1	10.2	10.2	0.7	11.2	4.9	0.8	0.0	0.6	5.3	0.0	3.8
Prop In Lane	1.00		0.03	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	922	965	42	1610	720	75	0	66	517	0	231
V/C Ratio(X)	0.79	0.50	0.50	0.48	0.56	0.29	0.33	0.00	0.26	0.64	0.00	0.48
Avail Cap(c_a), veh/h	178	1110	1162	148	2161	967	554	0	490	1959	0	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.7	9.3	9.3	28.8	11.9	10.2	27.8	0.0	27.7	24.1	0.0	23.5
Incr Delay (d2), s/veh	18.6	0.4	0.4	8.2	0.3	0.2	2.6	0.0	2.0	1.3	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	5.0	5.2	0.4	5.5	2.2	0.5	0.0	0.3	2.7	0.0	1.8
LnGrp Delay(d),s/veh	45.3	9.7	9.7	37.0	12.3	10.4	30.4	0.0	29.7	25.4	0.0	25.0
LnGrp LOS	D	A	A	D	B	B	C		C	C		C
Approach Vol, veh/h		1076			1134			42			442	
Approach Delay, s/veh		13.8			12.4			30.1			25.3	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.5	5.4	35.1		12.7	9.4	31.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		2.8	2.7	12.2		7.3	6.1	13.2				
Green Ext Time (p_c), s		0.1	0.0	14.7		1.5	0.0	14.0				
Intersection Summary												
HCM 2010 Ctrl Delay			15.4									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↖	↗
Traffic Volume (veh/h)	0	740	436	172	635	0	0	0	0	158	1	407
Future Volume (veh/h)	0	740	436	172	635	0	0	0	0	158	1	407
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	474	187	690	0				172	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2021	944	227	2740	0				222	1	199
Arrive On Green	0.00	0.60	0.60	0.13	0.77	0.00				0.13	0.13	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1764	10	1583
Grp Volume(v), veh/h	0	804	474	187	690	0				173	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	10.0	13.8	8.2	4.4	0.0				7.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.0	13.8	8.2	4.4	0.0				7.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	2021	944	227	2740	0				223	0	199
V/C Ratio(X)	0.00	0.40	0.50	0.82	0.25	0.00				0.78	0.00	0.00
Avail Cap(c_a), veh/h	0	2021	944	333	2740	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.85	0.85	0.85	0.85	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	8.6	9.3	34.0	2.5	0.0				33.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.6	8.8	0.2	0.0				5.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.8	6.4	4.6	2.2	0.0				4.1	0.0	0.0
LnGrp Delay(d),s/veh	0.0	9.1	10.9	42.8	2.7	0.0				39.6	0.0	0.0
LnGrp LOS		A	B	D	A					D		
Approach Vol, veh/h		1278			877						173	
Approach Delay, s/veh		9.8			11.3						39.6	
Approach LOS		A			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.3	51.7		14.1		65.9				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.2	15.8		9.6		6.4				
Green Ext Time (p_c), s			0.2	7.9		0.7		19.1				
Intersection Summary												
HCM 2010 Ctrl Delay			12.5									
HCM 2010 LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	500	0	0	536	257	271	3	255	0	0	0
Future Volume (veh/h)	398	500	0	0	536	257	271	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	433	543	0	0	583	279	295	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	449	2425	0	0	1340	599	366	4	329			
Arrive On Green	0.25	0.69	0.00	0.00	0.38	0.38	0.21	0.21	0.21			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1757	18	1583			
Grp Volume(v), veh/h	433	543	0	0	583	279	298	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	18.1	4.3	0.0	0.0	9.2	10.0	12.0	0.0	12.6			
Cycle Q Clear(g_c), s	18.1	4.3	0.0	0.0	9.2	10.0	12.0	0.0	12.6			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	449	2425	0	0	1340	599	369	0	329			
V/C Ratio(X)	0.96	0.22	0.00	0.00	0.44	0.47	0.81	0.00	0.84			
Avail Cap(c_a), veh/h	449	2425	0	0	1340	599	438	0	391			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.82	0.82	0.00	0.00	0.78	0.78	1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.7	4.4	0.0	0.0	17.3	17.6	28.3	0.0	28.5			
Incr Delay (d2), s/veh	29.2	0.2	0.0	0.0	0.8	2.0	9.2	0.0	13.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	12.4	2.1	0.0	0.0	4.6	4.7	6.8	0.0	6.7			
LnGrp Delay(d),s/veh	56.9	4.6	0.0	0.0	18.1	19.6	37.5	0.0	41.8			
LnGrp LOS	E	A			B	B	D		D			
Approach Vol, veh/h		976			862		575					
Approach Delay, s/veh		27.8			18.6		39.5					
Approach LOS		C			B		D					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		19.6		55.4			23.0	32.4				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		48.5			19.0	25.5				
Max Q Clear Time (g_c+l1), s		14.6		6.3			20.1	12.0				
Green Ext Time (p_c), s		1.0		10.5			0.0	6.7				
Intersection Summary												
HCM 2010 Ctrl Delay				27.3								
HCM 2010 LOS				C								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑↑	↖	↖	↑↑			↖	↖		↖	↖
Traffic Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Future Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	365	342	113	38	350	75	190	5	54	137	0	322
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	449	934	418	60	486	103	567	15	519	349	0	518
Arrive On Green	0.13	0.26	0.26	0.03	0.17	0.17	0.33	0.33	0.33	0.20	0.00	0.20
Sat Flow, veh/h	3442	3539	1583	1774	2908	616	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	365	342	113	38	211	214	195	0	54	137	0	322
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1754	1776	0	1583	1774	0	1583
Q Serve(g_s), s	9.3	7.1	5.1	1.9	10.2	10.4	7.5	0.0	2.1	6.1	0.0	15.5
Cycle Q Clear(g_c), s	9.3	7.1	5.1	1.9	10.2	10.4	7.5	0.0	2.1	6.1	0.0	15.5
Prop In Lane	1.00		1.00	1.00		0.35	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	449	934	418	60	296	293	582	0	519	349	0	518
V/C Ratio(X)	0.81	0.37	0.27	0.63	0.71	0.73	0.33	0.00	0.10	0.39	0.00	0.62
Avail Cap(c_a), veh/h	574	1101	493	118	374	370	582	0	519	365	0	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.0	27.0	26.3	42.9	35.4	35.5	22.8	0.0	21.0	31.5	0.0	25.6
Incr Delay (d2), s/veh	6.6	0.2	0.3	10.3	4.7	5.3	1.5	0.0	0.4	0.7	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	3.5	2.3	1.1	5.4	5.5	3.9	0.0	1.0	3.0	0.0	7.1
LnGrp Delay(d),s/veh	44.7	27.2	26.6	53.2	40.1	40.8	24.4	0.0	21.4	32.2	0.0	27.7
LnGrp LOS	D	C	C	D	D	D	C		C	C		C
Approach Vol, veh/h		820			463			249			459	
Approach Delay, s/veh		34.9			41.5			23.7			29.1	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.5	7.1	27.7		21.7	15.8	19.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		21.5	6.0	28.0		18.5	15.0	19.0				
Max Q Clear Time (g_c+I1), s		9.5	3.9	9.1		17.5	11.3	12.4				
Green Ext Time (p_c), s		0.9	0.0	4.7		0.2	0.5	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay				33.7								
HCM 2010 LOS				C								

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	78	413	354	26	10	72
Future Vol, veh/h	78	413	354	26	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	449	385	28	11	78

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	413	0	-	0	793
Stage 1	-	-	-	-	399
Stage 2	-	-	-	-	394
Critical Hdwy	4.14	-	-	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	2.22	-	-	-	3.52
Pot Cap-1 Maneuver	1142	-	-	-	326
Stage 1	-	-	-	-	647
Stage 2	-	-	-	-	650
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1142	-	-	-	294
Mov Cap-2 Maneuver	-	-	-	-	294
Stage 1	-	-	-	-	647
Stage 2	-	-	-	-	586























Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1142	-	-	-	294	799
HCM Lane V/C Ratio	0.074	-	-	-	0.037	0.098
HCM Control Delay (s)	8.4	-	-	-	17.7	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions - MIT

Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1128	15	42	1207	332	21	15	38	794	10	242
Future Volume (veh/h)	212	1128	15	42	1207	332	21	15	38	794	10	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	230	1226	16	46	1312	361	23	16	41	871	0	263
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	1566	20	68	1443	645	52	36	78	1036	0	462
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.05	0.05	0.05	0.29	0.00	0.29
Sat Flow, veh/h	1774	3577	47	1774	3539	1583	1067	742	1583	3548	0	1583
Grp Volume(v), veh/h	230	606	636	46	1312	361	39	0	41	871	0	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1583	1809	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	25.6	25.6	2.2	30.5	15.3	1.8	0.0	2.2	20.2	0.0	12.3
Cycle Q Clear(g_c), s	6.0	25.6	25.6	2.2	30.5	15.3	1.8	0.0	2.2	20.2	0.0	12.3
Prop In Lane	1.00		0.03	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	775	812	68	1443	645	89	0	78	1036	0	462
V/C Ratio(X)	1.89	0.78	0.78	0.67	0.91	0.56	0.44	0.00	0.53	0.84	0.00	0.57
Avail Cap(c_a), veh/h	122	775	812	101	1477	661	383	0	335	1339	0	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.7	21.0	21.0	41.5	24.4	19.9	40.4	0.0	40.6	29.1	0.0	26.3
Incr Delay (d2), s/veh	429.8	5.2	5.0	11.0	8.5	1.0	3.4	0.0	5.5	3.9	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.4	13.6	14.2	1.3	16.5	6.8	1.0	0.0	1.1	10.4	0.0	5.5
LnGrp Delay(d),s/veh	470.6	26.3	26.1	52.5	32.9	20.9	43.8	0.0	46.1	33.0	0.0	27.4
LnGrp LOS	F	C	C	D	C	C	D		D	C		C
Approach Vol, veh/h		1472			1719			80			1134	
Approach Delay, s/veh		95.6			30.9			45.0			31.7	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.4	42.3		29.5	10.0	39.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.2	4.2	27.6		22.2	8.0	32.5				
Green Ext Time (p_c), s		0.2	0.0	8.9		3.4	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			53.0									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions - MIT

Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	1236	724	291	961	0	0	0	0	256	1	620
Future Volume (veh/h)	0	1236	724	291	961	0	0	0	0	256	1	620
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1343	787	316	1045	0				278	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1602	748	333	2513	0				336	1	301
Arrive On Green	0.00	0.47	0.47	0.19	0.71	0.00				0.19	0.19	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1768	6	1583
Grp Volume(v), veh/h	0	1343	787	316	1045	0				279	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	27.7	37.8	14.1	9.7	0.0				12.1	0.0	0.0
Cycle Q Clear(g_c), s	0.0	27.7	37.8	14.1	9.7	0.0				12.1	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1602	748	333	2513	0				337	0	301
V/C Ratio(X)	0.00	0.84	1.05	0.95	0.42	0.00				0.83	0.00	0.00
Avail Cap(c_a), veh/h	0	1602	748	333	2513	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.48	0.48	0.20	0.20	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	18.4	21.1	32.1	4.8	0.0				31.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.7	37.9	12.2	0.1	0.0				5.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.5	24.3	8.0	4.7	0.0				6.4	0.0	0.0
LnGrp Delay(d),s/veh	0.0	21.2	59.0	44.3	4.9	0.0				36.3	0.0	0.0
LnGrp LOS		C	F	D	A					D		
Approach Vol, veh/h		2130			1361						279	
Approach Delay, s/veh		35.2			14.0						36.3	
Approach LOS		D			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			19.0	41.8		19.2		60.8				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			16.1	39.8		14.1		11.7				
Green Ext Time (p_c), s			0.0	0.0		1.1		28.9				
Intersection Summary												
HCM 2010 Ctrl Delay			27.6									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	641	851	0	0	798	261	454	5	249	0	0	0
Future Volume (veh/h)	641	851	0	0	798	261	454	5	249	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	697	925	0	0	867	284	493	5	271			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	639	2325	0	0	910	407	462	5	416			
Arrive On Green	0.36	0.66	0.00	0.00	0.26	0.26	0.26	0.26	0.26			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1757	18	1583			
Grp Volume(v), veh/h	697	925	0	0	867	284	498	0	271			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	36.0	12.1	0.0	0.0	24.1	16.2	26.3	0.0	15.2			
Cycle Q Clear(g_c), s	36.0	12.1	0.0	0.0	24.1	16.2	26.3	0.0	15.2			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	639	2325	0	0	910	407	467	0	416			
V/C Ratio(X)	1.09	0.40	0.00	0.00	0.95	0.70	1.07	0.00	0.65			
Avail Cap(c_a), veh/h	639	2325	0	0	910	407	467	0	416			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.58	0.58	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.0	8.0	0.0	0.0	36.6	33.6	36.9	0.0	32.8			
Incr Delay (d2), s/veh	43.9	0.0	0.0	0.0	14.0	5.7	60.6	0.0	3.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	25.4	5.9	0.0	0.0	13.6	7.7	20.7	0.0	7.0			
LnGrp Delay(d),s/veh	75.9	8.0	0.0	0.0	50.6	39.3	97.5	0.0	36.3			
LnGrp LOS	F	A			D	D	F		D			
Approach Vol, veh/h		1622			1151			769				
Approach Delay, s/veh		37.2			47.8			75.9				
Approach LOS		D			D			E				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		30.3		69.7			40.0	29.7				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		26.3		65.7			36.0	25.7				
Max Q Clear Time (g_c+l1), s		28.3		14.1			38.0	26.1				
Green Ext Time (p_c), s		0.0		21.4			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				49.1								
HCM 2010 LOS				D								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Future Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	459	650	87	38	501	122	136	11	27	154	16	514
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	534	1161	519	60	585	142	419	34	403	332	34	571
Arrive On Green	0.16	0.33	0.33	0.03	0.21	0.21	0.25	0.25	0.25	0.21	0.21	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2827	685	1647	133	1583	1614	168	1583
Grp Volume(v), veh/h	459	650	87	38	313	310	147	0	27	170	0	514
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1742	1780	0	1583	1782	0	1583
Q Serve(g_s), s	11.7	13.6	3.5	1.9	15.3	15.5	6.0	0.0	1.2	7.5	0.0	18.5
Cycle Q Clear(g_c), s	11.7	13.6	3.5	1.9	15.3	15.5	6.0	0.0	1.2	7.5	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.39	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	534	1161	519	60	366	361	453	0	403	366	0	571
V/C Ratio(X)	0.86	0.56	0.17	0.63	0.85	0.86	0.32	0.00	0.07	0.46	0.00	0.90
Avail Cap(c_a), veh/h	574	1161	519	118	393	387	453	0	403	366	0	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	24.9	21.5	42.9	34.4	34.4	27.3	0.0	25.4	31.4	0.0	27.2
Incr Delay (d2), s/veh	11.0	0.6	0.1	10.3	15.7	16.8	1.9	0.0	0.3	0.9	0.0	17.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	6.7	1.5	1.1	9.1	9.1	3.2	0.0	0.5	3.8	0.0	14.8
LnGrp Delay(d),s/veh	48.1	25.4	21.6	53.2	50.1	51.2	29.1	0.0	25.8	32.3	0.0	44.5
LnGrp LOS	D	C	C	D	D	D	C		C	C		D
Approach Vol, veh/h		1196			661			174			684	
Approach Delay, s/veh		33.9			50.8			28.6			41.5	
Approach LOS		C			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.9	7.1	33.5		22.5	18.0	22.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		20.5	6.0	29.0		18.5	15.0	20.0				
Max Q Clear Time (g_c+l1), s		8.0	3.9	15.6		20.5	13.7	17.5				
Green Ext Time (p_c), s		0.6	0.0	6.7		0.0	0.3	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay					39.6							
HCM 2010 LOS					D							

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	106	659	515	26	24	93
Future Vol, veh/h	106	659	515	26	24	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	716	560	28	26	101

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	588	0	0	1163	294
Stage 1	-	-	-	574	-
Stage 2	-	-	-	589	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	983	-	-	188	702
Stage 1	-	-	-	527	-
Stage 2	-	-	-	517	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	983	-	-	152	702
Mov Cap-2 Maneuver	-	-	-	152	-
Stage 1	-	-	-	527	-
Stage 2	-	-	-	417	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C























Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	152	702
HCM Lane V/C Ratio	0.117	-	-	-	0.172	0.144
HCM Control Delay (s)	9.1	-	-	-	33.5	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3C) Conditions - MIT

Saturday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	893	15	18	872	197	18	5	16	306	6	102
Future Volume (veh/h)	115	893	15	18	872	197	18	5	16	306	6	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	125	971	16	20	948	214	20	5	17	338	0	111
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1880	31	42	1633	731	60	15	66	520	0	232
Arrive On Green	0.09	0.53	0.53	0.02	0.46	0.46	0.04	0.04	0.04	0.15	0.00	0.15
Sat Flow, veh/h	1774	3563	59	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	125	482	505	20	948	214	25	0	17	338	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1852	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	4.2	10.9	10.9	0.7	12.1	5.2	0.8	0.0	0.6	5.5	0.0	3.9
Cycle Q Clear(g_c), s	4.2	10.9	10.9	0.7	12.1	5.2	0.8	0.0	0.6	5.5	0.0	3.9
Prop In Lane	1.00		0.03	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	933	977	42	1633	731	75	0	66	520	0	232
V/C Ratio(X)	0.79	0.52	0.52	0.48	0.58	0.29	0.34	0.00	0.26	0.65	0.00	0.48
Avail Cap(c_a), veh/h	173	1081	1132	145	2104	941	540	0	477	1907	0	851
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.4	9.4	9.4	29.6	12.2	10.3	28.6	0.0	28.5	24.7	0.0	24.0
Incr Delay (d2), s/veh	19.5	0.4	0.4	8.3	0.3	0.2	2.6	0.0	2.0	1.4	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	5.3	5.6	0.4	5.9	2.3	0.5	0.0	0.3	2.8	0.0	1.8
LnGrp Delay(d),s/veh	46.9	9.9	9.8	37.9	12.5	10.5	31.2	0.0	30.5	26.1	0.0	25.6
LnGrp LOS	D	A	A	D	B	B	C		C	C		C
Approach Vol, veh/h		1112			1182			42			449	
Approach Delay, s/veh		14.0			12.6			30.9			25.9	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.6	5.4	36.4		13.0	9.5	32.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		2.8	2.7	12.9		7.5	6.2	14.1				
Green Ext Time (p_c), s		0.1	0.0	15.1		1.5	0.0	14.2				
Intersection Summary												
HCM 2010 Ctrl Delay			15.6									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	740	475	172	680	0	0	0	0	158	1	407
Future Volume (veh/h)	0	740	475	172	680	0	0	0	0	158	1	407
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	516	187	739	0				172	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2021	944	227	2740	0				222	1	199
Arrive On Green	0.00	0.60	0.60	0.13	0.77	0.00				0.13	0.13	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1764	10	1583
Grp Volume(v), veh/h	0	804	516	187	739	0				173	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	10.0	15.6	8.2	4.8	0.0				7.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.0	15.6	8.2	4.8	0.0				7.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	2021	944	227	2740	0				223	0	199
V/C Ratio(X)	0.00	0.40	0.55	0.82	0.27	0.00				0.78	0.00	0.00
Avail Cap(c_a), veh/h	0	2021	944	333	2740	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.84	0.84	0.83	0.83	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	8.6	9.7	34.0	2.6	0.0				33.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.9	8.6	0.2	0.0				5.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.8	7.2	4.5	2.3	0.0				4.1	0.0	0.0
LnGrp Delay(d),s/veh	0.0	9.1	11.6	42.6	2.8	0.0				39.6	0.0	0.0
LnGrp LOS		A	B	D	A					D		
Approach Vol, veh/h		1320			926						173	
Approach Delay, s/veh		10.0			10.8						39.6	
Approach LOS		B			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.3	51.7		14.1		65.9				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+I1), s			10.2	17.6		9.6		6.8				
Green Ext Time (p_c), s			0.2	6.9		0.7		20.2				
Intersection Summary												
HCM 2010 Ctrl Delay			12.5									
HCM 2010 LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	500	0	0	536	257	316	3	255	0	0	0
Future Volume (veh/h)	398	500	0	0	536	257	316	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	433	543	0	0	583	279	343	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	449	2367	0	0	1282	573	395	3	355			
Arrive On Green	0.25	0.67	0.00	0.00	0.36	0.36	0.22	0.22	0.22			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1759	15	1583			
Grp Volume(v), veh/h	433	543	0	0	583	279	346	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	18.1	4.5	0.0	0.0	9.4	10.2	14.1	0.0	12.3			
Cycle Q Clear(g_c), s	18.1	4.5	0.0	0.0	9.4	10.2	14.1	0.0	12.3			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	449	2367	0	0	1282	573	398	0	355			
V/C Ratio(X)	0.96	0.23	0.00	0.00	0.45	0.49	0.87	0.00	0.78			
Avail Cap(c_a), veh/h	449	2367	0	0	1282	573	438	0	391			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.79	0.79	0.00	0.00	0.78	0.78	1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.7	4.9	0.0	0.0	18.3	18.5	28.0	0.0	27.3			
Incr Delay (d2), s/veh	28.6	0.2	0.0	0.0	0.9	2.3	15.8	0.0	8.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	12.4	2.2	0.0	0.0	4.8	4.8	8.7	0.0	6.3			
LnGrp Delay(d),s/veh	56.3	5.0	0.0	0.0	19.2	20.8	43.8	0.0	36.3			
LnGrp LOS	E	A			B	C	D		D			
Approach Vol, veh/h		976			862			623				
Approach Delay, s/veh		27.8			19.7			40.5				
Approach LOS		C			B			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		20.8		54.2			23.0	31.2				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		48.5			19.0	25.5				
Max Q Clear Time (g_c+l1), s		16.1		6.5			20.1	12.2				
Green Ext Time (p_c), s		0.8		10.5			0.0	6.7				
Intersection Summary												
HCM 2010 Ctrl Delay				28.2								
HCM 2010 LOS				C								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Future Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	365	342	113	38	350	75	190	5	54	137	0	322
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	449	934	418	60	486	103	567	15	519	349	0	518
Arrive On Green	0.13	0.26	0.26	0.03	0.17	0.17	0.33	0.33	0.33	0.20	0.00	0.20
Sat Flow, veh/h	3442	3539	1583	1774	2908	616	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	365	342	113	38	211	214	195	0	54	137	0	322
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1754	1776	0	1583	1774	0	1583
Q Serve(g_s), s	9.3	7.1	5.1	1.9	10.2	10.4	7.5	0.0	2.1	6.1	0.0	15.5
Cycle Q Clear(g_c), s	9.3	7.1	5.1	1.9	10.2	10.4	7.5	0.0	2.1	6.1	0.0	15.5
Prop In Lane	1.00		1.00	1.00		0.35	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	449	934	418	60	296	293	582	0	519	349	0	518
V/C Ratio(X)	0.81	0.37	0.27	0.63	0.71	0.73	0.33	0.00	0.10	0.39	0.00	0.62
Avail Cap(c_a), veh/h	574	1101	493	118	374	370	582	0	519	365	0	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.0	27.0	26.3	42.9	35.4	35.5	22.8	0.0	21.0	31.5	0.0	25.6
Incr Delay (d2), s/veh	6.6	0.2	0.3	10.3	4.7	5.3	1.5	0.0	0.4	0.7	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	3.5	2.3	1.1	5.4	5.5	3.9	0.0	1.0	3.0	0.0	7.1
LnGrp Delay(d),s/veh	44.7	27.2	26.6	53.2	40.1	40.8	24.4	0.0	21.4	32.2	0.0	27.7
LnGrp LOS	D	C	C	D	D	D	C		C	C		C
Approach Vol, veh/h		820			463			249			459	
Approach Delay, s/veh		34.9			41.5			23.7			29.1	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.5	7.1	27.7		21.7	15.8	19.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		21.5	6.0	28.0		18.5	15.0	19.0				
Max Q Clear Time (g_c+I1), s		9.5	3.9	9.1		17.5	11.3	12.4				
Green Ext Time (p_c), s		0.9	0.0	4.7		0.2	0.5	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			33.7									
HCM 2010 LOS			C									

Redding Rancheria
 7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Opening Year (2025) plus Project (3C) Conditions - MIT

Saturday PM Peak

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	78	413	354	26	10	72
Future Vol, veh/h	78	413	354	26	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	449	385	28	11	78

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	413	0	0	793	207
Stage 1	-	-	-	399	-
Stage 2	-	-	-	394	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1142	-	-	326	799
Stage 1	-	-	-	647	-
Stage 2	-	-	-	650	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1142	-	-	294	799
Mov Cap-2 Maneuver	-	-	-	294	-
Stage 1	-	-	-	647	-
Stage 2	-	-	-	586	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B























Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1142	-	-	-	294	799
HCM Lane V/C Ratio	0.074	-	-	-	0.037	0.098
HCM Control Delay (s)	8.4	-	-	-	17.7	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions - MIT

Friday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1038	15	42	1161	324	21	15	38	778	10	242
Future Volume (veh/h)	212	1038	15	42	1161	324	21	15	38	778	10	242
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	230	1128	16	46	1262	352	23	16	41	854	0	263
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	1571	22	69	1448	648	53	37	78	1022	0	456
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.05	0.05	0.05	0.29	0.00	0.29
Sat Flow, veh/h	1774	3573	51	1774	3539	1583	1067	742	1583	3548	0	1583
Grp Volume(v), veh/h	230	559	585	46	1262	352	39	0	41	854	0	263
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1583	1809	0	1583	1774	0	1583
Q Serve(g_s), s	6.0	22.4	22.4	2.2	28.4	14.7	1.8	0.0	2.2	19.6	0.0	12.3
Cycle Q Clear(g_c), s	6.0	22.4	22.4	2.2	28.4	14.7	1.8	0.0	2.2	19.6	0.0	12.3
Prop In Lane	1.00		0.03	1.00		1.00	0.59		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	123	778	815	69	1448	648	89	0	78	1022	0	456
V/C Ratio(X)	1.87	0.72	0.72	0.67	0.87	0.54	0.44	0.00	0.53	0.84	0.00	0.58
Avail Cap(c_a), veh/h	123	778	815	102	1489	666	386	0	338	1350	0	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.4	19.9	19.9	41.2	23.5	19.5	40.1	0.0	40.2	29.0	0.0	26.4
Incr Delay (d2), s/veh	422.7	3.2	3.1	10.8	5.8	0.9	3.4	0.0	5.4	3.6	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.3	11.6	12.1	1.3	15.0	6.5	1.0	0.0	1.1	10.1	0.0	5.5
LnGrp Delay(d),s/veh	463.1	23.1	23.0	52.0	29.4	20.3	43.4	0.0	45.6	32.6	0.0	27.5
LnGrp LOS	F	C	C	D	C	C	D		D	C		C
Approach Vol, veh/h		1374			1660			80			1117	
Approach Delay, s/veh		96.7			28.1			44.6			31.4	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.3	42.1		29.0	10.0	39.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		4.2	4.2	24.4		21.6	8.0	30.4				
Green Ext Time (p_c), s		0.2	0.0	11.2		3.4	0.0	5.1				
Intersection Summary												
HCM 2010 Ctrl Delay			51.5									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

Redding Rancheria
4: I-5 SB & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions - MIT

Friday PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	1236	618	291	907	0	0	0	0	256	1	620
Future Volume (veh/h)	0	1236	618	291	907	0	0	0	0	256	1	620
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	1343	672	316	986	0				278	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1872	874	296	2662	0				320	1	287
Arrive On Green	0.00	0.55	0.55	0.17	0.75	0.00				0.18	0.18	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1768	6	1583
Grp Volume(v), veh/h	0	1343	672	316	986	0				279	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	35.3	39.6	20.0	11.5	0.0				18.3	0.0	0.0
Cycle Q Clear(g_c), s	0.0	35.3	39.6	20.0	11.5	0.0				18.3	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1872	874	296	2662	0				321	0	287
V/C Ratio(X)	0.00	0.72	0.77	1.07	0.37	0.00				0.87	0.00	0.00
Avail Cap(c_a), veh/h	0	1872	874	296	2662	0				606	0	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.57	0.57	0.18	0.18	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	19.9	20.9	50.0	5.1	0.0				47.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	3.7	43.2	0.1	0.0				7.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	16.8	18.1	13.3	5.5	0.0				9.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	21.3	24.7	93.2	5.2	0.0				54.8	0.0	0.0
LnGrp LOS		C	C	F	A					D		
Approach Vol, veh/h		2015			1302						279	
Approach Delay, s/veh		22.4			26.6						54.8	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			24.0	70.3		25.7		94.3				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			20.0	47.0		41.0		71.0				
Max Q Clear Time (g_c+I1), s			22.0	41.6		20.3		13.5				
Green Ext Time (p_c), s			0.0	5.1		1.4		42.4				
Intersection Summary												
HCM 2010 Ctrl Delay			26.4									
HCM 2010 LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗		↖	↗			
Traffic Volume (veh/h)	641	851	0	0	798	261	400	5	249	0	0	0
Future Volume (veh/h)	641	851	0	0	798	261	400	5	249	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	697	925	0	0	867	284	435	5	271			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	674	2389	0	0	902	404	430	5	388			
Arrive On Green	0.38	0.68	0.00	0.00	0.25	0.25	0.25	0.25	0.25			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1755	20	1583			
Grp Volume(v), veh/h	697	925	0	0	867	284	440	0	271			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	38.0	11.5	0.0	0.0	24.2	16.3	24.5	0.0	15.6			
Cycle Q Clear(g_c), s	38.0	11.5	0.0	0.0	24.2	16.3	24.5	0.0	15.6			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	674	2389	0	0	903	404	435	0	388			
V/C Ratio(X)	1.03	0.39	0.00	0.00	0.96	0.70	1.01	0.00	0.70			
Avail Cap(c_a), veh/h	674	2389	0	0	903	404	435	0	388			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.09	0.09	0.00	0.00	0.58	0.58	1.00	0.00	1.00			
Uniform Delay (d), s/veh	31.0	7.1	0.0	0.0	36.8	33.8	37.8	0.0	34.4			
Incr Delay (d2), s/veh	20.7	0.0	0.0	0.0	15.2	5.9	46.1	0.0	5.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh	22.4	5.5	0.0	0.0	13.7	7.8	17.5	0.0	7.4			
LnGrp Delay(d),s/veh	51.7	7.2	0.0	0.0	52.0	39.7	83.9	0.0	39.8			
LnGrp LOS	F	A			D	D	F		D			
Approach Vol, veh/h		1622			1151		711					
Approach Delay, s/veh		26.3			48.9		67.1					
Approach LOS		C			D		E					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		28.5		71.5			42.0	29.5				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		24.5		67.5			38.0	25.5				
Max Q Clear Time (g_c+l1), s		26.5		13.5			40.0	26.2				
Green Ext Time (p_c), s		0.0		21.7			0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				42.1								
HCM 2010 LOS				D								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑			↖	↖		↖	↖
Traffic Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Future Volume (veh/h)	422	598	80	35	461	112	125	10	25	142	15	473
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	459	650	87	38	501	122	136	11	27	154	16	514
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	534	1161	519	60	585	142	419	34	403	332	34	571
Arrive On Green	0.16	0.33	0.33	0.03	0.21	0.21	0.25	0.25	0.25	0.21	0.21	0.21
Sat Flow, veh/h	3442	3539	1583	1774	2827	685	1647	133	1583	1614	168	1583
Grp Volume(v), veh/h	459	650	87	38	313	310	147	0	27	170	0	514
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1742	1780	0	1583	1782	0	1583
Q Serve(g_s), s	11.7	13.6	3.5	1.9	15.3	15.5	6.0	0.0	1.2	7.5	0.0	18.5
Cycle Q Clear(g_c), s	11.7	13.6	3.5	1.9	15.3	15.5	6.0	0.0	1.2	7.5	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.39	0.93		1.00	0.91		1.00
Lane Grp Cap(c), veh/h	534	1161	519	60	366	361	453	0	403	366	0	571
V/C Ratio(X)	0.86	0.56	0.17	0.63	0.85	0.86	0.32	0.00	0.07	0.46	0.00	0.90
Avail Cap(c_a), veh/h	574	1161	519	118	393	387	453	0	403	366	0	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	24.9	21.5	42.9	34.4	34.4	27.3	0.0	25.4	31.4	0.0	27.2
Incr Delay (d2), s/veh	11.0	0.6	0.1	10.3	15.7	16.8	1.9	0.0	0.3	0.9	0.0	17.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.4	6.7	1.5	1.1	9.1	9.1	3.2	0.0	0.5	3.8	0.0	14.8
LnGrp Delay(d),s/veh	48.1	25.4	21.6	53.2	50.1	51.2	29.1	0.0	25.8	32.3	0.0	44.5
LnGrp LOS	D	C	C	D	D	D	C		C	C		D
Approach Vol, veh/h		1196			661			174			684	
Approach Delay, s/veh		33.9			50.8			28.6			41.5	
Approach LOS		C			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.9	7.1	33.5		22.5	18.0	22.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		20.5	6.0	29.0		18.5	15.0	20.0				
Max Q Clear Time (g_c+l1), s		8.0	3.9	15.6		20.5	13.7	17.5				
Green Ext Time (p_c), s		0.6	0.0	6.7		0.0	0.3	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay				39.6								
HCM 2010 LOS				D								

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	106	659	515	26	24	93
Future Vol, veh/h	106	659	515	26	24	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	716	560	28	26	101

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	588	0	0	1163	294
Stage 1	-	-	-	574	-
Stage 2	-	-	-	589	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	983	-	-	188	702
Stage 1	-	-	-	527	-
Stage 2	-	-	-	517	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	983	-	-	152	702
Mov Cap-2 Maneuver	-	-	-	152	-
Stage 1	-	-	-	527	-
Stage 2	-	-	-	417	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	983	-	-	-	152	702
HCM Lane V/C Ratio	0.117	-	-	-	0.172	0.144
HCM Control Delay (s)	9.1	-	-	-	33.5	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6	0.5

Redding Rancheria
3: Bechelli Ln & S Bonnyview Rd

Opening Year (2025) plus Project (3D) Conditions - MIT

Saturday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	795	15	18	838	191	18	5	16	288	6	102
Future Volume (veh/h)	115	795	15	18	838	191	18	5	16	288	6	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	125	864	16	20	911	208	20	5	17	318	0	111
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1846	34	42	1604	718	60	15	67	506	0	226
Arrive On Green	0.09	0.52	0.52	0.02	0.45	0.45	0.04	0.04	0.04	0.14	0.00	0.14
Sat Flow, veh/h	1774	3555	66	1774	3539	1583	1433	358	1583	3548	0	1583
Grp Volume(v), veh/h	125	430	450	20	911	208	25	0	17	318	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1851	1774	1770	1583	1791	0	1583	1774	0	1583
Q Serve(g_s), s	4.1	9.1	9.1	0.7	11.1	4.9	0.8	0.0	0.6	5.0	0.0	3.8
Cycle Q Clear(g_c), s	4.1	9.1	9.1	0.7	11.1	4.9	0.8	0.0	0.6	5.0	0.0	3.8
Prop In Lane	1.00		0.04	1.00		1.00	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	919	961	42	1604	718	76	0	67	506	0	226
V/C Ratio(X)	0.79	0.47	0.47	0.48	0.57	0.29	0.33	0.00	0.25	0.63	0.00	0.49
Avail Cap(c_a), veh/h	181	1129	1181	151	2199	984	564	0	499	1993	0	889
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.2	9.0	9.0	28.3	11.8	10.1	27.3	0.0	27.2	23.7	0.0	23.2
Incr Delay (d2), s/veh	18.0	0.4	0.4	8.1	0.3	0.2	2.5	0.0	2.0	1.3	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	4.5	4.7	0.4	5.5	2.1	0.4	0.0	0.3	2.5	0.0	1.7
LnGrp Delay(d),s/veh	44.2	9.3	9.3	36.4	12.1	10.3	29.9	0.0	29.2	25.0	0.0	24.9
LnGrp LOS	D	A	A	D	B	B	C		C	C		C
Approach Vol, veh/h		1005			1139			42			429	
Approach Delay, s/veh		13.7			12.2			29.6			25.0	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.5	5.4	34.5		12.4	9.3	30.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		18.5	5.0	37.5		33.0	6.0	36.5				
Max Q Clear Time (g_c+I1), s		2.8	2.7	11.1		7.0	6.1	13.1				
Green Ext Time (p_c), s		0.1	0.0	14.5		1.4	0.0	13.5				
Intersection Summary												
HCM 2010 Ctrl Delay			15.2									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↘	↑↑						↙	↗
Traffic Volume (veh/h)	0	740	359	172	640	0	0	0	0	158	1	407
Future Volume (veh/h)	0	740	359	172	640	0	0	0	0	158	1	407
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1863
Adj Flow Rate, veh/h	0	804	390	187	696	0				172	1	0
Adj No. of Lanes	0	3	0	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2021	944	227	2740	0				222	1	199
Arrive On Green	0.00	0.60	0.60	0.13	0.77	0.00				0.13	0.13	0.00
Sat Flow, veh/h	0	3558	1583	1774	3632	0				1764	10	1583
Grp Volume(v), veh/h	0	804	390	187	696	0				173	0	0
Grp Sat Flow(s),veh/h/ln	0	1695	1583	1774	1770	0				1775	0	1583
Q Serve(g_s), s	0.0	10.0	10.6	8.2	4.4	0.0				7.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.0	10.6	8.2	4.4	0.0				7.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	2021	944	227	2740	0				223	0	199
V/C Ratio(X)	0.00	0.40	0.41	0.82	0.25	0.00				0.78	0.00	0.00
Avail Cap(c_a), veh/h	0	2021	944	333	2740	0				594	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.88	0.88	0.85	0.85	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	8.6	8.7	34.0	2.5	0.0				33.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.2	8.8	0.2	0.0				5.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.8	4.9	4.6	2.2	0.0				4.1	0.0	0.0
LnGrp Delay(d),s/veh	0.0	9.1	9.8	42.8	2.7	0.0				39.6	0.0	0.0
LnGrp LOS		A	A	D	A					D		
Approach Vol, veh/h		1194			883						173	
Approach Delay, s/veh		9.3			11.2						39.6	
Approach LOS		A			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.3	51.7		14.1		65.9				
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s			15.0	26.2		26.8		45.2				
Max Q Clear Time (g_c+l1), s			10.2	12.6		9.6		6.4				
Green Ext Time (p_c), s			0.2	9.5		0.7		17.9				
Intersection Summary												
HCM 2010 Ctrl Delay			12.4									
HCM 2010 LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	500	0	0	536	257	276	3	255	0	0	0
Future Volume (veh/h)	398	500	0	0	536	257	276	3	255	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1900	1863	1863			
Adj Flow Rate, veh/h	433	543	0	0	583	279	300	3	277			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	449	2425	0	0	1340	599	366	4	330			
Arrive On Green	0.25	0.69	0.00	0.00	0.38	0.38	0.21	0.21	0.21			
Sat Flow, veh/h	1774	3632	0	0	3632	1583	1757	18	1583			
Grp Volume(v), veh/h	433	543	0	0	583	279	303	0	277			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	1583	1775	0	1583			
Q Serve(g_s), s	18.1	4.3	0.0	0.0	9.2	10.0	12.2	0.0	12.6			
Cycle Q Clear(g_c), s	18.1	4.3	0.0	0.0	9.2	10.0	12.2	0.0	12.6			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	449	2425	0	0	1340	599	369	0	330			
V/C Ratio(X)	0.96	0.22	0.00	0.00	0.44	0.47	0.82	0.00	0.84			
Avail Cap(c_a), veh/h	449	2425	0	0	1340	599	438	0	391			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.85	0.85	0.00	0.00	0.78	0.78	1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.7	4.4	0.0	0.0	17.3	17.6	28.4	0.0	28.5			
Incr Delay (d2), s/veh	29.9	0.2	0.0	0.0	0.8	2.0	10.2	0.0	13.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	12.5	2.1	0.0	0.0	4.6	4.7	7.0	0.0	6.7			
LnGrp Delay(d),s/veh	57.5	4.6	0.0	0.0	18.1	19.6	38.6	0.0	41.7			
LnGrp LOS	E	A			B	B	D		D			
Approach Vol, veh/h		976			862		580					
Approach Delay, s/veh		28.1			18.6		40.1					
Approach LOS		C			B		D					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		19.6		55.4			23.0	32.4				
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0				
Max Green Setting (Gmax), s		18.5		48.5			19.0	25.5				
Max Q Clear Time (g_c+l1), s		14.6		6.3			20.1	12.0				
Green Ext Time (p_c), s		1.0		10.5			0.0	6.7				
Intersection Summary												
HCM 2010 Ctrl Delay				27.6								
HCM 2010 LOS				C								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Future Volume (veh/h)	336	315	104	35	322	69	175	5	50	126	0	296
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	365	342	113	38	350	75	190	5	54	137	0	322
Adj No. of Lanes	2	2	1	1	2	0	0	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	449	934	418	60	486	103	567	15	519	349	0	518
Arrive On Green	0.13	0.26	0.26	0.03	0.17	0.17	0.33	0.33	0.33	0.20	0.00	0.20
Sat Flow, veh/h	3442	3539	1583	1774	2908	616	1731	46	1583	1774	0	1583
Grp Volume(v), veh/h	365	342	113	38	211	214	195	0	54	137	0	322
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1754	1776	0	1583	1774	0	1583
Q Serve(g_s), s	9.3	7.1	5.1	1.9	10.2	10.4	7.5	0.0	2.1	6.1	0.0	15.5
Cycle Q Clear(g_c), s	9.3	7.1	5.1	1.9	10.2	10.4	7.5	0.0	2.1	6.1	0.0	15.5
Prop In Lane	1.00		1.00	1.00		0.35	0.97		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	449	934	418	60	296	293	582	0	519	349	0	518
V/C Ratio(X)	0.81	0.37	0.27	0.63	0.71	0.73	0.33	0.00	0.10	0.39	0.00	0.62
Avail Cap(c_a), veh/h	574	1101	493	118	374	370	582	0	519	365	0	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.0	27.0	26.3	42.9	35.4	35.5	22.8	0.0	21.0	31.5	0.0	25.6
Incr Delay (d2), s/veh	6.6	0.2	0.3	10.3	4.7	5.3	1.5	0.0	0.4	0.7	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	3.5	2.3	1.1	5.4	5.5	3.9	0.0	1.0	3.0	0.0	7.1
LnGrp Delay(d),s/veh	44.7	27.2	26.6	53.2	40.1	40.8	24.4	0.0	21.4	32.2	0.0	27.7
LnGrp LOS	D	C	C	D	D	D	C		C	C		C
Approach Vol, veh/h		820			463			249			459	
Approach Delay, s/veh		34.9			41.5			23.7			29.1	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.5	7.1	27.7		21.7	15.8	19.1				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		21.5	6.0	28.0		18.5	15.0	19.0				
Max Q Clear Time (g_c+I1), s		9.5	3.9	9.1		17.5	11.3	12.4				
Green Ext Time (p_c), s		0.9	0.0	4.7		0.2	0.5	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay				33.7								
HCM 2010 LOS				C								

Redding Rancheria
 7: Churn Creek Rd/S Bonnyview Rd & Alrose Ln

Opening Year (2025) plus Project (3D) Conditions - MIT

Saturday PM Peak

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	78	413	354	26	10	72
Future Vol, veh/h	78	413	354	26	10	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	449	385	28	11	78

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	413	0	0	793	207
Stage 1	-	-	-	399	-
Stage 2	-	-	-	394	-
Critical Hdwy	4.14	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	3.52	3.32
Pot Cap-1 Maneuver	1142	-	-	326	799
Stage 1	-	-	-	647	-
Stage 2	-	-	-	650	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1142	-	-	294	799
Mov Cap-2 Maneuver	-	-	-	294	-
Stage 1	-	-	-	647	-
Stage 2	-	-	-	586	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1142	-	-	-	294	799
HCM Lane V/C Ratio	0.074	-	-	-	0.037	0.098
HCM Control Delay (s)	8.4	-	-	-	17.7	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.3

CUMULATIVE (2040) PLUS PROJECT MITIGATED ANALYSIS

2040 Friday PM Ultimate - Alternative A, Option 1 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAXIMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	45.82	347	121	57.0	36.8	559	D
		NBT	45.82	347	45	59.9			
		NBR	74.79	498	393	27.9			
		SBL	127.57	602	873	49.0	41.1	1,267	D
		SBT	127.57	602	41	52.4			
		SBR	45.5	416	353	20.1			
		EBT	170.82	686	1,187	50.5	48.9	1,609	D
		EBR	119.89	620	158	11.5			
		WBL	109.98	499	533	55.2			
		WBT	151.83	665	1,021	35.5	35.1	1,947	D
WBR	14.89	223	393	6.5					
							40.8	5,382	D
4	Bonnyview Rd and I-5 SB Ramp	SBL	34.93	246	224	25.8	47.8	960	D
		SBR	719.7	938	736	54.5	16.5	2,481	B
		EBT	116.18	641	1,638	21.2			
		EBR	5.3	281	843	7.4			
		WBL	113	398	336	0.7	30.5	1,534	C
		WBT	263.04	597	1,198	38.9	26.9	4,975	C
5	Bonnyview Rd and I-5 NB Ramp	NBL	126.6	692	643	32.7	25.4	948	C
		NBR	13.88	256	305	10.1	7.5	1,852	A
		EBL	11.69	335	885	4.3			
		EBT	32.85	293	967	10.3			
		WBR	5.75	215	379	18.7	32.4	1,279	C
							19.5	4,079	B
6	Bonnyview Rd and Churn Creek Rd	NBL	11.25	151	122	24.3	22.4	159	C
		NBT	11.25	151	10	15.2			
		NBR	10.56	153	27	16.5			
		SBL	185.71	485	181	62.4	55.5	730	F
		SBT	185.71	485	14	57.2			
		SBR	185.71	485	535	53.1			
		EBL	15.4	311	478	5.9	4.8	1,263	A
		EBT	15.4	311	712	4.2			
		EBR	15.66	318	73	2.6			
		WBL	35.51	295	32	14.6	13.9	839	B
WBT	35.51	295	630	14.8					
WBR	35.51	295	177	10.5					
							20.7	2,991	C
7	Bonnyview Rd and Alrose Ln	SBL	3.61	74	22	10.3	11.1	116	B
		SBR	5.79	74	94	11.3	11.1	116	B

2040 Friday PM Ultimate - Alternative A, Option 2 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAXIMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	44.94	204	123	60.5	30.6	435	C
		NBT	44.94	204	43	60.0			
		NBR	25.27	229	269	12.2			
		SBL	122.46	569	879	47.4	39.9	1,274	D
		SBT	122.46	569	41	50.2			
		SBR	43.9	341	354	20.1			
		EBL	115.78	661	232	56.5	61.0	1,409	E
		EBT	1108.14	1,335	1,037	68.5			
		EBR	1042.16	1,269	140	13.3			
		WBL	67.72	310	351	51.7	31.1	1,782	C
WBT	147.9	647	1,037	33.7					
WBR	12	229	394	5.8					
							41.9	4,900	D
4	Bonnyview Rd and I-5 SB Ramp	SBL	36.07	242	225	26.5	47.8	961	D
		SBR	719.16	939	736	54.3	17.3	2,214	B
		EBT	117.05	647	1,545	22.6			
		EBR	3.78	255	669	5.2			
		WBL	3.95	242	338	0.8	13.6	1,373	B
WBT	66.64	439	1,035	17.8	22.7	4,548	C		
5	Bonnyview Rd and I-5 NB Ramp	NBL	40.25	362	452	15.1	12.6	756	B
		NBR	13.07	247	304	9.0	7.2	1,764	A
		EBL	10.47	335	830	4.1			
		EBT	30.11	273	934	9.9			
		WBR	0.5	68	389	13.9	18.0	1,309	B
							11.9	3,829	B
6	Bonnyview Rd and Churn Creek Rd	NBL	7.95	141	122	14.2	13.7	157	B
		NBT	7.95	141	11	13.4			
		NBR	7.19	143	24	11.6			
		SBL	45.99	291	182	15.3	14.5	757	B
		SBT	45.99	291	15	17.0			
		SBR	45.99	291	560	14.2			
		EBL	10.65	271	461	4.7	4.0	1,229	A
		EBT	10.65	271	697	3.7			
		EBR	10.79	278	71	2.5			
		WBL	18.88	231	33	9.6	6.7	842	A
WBT	18.88	231	631	6.7					
WBR	18.88	231	178	6.4					
							7.9	2,985	A
7	Bonnyview Rd and Alrose Ln	SBL	2.77	70	22	10.1	9.2	116	A
		SBR	4.81	70	94	9.1	9.2	116	A

2040 Friday PM Ultimate - Alternative A, Option 3 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAXIMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	18.47	91	24	63.9	38.7	101	D
		NBT	18.47	91	27	71.5			
		NBR	2.92	79	50	8.8			
		SBL	119.95	536	924	46.5	39.8	1,257	D
		SBT	119.95	536	10	48.2			
		SBR	40.14	371	323	20.1			
		EBL	322.09	1,107	252	62.2	54.7	1,501	D
		EBT	1044.5	1,348	1,235	53.6			
		EBR	979.3	1,282	14	13.2			
		WBL	14.83	93	63	48.1	26.9	1,757	C
WBT	200.32	711	1,229	33.6					
WBR	14.47	268	465	6.5					
							39.7	4,616	D
4	Bonnyview Rd and I-5 SB Ramp	SBL	36.25	305	246	24.0	50.3	920	D
		SBR	641.19	935	674	59.9	15.0	2,232	B
		EBT	84.9	533	1,401	19.6			
		EBR	1.78	178	831	7.1			
		WBL	4.73	208	361	0.8	15.6	1,440	B
WBT	75.16	406	1,079	20.6	22.2	4,592	C		
5	Bonnyview Rd and I-5 NB Ramp	NBL	62.21	475	565	17.4	14.4	862	B
		NBR	12.15	220	297	8.7	7.6	1,647	A
		EBL	4.59	277	722	3.2			
		EBT	34.39	226	925	11.0			
		WBR	0.09	13	360	9.0	17.0	1,238	B
							12.3	3,747	B
6	Bonnyview Rd and Churn Creek Rd	NBL	9.79	153	122	15.6	14.9	159	B
		NBT	9.79	153	10	12.6	12.4	747	B
		NBR	9.08	155	27	13.0			
		SBL	38.78	278	187	13.1			
		SBT	38.78	278	15	12.0	4.1	1,214	A
		SBR	38.78	278	545	12.2			
		EBL	10.45	277	482	4.8			
		EBT	10.45	277	658	3.8	6.5	764	A
		EBR	10.56	284	74	2.6			
		WBL	15.42	206	32	6.6			
WBT	15.42	206	575	6.5	7.5	2,884	A		
WBR	15.42	206	157	6.3					
7	Bonnyview Rd and Alrose Ln	SBL	2.44	71	21	9.4	8.6	113	A
		SBR	4.36	71	92	8.4	8.6	113	A

2040 Friday PM Ultimate - Alternative B, Option 1 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	38.36	189	97	61.1	35.7	438	D
		NBT	38.36	189	40	61.3			
		NBR	46.02	346	301	24.2			
		SBL	123.32	591	874	47.9	40.3	1,265	D
		SBT	123.32	591	38	55.0			
		SBR	42.75	376	353	19.8			
		EBL	58.06	364	264	64.6	47.4	1,589	D
		EBT	158.9	655	1,188	47.9			
		EBR	109.48	589	137	10.4			
		WBL	90.25	501	465	51.9	33.3	1,927	C
		WBT	155.06	651	1,056	35.4			
WBR	14.59	256	406	6.5					
							39.5	5,219	D
4	Bonnyview Rd and I-5 SB Ramp	SBL	37.9	247	235	26.6	47.6	972	D
		SBR	718.34	944	737	54.3	16.6	2,391	B
		EBT	113.44	629	1,586	21.5			
		EBR	4.71	259	805	6.9			
		WBL	59.98	351	340	0.8	24.7	1,516	C
		WBT	181.95	550	1,176	31.6	25.3	4,879	C
5	Bonnyview Rd and I-5 NB Ramp	NBL	84.15	579	607	23.5	18.8	918	B
		NBR	14.42	262	311	9.7	7.8	1,813	A
		EBL	11.51	337	840	4.2			
		EBT	34.9	317	973	10.9			
		WBR	3.12	205	387	16.4	24.4	1,300	C
							15.6	4,031	B
6	Bonnyview Rd and Churn Creek Rd	NBL	10.35	154	122	17.7	16.9	159	C
		NBT	10.35	154	10	13.3			
		NBR	9.57	156	27	14.4			
		SBL	99.66	386	191	32.8	28.6	763	D
		SBT	99.66	386	15	28.1			
		SBR	99.66	386	557	27.3			
		EBL	15.45	329	484	5.3	4.5	1,275	A
		EBT	15.45	329	716	4.2			
		EBR	15.67	336	75	2.6			
		WBL	20.75	207	33	10.3	8.5	837	A
		WBT	20.75	207	626	8.7			
WBR	20.75	207	178	7.2					
							12.3	3,034	B
7	Bonnyview Rd and Alrose Ln	SBL	2.87	68	22	9.6	9.5	116	A
		SBR	5	68	94	9.5	9.5	116	A
							9.5	116	A

2040 Friday PM Ultimate - Alternative B, Option 2 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	36.83	166	98	58.1	28.7	346	C
		NBT	36.83	166	37	58.3			
		NBR	15.34	159	211	9.9			
		SBL	120.2	597	876	46.8	39.3	1,268	D
		SBT	120.2	597	38	53.3			
		SBR	43.31	375	354	19.1	61.4	1,400	E
		EBL	245.01	701	236	57.6			
		EBT	1093.76	1,345	1,044	67.7			
		EBR	1028.05	1,279	120	13.3	30.0	1,768	C
		WBL	56.67	216	304	49.0			
		WBT	150.73	654	1,060	33.8			
WBR	12.56	218	404	5.8					
							41.5	4,782	D
4	Bonnyview Rd and I-5 SB Ramp	SBL	37.14	257	236	26.0	47.3	974	D
		SBR	716.72	943	738	54.1	16.8	2,160	B
		EBT	109.5	608	1,494	21.9			
		EBR	2.89	225	666	5.2			
		WBL	0.71	99	337	0.8	12.5	1,359	B
		WBT	58.14	297	1,022	16.3			
							22.1	4,493	C
5	Bonnyview Rd and I-5 NB Ramp	NBL	38.73	347	446	14.8	12.4	759	B
		NBR	13.4	238	313	9.0	7.4	1,726	A
		EBL	8.05	316	799	4.0			
		EBT	31.8	254	927	10.3	17.3	1,300	B
		WBR	0.91	68	388	12.2			
							11.8	3,785	B
6	Bonnyview Rd and Churn Creek Rd	NBL	9	146	122	14.9	14.6	159	B
		NBT	9	146	10	14.4			
		NBR	8.34	148	27	13.0			
		SBL	45.65	311	192	16.3	14.4	768	B
		SBT	45.65	311	15	16.5			
		SBR	45.65	311	561	13.6	4.1	1,231	A
		EBL	11.71	296	468	4.9			
		EBT	11.71	296	691	3.8			
		EBR	11.87	303	72	2.4	7.3	836	A
		WBL	20.57	224	33	9.6			
		WBT	20.57	224	626	7.3			
WBR	20.57	224	177	6.7					
							8.2	2,994	A
7	Bonnyview Rd and Alrose Ln	SBL	3.2	78	25	9.9	9.3	130	A
		SBR	5.66	78	105	9.2			
									9.3

2040 Friday PM Ultimate - Alternative B, Option 3 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	18.4	91	24	63.9	38.5	101	D
		NBT	18.4	91	27	71.1			
		NBR	2.92	77	50	8.8			
		SBL	118.66	577	918	46.2	39.3	1,250	D
		SBT	118.66	577	10	45.1			
		SBR	38.85	390	322	19.3			
		EBL	241.64	1,222	250	62.1	55.5	1,475	E
		EBT	1004.7	1,337	1,212	54.6			
		EBR	939.94	1,271	13	12.2			
		WBL	15.45	100	64	47.7	26.5	1,740	C
		WBT	192.47	700	1,212	33.1			
WBR	14.1	303	464	6.4					
							39.6	4,566	D
4	Bonnyview Rd and I-5 SB Ramp	SBL	35.66	274	248	23.5	48.0	925	D
		SBR	604.67	939	677	57.0	15.0	2,202	B
		EBT	85.06	493	1,398	19.8			
		EBR	1.18	116	804	6.7			
		WBL	4.21	167	353	0.8	14.9	1,409	B
		WBT	70.53	360	1,056	19.7	21.7	4,536	C
5	Bonnyview Rd and I-5 NB Ramp	NBL	56.18	462	537	16.9	13.9	835	B
		NBR	11.52	217	298	8.5	7.8	1,647	A
		EBL	4.64	286	722	3.2			
		EBT	35.62	271	925	11.3			
		WBR	0.35	36	360	8.8	16.7	1,237	B
							12.1	3,719	B
6	Bonnyview Rd and Churn Creek Rd	NBL	8.36	134	122	14.2	13.7	159	B
		NBT	8.36	134	10	12.9			
		NBR	7.66	135	27	11.5			
		SBL	43.79	316	186	14.1	13.6	746	B
		SBT	43.79	316	15	13.4			
		SBR	43.79	316	545	13.4			
		EBL	11.18	307	483	4.9	4.1	1,217	A
		EBT	11.18	307	659	3.8			
		EBR	11.29	313	75	2.4			
		WBL	15.26	185	33	6.1	6.3	764	A
		WBT	15.26	185	575	6.4			
WBR	15.26	185	156	6.0					
							7.7	2,886	A
7	Bonnyview Rd and Alrose Ln	SBL	4.08	99	25	9.3	9.8	127	A
		SBR	6.12	98	102	9.9	9.8	127	A
							9.8	127	A

2040 Friday PM Ultimate - Alternative C, Option 1 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	41.55	254	107	60.0	36.4	485	D
		NBT	41.55	254	41	64.4			
		NBR	55.17	381	337	25.5			
		SBL	130.51	646	875	49.4	41.6	1,266	D
		SBT	130.51	646	38	55.8			
		SBR	49.33	485	353	20.6			
		EBL	59	322	264	65.9	47.3	1,594	D
		EBT	155.52	613	1,186	47.6			
		EBR	106.19	547	144	11.0			
		WBL	95.7	439	490	53.1	33.7	1,935	C
		WBT	155.57	653	1,044	35.2			
WBR	14.23	266	401	6.2					
							39.9	5,280	D
4	Bonnyview Rd and I-5 SB Ramp	SBL	36.9	253	231	26.4	47.6	967	D
		SBR	718.13	941	736	54.3	16.7	2,426	B
		EBT	114.85	592	1,605	21.6			
		EBR	4.6	245	821	7.0			
		WBL	81.09	368	340	0.7	25.4	1,526	C
		WBT	207.63	567	1,186	32.5			
							25.5	4,919	C
5	Bonnyview Rd and I-5 NB Ramp	NBL	100.55	625	618	26.6	20.9	928	C
		NBR	13.49	235	310	9.5			
		EBL	13.42	353	859	4.4	7.6	1,829	A
		EBT	32.96	292	970	10.4			
		WBR	2.48	151	385	17.4	27.1	1,300	C
							16.9	4,057	B
6	Bonnyview Rd and Churn Creek Rd	NBL	10.96	149	122	20.3	19.0	158	C
		NBT	10.96	149	10	15.3			
		NBR	10.23	151	26	14.7			
		SBL	127.11	423	190	40.3	36.6	761	E
		SBT	127.11	423	14	37.4			
		SBR	127.11	423	557	35.3			
		EBL	13.96	294	482	5.5	4.7	1,272	A
		EBT	13.96	294	715	4.3			
		EBR	14.15	301	75	2.7			
		WBL	22.89	245	33	9.3	9.7	837	A
		WBT	22.89	245	627	10.3			
WBR	22.89	245	177	7.4					
							14.8	3,028	B
7	Bonnyview Rd and Alrose Ln	SBL	2.86	70	22	10.0	9.5	116	A
		SBR	5	70	94	9.4			
							9.5	116	A

2040 Friday PM Ultimate - Alternative C, Option 2 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	41.75	199	110	60.3	30.6	382	C
		NBT	41.75	199	39	64.6			
		NBR	19.31	179	233	11.0			
		SBL	120.69	557	875	47.4	39.7	1,266	D
		SBT	120.69	557	38	51.3			
		SBR	42.59	363	353	19.5			
		EBL	133.03	346	233	57.9	61.8	1,396	E
		EBT	1106.16	1,339	1,037	68.6			
		EBR	1040.2	1,273	126	13.4			
		WBL	60.81	276	322	49.8	30.5	1,774	C
		WBT	150.08	663	1,051	34.1			
WBR	13.18	233	401	6.0					
							42.0	4,818	D
4	Bonnyview Rd and I-5 SB Ramp	SBL	37.43	257	232	26.7	47.5	972	D
		SBR	717.7	939	740	54.0	16.7	2,172	B
		EBT	110.52	590	1,505	22.0			
		EBR	2.58	200	667	4.9			
		WBL	0.92	121	338	0.8	12.7	1,365	B
		WBT	60.21	316	1,027	16.6	22.1	4,509	C
5	Bonnyview Rd and I-5 NB Ramp	NBL	38.31	333	448	14.7	12.2	761	B
		NBR	12.88	228	313	8.7			
		EBL	9.75	340	811	4.1	7.1	1,731	A
		EBT	29.85	258	920	9.8	17.6	1,302	B
		WBR	0.74	108	387	12.8			
							11.7	3,794	B
6	Bonnyview Rd and Churn Creek Rd	NBL	7.99	139	122	14.7	14.1	159	B
		NBT	7.99	139	10	11.6			
		NBR	7.33	141	27	12.0			
		SBL	54.79	352	189	17.2	16.5	762	C
		SBT	54.79	352	14	15.4			
		SBR	54.79	352	559	16.2			
		EBL	9.84	246	465	4.8	4.0	1,224	A
		EBT	9.84	246	687	3.7			
		EBR	9.98	253	72	2.4			
		WBL	20.78	236	32	9.8	7.4	836	A
		WBT	20.78	236	627	7.4			
WBR	20.78	236	177	6.8					
							8.7	2,981	A
7	Bonnyview Rd and Alrose Ln	SBL	2.71	70	22	9.5	9.1	116	A
		SBR	4.84	70	94	9.1			
									9.1

2040 Friday PM Ultimate - Alternative C, Option 3 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	18.38	91	24	64.6	38.7	101	D
		NBT	18.38	91	27	70.7			
		NBR	2.99	79	50	9.0			
		SBL	119.12	566	918	46.2	39.4	1,250	D
		SBT	119.12	566	10	44.7			
		SBR	37.69	321	322	19.8			
		EBL	237.31	1,191	251	62.0	54.6	1,494	D
		EBT	1009.13	1,340	1,229	53.6			
		EBR	944.49	1,274	14	11.2			
		WBL	15.54	97	64	48.2	26.6	1,745	C
		WBT	194.84	706	1,219	33.1			
WBR	14.87	329	462	6.3					
							39.5	4,590	D
4	Bonnyview Rd and I-5 SB Ramp	SBL	35.68	280	247	23.6	49.3	919	D
		SBR	614.41	935	672	58.8	15.1	2,216	B
		EBT	85.49	500	1,402	19.9			
		EBR	1.11	132	814	6.8			
		WBL	7.3	242	356	0.7	15.9	1,421	B
		WBT	78.49	441	1,065	21.0	22.3	4,556	C
5	Bonnyview Rd and I-5 NB Ramp	NBL	58.24	474	548	17.0	14.2	844	B
		NBR	12.43	212	296	8.9	7.8	1,648	A
		EBL	5.98	319	723	3.2			
		EBT	35.47	278	925	11.4			
		WBR	0	0	360	7.8	16.8	1,237	B
							12.2	3,729	B
6	Bonnyview Rd and Churn Creek Rd	NBL	9.09	153	122	15.1	14.6	159	B
		NBT	9.09	153	10	11.8			
		NBR	8.39	155	27	13.0			
		SBL	36.26	280	187	12.8	11.9	748	B
		SBT	36.26	280	15	11.2			
		SBR	36.26	280	546	11.6			
		EBL	12.47	302	482	5.0	4.3	1,215	A
		EBT	12.47	302	659	3.9			
		EBR	12.62	308	74	2.7			
		WBL	16.11	173	32	6.8	6.5	764	A
		WBT	16.11	173	575	6.6			
WBR	16.11	173	157	5.9					
							7.4	2,886	A
7	Bonnyview Rd and Alrose Ln	SBL	2.48	69	21	9.2	8.6	113	A
		SBR	4.41	69	92	8.5	8.6	113	A
							8.6	113	A

2040 Friday PM Ultimate - Alternative D, Option 1 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	27.21	125	60	59.8	32.4	267	C
		NBT	27.21	125	30	63.0			
		NBR	18.32	166	177	18.0			
		SBL	118.1	554	875	46.8	39.3	1,254	D
		SBT	118.1	554	25	50.3			
		SBR	42.55	372	354	19.9			
		EBL	62.31	317	266	67.3	46.8	1,499	D
		EBT	136.47	542	1,177	44.0			
		EBR	90.02	476	56	9.1			
		WBL	39.42	209	202	46.9	28.3	1,772	C
		WBT	167.92	674	1,133	33.4			
WBR	14.86	319	437	6.4					
							37.2	4,792	D
4	Bonnyview Rd and I-5 SB Ramp	SBL	43.58	321	273	25.7	47.3	987	D
		SBR	655.91	939	714	55.6	17.1	2,259	B
		EBT	107.34	647	1,507	22.2			
		EBR	4.54	263	752	7.0			
		WBL	5.44	223	338	0.8	14.3	1,389	B
		WBT	71.08	417	1,051	18.6	22.7	4,635	C
5	Bonnyview Rd and I-5 NB Ramp	NBL	49.94	394	491	16.8	14.0	803	B
		NBR	14.83	255	312	9.7	7.9	1,774	A
		EBL	9.71	307	793	4.0			
		EBT	36.39	310	981	11.1			
		WBR	0.25	47	386	12.9	17.6	1,286	B
							12.4	3,863	B
6	Bonnyview Rd and Churn Creek Rd	NBL	9.74	163	122	15.8	15.2	159	C
		NBT	9.74	163	10	14.1			
		NBR	9.01	164	27	13.0			
		SBL	45.51	286	191	14.9	13.8	766	B
		SBT	45.51	286	15	14.3			
		SBR	45.51	286	560	13.5			
		EBL	14.05	308	491	5.2	4.4	1,283	A
		EBT	14.05	308	717	4.0			
		EBR	14.26	315	75	2.6			
		WBL	18.94	209	32	8.2	6.9	819	A
		WBT	18.94	209	610	6.9			
WBR	18.94	209	177	6.6					
							8.0	3,027	A
7	Bonnyview Rd and Alrose Ln	SBL	2.64	70	22	9.9	9.1	116	A
		SBR	4.73	69	94	8.9	9.1	116	A
							9.1	116	A

2040 Friday PM Ultimate - Alternative D, Option 2 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	28.21	129	60	63.9	31.0	223	C
		NBT	28.21	129	31	61.5			
		NBR	8.45	125	132	8.9			
		SBL	115.85	532	876	46.4	38.7	1,254	D
		SBT	115.85	532	24	50.3			
		SBR	40.69	337	354	19.1	60.1	1,406	E
		EBL	318.62	1,184	249	56.2			
		EBT	963.14	1,342	1,105	63.2			
		EBR	897.88	1,276	52	11.9	27.5	1,725	C
		WBL	31.24	140	155	47.2			
		WBT	168.22	684	1,130	33.1			
WBR	12.79	240	440	6.1					
							40.6	4,608	D
4	Bonnyview Rd and I-5 SB Ramp	SBL	41.67	278	272	24.7	46.4	982	D
		SBR	625.65	932	710	54.7	16.5	2,141	B
		EBT	100.29	564	1,461	21.8			
		EBR	1.87	174	680	5.2			
		WBL	0.82	96	338	0.8	12.4	1,343	B
		WBT	56	289	1,005	16.3			
							21.8	4,466	C
5	Bonnyview Rd and I-5 NB Ramp	NBL	39.86	369	443	15.2	12.7	755	B
		NBR	13.93	255	312	9.3			
		EBL	8.62	329	774	3.6	7.7	1,732	A
		EBT	35.74	284	958	11.0			
		WBR	0.46	69	387	10.6			
							11.8	3,774	B
6	Bonnyview Rd and Churn Creek Rd	NBL	9.31	156	122	15.3	14.7	159	B
		NBT	9.31	156	10	13.2			
		NBR	8.58	158	27	12.5			
		SBL	50.36	326	189	15.5	14.9	764	B
		SBT	50.36	326	14	13.3			
		SBR	50.36	326	561	14.7	4.1	1,261	A
		EBL	11.1	295	482	4.9			
		EBT	11.1	295	705	3.8			
		EBR	11.26	302	74	2.6	7.2	822	A
		WBL	20.12	252	33	8.6			
		WBT	20.12	252	611	7.2			
WBR	20.12	252	178	6.9					
							8.3	3,006	A
7	Bonnyview Rd and Alrose Ln	SBL	3.54	78	25	10.6	9.5	119	A
		SBR	4.87	70	94	9.2			
									9.5

2040 Friday PM Ultimate - Alternative D, Option 3 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	18.4	91	24	64.7	38.6	101	D
		NBT	18.4	91	27	71.3			
		NBR	2.83	76	50	8.5			
		SBL	112.29	566	903	44.9	38.1	1,238	D
		SBT	112.29	566	11	42.9			
		SBR	36.58	334	324	18.9			
		EBL	166.04	780	264	62.1	53.7	1,476	D
		EBT	794.31	1,333	1,198	52.4			
		EBR	732.24	1,266	14	9.7			
		WBL	14.31	82	65	44.4	26.0	1,718	C
		WBT	181.13	680	1,189	32.7			
WBR	13.15	246	464	6.3					
							38.6	4,533	D
4	Bonnyview Rd and I-5 SB Ramp	SBL	35.97	289	252	23.5	47.4	939	D
		SBR	596.59	941	687	56.2	15.1	2,171	B
		EBT	86.31	534	1,436	20.0			
		EBR	1.16	165	735	5.5			
		WBL	3.55	144	343	0.8	13.8	1,371	B
		WBT	63.91	337	1,028	18.1	21.5	4,481	C
5	Bonnyview Rd and I-5 NB Ramp	NBL	49.43	404	493	16.3	13.6	790	B
		NBR	12.83	227	297	9.0			
		EBL	5.49	304	738	3.3	7.9	1,683	A
		EBT	37.21	295	945	11.6	16.9	1,240	B
		WBR	0.04	16	360	9.4			
							12.1	3,713	B
6	Bonnyview Rd and Churn Creek Rd	NBL	8.57	149	122	14.7	14.2	159	B
		NBT	8.57	149	10	11.5			
		NBR	7.92	151	27	13.1			
		SBL	38.66	273	187	12.9	12.2	747	B
		SBT	38.66	273	15	11.3			
		SBR	38.66	273	545	12.0			
		EBL	12.73	308	490	4.9	4.1	1,233	A
		EBT	12.73	308	668	3.8			
		EBR	12.89	315	75	2.5			
		WBL	17.39	194	32	7.4	6.9	764	A
		WBT	17.39	194	575	6.8			
WBR	17.39	194	157	6.9					
							7.5	2,903	A
7	Bonnyview Rd and Alrose Ln	SBL	3.26	98	25	8.9	8.6	117	A
		SBR	4.48	70	92	8.6			
							8.6	117	A

2040 Saturday PM Ultimate - Alternative A, Option 1 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	38.57	251	123	58.6	26.9	595	C
		NBT	38.57	251	26	58.6			
		NBR	53.09	410	446	16.3			
		SBL	63.47	215	355	58.6	45.0	546	D
		SBT	63.47	215	43	56.0			
		SBR	8.83	123	148	9.2			
		EBL	34.36	140	138	59.5	28.1	1,137	C
		EBT	55.4	301	801	28.3			
		EBR	22.72	235	198	5.7			
		WBL	269.48	633	697	99.0	50.0	1,723	D
		WBT	127.8	603	779	20.9			
WBR	4.97	136	247	3.8					
							39.7	4,001	D
4	Bonnyview Rd and I-5 SB Ramp	SBL	25.89	197	174	25.1	45.8	930	D
		SBR	660.46	936	756	50.6	13.1	1,625	B
		EBT	65.16	452	1,122	17.6			
		EBR	0.17	56	503	3.0			
		WBL	2.13	131	201	0.6	15.1	1,170	B
		WBT	61.11	330	969	18.1	21.9	3,725	C
5	Bonnyview Rd and I-5 NB Ramp	NBL	52.92	401	528	16.4	13.0	769	B
		NBR	5.42	188	241	5.7	5.4	1,296	A
		EBL	4.58	270	645	3.4			
		EBT	16.78	164	651	7.4			
		WBR	0	0	311	5.9	14.2	955	B
							10.1	3,020	B
6	Bonnyview Rd and Churn Creek Rd	NBL	7.11	161	174	9.7	9.3	225	A
		NBT	7.11	161	4	6.4			
		NBR	6.72	163	47	8.0			
		SBL	13.69	167	161	7.4	6.8	504	A
		SBT	13.69	167	0	0.0			
		SBR	13.69	167	343	6.5			
		EBL	7.36	239	391	4.2	3.3	887	A
		EBT	7.36	239	392	2.7			
		EBR	7.47	245	104	1.8			
		WBL	7.73	135	38	5.0	4.5	604	A
		WBT	7.73	135	441	4.3			
WBR	7.73	135	125	4.9					
							5.0	2,220	A
7	Bonnyview Rd and Alrose Ln	SBL	1.31	68	10	8.1	7.6	83	A
		SBR	3.09	68	73	7.6	7.6	83	A

2040 Saturday PM Ultimate - Alternative A, Option 2 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	39.51	171	125	59.5	25.0	450	C
		NBT	39.51	171	28	57.9			
		NBR	18.09	185	297	7.3			
		SBL	63.77	222	358	58.9	45.2	548	D
		SBT	63.77	222	42	57.0			
		SBR	8.57	123	148	8.8			
		EBL	34.42	134	141	58.8	32.6	955	C
		EBT	78.32	427	814	28.1			
		EBR	44.71	361	0	0.0			
		WBL	88.89	325	466	51.2	25.3	1,527	C
		WBT	49.95	317	805	17.4			
WBR	4.63	144	256	3.4					
							30.4	3,480	C
4	Bonnyview Rd and I-5 SB Ramp	SBL	22.72	201	182	21.6	36.0	973	D
		SBR	436.28	928	791	39.3			
		EBT	69.18	489	1,130	18.1	14.4	1,493	B
		EBR	0.54	97	363	2.8			
		WBL	0.01	5	197	0.6	12.3	930	B
		WBT	40.42	199	733	15.4			
							20.0	3,396	C
5	Bonnyview Rd and I-5 NB Ramp	NBL	20.15	253	287	12.8	9.7	528	A
		NBR	6.02	170	241	6.1			
		EBL	6.4	311	653	3.7	5.7	1,313	A
		EBT	16.58	185	660	7.6			
		WBR	0.01	2	311	6.7	15.3	953	B
							9.7	2,794	A
6	Bonnyview Rd and Churn Creek Rd	NBL	7.24	169	173	9.4	9.0	224	A
		NBT	7.24	169	4	10.0			
		NBR	6.89	171	47	7.5			
		SBL	14.96	166	160	7.7	7.1	504	A
		SBT	14.96	166	0	0.0			
		SBR	14.96	166	344	6.9			
		EBL	8.71	261	395	4.4	3.5	895	A
		EBT	8.71	261	395	3.0			
		EBR	8.84	268	105	1.9			
		WBL	8.15	143	38	5.9	4.5	604	A
		WBT	8.15	143	441	4.3			
WBR	8.15	143	125	4.8					
							5.1	2,227	A
7	Bonnyview Rd and Alrose Ln	SBL	2.08	75	12	8.0	7.7	85	A
		SBR	3.14	67	73	7.7			
									7.7

2040 Saturday PM Ultimate - Alternative A, Option 3 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	11.18	66	21	71.0	40.9	54	D
		NBT	11.18	66	9	63.6			
		NBR	1.13	66	24	6.0			
		SBL	63.55	232	410	58.1	46.0	552	D
		SBT	63.55	232	6	54.6			
		SBR	8.21	124	136	9.2			
		EBL	36.41	141	142	62.3	21.7	1,188	C
		EBT	61.09	519	1,031	16.3			
		EBR	37.27	453	15	3.7			
		WBL	6.94	58	27	49.4	13.8	1,237	B
		WBT	54.16	393	928	16.0			
WBR	4.4	158	282	3.5					
							23.3	3,031	C
4	Bonnyview Rd and I-5 SB Ramp	SBL	15.98	180	167	16.7	15.2	648	B
		SBR	44.02	424	481	14.7	10.7	1,480	B
		EBT	38.7	345	918	14.8			
		EBR	0.11	30	562	4.0			
		WBL	0.11	29	218	0.6	12.4	979	B
		WBT	42.63	226	761	15.8	12.2	3,107	B
5	Bonnyview Rd and I-5 NB Ramp	NBL	28.25	291	385	13.0	10.0	619	A
		NBR	4.07	142	234	5.0			
		EBL	0.29	88	461	1.8	6.0	1,088	A
		EBT	20.89	148	627	9.1	13.8	887	B
		WBR	0	0	290	2.7			
							9.6	2,594	A
6	Bonnyview Rd and Churn Creek Rd	NBL	6.78	154	173	8.9	8.5	224	A
		NBT	6.78	154	4	7.9			
		NBR	6.34	156	47	7.2			
		SBL	13.77	175	157	6.8	6.6	493	A
		SBT	13.77	175	0	0.0			
		SBR	13.77	175	336	6.5			
		EBL	5.68	223	394	4.1	3.2	857	A
		EBT	5.68	223	358	2.6			
		EBR	5.76	230	105	1.8			
		WBL	7.04	122	38	4.5	4.4	533	A
		WBT	7.04	122	383	4.4			
WBR	7.04	122	112	4.4					
							4.8	2,107	A
7	Bonnyview Rd and Alrose Ln	SBL	2.18	75	14	6.6	7.7	106	A
		SBR	4.17	75	92	7.9			
									7.7

2040 Saturday PM Ultimate - Alternative B, Option 1 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	26.73	113	76	60.3	24.3	337	C
		NBT	26.73	113	17	68.6			
		NBR	16.51	189	244	10.0			
		SBL	61.99	212	360	57.7	44.5	542	D
		SBT	61.99	212	34	61.3			
		SBR	8.51	123	148	8.7			
		EBL	34.77	152	138	59.5	26.9	1,103	C
		EBT	49.29	280	814	25.4			
		EBR	19.2	214	151	5.1			
		WBL	98.1	327	511	53.1	27.2	1,565	C
		WBT	53.36	374	799	18.0			
		WBR	5.32	142	255	3.8			
							29.5	3,547	C
4	Bonnyview Rd and I-5 SB Ramp	SBL	17.52	201	185	16.5	23.5	872	C
		SBR	144.16	813	687	25.4	13.8	1,444	B
		EBT	56.75	403	1,017	18.3			
		EBR	0.07	27	427	3.1			
		WBL	0.52	83	198	0.6	12.8	1,072	B
		WBT	49.34	278	874	15.6	16.0	3,388	B
5	Bonnyview Rd and I-5 NB Ramp	NBL	36.87	339	440	14.3	11.2	678	B
		NBR	4.6	156	238	5.4	5.5	1,203	A
		EBL	2.87	235	553	2.9			
		EBT	17.73	167	650	7.8			
		WBR	0	0	310	4.5	14.1	944	B
							9.8	2,825	A
6	Bonnyview Rd and Churn Creek Rd	NBL	6.29	152	173	8.7	8.5	224	A
		NBT	6.29	152	4	8.3			
		NBR	5.87	154	47	7.6			
		SBL	14.03	178	161	7.8	6.9	505	A
		SBT	14.03	178	0	0.0			
		SBR	14.03	178	344	6.5			
		EBL	7.32	233	394	4.3	3.5	883	A
		EBT	7.32	233	385	3.0			
		EBR	7.43	240	104	2.1			
		WBL	6.9	124	38	4.4	4.3	597	A
		WBT	6.9	124	431	4.1			
WBR	6.9	124	128	4.7					
							5.0	2,209	A
7	Bonnyview Rd and Alrose Ln	SBL	1.32	70	10	8.0	7.6	83	A
		SBR	3.1	70	73	7.6	7.6	83	A

2040 Saturday PM Ultimate - Alternative B, Option 2 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	27.02	117	73	63.4	26.1	253	C
		NBT	27.02	117	17	60.4			
		NBR	7.47	118	163	5.8			
		SBL	63.1	229	367	58.5	45.0	549	D
		SBT	63.1	229	34	57.7			
		SBR	8.17	121	148	8.4			
		EBL	34.48	140	139	60.1	27.6	1,109	C
		EBT	75.88	458	819	26.2			
		EBR	43.64	392	151	5.1			
		WBL	63.82	250	335	51.1	22.1	1,393	C
		WBT	46.42	328	801	16.0			
WBR	4.43	136	257	3.3					
							28.0	3,304	C
4	Bonnyview Rd and I-5 SB Ramp	SBL	18.1	207	185	17.2	22.4	870	C
		SBR	130.81	729	685	23.9	13.9	1,370	B
		EBT	56.08	423	1,021	17.8			
		EBR	0.09	36	349	2.6			
		WBL	0.01	5	195	0.6	11.7	906	B
		WBT	37.79	179	711	14.8	15.6	3,146	B
5	Bonnyview Rd and I-5 NB Ramp	NBL	18.64	246	273	12.5	9.8	515	A
		NBR	6.5	175	242	6.7	6.0	1,210	A
		EBL	3.62	280	556	3.0			
		EBT	19.28	190	654	8.7			
		WBR	0	0	309	4.4	14.4	944	B
							9.7	2,669	A
6	Bonnyview Rd and Churn Creek Rd	NBL	7.21	143	174	9.5	9.1	224	A
		NBT	7.21	143	4	9.9			
		NBR	6.8	145	46	7.8			
		SBL	13.18	145	161	7.9	6.7	504	A
		SBT	13.18	145	0	0.0			
		SBR	13.18	145	343	6.1			
		EBL	9.11	264	396	4.4	3.5	890	A
		EBT	9.11	264	389	2.9			
		EBR	9.27	270	105	2.1			
		WBL	7.68	125	38	4.8	4.4	596	A
		WBT	7.68	125	431	4.3			
WBR	7.68	125	127	4.9					
							5.0	2,214	A
7	Bonnyview Rd and Alrose Ln	SBL	2.06	75	12	7.8	7.7	85	A
		SBR	3.16	70	73	7.7	7.7	85	A
							7.7	85	A

2040 Saturday PM Ultimate - Alternative B, Option 3 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	11.46	68	21	71.3	41.5	54	D
		NBT	11.46	68	9	67.7			
		NBR	1.07	68	24	5.6			
		SBL	61.96	216	402	56.7	44.8	544	D
		SBT	61.96	216	6	61.4			
		SBR	8.04	114	136	8.8			
		EBL	36.55	144	142	62.5	21.6	1,134	C
		EBT	54.76	486	977	16.0			
		EBR	31.61	420	15	3.7			
		WBL	7.46	75	28	49.4	13.0	1,197	B
		WBT	48.06	372	893	14.9			
WBR	4.07	150	276	3.3					
							22.8	2,929	C
4	Bonnyview Rd and I-5 SB Ramp	SBL	15.94	171	167	16.7	15.2	648	B
		SBR	44.2	421	481	14.7	10.9	1,416	B
		EBT	39.97	355	915	14.9			
		EBR	0.05	24	501	3.4			
		WBL	0.14	44	207	0.6	12.1	928	B
		WBT	39.41	230	721	15.4	12.2	2,992	B
5	Bonnyview Rd and I-5 NB Ramp	NBL	23.67	274	331	12.9	9.8	564	A
		NBR	4.75	139	233	5.5			
		EBL	0.28	103	460	1.8	6.1	1,087	A
		EBT	21.31	157	627	9.3	14.1	887	B
		WBR	0	0	290	2.5			
							9.7	2,538	A
6	Bonnyview Rd and Churn Creek Rd	NBL	6.06	150	173	8.7	8.2	223	A
		NBT	6.06	150	4	7.6			
		NBR	5.63	152	46	6.7			
		SBL	12.25	156	158	7.2	6.4	493	A
		SBT	12.25	156	0	0.0			
		SBR	12.25	156	335	6.0			
		EBL	5.43	244	393	4.0	3.2	855	A
		EBT	5.43	244	357	2.7			
		EBR	5.49	251	105	1.9			
		WBL	7.25	137	38	5.2	4.4	533	A
		WBT	7.25	137	383	4.3			
WBR	7.25	137	112	4.6					
							4.8	2,104	A
7	Bonnyview Rd and Alrose Ln	SBL	2.35	75	14	7.3	8.0	106	A
		SBR	4.24	75	92	8.1			
							8.0	106	A

2040 Saturday PM Ultimate - Alternative C, Option 1 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	35.91	176	114	57.5	26.0	543	C
		NBT	35.91	176	24	62.6			
		NBR	43.94	336	405	15.0			
		SBL	62.32	217	356	57.9	44.6	544	D
		SBT	62.32	217	40	58.4			
		SBR	8.55	125	148	9.0			
		EBL	34.85	141	139	59.4	27.9	1,123	C
		EBT	53.93	288	801	27.6			
		EBR	22.12	222	183	5.5			
		WBL	152.04	480	646	64.1	34.3	1,692	C
		WBT	63.61	421	794	19.8			
WBR	5.55	144	252	3.8					
							32.8	3,902	C
4	Bonnyview Rd and I-5 SB Ramp	SBL	21.68	201	183	20.5	37.5	937	D
		SBR	447.28	925	754	41.7	13.2	1,587	B
		EBT	62.78	440	1,100	17.7			
		EBR	0.15	50	487	3.1			
		WBL	0.46	71	201	0.6	13.2	1,134	B
		WBT	53.56	271	933	15.9	19.4	3,658	B
5	Bonnyview Rd and I-5 NB Ramp	NBL	46.26	383	497	15.4	12.1	739	B
		NBR	4.56	143	242	5.4	5.1	1,282	A
		EBL	3.75	261	627	3.2			
		EBT	15.58	151	655	7.1			
		WBR	0	0	309	5.8	14.5	948	B
							9.8	2,969	A
6	Bonnyview Rd and Churn Creek Rd	NBL	6.72	161	173	9.2	8.7	223	A
		NBT	6.72	161	4	7.8			
		NBR	6.29	163	46	7.0			
		SBL	12.25	156	162	7.5	6.4	505	A
		SBT	12.25	156	0	0.0			
		SBR	12.25	156	343	5.9			
		EBL	7.86	257	394	4.4	3.4	890	A
		EBT	7.86	257	392	2.9			
		EBR	8.01	264	104	1.8			
		WBL	7.67	137	38	5.0	4.5	603	A
		WBT	7.67	137	438	4.3			
WBR	7.67	137	127	5.0					
							4.9	2,221	A
7	Bonnyview Rd and Alrose Ln	SBL	1.33	68	10	7.8	7.6	83	A
		SBR	3.11	68	73	7.6	7.6	83	A

2040 Saturday PM Ultimate - Alternative C, Option 2 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	36.11	159	114	58.0	24.2	409	C
		NBT	36.11	159	25	59.7			
		NBR	14.7	168	270	6.7			
		SBL	62.9	220	359	57.8	44.5	548	D
		SBT	62.9	220	40	58.0			
		SBR	8.42	124	149	8.8	28.5	1,138	C
		EBL	34.79	169	139	60.1			
		EBT	82.94	524	815	28.4			
		EBR	48.77	457	184	5.5			
		WBL	82.15	307	422	53.4			
		WBT	49.48	337	806	17.0	25.0	1,486	C
WBR	4.96	145	258	3.5					
							29.0	3,581	C
4	Bonnyview Rd and I-5 SB Ramp	SBL	19.74	196	183	18.9	31.1	940	C
		SBR	282.52	906	757	34.0	13.7	1,467	B
		EBT	63.13	448	1,105	17.3			
		EBR	0.26	59	362	2.7			
		WBL	0.08	31	196	0.6	11.9	923	B
		WBT	39.39	197	727	15.0			
							18.1	3,330	B
5	Bonnyview Rd and I-5 NB Ramp	NBL	18.31	229	284	11.9	9.2	524	A
		NBR	5.76	166	240	5.9	5.5	1,289	A
		EBL	3.79	251	631	3.4			
		EBT	16.2	170	658	7.5	14.8	951	B
		WBR	0	0	310	5.8			
							9.4	2,764	A
6	Bonnyview Rd and Churn Creek Rd	NBL	7.69	156	174	10.6	10.0	225	A
		NBT	7.69	156	4	9.4			
		NBR	7.28	158	47	7.8			
		SBL	14.08	164	161	7.9	7.0	504	A
		SBT	14.08	164	0	0.0			
		SBR	14.08	164	343	6.6	3.7	895	A
		EBL	9.41	256	396	4.8			
		EBT	9.41	256	394	3.0			
		EBR	9.57	262	105	1.8			
		WBL	6.97	131	37	4.6			
		WBT	6.97	131	438	4.3	4.4	602	A
WBR	6.97	131	127	4.8					
							5.3	2,226	A
7	Bonnyview Rd and Alrose Ln	SBL	2.76	81	12	7.9	7.6	85	A
		SBR	3.1	67	73	7.6			
									7.6

2040 Saturday PM Ultimate - Alternative C, Option 3 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	11.22	66	21	71.3	40.8	54	D
		NBT	11.22	66	9	63.3			
		NBR	1.08	66	24	5.7			
		SBL	63.39	223	409	58.2	46.1	550	D
		SBT	63.39	223	6	59.9			
		SBR	7.9	120	135	8.9			
		EBL	35.88	165	141	60.8	21.7	1,167	C
		EBT	59.23	487	1,011	16.5			
		EBR	35.11	421	15	4.8			
		WBL	7.6	66	27	51.5	13.5	1,230	B
		WBT	51.42	361	922	15.4			
WBR	4.29	181	281	3.5					
							23.1	3,001	C
4	Bonnyview Rd and I-5 SB Ramp	SBL	16.16	187	168	17.0	15.2	649	B
		SBR	43.78	418	481	14.6	10.8	1,458	B
		EBT	39.45	328	918	14.9			
		EBR	0	2	540	3.7			
		WBL	0.09	28	218	0.6	11.9	970	B
		WBT	40.77	217	752	15.2	12.1	3,077	B
5	Bonnyview Rd and I-5 NB Ramp	NBL	28.08	287	374	13.3	10.3	608	B
		NBR	4.79	145	234	5.5			
		EBL	0.62	143	461	1.8	6.3	1,088	A
		EBT	22.05	160	627	9.6	14.0	888	B
		WBR	0	0	290	2.7			
							9.9	2,584	A
6	Bonnyview Rd and Churn Creek Rd	NBL	6	140	173	8.5	8.1	223	A
		NBT	6	140	4	7.4			
		NBR	5.61	142	46	6.9			
		SBL	13.17	172	157	6.8	6.3	492	A
		SBT	13.17	172	0	0.0			
		SBR	13.17	172	335	6.1			
		EBL	7.11	262	393	4.2	3.3	855	A
		EBT	7.11	262	358	2.7			
		EBR	7.23	271	104	2.0			
		WBL	6.38	126	38	5.3	4.1	533	A
		WBT	6.38	126	383	3.9			
WBR	6.38	126	112	4.4					
							4.7	2,103	A
7	Bonnyview Rd and Alrose Ln	SBL	2.69	75	14	7.5	8.6	106	A
		SBR	4.61	75	92	8.8			
									8.6

2040 Saturday PM Ultimate - Alternative D, Option 1 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	29.36	120	82	63.3	24.7	387	C
		NBT	29.36	120	18	62.6			
		NBR	21.96	194	287	11.3			
		SBL	60.75	220	362	58.1	44.5	533	D
		SBT	60.75	220	23	58.0			
		SBR	8.93	121	148	9.0			
		EBL	36.34	142	138	61.9	27.9	1,029	C
		EBT	47.01	268	808	24.5			
		EBR	17.87	202	83	4.4			
		WBL	56.51	224	299	49.0	22.3	1,366	C
		WBT	53.87	343	809	18.3			
WBR	5.33	147	258	3.8					
							27.9	3,315	C
4	Bonnyview Rd and I-5 SB Ramp	SBL	17.59	172	184	16.6	18.2	765	B
		SBR	73.66	552	581	18.7	13.8	1,477	B
		EBT	59.21	416	1,032	18.4			
		EBR	0.11	29	445	3.0			
		WBL	0.02	14	197	0.6	12.0	983	B
		WBT	42.02	213	786	14.8	14.3	3,225	B
5	Bonnyview Rd and I-5 NB Ramp	NBL	28.79	297	362	13.9	10.8	601	B
		NBR	5.94	175	239	6.1	5.7	1,217	A
		EBL	3.38	250	569	2.9			
		EBT	17.52	185	648	8.1			
		WBR	0	0	311	4.4	13.8	933	B
							9.6	2,751	A
6	Bonnyview Rd and Churn Creek Rd	NBL	7.05	155	173	9.4	9.1	223	A
		NBT	7.05	155	4	7.3			
		NBR	6.67	157	46	7.8			
		SBL	14.26	174	161	7.2	6.8	504	A
		SBT	14.26	174	0	0.0			
		SBR	14.26	174	343	6.6			
		EBL	8.86	282	392	4.5	3.5	880	A
		EBT	8.86	282	384	3.0			
		EBR	9	288	104	1.8			
		WBL	7.44	128	37	4.2	4.5	584	A
		WBT	7.44	128	420	4.4			
WBR	7.44	128	127	4.8					
							5.1	2,191	A
7	Bonnyview Rd and Alrose Ln	SBL	1.39	67	10	8.1	7.8	83	A
		SBR	3.18	67	73	7.8	7.8	83	A
							7.8	83	A

2040 Saturday PM Ultimate - Alternative D, Option 2 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAIXMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	28.59	121	78	62.6	24.3	297	C
		NBT	28.59	121	18	61.2			
		NBR	9.82	138	201	6.1			
		SBL	60.97	215	362	57.3	43.9	533	D
		SBT	60.97	215	23	58.6			
		SBR	8.73	111	148	8.9	28.2	1,034	C
		EBL	34.39	130	138	59.6			
		EBT	72.17	434	813	25.3			
		EBR	40.63	368	83	4.6			
		WBL	42.17	180	208	49.7	19.4	1,283	B
		WBT	49.88	370	818	16.7			
WBR	4.69	149	257	3.6					
							26.9	3,147	C
4	Bonnyview Rd and I-5 SB Ramp	SBL	17.61	190	184	16.7	18.2	765	B
		SBR	73.37	565	581	18.7	14.3	1,402	B
		EBT	58.95	425	1,040	18.3			
		EBR	0.16	36	362	2.6	11.7	905	B
		WBL	0	4	195	0.6			
		WBT	37.37	193	710	14.7			
							14.5	3,072	B
5	Bonnyview Rd and I-5 NB Ramp	NBL	18.51	216	283	12.1	9.5	524	A
		NBR	6.81	207	241	6.5			
		EBL	3.07	245	573	3.0	5.9	1,226	A
		EBT	18.68	187	653	8.4			
		WBR	0	0	311	4.6			
							9.4	2,683	A
6	Bonnyview Rd and Churn Creek Rd	NBL	7.36	151	173	9.8	9.4	223	A
		NBT	7.36	151	4	13.7			
		NBR	6.93	153	46	7.9			
		SBL	14.35	172	161	7.5	6.9	504	A
		SBT	14.35	172	0	0.0			
		SBR	14.35	172	343	6.6	3.5	889	A
		EBL	8.44	278	396	4.6			
		EBT	8.44	278	388	2.8			
		EBR	8.59	285	105	1.9			
		WBL	8.42	136	37	5.7	4.9	586	A
		WBT	8.42	136	421	4.7			
WBR	8.42	136	128	5.3					
							5.2	2,202	A
7	Bonnyview Rd and Alrose Ln	SBL	2.43	75	12	7.3	7.7	85	A
		SBR	3.19	65	73	7.7			
									7.7

2040 Saturday PM Ultimate - Alternative D, Option 3 (REVISED - Longer WBL)

NODE	INTERSECTION	TURNING MOVEMENT	AVERAGE QUEUE LENGTH (ft)	MAXIMUM QUEUE LENGTH (ft)	VOLUME	DELAY (sec/veh)	APPROACH DELAY (sec/veh)	APPROACH VOLUME	APPROACH LOS
			QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)			
3	Bonnyview Rd and Bechelli Ln	NBL	11.32	68	21	71.2	40.3	55	D
		NBT	11.32	68	9	65.0			
		NBR	1.03	68	25	5.4			
		SBL	60.44	215	395	57.2	44.9	537	D
		SBT	60.44	215	6	63.2			
		SBR	7.6	111	136	8.5			
		EBL	37.22	154	141	63.3	21.7	1,065	C
		EBT	48.42	444	910	15.5			
		EBR	26.24	378	14	4.1			
		WBL	7.04	59	28	48.5	13.3	1,202	B
WBT	49.65	369	897	15.3					
WBR	4.29	140	277	3.5					
							22.9	2,859	C
4	Bonnyview Rd and I-5 SB Ramp	SBL	16.41	184	167	17.2	14.9	648	B
		SBR	42.08	419	481	14.1	10.9	1,340	B
		EBT	38.59	343	915	14.7			
		EBR	0	0	425	2.7			
		WBL	0.06	22	209	0.6	12.5	934	B
		WBT	41.31	199	725	15.9	12.3	2,922	B
5	Bonnyview Rd and I-5 NB Ramp	NBL	23	247	337	12.5	9.5	570	A
		NBR	4.27	141	233	5.2	6.1	1,086	A
		EBL	0.97	184	460	1.9			
		EBT	21.29	167	626	9.3			
		WBR	0	0	289	2.6	14.2	887	B
							9.7	2,543	A
6	Bonnyview Rd and Churn Creek Rd	NBL	5.98	148	173	8.8	8.3	223	A
		NBT	5.98	148	4	7.6			
		NBR	5.52	150	46	6.4			
		SBL	13.35	183	158	7.2	6.5	493	A
		SBT	13.35	183	0	0.0			
		SBR	13.35	183	335	6.2			
		EBL	5.67	234	393	3.9	3.1	854	A
		EBT	5.67	234	356	2.6			
		EBR	5.76	241	105	1.9			
		WBL	7.8	128	37	5.7	4.6	531	A
WBT	7.8	128	383	4.5					
WBR	7.8	128	111	4.5					
							4.8	2,101	A
7	Bonnyview Rd and Alrose Ln	SBL	2.16	75	14	7.3	7.6	106	A
		SBR	4.06	75	92	7.7	7.6	106	A

APPENDIX G

NOISE MEASUREMENT DATA AND ANALYSIS

Redding Rancheria Alternatives A, B, and C

Noise Monitoring Site A

Information Panel

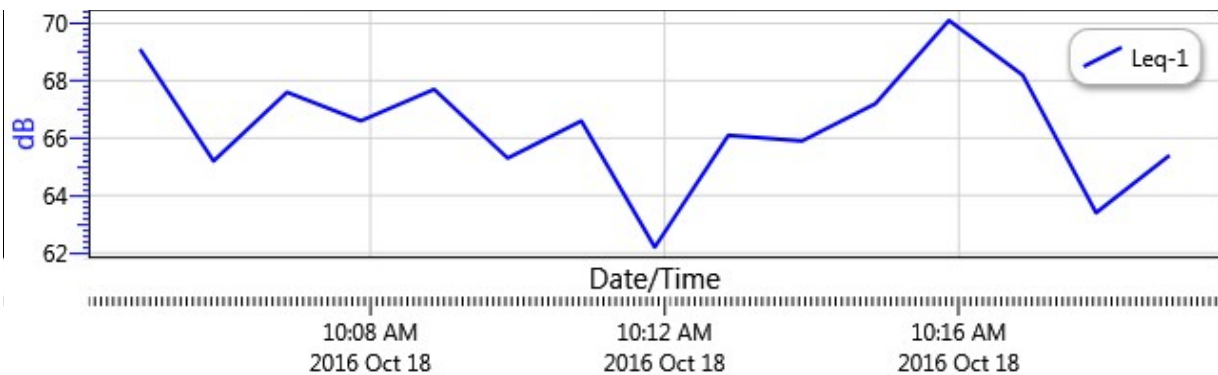
Name	Redding Proposed Project 15-Minute 172
Start Time	10/18/2016 10:03:52 AM
Stop Time	10/18/2016 10:18:57 AM
Device Name	BGH060008
Model Type	SoundPro DL
Device Firmware Rev	R.12L
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	66.8 dB	CNEL	1	66.8 dB
LDN	1	66.8 dB	SEL	1	96.4 dB
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Criterion Time	1	8 hrs.

Logged Data Chart

Redding Proposed Project 15-Minute 172: Logged Data Chart



Redding Rancheria Alternatives A, B, and C

Noise Monitoring Site B

Information Panel

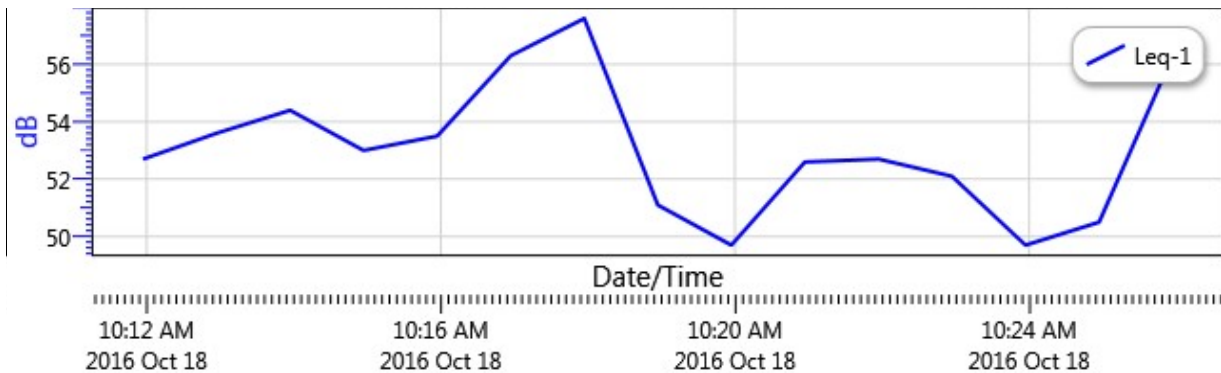
Name	Redding Proposed Project 15-Minute 181
Start Time	10/18/2016 10:10:57 AM
Stop Time	10/18/2016 10:26:39 AM
Device Name	BGH060009
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	53.6 dB	CNEL	1	53.6 dB
LDN	1	53.6 dB	SEL	1	83.4 dB
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Criterion Time	1	8 hrs.

Logged Data Chart

Redding Proposed Project 15-Minute 181: Logged Data Chart



Redding Rancheria Alternatives A, B, and C

Noise Monitoring Site C

Information Panel

Name	Redding Proposed Project 24-Hour 273
Start Time	10/18/2016 10:49:35 AM
Stop Time	10/19/2016 10:48:25 AM
Device Name	BGH060008
Model Type	SoundPro DL
Device Firmware Rev	R.12L
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	48.8 dB	CNEL	1	55 dB
LDN	1	54.6 dB	SEL	1	98.1 dB
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Criterion Time	1	8 hrs.

Logged Data Chart

Redding Proposed Project 24-Hour 273: Logged Data Chart



Redding Rancheria Alternatives A, B, and C

Noise Monitoring Site D

Information Panel

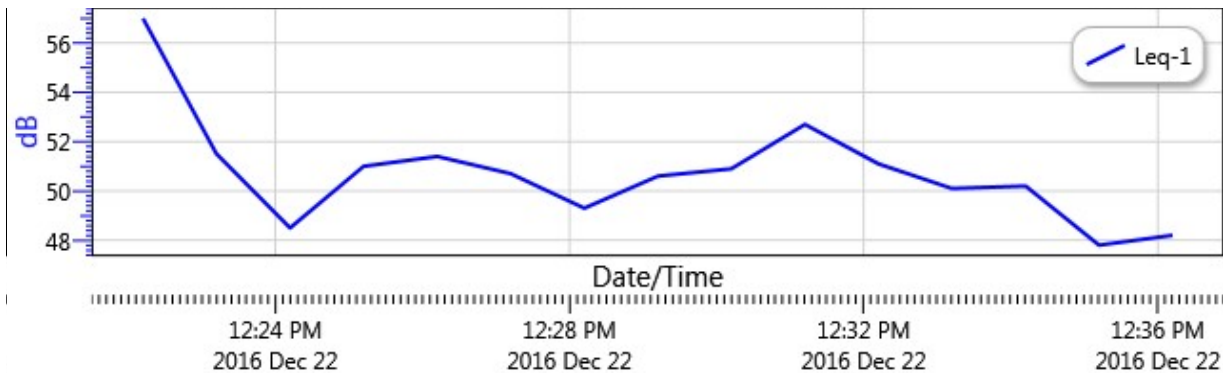
Name	Redding Alts. A, B, and C Site D
Start Time	12/22/2016 12:21:12 PM
Stop Time	12/22/2016 12:36:42 PM
Device Name	BGH060008
Model Type	SoundPro DL
Device Firmware Rev	R.12L
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	51.3 dB	CNEL	1	51.3 dB
LDN	1	51.3 dB	SEL	1	81 dB
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Criterion Time	1	8 hrs.

Logged Data Chart

Redding Alts. A, B, and C Site D: Logged Data Chart



Redding Rancheria Alternatives A, B, and C

Noise Monitoring Site E

Information Panel

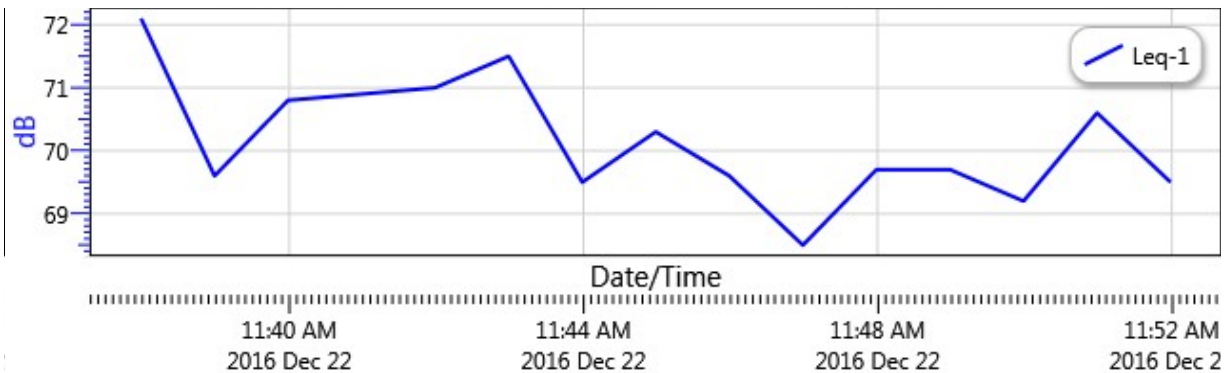
Name	Redding Alts. A, B, and C Site E
Start Time	12/22/2016 11:36:59 AM
Stop Time	12/22/2016 11:52:20 AM
Device Name	BGH060008
Model Type	SoundPro DL
Device Firmware Rev	R.12L
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	70.2 dB	CNEL	1	70.2 dB
LDN	1	70.2 dB	SEL	1	99.8 dB
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Criterion Time	1	8 hrs.

Logged Data Chart

Redding Alts. A, B, and C Site E: Logged Data Chart



Redding Rancheria Alternatives A, B, and C

Noise Monitoring Site F

Information Panel

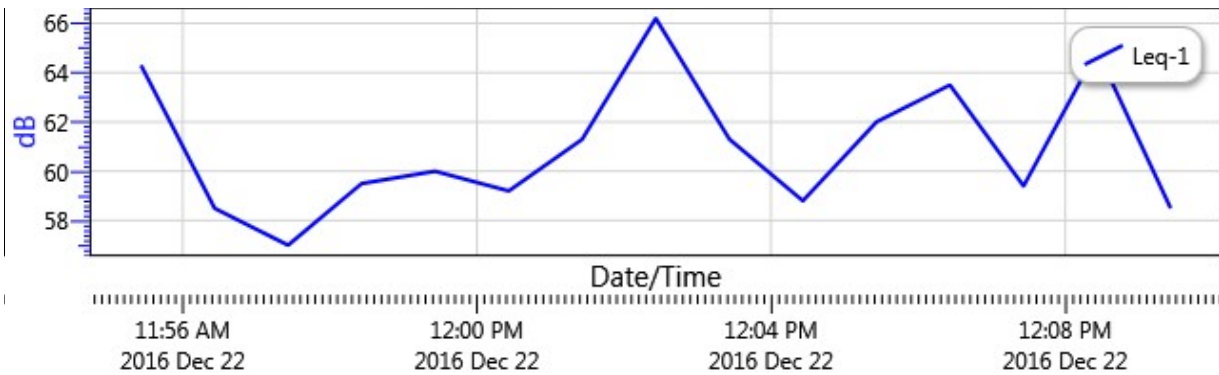
Name	Redding Alts. A, B, and C Site F
Start Time	12/22/2016 11:54:26 AM
Stop Time	12/22/2016 12:09:54 PM
Device Name	BGH060008
Model Type	SoundPro DL
Device Firmware Rev	R.12L
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	61.7 dB	LDN	1	61.7 dB
CNEL	1	61.7 dB	SEL	1	91.4 dB
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Criterion Time	1	8 hrs.

Logged Data Chart

Redding Alts. A, B, and C Site F: Logged Data Chart



Redding Rancheria

Noise Monitoring Location G

Information Panel

Name	Redding Noise Monitoring Location 1
Start Time	7/18/2017 12:01:12 PM
Stop Time	7/19/2017 12:05:23 PM
Device Name	BGH060009
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	52.4 dB	CNEL	1	58.8 dB
LDN	1	58.4 dB	SEL	1	101.8 dB
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Criterion Time	1	8 hrs.

Logged Data Chart

Redding 1: Logged Data Chart



Redding Rancheria

Noise Monitoring Location H

Information Panel

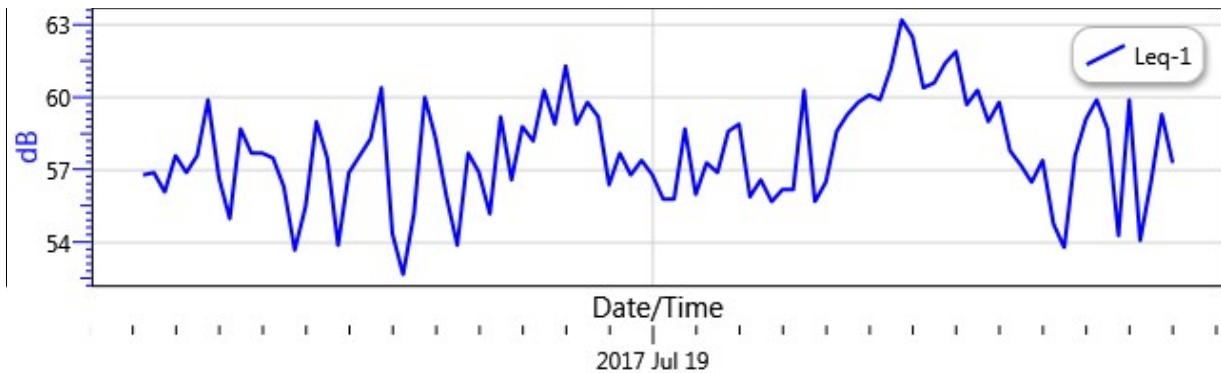
Name	Redding Noise Monitoring Location 2
Start Time	7/18/2017 11:59:23 AM
Stop Time	7/19/2017 12:00:45 PM
Device Name	BGH060008
Model Type	SoundPro DL
Device Firmware Rev	R.12L
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	58.2 dB	CNEL	1	65.4 dB
LDN	1	65.2 dB	SEL	1	107.6 dB
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Criterion Time	1	8 hrs.

Logged Data Chart

Redding 2: Logged Data Chart



Redding Rancheria

Noise Monitoring Location I

Information Panel

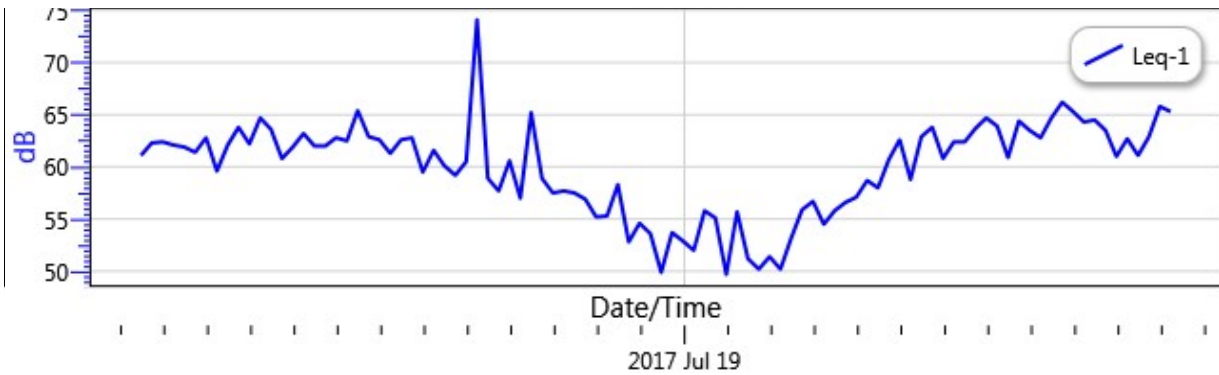
Name	Redding Noise Monitoring Location 3
Start Time	7/18/2017 11:12:48 AM
Stop Time	7/19/2017 11:13:19 AM
Device Name	BGH060007
Model Type	SoundPro DL
Device Firmware Rev	R.13D
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	62.1 dB	CNEL	1	66.9 dB
LDN	1	66.1 dB	SEL	1	111.4 dB
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Criterion Time	1	8 hrs.

Logged Data Chart

Redding 3: Logged Data Chart



Redding Rancheria Alternative E

Noise Monitoring Site 1

Information Panel

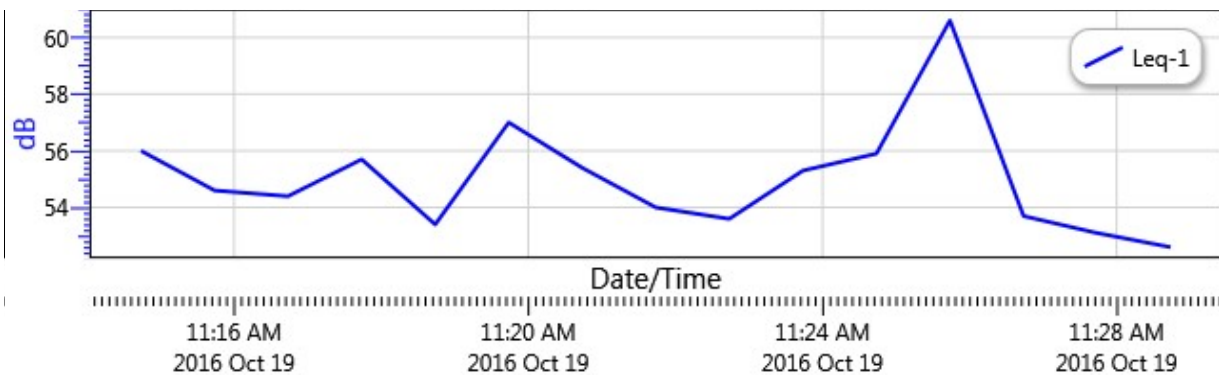
Name	Redding Alt D 15-Minute 274
Start Time	10/19/2016 11:13:44 AM
Stop Time	10/19/2016 11:28:52 AM
Device Name	BGH060008
Model Type	SoundPro DL
Device Firmware Rev	R.12L
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	55.5 dB	CNEL	1	55.5 dB
LDN	1	55.5 dB	SEL	1	85.1 dB
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Criterion Time	1	8 hrs.

Logged Data Chart

Redding Alt D 15-Minute 274 : Logged Data Chart



Redding Rancheria Alternative E

Noise Monitoring Site 2

Information Panel

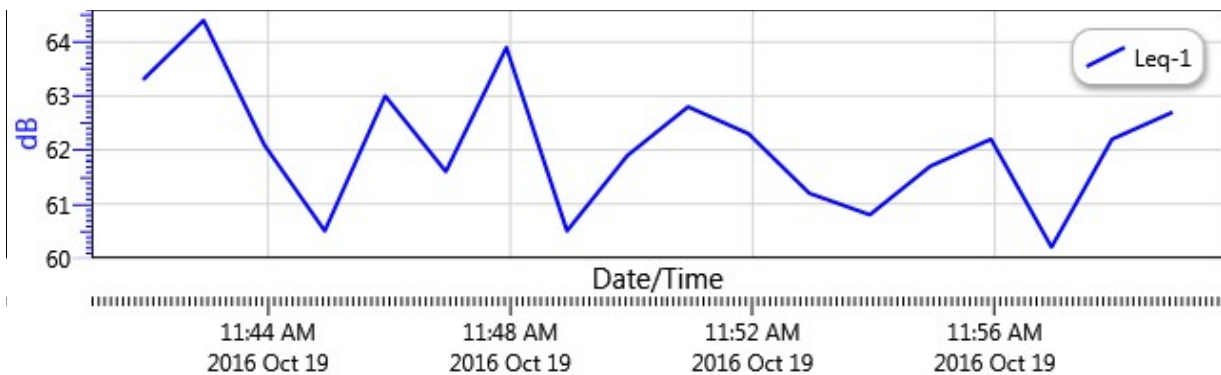
Name	Redding Alt D 15-Minute 275
Start Time	10/19/2016 11:40:56 AM
Stop Time	10/19/2016 11:59:18 AM
Device Name	BGH060008
Model Type	SoundPro DL
Device Firmware Rev	R.12L
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	62.2 dB	CNEL	1	62.2 dB
LDN	1	62.2 dB	SEL	1	92.6 dB
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Criterion Time	1	8 hrs.

Logged Data Chart

Redding Alt D 15-Minute 275: Logged Data Chart





June 25, 2018

Ryan Lee Sawyer
AES
1801 7th Street, Ste 100
Sacramento, CA 95811
rsawyer@analyticalcorp.com

Subject: Traffic Noise Increases on Adra Way and Bechelli Lane south of South Bonneyview – Redding Rancheria Strawberry Fields Site

Dear Ms. Sawyer:

Saxelby Acoustics has prepared an analysis of traffic noise increases on the two above-referenced roadway segments. The intent of this analysis is to provide an assessment of the day/night (L_{dn}) noise level along these segments for comparison to the standards of the City of Redding and Shasta County.

Significance Criteria

CEQA does not define a threshold of “significant increase” regarding noise exposure; Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from the project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3-dB change is barely perceptible,
- A 5-dB change is clearly perceptible, and
- A 10-dB change is perceived as being twice or half as loud.

A limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-project-noise conditions. Table 1 is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn} .

TABLE 1: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

Ambient Noise Level Without Project, L_{dn}	Increase Required for Significant Impact
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

Source: Federal Interagency Committee on Noise (FICON)

Based on the Table 1 data, an increase in the traffic noise level of 3.0 dB or more would be significant where the pre-project noise levels are within 60-65 dB L_{dn} . Extending this concept to higher noise levels, an increase in the traffic noise level of 1.5 dB or more may be significant where the pre-project traffic noise level exceeds 65 dB L_{dn} . The rationale for the Table 1 criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

It should be noted that this methodology was adopted by Shasta County in General Plan noise policy N-g. The City of Redding has also adopted this policy in General Plan noise policy N2-D, with one exception. Based upon Policy N2-D, the City does not consider an increase up to 60 dB L_{dn} to be significant where existing noise levels are less than 60 dB L_{dn} . For example, based upon this policy, an increase in ambient noise levels from 50 dB L_{dn} to 59 dB L_{dn} would be less than significant.

Off-Site Traffic Noise Prediction Methodology

To predict noise levels due to traffic, the Federal Highway Administration's Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The model is used in conjunction with the Calveno reference noise emission curves, and accounts for vehicle volume and speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the project site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. To calculate L_{dn} , average daily traffic (ADT) volume data is adjusted based on the assumed day/night distribution of traffic on the project roadways.

Traffic volumes for existing conditions were obtained from the project traffic study the form of peak hour intersection movements. The peak hour traffic volumes were compiled into segment volumes and converted into daily traffic volumes using a factor of 10, according to common industry practice. Truck usage and vehicle speeds on the local area roadways were estimated from field observations and Caltrans data, where available.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segment. It should be noted that traffic noise levels also include the contribution to overall traffic noise levels from Interstate 5 and S. Bonnyview Road which are dominant noise sources near the surface streets analyzed in the report. This analysis includes assessment of both opening year and cumulative 2040 traffic conditions.

Table 2 summarizes the modeled traffic noise levels at the nearest sensitive receptors along each roadway segment in the Project area under existing conditions with and without the project. Table 3 summarizes the modeled traffic noise levels at the nearest sensitive receptors along each roadway segment in the Project area under Cumulative 2040 conditions with and without the project.

Appendix A provides the complete inputs and results of the FHWA traffic modeling.

TABLE 2: PREDICTED TRAFFIC NOISE LEVELS (EXISTING CONDITIONS WITH AND WITHOUT THE PROJECT)

Roadway	Segment	Existing Ambient, dBA L _{dn}	Opening Year		Opening Year + Project		Change		Significance Threshold	Significant increase?
			Weekday Peak Hour [Daily ADT]	dBA L _{dn}	Weekday Peak Hour	dBA L _{dn}	Weekday Peak Hour [Daily ADT]	dBA L _{dn}		
Adra Way	North of Smith Road	58.4	6 ¹ [60]	58.4 ²	322 [3,220]	60.0 ³	316 [3,160]	+1.6	≥5 dBA	No
Bechelli Lane	South of South Bonnyview Road, Alt. A, Opt. 1	61.7	151 [1,510]	62.3 ⁴	1,290 [12,900]	65.2 ⁵	1,139 [11,390]	+2.9	≥3 dBA	No
Bechelli Lane	South Bonnyview Road, Alt. A, Opt. 2	61.7	151 [1,510]	62.3 ⁴	973 [9,730]	64.6 ⁶	822 [8,220]	+2.3	≥3 dBA	No
Bechelli Lane	South Bonnyview Road, Alt. B, Opt. 1	61.7	151 [1,510]	62.3 ⁴	1,051 [10,510]	64.8 ⁷	900 [9,000]	+2.5	≥3 dBA	No
Bechelli Lane	South Bonnyview Road, Alt. C, Opt. 1	61.7	151 [1,510]	62.3 ⁴	1,138 [11,380]	64.9 ⁸	987 [9,870]	+2.6	≥3 dBA	No

Notes:

- 1 - Adra Way is an unpaved private road that currently provides access to one residence. Because weekday peak hour traffic volumes were not available for Adra Way, a value of 6 vehicle trips per weekday P.M. peak traffic hour was conservatively assumed.
- 2 – Includes the existing ambient noise level of 58.4 dBA L_{dn} added to the Opening Year Adra Way contribution of 31.8 dBA L_{dn}.
- 3 – Includes the existing ambient noise level of 58.4 dBA L_{dn} added to the Opening Year + Project Adra Way contribution of 55.0 dBA L_{dn}.
- 4 – Includes the existing ambient noise level of 61.7 dBA L_{dn} added to the Opening Year Bechelli Lane contribution of 53.4 dBA L_{dn}.
- 5 – Includes the existing ambient noise level of 61.7 dBA L_{dn} added to the Opening Year + Project Alt. A, Opt. 1 Bechelli Lane contribution of 62.7 dBA L_{dn}.
- 6 – Includes the existing ambient noise level of 61.7 dBA L_{dn} added to the Opening Year + Project Alt. A, Opt. 2 Bechelli Lane contribution of 61.5 dBA L_{dn}.
- 7 – Includes the existing ambient noise level of 61.7 dBA L_{dn} added to the Opening Year + Project Alt. B, Opt. 1 Bechelli Lane contribution of 61.8 dBA L_{dn}.
- 8 – Includes the existing ambient noise level of 61.7 dBA L_{dn} added to the Opening Year + Project Alt. C, Opt. 1 Bechelli Lane contribution of 62.1 dBA L_{dn}.

TABLE 3: PREDICTED TRAFFIC NOISE LEVELS (CUMULATIVE 2040 CONDITIONS WITH AND WITHOUT THE PROJECT)

Roadway	Segment	Existing Ambient, dBA L _{dn}	Cumulative Year		Cumulative Year + Project		Change		Significance Threshold	Significant Increase?
			Weekday Peak Hour [Daily ADT]	dBA L _{dn}	Weekday Peak Hour	dBA L _{dn}	Weekday Peak Hour [Daily ADT]	dBA L _{dn}		
Adra Way	North of Smith Road	58.4	9 ¹ [90]	58.4 ²	325 [3,250]	60.0 ³	316 [3,160]	+1.6	≥5 dBA	No
Bechelli Lane	South of South Bonnyview Road, Alt. A, Opt. 1	61.7	191 [1,910]	62.4 ⁴	1,330 [13,330]	65.3 ⁵	1,139 [11,390]	+3.0	≥3 dBA	Yes
Bechelli Lane	South Bonnyview Road, Alt. A, Opt. 2	61.7	191 [1,910]	62.4 ⁴	1,013 [10,130]	64.7 ⁶	822 [8,220]	+2.4	≥3 dBA	No
Bechelli Lane	South Bonnyview Road, Alt. B, Opt. 1	61.7	191 [1,910]	62.4 ⁴	1,091 [10,910]	64.8 ⁷	900 [9,000]	+2.5	≥3 dBA	No
Bechelli Lane	South Bonnyview Road, Alt. C, Opt. 1	61.7	191 [1,910]	62.4 ⁴	1,178 [11,780]	65.0 ⁸	987 [9,870]	+2.7	≥3 dBA	No

Notes:

- 1 - Adra Way is an unpaved private road that currently provides access to one residence. Because weekday peak hour traffic volumes were not available for Adra Way, a value of 9 vehicle trips per weekday P.M. peak traffic hour was conservatively assumed.
- 2 – Includes the existing ambient noise level of 58.4 dBA L_{dn} added to the Cumulative 2040 Adra Way contribution of 33.6 dBA L_{dn}.
- 3 – Includes the existing ambient noise level of 58.4 dBA L_{dn} added to the Cumulative 2040 + Project Adra Way contribution of 55.0 dBA L_{dn}.
- 4 – Includes the existing ambient noise level of 61.7 dBA L_{dn} added to the Cumulative 2040 Bechelli Lane contribution of 54.4 dBA L_{dn}.
- 5 – Includes the existing ambient noise level of 61.7 dBA L_{dn} added to the Cumulative 2040 + Project Alt. A, Opt. 1 Bechelli Lane contribution of 62.8 dBA L_{dn}.
- 6 – Includes the existing ambient noise level of 61.7 dBA L_{dn} added to the Cumulative 2040 + Project Alt. A, Opt. 2 Bechelli Lane contribution of 61.6 dBA L_{dn}.
- 7 – Includes the existing ambient noise level of 61.7 dBA L_{dn} added to the Cumulative 2040 + Project Alt. B, Opt. 1 Bechelli Lane contribution of 62.0 dBA L_{dn}.
- 8 – Includes the existing ambient noise level of 61.7 dBA L_{dn} added to the Cumulative 2040 + Project Alt. C, Opt. 1 Bechelli Lane contribution of 62.3 dBA L_{dn}.

Conclusions

Based upon the predicted traffic noise increases shown in Table 2 and Table 3, the proposed project is predicted to cause increased traffic noise on Bechelli Lane South of S. Bonnyview which would exceed the impact threshold of 3 dBA, or greater. This impact would specifically occur under project Alternative A, Option 1 under Cumulative 2040 plus project conditions. The only sensitive receptor along this roadway segment is the Hilton Garden Inn hotel which includes an outdoor swimming pool area. In order to reduce this traffic noise increase to below 3 dBA, a solid 6-foot tall sound wall would be required to be constructed along the north side of the pool. Based upon the Appendix B data, the barrier would reduce overall noise levels by 6 dBA. This reduction would result in plus projects traffic noise levels which are less than the no project noise levels. Therefore, no additional noise control measures would be required after construction of the noise barrier. This measure would only be required under Alternative A, option 1.

No other exceedances of either the Shasta County or City of Redding significant increase thresholds are predicted for any other segments or project alternatives.

Please call or email me if you have any questions regarding this analysis.

Sincerely,

Saxelby Acoustics



Luke Saxelby, INCE Bd. Cert.
Principal Consultant
Board Certified, Institute of Noise Control Engineering

Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 170707

Description: Redding Rancheria - Strawberry Fields Site Traffic Noise Increases

Ldn/CNEL: Ldn

Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Level, dBA
Opening Year (2025)											
1	Adra Way	North of Smith Road - Opening Year	60	95	5	0	0	25	75	0	31.8
2	Adra Way	North of Smith Road - Opening Year Plus Project	3,220	95	5	0	0	40	75	0	55.0
3	Bechelli Lane	South of S. Bonnyview Road - Opening Year	1,510	83	17	1	1	40	100	0	53.4
4	Bechelli Lane	South of S. Bonnyview - Opening Year Plus Project, Alt. A, Opt. 1	12,900	83	17	1	1	40	100	0	62.7
5	Bechelli Lane	South of S. Bonnyview - Opening Year Plus Project, Alt. A, Opt. 2	9,730	83	17	1	1	40	100	0	61.5
6	Bechelli Lane	South of S. Bonnyview - Opening Year Plus Project, Alt. B, Opt. 1	10,510	83	17	1	1	40	100	0	61.8
7	Bechelli Lane	South of S. Bonnyview - Opening Year Plus Project, Alt. C, Opt. 1	11,380	83	17	1	1	40	100	0	62.1
Cumulative 2040											
1	Adra Way	North of Smith Road - 2040	90	95	5	0	0	25	75	0	33.6
2	Adra Way	North of Smith Road - 2040 Plus Project	3,250	95	5	0	0	40	75	0	55.0
3	Bechelli Lane	South of S. Bonnyview - 2040 No Project	1,910	83	17	1	1	40	100	0	54.4
4	Bechelli Lane	South of S. Bonnyview - 2040 Plus Project, Alt. A, Opt. 1	13,300	83	17	1	1	40	100	0	62.8
5	Bechelli Lane	South of S. Bonnyview - 2040 Plus Project, Alt. A, Opt. 2	10,130	83	17	1	1	40	100	0	61.6
6	Bechelli Lane	South of S. Bonnyview - 2040 Plus Project, Alt. B, Opt. 1	10,910	83	17	1	1	40	100	0	62.0
7	Bechelli Lane	South of S. Bonnyview - 2040 Plus Project, Alt. C, Opt. 1	11,780	83	17	1	1	40	100	0	62.3



Appendix B
FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Barrier Effectiveness Prediction Worksheet

Project Information: Job Number: 170707
Description Redding Rancheria - Strawberry Fields Site Traffic Noise Increases
Roadway Name: Bechelli Lane
Location(s): 4

Noise Level Data: Year: 2040
Auto L_{dn} , dB: 62
Medium Truck L_{dn} , dB: 51
Heavy Truck L_{dn} , dB: 55
Total: 63

Site Geometry: Receiver Description: South of S. Bonnyview - 2040 Plus Project, Alt. A, Opt. 1
Centerline to Barrier Distance (C_1): 100
Barrier to Receiver Distance (C_2): 15
Automobile Elevation: 0
Medium Truck Elevation: 2
Heavy Truck Elevation: 8
Pad/Ground Elevation at Receiver: 0
Receiver Elevation¹: 5
Base of Barrier Elevation: 0
Starting Barrier Height 6

Barrier Effectiveness:

Top of Barrier Elevation (ft)	Barrier Height ² (ft)	----- L_{dn} , dB -----				Reduction	Barrier Breaks Line of Sight to...		
		Autos	Medium Trucks	Heavy Trucks	Total		Autos?	Medium Trucks?	Heavy Trucks?
6	6	56	45	50	57	-6	Yes	Yes	Yes
7	7	54	44	50	56	-7	Yes	Yes	Yes
8	8	53	43	48	55	-8	Yes	Yes	Yes
9	9	52	41	47	53	-9	Yes	Yes	Yes
10	10	51	40	46	53	-10	Yes	Yes	Yes
11	11	50	40	45	52	-11	Yes	Yes	Yes
12	12	49	39	44	51	-12	Yes	Yes	Yes
13	13	48	38	43	50	-13	Yes	Yes	Yes
14	14	48	37	42	49	-14	Yes	Yes	Yes

Notes: 1. Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)

APPENDIX H

HAZARDOUS MATERIALS DOCUMENTATION

STRAWBERRY FIELDS SITE – PHASE I ESA



PHASE I ENVIRONMENTAL SITE ASSESSMENT

REDDING RANCHERIA STRAWBERRY FIELDS SITE

DRAFT

AUGUST 2017

PREPARED FOR

Redding Rancheria
2000 Redding Rancheria Road
Redding, CA 96001



PREPARED BY

Analytical Environmental Services
1801 7th Street, Suite 100
Sacramento, CA 95811
(916) 447-3479
www.analyticalcorp.com



PHASE I ENVIRONMENTAL SITE ASSESSMENT
REDDING RANCHERIA STRAWBERRY FIELDS SITE

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Appendix D	City Directory Abstract
Appendix E	Environmental Data Resources (EDR) Report Results
Appendix F	Federal Emergency Management Agency (FEMA) Map
Appendix G	Questionnaires
Appendix H	Resumes

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SECTION 1.0

INTRODUCTION

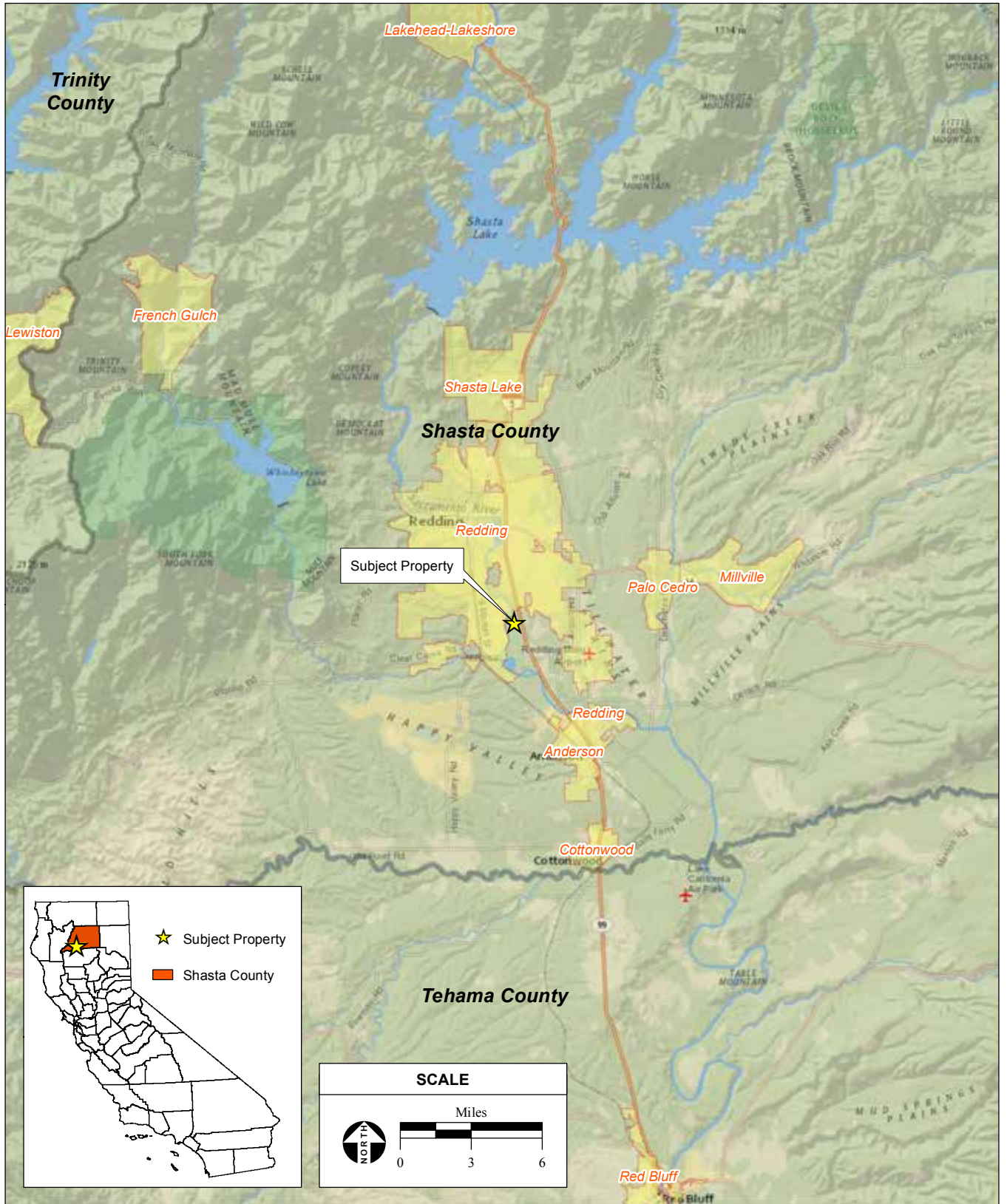
1.1 PURPOSE

This Phase I Environmental Site Assessment (Phase I ESA) has been prepared in conformance with the American Society for Testing and Materials (ASTM) Standard Practice E 1527-13, which specifies the appropriate inquiry requirement for the innocent landowner defense under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This Phase I ESA encompasses the 232-acre property located within unincorporated Shasta County (County), California, immediately south of the City of Redding, California (**Figure 1**) and encompasses Assessor's Parcel Numbers (APN) 055-010-011, 055-010-012, 055-010-014, 055-010-015, 055-020-001, 055-020-004, and 055-020-005. As such, the use of the term "Subject Property" refers to the property totaling 232 acres, unless otherwise stated. The purpose of this assessment is to identify Recognized Environmental Conditions (RECs) that may affect future uses of the Subject Property.

This Phase I ESA covers the Subject Property and surrounding known sources of contamination, up to 1.0 mile from the Subject Property. A site reconnaissance inspection of the Subject Property and adjacent properties was performed, and relevant database listings of hazardous materials sites, waste generators, and underground storage tanks (USTs) were reviewed (EDR, 2016). Additionally, historical topographic maps and aerial photographs for the Subject Property were reviewed.

1.2 RECOGNIZED ENVIRONMENTAL CONDITIONS

The term REC refers to the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Additionally, the term Historical Recognized Environmental Conditions (HREC) refers to an environmental condition associated with the Subject Property, including a past release of any hazardous substance or petroleum product that has since been remediated, which in the past would have been considered a REC. This Phase I ESA additionally includes the analysis of the presence of Controlled Recognized Environmental Conditions (CREC), for hazardous substance releases that have been partially addressed through remediation, but where some contamination remains in place under certain risk-based restrictions or conditions. HRECs and CREC are included in this Phase I ESA (ASTM, 2013).



SOURCE: NatGeo, 2017; AES, Date: 8/10/2017

Redding Rancheria Strawberry Fields Site Phase I ESA / 214584 ■

Figure 1
Regional Location

1.3 LIMITATIONS AND EXCEPTIONS

No Phase I ESA can completely eliminate uncertainty regarding the potential for RECs in connection with a property. Conformance of this assessment with ASTM Standard Practice E 1527-13 will reduce but not eliminate uncertainty regarding the potential for RECs in connection with the Subject Property. While every effort has been made to discover and interpret available historical and current information on the property within the time available, the possibility of undiscovered contamination remains. This report is a best-effort collection and interpretation of available information consistent with industry standards for the completion of Phase I ESAs.

This Phase I ESA is based on a site reconnaissance of the Subject Property, a visual reconnaissance of adjacent properties, and searches of government hazardous materials databases. Physical testing of soil or groundwater was not within the scope of this assessment. Asbestos containing building materials (ACM) and lead-based paint surveys were not included. Information was obtained for this Phase I ESA to comply with current ASTM guidelines.

1.4 METHODOLOGY

A variety of data sources were consulted in completing this Phase I ESA. The following sub-sections describe the methods used and the data sources consulted to accomplish each task.

1.4.1 HISTORICAL REVIEW

Previous land uses and history of the Subject Property were researched in an effort to identify RECs at or near the Subject Property. Historical aerial photographs (**Appendix A**) and topographic maps (**Appendix B**) from different decades were examined for the presence of aboveground storage tanks, industrial buildings, gas station canopies and/or pump islands, as well as other indications of bulk hazardous material storage within the study area. Sanborn Fire Insurance Maps document historical property use through abbreviations and map symbols that identify commercial, residential, industrial, residential and other land uses. The Subject Property is unmapped through the Sanborn Fire Insurance Maps. A letter of unmapped area is attached with the Sanborn Report. The City Database Directory was consulted to ascertain previous land uses of the Subject Property (**Appendix D**).

1.4.2 DATABASE SEARCHES

Database searches were conducted for records of known storage tank sites and known sites of hazardous materials generation, storage, and/or release. Available information from federal, state, and local agency lists consists of: (a) known or potential hazardous waste sites and landfills; (b) sites currently under investigation for environmental violations; (c) sites which manufacture, generate, use, store, and/or dispose of hazardous materials or hazardous wastes; (d) sites which have USTs and/or above-ground storage tanks (ASTs); and (e) sites with recorded violations of regulations concerning USTs and hazardous materials/hazardous wastes. The database search is intended to identify facilities that may have the

potential to impact surface and subsurface conditions on the Subject Property. A full listing of sites within the vicinity of the Subject Property is provided in **Appendix E**.

1.4.3 SITE RECONNAISSANCE

Katherine Green of AES conducted a reconnaissance inspection of the Subject Property and adjacent properties on December 22, 2016. The purpose of the site reconnaissance is to examine the Subject Property for obvious physical indications of improper hazardous substance or evidence of petrochemical disposal, such as stained soil, stressed vegetation, sumps, partially buried drums, bulk underground and aboveground fuel storage tanks, and other obvious signs of hazardous materials involvement. In addition, adjacent properties were visually inspected to the extent possible without trespassing on private property to determine if current land uses would affect the planned uses of Subject Property.

1.5 DEVIATIONS AND DATA GAPS

ASTM Standard E 1527-13 requires any significant data gaps, deviations, and deletions from the ASTM Standard to be identified and addressed in the Phase I ESA. A significant data gap would be one that affected the ability to identify a REC on the Subject Property or adjacent properties.

Due to the location of the Subject Property, Sanborn Fire Insurance Maps were not available for review. However, aerial photographs and historic topographic maps were available for review of previous uses of the Subject Property. Thus, the lack of Sanborn Fire Insurance Maps is not considered a significant data gap for this Phase I ESA.

1.6 CREDENTIALS

Analise Rivero prepared this report under the professional supervision of David Zweig, P.E., who qualifies as an environmental professional (EP) as defined in the ASTM Standard E 1527-13 [40 CFR §312.10(b)]. Resumes for Analise Rivero, Katherine Green, and David Zweig are included as **Appendix H**.

SECTION 2.0

SITE DESCRIPTION

2.1 LOCATION AND LEGAL DESCRIPTION

The Subject Property is located in unincorporated Shasta County (**Figures 2 and 3**), immediately south of the City of Redding. The Subject Property encompasses seven parcels (Shasta County APNs 055-010-011, 055-010-012, 055-010-014, 055-010-015, 055-020-001, 055-020-004, and 055-020-005) totaling 232 acres.

2.2 SITE AND VICINITY CHARACTERISTICS

The 232-acre Subject Property is currently undeveloped and mostly unimproved, with the exception of cattle fencing and several dirt roads that traverse the property. Portions of the site have formerly been used for irrigated row crops, and the property is now used as grazing land.

The Strawberry Fields Site is situated on a relatively level terrace above the Sacramento River. Overall, Strawberry Fields slopes gently downward to the south, though the lowest point lies near the center. The western site boundary is an almost vertical embankment above the Sacramento River; on-site elevations range from approximately 440 to 454 feet above mean sea level (amsl).

Regional access to the Strawberry Fields Site is provided by I-5, and local access is provided by South Bonnyview Road and Bechelli Lane.

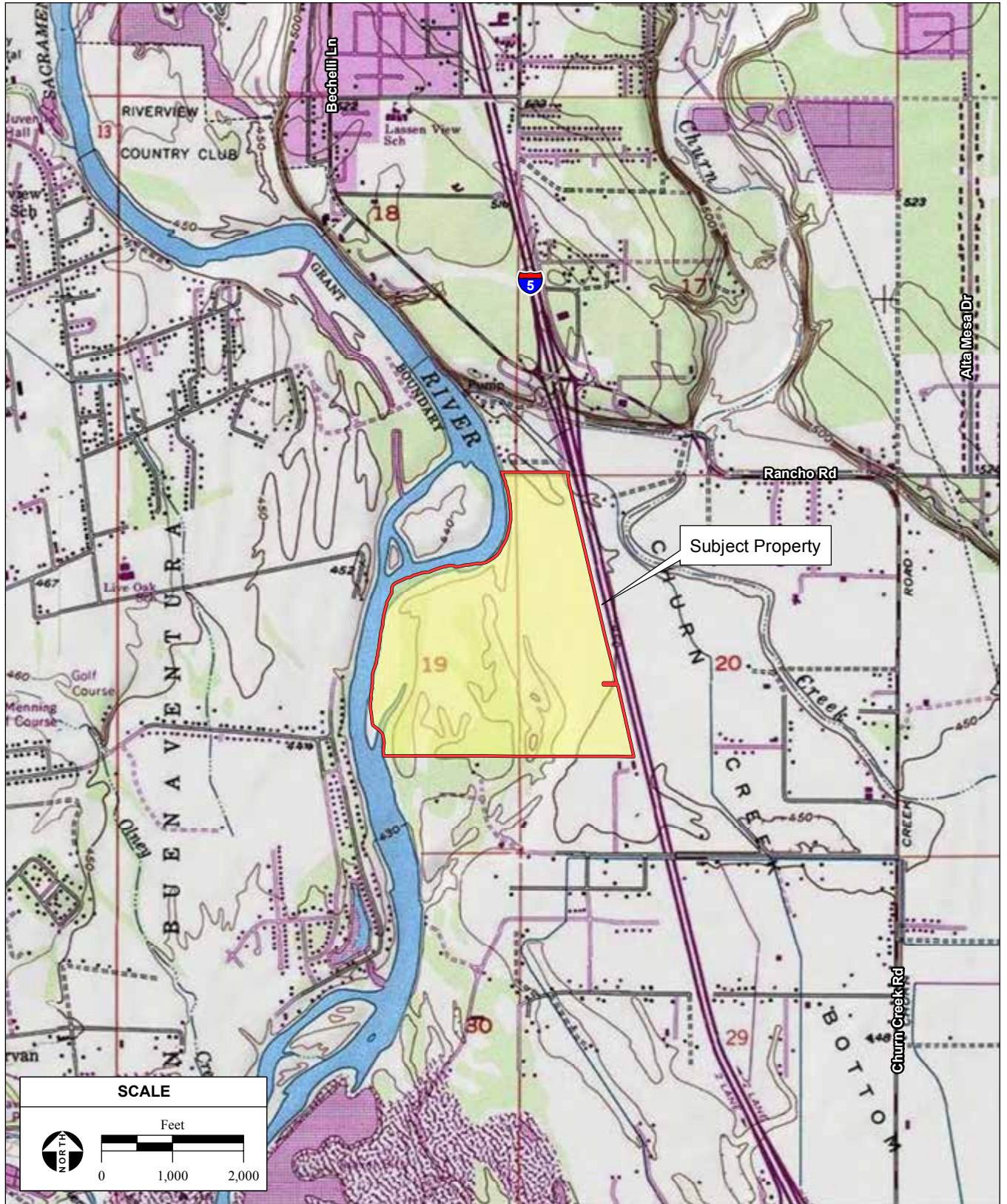
2.3 LOCAL ENVIRONMENTAL RECORDS SOURCES

2.3.1 LOCAL ENVIRONMENTAL AGENCY

The Environmental Database Research, Inc. (EDR) report (**Appendix E**), the California State Water Resources Control Board (SWRCB), and the Department of Toxic Substances Control (DTSC) EnviroStor databases (SWRCB, 2017; DTSC, 2017) provided search and documentation of local hazardous materials data (**Appendix E**).

2.3.2 COMMUNITY DEVELOPMENT DEPARTMENT

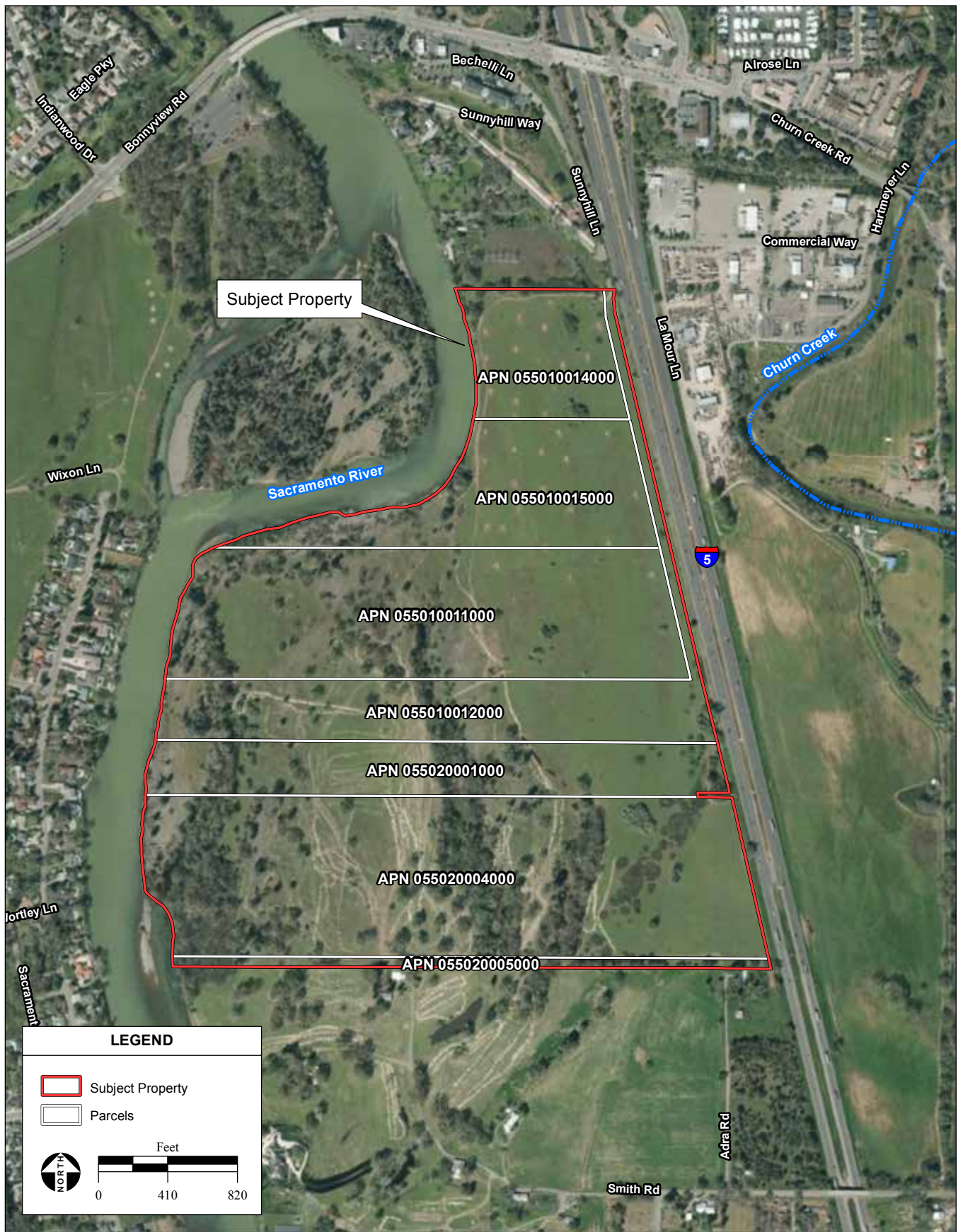
Zoning designations on the Subject Property were reviewed through information provided Shasta County. The majority of the Strawberry Fields Site is zoned by the County as Limited Agriculture (A-1), with a small sliver of land adjacent to the Sacramento River zoned as Designated Floodway (F-1; Shasta County, 2013). The Subject Property is not under a Williamson Act contract (Department of Conservation, 2016).



SOURCE: "Enterprise, CA" USGS 7.5 Minute Topographic Quadrangle, T31N, R4W, Section 18, 19, & 20, Mt. Diablo Baseline & Meridian; ESRI Data, 2016; AES, 8/10/2017

Redding Rancheria Strawberry Fields Site Phase I ESA / 214584 ■

Figure 2
Site and Vicinity



SOURCE: USDA aerial photograph, 7/26/2014; ESRI Data, 2016; AES, 8/10/2017

Redding Rancheria Strawberry Fields Site Phase I ESA / 214584 ■

Figure 3
Aerial Photograph

2.3.3 ELECTRICAL UTILITY COMPANY

The Subject Property does not currently receive electricity; however, Redding Electric Utility provides service to the vicinity. Electrical poles line the northern boundary of the Subject Property and a transformer exists in the northwestern corner.

2.4 HYDROLOGY

Stormwater runoff from the Subject Property is generally sheet flow with a convergence towards the site's western border adjacent to the Sacramento River. However, the topography is gently rolling with drainages oriented generally north-south.

2.5 GEOLOGY AND SOIL

The rock stratigraphic unit of the Subject Property is of the Cenozoic era, Quaternary system, and Quaternary series (**Appendix E**). The dominant soil on the Subject Property is Reiff fine sandy loam (Class B). Reiff fine sandy loam is moderately well drained and the Class B hydrologic soil group has a moderate infiltration rate (**Appendix E**). The Subject Property is approximately 11 miles north of the Battle Creek Fault.

2.6 CURRENT USES OF THE SUBJECT PROPERTY

The Subject Property is currently being used for seasonal cattle grazing. The Subject Property is primarily non-native annual open grassland. Site photos showing the conditions on the Subject Property during the site visit are shown in **Figure 4** of **Section 3.0** below.

2.7 HISTORIC USES OF THE SUBJECT PROPERTY

2.7.1 AERIAL PHOTOGRAPHS

Available historic aerial photographs (**Appendix A**) were reviewed for information regarding past uses of the Subject Property and surrounding areas. The following aerial photographs were available for review: 1943, (1"=750'), 1955 (1"=750'), 1963 (1"=750'), 1969 (1"=750'), 1976 (1"=750'), 1999 (1"=500'), 2005 (1"=500'), 2006 (1"=500'), 2009 (1"=500'), 2010 (1"=500'), and 2012 (1"=500'). Aerial photographs were of varying scale and clarity. Historical aerial images offer review of previous land uses on the Subject Property and adjacent properties. From the first available aerial in 1943, surrounding land uses appear to be agricultural and open space. A housing development to the west of the Sacramento River becomes visible on the 1963 aerial. On the 1969 aerial, I-5 becomes visible adjacent to the eastern boundary of the Subject Property. An increase in agricultural development in the vicinity is visible up until the 1976 aerial. The 2005 through 2012 aerials show similar attributes to the current condition of the Subject Property.

2.7.2 HISTORIC TOPOGRAPHIC MAPS

Available historic USGS Topographic Quadrangles (**Appendix B**) were reviewed for information regarding past uses of the Subject Property. The 1901, 1944, 1946, 1957, 1969, and 2012 Redding Quadrangle topographic maps as well as the 1957, 1969, and 2012 Enterprise Quadrangle topographic maps were available for review of the Subject Property. All of the topographic maps indicate a rural and agricultural setting immediately surrounding the Subject Property. Scattered rural development in the vicinity of the Subject Property appears on the 1957 topographic map. In the 1969 topographic map, I-5 becomes clearly visible along the eastern boundary of the Subject Property. All maps show that the Subject Property is completely undeveloped as no buildings or driveways are indicated on the maps.

2.8 SANBORN FIRE INSURANCE MAPS

Due to its rural nature, the Subject Property is not mapped through the Sanborn database. A certified complete database search was completed and is attached as **Appendix C**.

2.9 OTHER PHYSICAL SETTING SOURCES

2.9.1 WETLANDS MAP

Approximately 2.19 acres of wetland exist in the center of the Subject Property, categorized by the National Wetlands Inventory as Freshwater Pond (USFWS, 2017). Approximately 1.56 acres of Freshwater Forested/Shrub exist in the southeast of the Subject Property and 2.23 acres of Freshwater Emergent Wetland lies just outside the southern boundary of the Subject Property (USGWS, 2017)

2.9.2 FLOODPLAIN MAP

The eastern portion of the Subject Property, with the exception of the far southeast corner, is within the FEMA 500-year floodplain, while the majority of the western portion of the Subject Property is within the 100-year floodplain (FEMA, 2011a; FEMA 2011b). A copy of the regional floodplain map is included in **Appendix F**.

SECTION 3.0

SITE RECONNAISSANCE AND INTERVIEWS

3.1 OBJECTIVE

The objective of the site reconnaissance is to identify current or historic hazardous materials involvement on the Subject Property or in the vicinity of the Subject Property. Hazardous materials involvement or signature environmental conditions include the presence or likely presence of any hazardous materials or petroleum products that indicate an existing release, past release, or a threat of release into any structure on the property, soil, or groundwater. Signs of possible hazardous materials involvement would include any indications of USTs existing on the Subject Property; stained soils and/or unusual odors originating from the Subject Property; indications of any excavation or removal of soils, including patched asphalt and large debris piles; and other obvious signs of hazardous materials involvement.

3.2 SITE RECONNAISSANCE FINDINGS

A site reconnaissance of the Subject Property was performed by Katherine Green of AES on December 22, 2016. Adjacent properties were observed to the extent possible without trespassing. **Figure 4** provides photographs that show the site conditions at the time of the site visit. Notable features and environmental conditions are summarized below:

- A portion of an underground piping system was visible in the northwest corner of the Subject Property (**Photo 1**).
- A concrete water distribution structure no longer in use was visible in the northwest corner of the Subject Property (**Photo 2**). Limited scattered debris was visible alongside the concrete structure (**Photo 3**). A close-up view of the concrete encased rusted piping associated with the concrete water distribution structure is available in **Photo 4**.
- A dilapidated sheet metal structure along the northwestern boundary of the Subject Property was partially collapsed along the bank of the Sacramento River (**Photo 5**).
- Electrical boxes associated with the onsite transformer were visible along the northwestern boundary of the Subject Property (**Photo 6**). The transformer and the soil beneath showed no evidence of leakage or contamination.
- No hazardous materials were observed to be leaking or spilled to the ground.



PHOTO 1: Portion of underground piping system visible in the northwest corner of the Subject Property.



PHOTO 2: Concrete water distribution structure in the northwest corner of the Subject Property.



PHOTO 3: Rusty water pipe encased with concrete and scattered debris along the Sacramento River in the northwestern corner of the Subject Property.



PHOTO 4: Rusty water pipe encased with concrete along the Sacramento River in the northwestern corner of the Subject Property.



PHOTO 5: Rusty sheet metal structure collapsed onto bank of Sacramento River on northwestern corner of Subject Property.



PHOTO 6: Electrical boxes associated with transformer along northwestern corner of Subject Property.

3.3 ADJACENT PROPERTIES

A survey of adjacent properties was performed to the extent possible without trespassing during the December 22, 2016 site visit. The purpose was to identify adjacent businesses and determine if current land uses would affect the planned use of the Subject Property. Adjacent land uses are described below.

- North: Rural residential housing, Sunnyhill wastewater pump station, and Hilton Garden Inn
- South: Rural residential housing and agriculture
- West: Sacramento River
- East: I-5 and agriculture

3.4 INTERVIEWS AND QUESTIONNAIRES

Standard property owner and user questionnaires were sent out and are included as **Appendix G**.

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SECTION 4.0

RECORDS REVIEW

4.1 DATABASE SEARCH

Database searches were conducted for records of known storage tank sites and known sites of hazardous materials generation, storage, and/or contamination. Databases were searched for sites and listings up to 1.0 mile from the perimeter of the Subject Property. The environmental database review was accomplished by using the services of a computerized search firm, EDR. EDR uses a geographic information system to plot locations of past or current hazardous materials involvement. The EDR report was reviewed to determine if the Subject Property and adjacent sites are listed on regulatory agency databases. The purpose is to determine if adjacent sites contain REC that would impact surface and/or subsurface conditions on the Subject Property. Included in the EDR database report is a list of “unmapped sites.” No unmapped sites are listed in the EDR report for the Subject Property. The complete list of reviewed databases is provided in the EDR report, included in **Appendix E**, and is summarized in **Table 4-1**. In addition, the information on past and/or current hazardous material involvement relating to adjacent properties is summarized in **Section 4.2.2**.

TABLE 4-1
Environmental Data Resources (EDR) Summary of Agency Databases

Agency Database	Minimum Search Distance	Property Listed	Sites Listed ¹
United States (U.S.) Environmental Protection Agency (EPA), National Priorities List (NPL), Proposed NPL, Delisted NPL	1.0 mile	No	1
EPA NPL Liens	TP	No	0
EPA, Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), Federal Facility, SEMS	0.50 mile	No	1
EPA, CERCLIS – No Further Remedial Action Planned (NFRAP)	0.50 mile	No	0
EPA, Resource Conservation and Recovery Act (RCRA) Corrective Action Reports (CORRACTS)	1.0 mile	No	0
EPA, RCRA - for Treatment, Storage, and Disposal facilities (TSDFs)	0.50 mile	No	0
EPA, RCRA - for Hazardous Waste Generators (large quantity generators [LQG])	0.25 mile	No	0
EPA, RCRA - for Hazardous Waste Generators (small quantity generators [SQG])	0.25 mile	No	1
EPA, RCRA - for Hazardous Waste Generators (conditionally exempt small quantity generators [CESQG])	0.25 mile	No	0
EPA, Engineering Controls Sites List (US ENG CONTROLS) List	0.50 mile	No	1
EPA, Sites with Institutional Controls (US INST CONTROLS) List	0.50 mile	No	1

Agency Database	Minimum Search Distance	Property Listed	Sites Listed ¹
EPA, Land Use Control Information System (LUCIS)	0.50 mile	No	0
U.S. Coast Guard, National Response Center, Emergency Response Notification System (ERNS)	TP	No	0
DTSC, State Response Sites (RESPONSE) List	1.0 mile	No	0
California Department of Toxic Substance and Control (DTSC), Site Mitigation and Brownfields Reuse Program's (SMBRP's) ENVIROSTOR List	1.0 mile	No	0
Landfill List (State Waste Facility/Landfill (SWF/LF))	0.50 mile	No	0
SWRCB and Tribal, Leaking Underground Storage Tank (LUST) List	0.50 mile	No	7
SWRCB, The Spills, Leaks, Investigations, and Cleanups (SLIC) List	0.50 mile	No	0
Leaking Underground Storage Tanks on Indian Land (INDIAN LUST)	0.50 mile	No	0
CA Registered Storage Tank List (UST)	0.25 mile	No	0
CA Aboveground Storage Tank List (AST)	0.25 mile	No	5
Underground Storage Tanks on Indian Land (Indian UST)	0.25 mile	No	0
FEMA UST	0.25 mile	No	0
Indian Voluntary Cleanup Priority (VCP)	0.50 mile	No	0
Voluntary Cleanup Program Sites (VCP)	0.50 mile	No	0
EPA, Brownfields List (US BROWNFIELDS)	0.50 mile	No	0
EPA DEBRIS REGION 9, Torres Martinez Reservation Illegal Dump Site Locations	0.50 mile	No	0
EPA Open Dump Inventory (ODI)	0.50 mile	No	0
State Recycling Facilities (SWRCY) List	0.50 mile	No	0
Registered Waste Tire Haulers (HAULERS)	TP	No	0
Report on the Status of Open Dumps on Indian Lands (Indian Open Dump Inventory (ODI))	0.50 mile	No	0
SWRCB Waste Management Unit Database (WMUDS/SWAT)	0.50 mile	No	0
U.S. Department of Justice (DOJ), Clandestine Drug Labs (US CDL)	TP	No	0
California Environmental Protection Agency (Cal EPA), Historic Potential Hazardous Waste (Hist Cal-Sites) Database	1.0 mile	No	0
School Property Evaluation Program (SCH)	0.25 mile	No	0
SWRCB, Toxic Pits Cleanup Act Sites (Toxic Pits)	1.0 mile	No	0
CA Clandestine Drug Labs (CDL)	TP	No	0
DOJ, National Clandestine Laboratory Register (US HIST CDL)	TP	No	0
SWRCB Facility Inventory Database (CA FID UST)	0.25 mile	No	4
Historical Registered (HIST UST)	0.25 mile	No	4
SWRCB, Underground Storage Tank Division, Registered UST List (SWEEPS UST)	0.25 mile	No	5
CERCLA Lien Information (LIENS 2)	TP	No	0
CA Environmental Liens Listing (LIENS)	TP	No	0
DTSC, Deed Restriction Listing (DEED) List	0.50 mile	No	0

Agency Database	Minimum Search Distance	Property Listed	Sites Listed ¹
Hazardous Material Information Reporting System (HMIRS)	TP	No	0
Office of Emergency Services (OES) California Hazardous Materials Incident Report System (CHMIRS)	TP	No	0
Land Disposal Site Listing (LDS)	TP	No	0
Military Cleanup Sites Listing (MCS)	TP	No	0
SPILLS 90 data from FirstSearch (SPILLS 90)	TP	No	0
EPA, Resource Conservation and Recovery Act (RCRA) –Non Generators (NonGen)/No Longer Regulated (NLR)	0.25 mile	No	1
Incident and Accident Data (DOT OPS)	TP	No	0
Department of Defense Sites (DOD)	1.0 mile	No	0
Formerly Used Defense Sites Properties (FUDS)	1.0 mile	No	0
Superfund (CERCLA) Consent Decrees (CONSENT)	1.0 mile	No	1
Records of Decision (ROD)	1.0 mile	No	1
Uranium Mill Tailings Sites (UMTRA)	0.50 mile	No	0
Mines Master Index File (US MINES)	0.25 mile	No	0
Toxic Chemical Release Index System (TRIS)	TP	No	0
Toxic Substances Control Act (TSCA)	TP	No	0
Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)/TSCA Tracking System (FTTS)	TP	No	0
FTTS Administrative Case Listing (HIST FTTS)	TP	No	0
Section 7 Tracking System (SSTS)	TP	No	0
Integrated Compliance Information System (ICIS)	TP	No	0
Polychlorinated Biphenyl (PCB) Activity Database System (PADS)	TP	No	0
Material Licensing Tracking System (MLTS)	TP	No	0
Radiation Information Database (RADINFO)	TP	No	0
EPA, Facility Index System (FINDS)	TP	No	0
RCRA Administrative Action Tracking System (RAATS)	TP	No	0
Risk Management Plans (RMP)	TP	No	0
California Department of Health Services, (DHS) Bond Expenditure Plan (BEP) CA BOND EXP. PLAN	1.0 mile	No	0
CA, National Pollutant Discharge Elimination System (NPDES)	TP	No	0
California Oil and Gas Wells UIC Listing UIC	TP	No	0
Cortese Hazardous Waste and Substances Sites List (Cortese)	0.50 mile	No	0
CalEPA Historic Cortese (HIST CORTESE)	0.50 mile	No	5
Certified Unified Program Agency (CUPA) Resources List	0.25 mile	No	9
State Water Resources Control Board (SWRCB) Proposition 65 Records (Notify 65)	1.0 mile	No	1
CA DRYCLEANERS List	0.25 mile	No	0
Well Investigation Program Case List (WIP)	0.25 mile	No	0
Enforcement Action Listing (ENF)	TP	No	0

Agency Database	Minimum Search Distance	Property Listed	Sites Listed ¹
Facility and Manifest Data (HAZNET)	TP	No	0
Emissions Inventory Data (EMI)	TP	No	0
Indian Reservations (INDIAN RESERV)	1.0 mile	No	0
State Coalition for Remediation of Drycleaners Listing (SCRD DRYCLEANERS)	0.50 mile	No	0
CA Waste Discharge System (WDS)	TP	No	0
CA Financial Assurance Information Listing (Financial Assurance)	TP	No	0
Certified Processors Database (PROC)	0.50 mile	No	0
Registered Hazardous Waste Transporter Database (HWT)	0.25 mile	No	0
EnviroStor Permitted Facilities Listing (HWP)	1.0 mile	No	0
Medical Waste Management Program (MWMP)	0.25 mile	No	0
Lead Smelter Sites (LEAD SMELTERS)	TP	No	0
Aerometric Information Retrieval System Facility Subsystem (US AIRS)	TP	No	0
EPA Watch List	TP	No	0
Financial Assurance Data (US FIN ASSUR)	TP	No	0
Coal Combustion Residues Surface Impoundments List (COAL ASH EPA)	0.50 mile	No	0
PCB Transformer Registration Database (PCB TRANSFORMER)	TP	No	0
Steam-Electric Plant Operation Data (COAL ASH DOE)	TP	No	0
2020 Corrective Action Program list (2020 CORV ACTION)	0.25 mile	No	0
Potentially Responsible Parties (PRP)	TP	No	0
EDR Proprietary Manufactured Gas Plant Database (MGP)	1.0 mile	No	0
EDR Historic Auto Stations (US Hist Auto Stat)	0.25 mile	No	0
EDR Historic Dry Cleaners (US Hist Cleaners)	0.25 mile	No	0
Recovered Government Archive (RGA) LUST	TP	No	0
RGA Solid Waste Facilities List (LF)	TP	No	0
Total			48
TP = Target Property ¹ Unmapped sites not included. Source: Appendix E			

4.2 HAZARDOUS MATERIALS INVOLVEMENT

A regulatory agency database search was performed to identify locations of past and/or current hazardous materials involvement. Regulatory agency databases were searched for records of known storage tank sites and known sites of hazardous materials generation, storage, or contamination, or where violations pertaining to storage, use, or disposal of hazardous materials have occurred. Databases were searched for sites and listings up to 1.0 mile from the perimeter of the Subject Property. Although a site may be listed within the database report, this does not mean the site is currently contaminated or will impact the

environmental quality of the Subject Property and would be considered a REC. It should be noted that the database search is only as accurate as the data entered into the government agency-maintained databases and the date on which those databases were last updated. Installation of USTs or hazardous material releases, if not reported to the appropriate agency, would not be listed on any of the databases searched.

4.2.1 SUBJECT PROPERTY

The Subject Property is not listed on any database through the EDR system or SWRCB.

Previous Environmental Investigations

A Phase I ESA of the Subject Property was conducted in December 2009 by Sharrah Dunlap Sawyer, Inc. In addition to the site reconnaissance, a historical review was conducted to identify RECs associated with previous land uses, and database searches were conducted for records of known hazardous material generation, storage, or disposal sites in the vicinity of the Strawberry Fields Site. The report concluded that “[i]nformation obtained during the performance of this Phase I ESA has not revealed any evidence of recognized environmental conditions in connection with the subject site” (Sharrah Dunlap Sawyer, 2009). Additionally, the Subject Property was previously used for strawberry growing operations focused on the plant instead of the fruit (Sharrah Dunlap Sawyer, 2009). Accordingly, limited pesticides were used, and the fungicides that were used are not considered persistent in the environment. Fumigants typically applied during strawberry production are methyl bromide and chloropicrin, which are applied under a tarp and escape to the air once the tarp is removed. Use of these chemicals is not considered a hazardous materials contamination nor an REC (Sharrah Dunlap Sawyer, 2009).

4.2.2 ADJACENT PROPERTIES

Due to the location of the Subject Property, a 48 listed properties are within a 1.0 mile radius (Appendix E). These database listings included sites found on the U.S. Environmental Protection Agency (USEPA) National Priorities List (1 listed site), USEPA Engineering Controls Sites List (1 listed site), USEPA Resource Conservation and Recovery Act - for Hazardous Waste Generators (small quantity generators [SQG]) (1 listed site), USEPA Sites with Institutional Controls List (1 listed site), LUST database (7 listed sites), Aboveground Storage Tank database (5 listed sites), Certified Unified Program Agency (CUPA) Resources List (9 listed sites), among others. However, a listing within a database does not necessarily mean a hazardous materials release occurred at the listed property.

Three open cases and two closed cases within 1.0 mile of the Subject Property were listed in the EDR Report or SWRCB database and are discussed below.

The **Anderson Cottonwood Disposal Site** is approximately 900 feet northeast of the Subject Property, across I-5. This site is a closed leaking underground storage (LUST) case. The site formerly operated as a diesel refueling facility that was constructed in the 1970s. On December 22, 1998, petroleum contamination of soil was discovered upon excavation of two 10,000-gallon USTs. Four monitoring wells were installed

to facilitate groundwater sampling. In July 2000, total petroleum hydrocarbons as diesel fuel (TPHd) were detected at all four monitoring wells. Soil excavation took place from October 30, 2000 to April 19, 2001. Soil was disposed at the Altamont Class II Landfill. Since remediation, neither TPHd nor any other volatile or semi-volatile organic compounds have been detected in the monitoring wells. The CVRWQB recommended closing the case in a letter dated February 20, 2002 (CVRWQB, 2002), stating, “The site poses no threat to human health or safety or anticipated future beneficial use of water.” A No Further Action letter dated May 1, 2003 was issued confirming completion of a site investigation and necessary corrective action (CVRWQB, 2003). As no further groundwater contamination has been found and remediation is complete, this site is not an environmental threat to the Subject Property and is not considered a REC.

The **Viking Freight Systems Site** is approximately 1,050 feet northeast of the Subject Property across I-5. This site is a closed LUST case. A diesel to soil leak was discovered and stopped on August 15, 1995. Remedial action was taken and the CVRWQB issued a No Further Action letter on December 9, 1997 (CVRWQB, 1997). As the leak was limited to soil contamination and the case was closed, this site is not an environmental threat to the Subject Property and is not considered a REC.

The **5101 Churn Creek Site** is an open LUST case approximately 1,159 feet northeast of the Subject Property. Although currently vacant, 5101 Churn Creek Road was formerly a gasoline service station, in operation from 1967 until 2004. In 1977, an undocumented release of an unknown volume from the south end of the site was reported by the station manager. The release contaminated a well and septic system on a property south of the site and gasoline odors were reported by the residence. In 1986, in response to the undocumented release, the site’s original USTs were replaced with four double-walled gasoline and waste oil USTs. Upon removal, the USTs were reported in good condition based on low to non-detectable hydrocarbon concentrations in the soil samples. The engineering company recommended that no further action was necessary at the site, which was approved by the Shasta County Health Services Agency, Department of Public Health (Public Health Department) in 1987.

Four additional soil and groundwater investigations occurred between 1987 and 2004, all resulting in no further action. However, in February 2004, Phillips 66 issued a due diligence site assessment that resulted in the submittal of a UST Unauthorized Release/Site Contamination Report. Accordingly, the Public Health Department requested a work plan to further investigate groundwater impacts. In 2005 all USTs and pipelines were removed and reported in good condition, and therefore were not considered the source of contamination. In 2009, a Work Plan for Additional Soil and Groundwater Investigation was initiated and five groundwater monitoring wells were installed. Concentrations of petroleum hydrocarbons in the soil samples were found to be low to mostly non-detected in the laboratory reporting limits. As a result, the Public Health Department approved a monitoring reduction frequency from quarterly to semi-annual. Additionally, in 2014, soil sample concentrations for all constituents were less than the California Human Health Screening Level values. However, results of 2015 soil samples revealed a previously unidentified mass of methyl tertiary butyl ether (MTBE) in the soil (ATC, 2016).

The groundwater flows toward the south at a hydraulic gradient of 0.075 (ATC, 2016). However, groundwater model estimates estimate that contamination is not crossing to the western side of I-5 nor is it entering the Sacramento River (Bergmann, 2017). Additionally, remediation plans are currently being developed in order to clean up the site. Therefore, due to the direction of the contamination flow, this site is not an environmental threat to the Subject Property and is not considered a REC.

The **Churn Creek Chevron Site** is an open LUST case approximately 1,370 feet northeast of the Subject Property. A gasoline leak was discovered in December 1998 and the case was closed in June 2000. However, the case was reopened in January 2013 following a review of case files. Based upon review, data indicates unauthorized release from a UST system may exist beneath the site (CVRWQB, 2017). Corrective actions are currently underway as directed by the Central Valley Regional Water Quality Control Board (CVRWQB). The case is currently in the site assessment phase and the extent of contamination has not been determined (SWRCB, 2017). Three groundwater monitoring wells and the original onsite well are sampled and recorded in semi-annual reports. According to the January 2016 Groundwater Monitoring Report, groundwater flow beneath the site is to the south-southeast, away from the Subject Property. Additionally, all wells except Monitoring Well 2 indicated that constituents are below detectable levels (SHN, 2016). According to the January 2016 Groundwater Monitoring Report, “The site well continues to be the primary impediment to site closure. The location of the site well, although cross gradient, is proximal to the former underground storage tanks and the area of highest groundwater impact.” Remediation plans are currently being developed in order to clean up the site. On February 9, 2017, CVRWQB issued a conditional concurrence with the proposed site investigation work plan. While the site itself shows limited contamination, due to the direction of the contamination flow and relative decrease of contamination levels in most monitoring wells, this site is not an environmental threat to the Subject Property and is not considered a REC.

The **Iron Mountain Mine (IMM) Site** is located approximately 8.5 miles northwest of the Subject Property at off Highway 299. IMM is a Superfund site where more than a dozen sulfide mines have been worked for silver, gold, copper, zinc, and pyrite. The site covers approximately 4,400 acres and involves discharge of acidic waters typically with a high content of heavy metals, referred to as acid mine drainage (AMD). The IMM contains a massive deposit of nearly pure sulfide and a large gossan. The sulfides and gossan were mined in open pits and underground openings from the 1860s until 1963 and was considered one of the largest copper mines in the United States during the early twentieth century (**Appendix E**).

Although the IMM is located approximately 8.5 miles northwest of the Subject Property, downstream reaches of the Sacramento River within 0.35 miles of the Subject Property are affected by the AMD.

In the early 1960’s, the Spring Creek Reservoir was developed as a mitigation measure for the AMD discharges. However, remedial investigation activities at IMM did not begin until 1983 and the site was placed on the National Priorities List (NPL) of the nation’s most contaminated sites. Additionally,

Remedial Investigation Reports and Endangerment Assessments were prepared to evaluate potential threats to the environment resulting from contaminants infiltrating the groundwater, surface water, and air (USEPA, 2013).

In order to reduce potential threats to the environment from the IMM, long-term remedies selected in five Record of Decisions (ROD) have been implemented. Remedies for the IMM consist of a combination of source control, acid mine drainage collection and treatment, water diversion, and coordinated releases of contaminated surface water. In the 2013 Five Year Review, the assessment determined that the remedies are operating as intended and the maintenance of the IMM has been satisfactory over the past five years. They remedial actions have eliminated 97 percent of the historical metal discharges from the IMM. Additionally water quality sampling of the Sacramento River, performed between 2008 and 2012, indicate that concentrations of copper, cadmium, and zinc comply with the Water Quality Control Plan for the Sacramento Basin and San Joaquin River Basin standards. Due to compliance with water quality standards, this site does not pose an threat to the environmental integrity of the Subject Property (USEPA, 2013).

The **City of Redding Sunnyhill Sewer Lift Station**, listed on the CUPA database, is approximately 500 feet north of the Subject Property. Diesel, a potential fire hazard, is stored at the Lift Station. However, there have been no recorded leaks at the site. Therefore, it does not pose a threat to the environmental integrity of the Subject Property and is not considered a REC (**Appendix E**).

SECTION 5.0

FINDINGS AND CONCLUSIONS

This Phase I ESA was performed in conformance with the scope and limitations of ASTM Standard Practice E1527-13.

5.1 FINDINGS

Based on information gathered while conducting this Phase I ESA, the following environmental findings are provided:

- The Subject Property contains remnants of a concrete water distribution structure, associated concrete encased piping, a dilapidated sheet metal structure, electrical transformer, and limited scattered debris. The remainder of the Subject Property includes open fields and scattered oak trees.
- While the on-site debris are unlikely to pose a threat to the environmental integrity of the Subject Property, the dilapidated sheet metal structure and scattered debris should be removed from the Subject Property.
- During the site reconnaissance, no visible evidence of stained soils, odors, or past hazardous releases were observed within the Subject Property.
- No evidence of existing underground storage tanks was observed on the Subject Property.
- No Controlled Recognized Environmental Conditions (CRECs) or Historical Recognized Environmental Conditions (HRECs) have been identified on the Subject Property, and the site is not subject to control or use restriction related to hazardous materials involvement.
- Surrounding properties listed in the EDR report have been reviewed and found to not pose a threat to the environmental integrity of the Subject Property.

5.2 CONCLUSION

This Phase I ESA was prepared in conformance with the scope and limitations of ASTM Practice E 1527-13. Any exceptions to, or deletions from, this practice are described in **Section 1.0** of this report. Based on the site conditions during the December 22, 2016 site reconnaissance and information in the EDR report (**Appendix E**), no RECs were identified on or in the immediate vicinity of the Subject Property that would be likely to pose a significant impact to the environmental integrity of the Subject Property. No subsurface hazardous materials investigations of the property are recommended at this time.

SECTION 6.0

REPORT AUTHORS AND REFERENCES

The undersigned declare to the best of their professional opinion that they meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312. Analise Rivero, Report Preparer, assembled this report under the professional supervision of David Zweig, Professional Engineer (P.E.), who qualifies as an environmental professional (EP) as defined in the ASTM Standard E1527-13, and have the specific qualifications based on education, training, and experience to assess a property of the nature, and setting of the Subject Property.

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Katherine Green

Report Preparer: _____

Analise Rivero

Senior Reviewer: _____

David Zweig, P.E.

REFERENCES

- ATC Group Services, LLC (ATC). 2016. Report of Findings. Available online at:
https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8281446993/T0608936410.PDF.
Accessed June 12, 2017.
- American Society for Testing and Materials (ASTM) 2013. Practice E1527-13: "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.
- Central Valley Regional Water Quality Control Board (CVRWQB), 2003. No Further Action Required, Underground Storage Tank Case #450283, Anderson-Cottonwood Disposal, 8592 Commercial Way, Redding, Shasta County. May 1, 2003.
- CVRWQB, 2002. Case File Review, Anderson-Cottonwood Disposal Underground Storage Tank Case No. 45283, Redding, Shasta County. February 20, 2002. Authored by Eric J. Rapport, C.E.G. Associate Engineering Geologist, Shasta Cascade Watershed.
- CVRWQB, 1997. No Further Action Required, Underground Storage Tank Case #45144, Viking Freight Systems, 8562 Commercial Way, Redding, Shasta County. December 9, 1997.
- California State Water Resource Control Board (SWRCB), 2017. GeoTracker. Available online at:
<https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=redding%2C+ca>.
Accessed July 2017.
- Department of Conservation, 2016. Shasta County Williamson Act FY 2015/2016: Sheet 4 of 4.
Accessed July 2017. Available online at:
ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Shasta_w_06_07_WA.pdf
- Environmental Data Resources, Inc. (EDR) 2016, Radius Map Report with GeoCheck, Inquiry No. 4738518.2s, dated September 27, 2016.
- FEMA. 2011a. *Flood Insurance Rate Map 06089C1561G*. Available online at:
<https://msc.fema.gov/portal/search?AddressQuery=redding%2C%20ca#searchresultsanchor>.
Accessed October 28, 2016.
- FEMA. 2011b. *Flood Insurance Rate Map 06089C1563G*. Available online at:
<https://msc.fema.gov/portal/search?AddressQuery=redding%2C%20ca#searchresultsanchor>.
Accessed October 28, 2016.

Sharrah Dunlap Sawyer, 2009. Phase I Environmental Site Assessment for the Strawberry Fields Property. Dated December 1, 2009.

Shasta County. 2013. *Shasta County Internet Zoning Viewer*. Last modified August 22, 2013. Available online at: <http://gis.co.shasta.ca.us/Zoning/>. Accessed May 2, 2017.

SHN Consulting Engineers & Geologists, Inc, 2016. First Half (January) 2016 Groundwater Monitoring Report, Churn Creek Chevron, 4746 Churn Creek Road, Redding, California; Case No. 450284 Redding, CA:SHN.

U.S. Environmental Protection Agency (USEPA), 2013. Fifth Five Year Review Report for Iron Mountain Mine Superfund Site. Available online at: <https://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/3dc283e6c5d6056f88257426007417a2/bc24f17f4333b5ea88257c160072cdc1!OpenDocument>. Accessed June 8, 2017.


U.S. Fish and Wildlife Service (USFWS), 2017. National Wetlands Inventory Wetlands Mapper. Available online at: <http://www.fws.gov/wetlands/data/mapper.HTML>. Accessed July 2017.

DRAFT

APPENDICES

APPENDIX A

HISTORICAL AERIAL PHOTOGRAPHS



Strawberry Fields

Not Reported

Redding, CA 96002

Inquiry Number: 4738518.9

September 28, 2016

The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

09/28/16

Site Name:

Strawberry Fields
Not Reported
Redding, CA 96002
EDR Inquiry # 4738518.9

Client Name:

Analytical Environmental Serv.
1801 7th Street
Sacramento, CA 95811
Contact: Katherine Green



Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2010	1"=500'	Flight Year: 2010	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1999	1"=500'	Acquisition Date: July 29, 1999	USGS/DOQQ
1976	1"=750'	Flight Date: January 01, 1976	NASA
1969	1"=750'	Flight Date: January 01, 1969	USGS
1963	1"=750'	Flight Date: January 01, 1963	USGS
1955	1"=750'	Flight Date: January 01, 1955	USGS
1943	1"=750'	Flight Date: January 01, 1943	USGS

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INQUIRY #: 4738518.9

YEAR: 2012

— = 500'



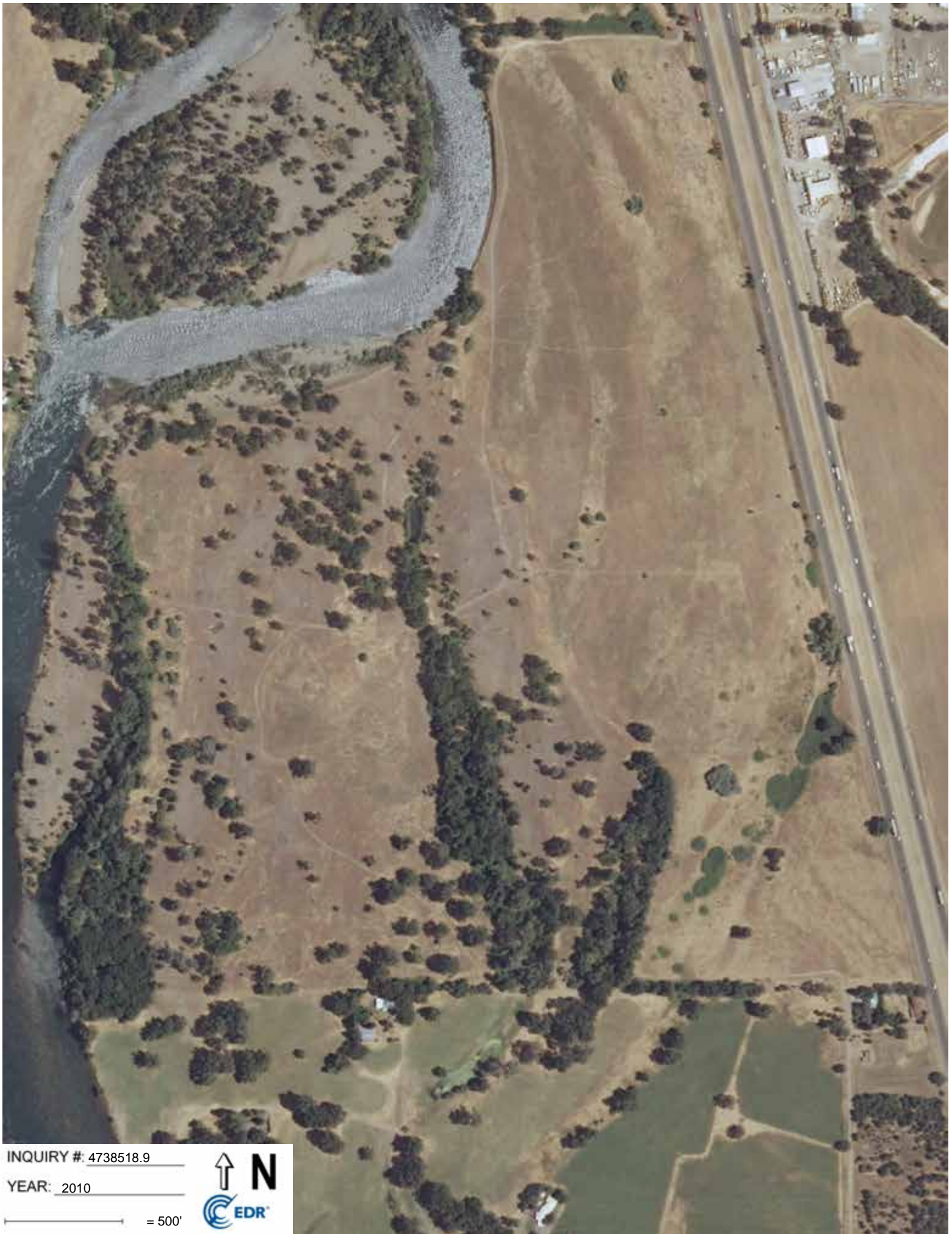


INQUIRY #: 4738518.9

YEAR: 2012

— = 500'





INQUIRY #: 4738518.9

YEAR: 2010

— = 500'





INQUIRY #: 4738518.9

YEAR: 2010

— = 500'





INQUIRY #: 4738518.9

YEAR: 2009

— = 500'





INQUIRY #: 4738518.9

YEAR: 2009

— = 500'





INQUIRY #: 4738518.9

YEAR: 2006

— = 500'





INQUIRY #: 4738518.9

YEAR: 2006

— = 500'





INQUIRY #: 4738518.9

YEAR: 2005

— = 500'





INQUIRY #: 4738518.9

YEAR: 2005

— = 500'





INQUIRY #: 4738518.9

YEAR: 1999

— = 500'





INQUIRY #: 4738518.9

YEAR: 1999

— = 500'





INQUIRY #: 4738518.9

YEAR: 1976

— = 750'





INQUIRY #: 4738518.9

YEAR: 1969

— = 750'





INQUIRY #: 4738518.9

YEAR: 1963

— = 750'





INQUIRY #: 4738518.9

YEAR: 1955

— = 750'





INQUIRY #: 4738518.9


YEAR: 1943

— = 750'



APPENDIX B

HISTORICAL TOPOGRAPHIC MAPS



Strawberry Fields

Not Reported

Redding, CA 96002

Inquiry Number: 4738518.4

September 27, 2016

EDR Historical Topo Map Report

with QuadMatch™



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

09/27/16

Site Name:

Strawberry Fields
Not Reported
Redding, CA 96002
EDR Inquiry # 4738518.4

Client Name:

Analytical Environmental Serv.
1801 7th Street
Sacramento, CA 95811
Contact: Katherine Green



EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Analytical Environmental Serv. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDR's Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:**Coordinates:**

P.O.#	NA	Latitude:	40.528467 40° 31' 42" North
Project:	Redding Rancheria	Longitude:	-122.352724 -122° 21' 10" West
		UTM Zone:	Zone 10 North
		UTM X Meters:	554823.19
		UTM Y Meters:	4486615.81
		Elevation:	443.00' above sea level

Maps Provided:

2012
1969
1957
1946
1944
1901

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets

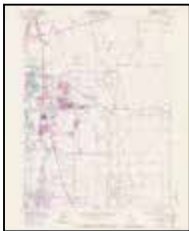


Enterprise
2012
7.5-minute, 24000



Redding
2012
7.5-minute, 24000

1969 Source Sheets



Enterprise
1969
7.5-minute, 24000
Photo Revised 1968
Aerial Photo Revised 1969



Redding
1969
7.5-minute, 24000
Photo Revised 1969
Aerial Photo Revised 1969

1957 Source Sheets



Enterprise
1957
7.5-minute, 24000
Aerial Photo Revised 1955



Redding
1957
7.5-minute, 24000
Aerial Photo Revised 1955

1946 Source Sheets



Redding
1946
15-minute, 62500

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1944 Source Sheets

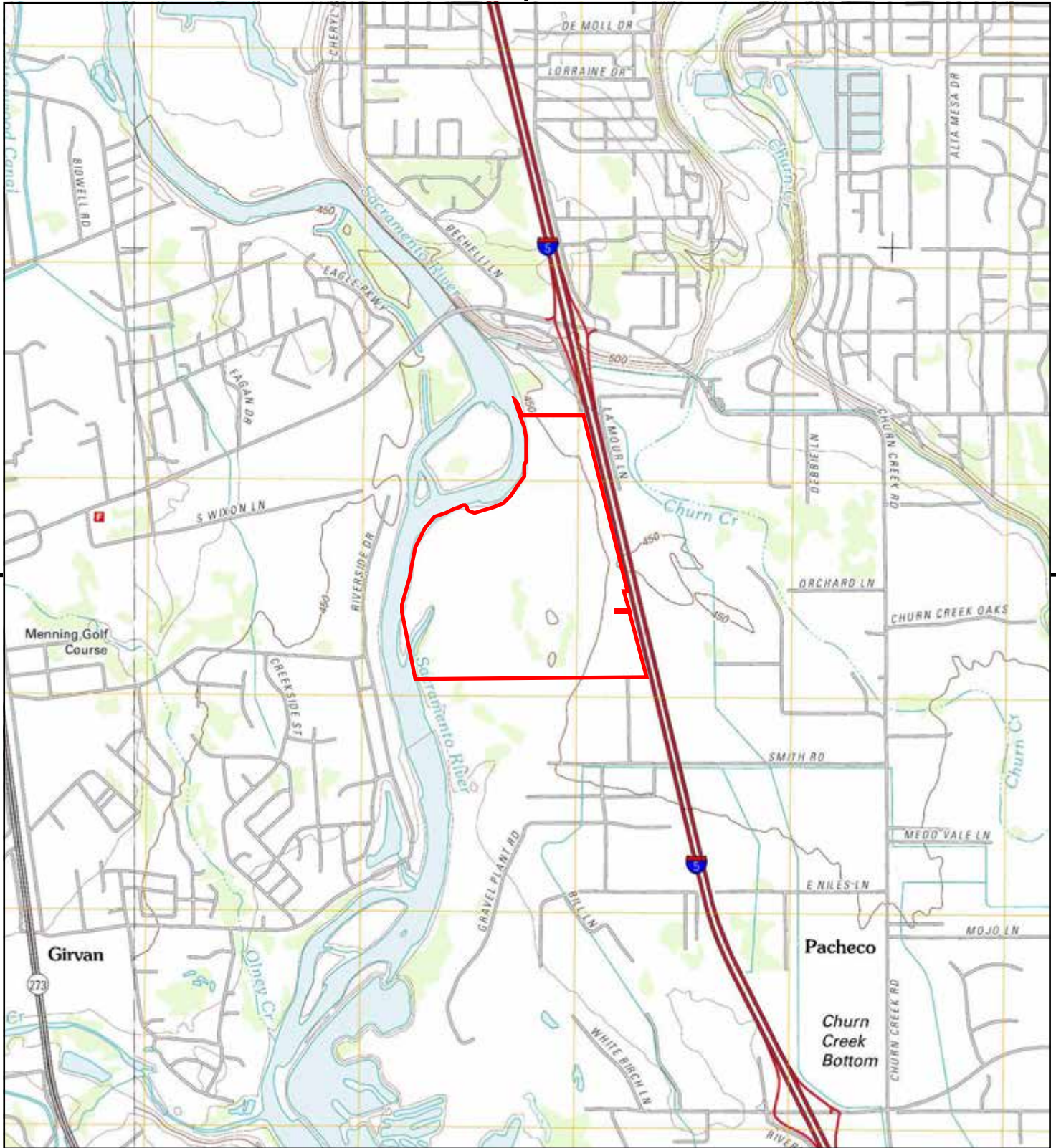


Redding
1944
15-minute, 62500

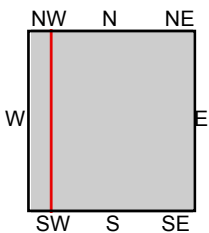
1901 Source Sheets



Redding
1901
30-minute, 125000



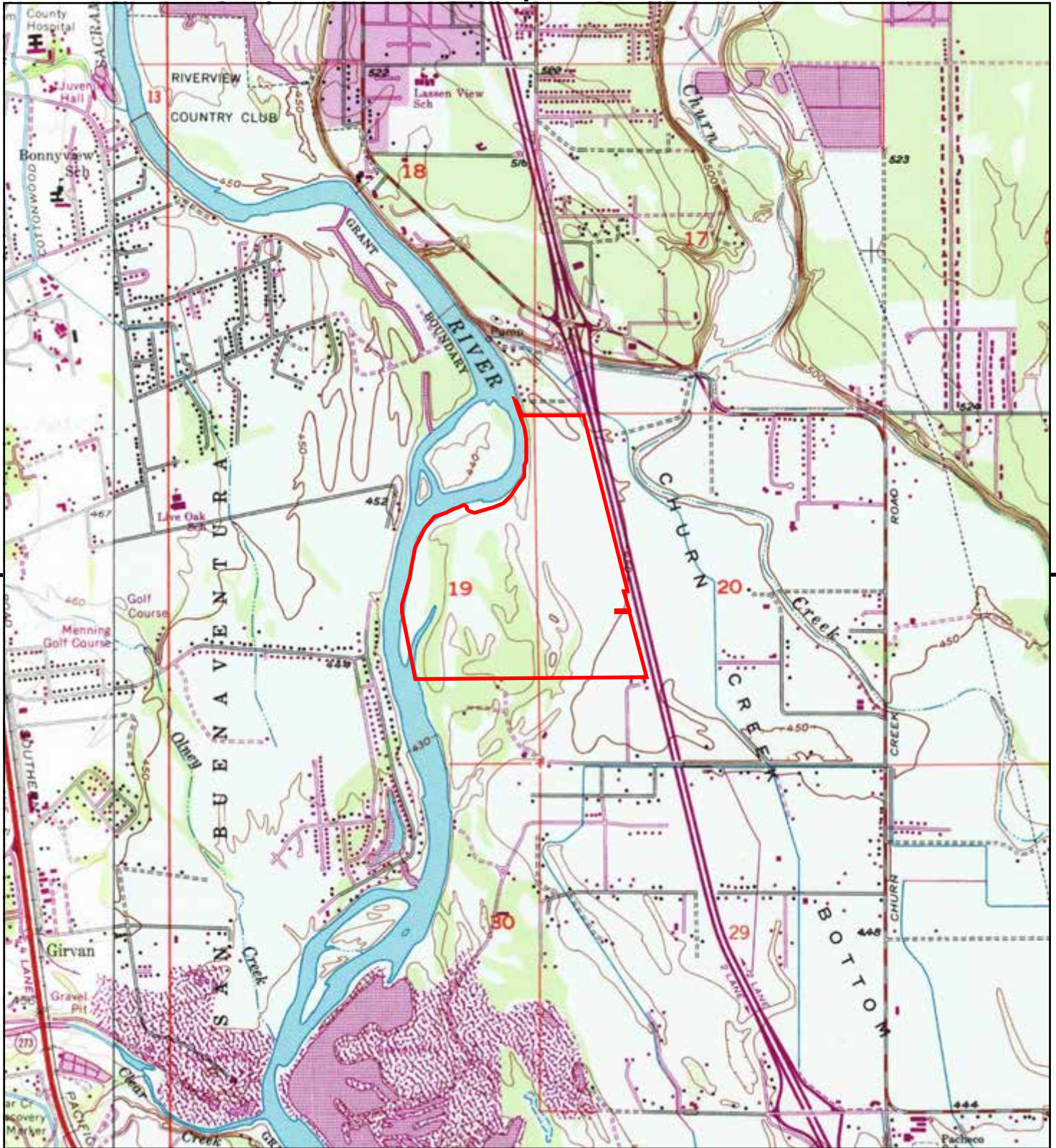
This report includes information from the following map sheet(s).



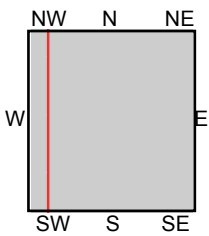
TP, Enterprise, 2012, 7.5-minute
 NW, Redding, 2012, 7.5-minute

SITE NAME: Strawberry Fields
 ADDRESS: Not Reported
 Redding, CA 96002
 CLIENT: Analytical Environmental Serv.





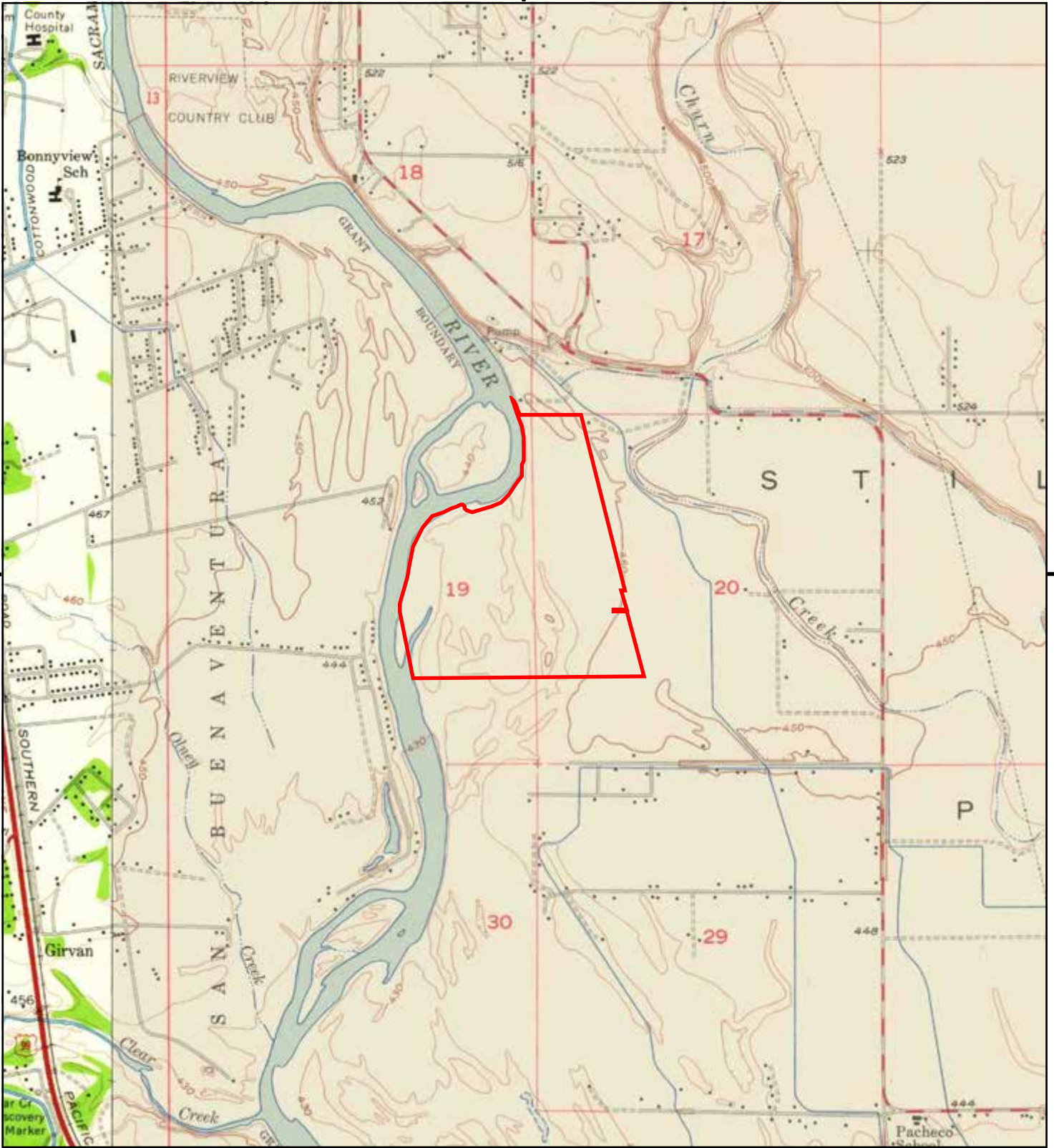
This report includes information from the following map sheet(s).



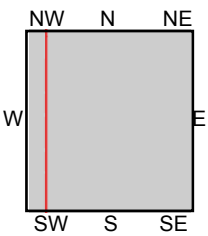
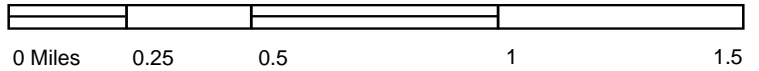
TP, Enterprise, 1969, 7.5-minute
 NW, Redding, 1969, 7.5-minute

SITE NAME: Strawberry Fields
 ADDRESS: Not Reported
 Redding, CA 96002
 CLIENT: Analytical Environmental Serv.





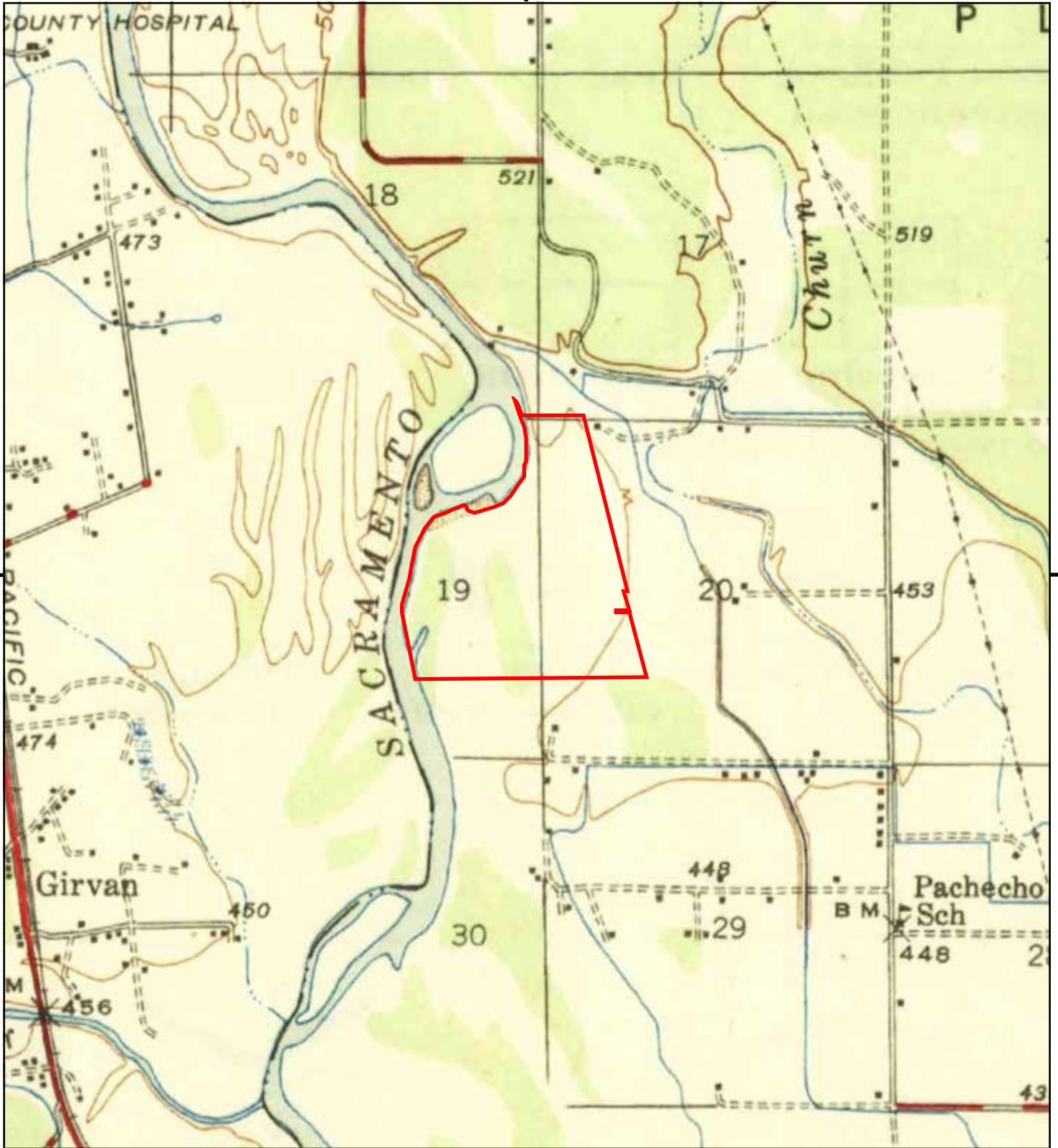
This report includes information from the following map sheet(s).



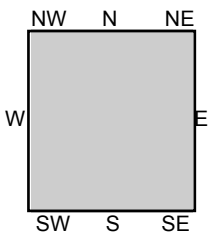
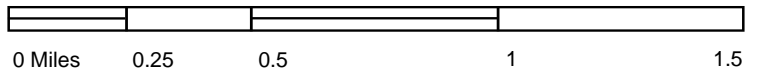
TP, Enterprise, 1957, 7.5-minute
NW, Redding, 1957, 7.5-minute

SITE NAME: Strawberry Fields
ADDRESS: Not Reported
Redding, CA 96002
CLIENT: Analytical Environmental Serv.





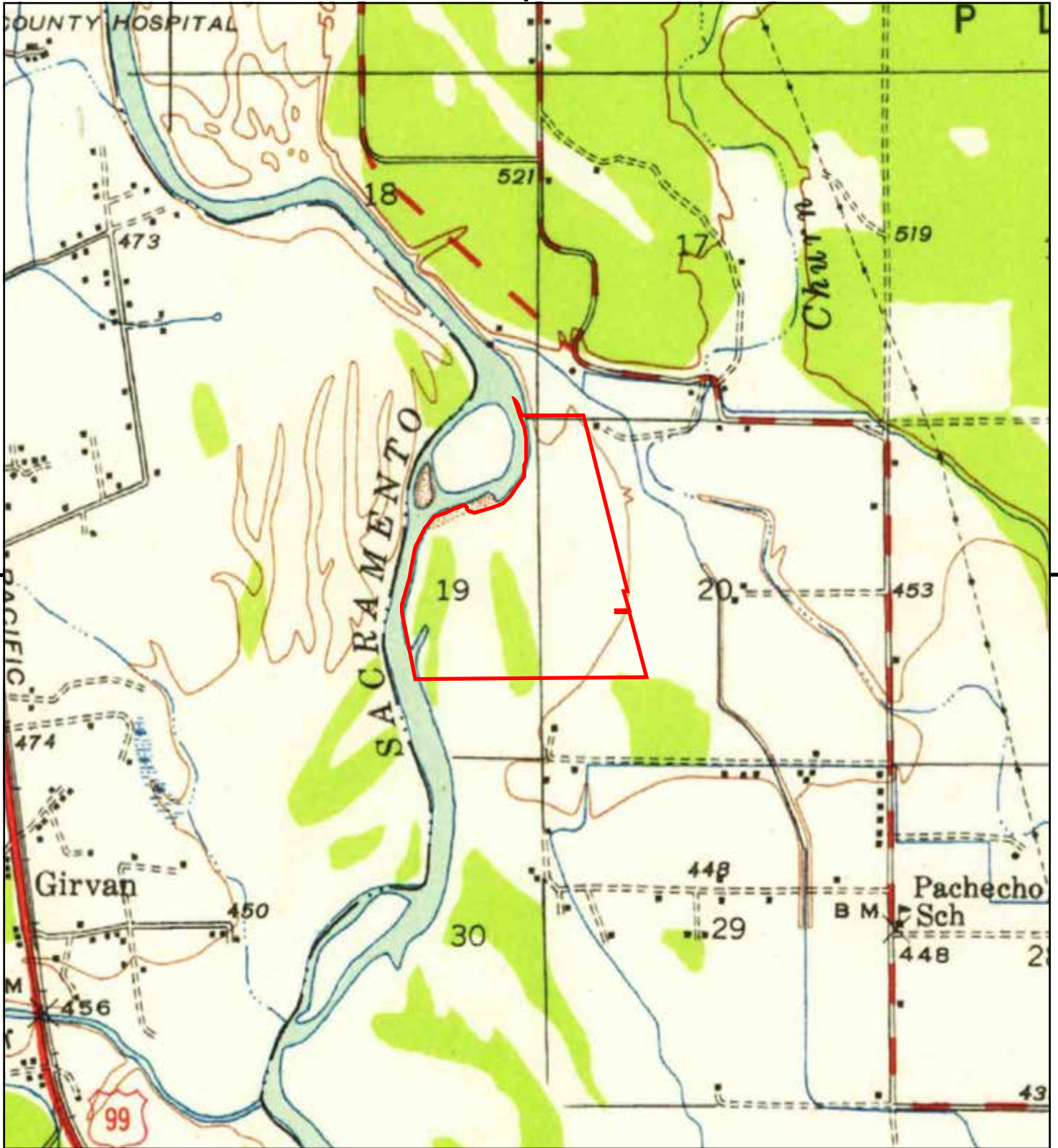
This report includes information from the following map sheet(s).



TP, Redding, 1946, 15-minute

SITE NAME: Strawberry Fields
 ADDRESS: Not Reported
 Redding, CA 96002
 CLIENT: Analytical Environmental Serv.





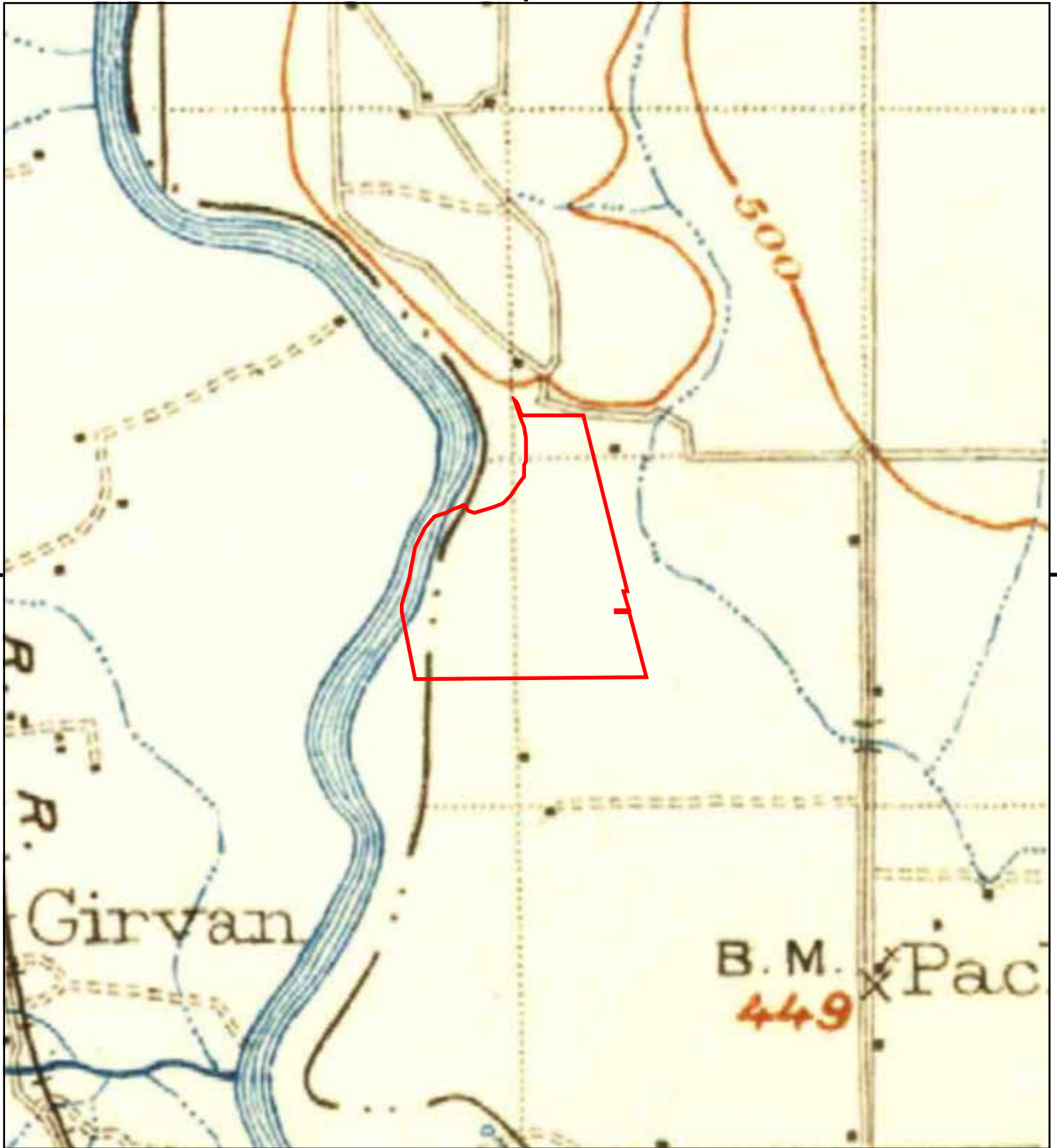
This report includes information from the following map sheet(s).



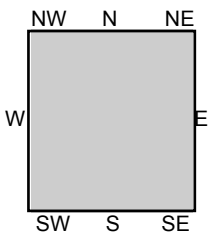
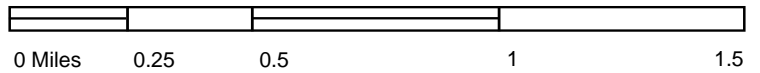
TP, Redding, 1944, 15-minute

SITE NAME: Strawberry Fields
ADDRESS: Not Reported
Redding, CA 96002
CLIENT: Analytical Environmental Serv.





This report includes information from the following map sheet(s).




TP, Redding, 1901, 30-minute

SITE NAME: Strawberry Fields
ADDRESS: Not Reported
Redding, CA 96002
CLIENT: Analytical Environmental Serv.



APPENDIX C

SANBORN NO COVERAGE DOCUMENT



Strawberry Fields

Not Reported

Redding, CA 96002

Inquiry Number: 4738518.3

September 27, 2016

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

09/27/16

Site Name:

Strawberry Fields
Not Reported
Redding, CA 96002
EDR Inquiry # 4738518.3

Client Name:

Analytical Environmental Serv.
1801 7th Street
Sacramento, CA 95811
Contact: Katherine Green



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Analytical Environmental Serv. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 4A73-42E9-9396
PO # NA
Project Redding Rancheria



Sanborn® Library search results

Certification #: 4A73-42E9-9396

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- Library of Congress
- University Publications of America
- EDR Private Collection

The Sanborn Library LLC Since 1866™

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APPENDIX D

CITY DIRECTORY IMAGE REPORT

Strawberry Fields

Not Reported
Redding, CA 96002

Inquiry Number: 4738518.5
September 28, 2016

The EDR-City Directory Image Report

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SECTION

Executive Summary

Findings

City Directory Images

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Target Street</u>	<u>Cross Street</u>	<u>Source</u>
2013	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cole Information Services
2008	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cole Information Services
2003	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cole Information Services
1999	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cole Information Services
1995	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cole Information Services
1992	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cole Information Services
1988	<input type="checkbox"/>	<input type="checkbox"/>	Polk's City Directory
1982	<input type="checkbox"/>	<input type="checkbox"/>	Polk's City Directory
1978	<input type="checkbox"/>	<input type="checkbox"/>	Polk's City Directory
1973	<input type="checkbox"/>	<input type="checkbox"/>	Polk's City Directory
1968	<input type="checkbox"/>	<input type="checkbox"/>	Polk's City Directory
1964	<input type="checkbox"/>	<input type="checkbox"/>	Polk's City Directory
1959	<input type="checkbox"/>	<input type="checkbox"/>	Polk's City Directory

RECORD SOURCES

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FINDINGS

TARGET PROPERTY STREET

Not Reported
Redding, CA 96002

Year

CD Image

Source

SMITH RD

1988	-	Polk's City Directory	Street not listed in Source
1982	-	Polk's City Directory	Street not listed in Source
1978	-	Polk's City Directory	Street not listed in Source
1973	-	Polk's City Directory	Street not listed in Source
1968	-	Polk's City Directory	Street not listed in Source
1964	-	Polk's City Directory	Street not listed in Source
1959	-	Polk's City Directory	Street not listed in Source

FINDINGS

CROSS STREETS

<u>Year</u>	<u>CD Image</u>	<u>Source</u>
<u>SMITH RD</u>		
2013	pg. A1	Cole Information Services
2008	pg. A2	Cole Information Services
2003	pg. A3	Cole Information Services
1999	pg. A4	Cole Information Services
1995	pg. A5	Cole Information Services
1992	pg. A6	Cole Information Services

City Directory Images

SMITH RD 2013

18974 A EMMERSON
18980 OCCUPANT UNKNOWN
18988 A EMMERSON
19000 PILAR MARIA
19002 ANTHONY ENEIX
19053 SERGIO MARTINEZ
19103 DONALD SHIRLEY
19132 CHARLES PARSONS
19245 TWILA HAIR
19283 LYNN ROLLER
19301 MARIA BOYCE
19303 JANET ZEIS
19321 CYRIL DABOVICH
19327 SARA RUST
19337 STEPHEN BELONGIE
19378 FLOYE PARSONS
19397 STANLEY CARMONA

SMITH RD 2008

18974 A EMMERSON
18980 FRANCES RUZICKA
18988 A EMMERSON
19000 A EMMERSON
19002 TAMARA ENEIX
19053 OCCUPANT UNKNOWN
19132 BRAD MAITIA
19245 TWILA HAIR
19283 CHARLES WAGONER
19301 JAMES BOYCE
19303 ROBERT ZEIS
19321 CYRIL DABOVICH
19337 CELTIC DRAGON OR HOBBIES ETC
STEPHEN BELONGIE
19339 DIANA BELONGIE
19378 VERNON PARSONS
19397 CHRISTIAN CARMONA

SMITH RD 2003

18974 OCCUPANT UNKNOWN
18980 FRANCES RUZICKA
18988 A EMMERSON
19000 VICTORIA MCARTHUR
19103 MARY GERLINGER
19245 OCCUPANT UNKNOWN
19283 CHARLES WAGONER
19301 JAMES BOYCE
19303 OCCUPANT UNKNOWN
19321 STEVE DABOVICH
19327 COGHLAN CLEANER SWEEP
RUSTY COGHLAN
19337 CELTIC DRGN OR HOBBIES ETC
STEPHEN BELONGIE
19339 DIANA BELONGIE
19378 VERNON PARSONS
19397 HERBERT ALLEN
19401 EDGAR OGLESBY

SMITH RD 1999

1290 SHEA SAND & GRAVEL
1459 OCCUPANT UNKNOWN
1509 OCCUPANT UNKNOWN
1585 OCCUPANT UNKNOWN
1703 OCCUPANT UNKNOWN
1767 OCCUPANT UNKNOWN
18974 A EMMERSON
OCCUPANT UNKNOWN
18980 AUSTIN RUZICKA
18988 A EMMERSON
19000 ARCHIE EMMERSON
LS RANCH OFFICE
LS RANCH SHOP
19002 TAMARA ENEIX
19047 OCCUPANT UNKNOWN
19103 DONALD SHIRLEY
19283 CHARLES WAGONER
19301 MARIA BOYCE
19303 JANET ZEIS
19321 CYRIL DABOVICH
19327 SHEREEN WEST
19337 STEPHEN BELONGIE
19339 DIANA BELONGIE
19378 VERNON PARSONS

SMITH RD 1995

1116 PRESTON, ANNA
1200 PARSONS, RAY
1290 SHEA SAND & GRAVEL
1398 STRANTZ, ROBERT D
1641 OCCUPANT UNKNOWNN
1691 OGLESBY, EDGAR C
18974 PLOTTS, R I
18980 RUZICKA, AUSTIN
19301 BOYCE, JAMES E
ZEIS, ROBERT
19303 ZEIS, ROBERT E
19321 DABOVICH, STEVE
19327 REYNOLDS, CURTIS A
19337 MARIN, JULIE E
19339 BELONGIE, SCYLLA F
19378 PARSONS, VERNON
19397 ALLEN, HERB JR

SMITH RD 1992

0	L S RANCH
1110	RUZICKA, AUSTIN
1112	PLOTTS, R I
1116	GRAF, JACK
1200	PARSONS, RAY
1398	EWING, JACK L JR
	STRANTZ, ROBERT D
1509	WAGONER, CHARLES E
1537	BOYCE, JAMES E
	ZEIS, ROBERT
1585	DABOVICH, STEVE
1691	OGLESBY, EDGAR C
1740	PARSONS, VERNON SR
1767	ALLEN, HERB JR
19339	BELONGIE, STEPHEN

APPENDIX E

ENVIRONMENTAL DATA RESOURCES (EDR) REPORT RESULTS

Strawberry Fields

Not Reported

Redding, CA 96002

Inquiry Number: 4738518.2s

September 27, 2016

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

NOT REPORTED
REDDING, CA 96002

COORDINATES

Latitude (North): 40.5284670 - 40° 31' 42.48"
Longitude (West): 122.3527240 - 122° 21' 9.80"
Universal Transverse Mercator: Zone 10
UTM X (Meters): 554824.6
UTM Y (Meters): 4486405.0
Elevation: 443 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 5605372 ENTERPRISE, CA
Version Date: 2012

Northwest Map: 5605416 REDDING, CA
Version Date: 2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20140729, 20140726
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:
 NOT REPORTED
 REDDING, CA 96002

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
Reg	IRON MOUNTAIN MINE	OFF HWY 299 9 MI NW	NPL, SEMS, US ENG CONTROLS, US INST CONTROL, ROD,.	Same	1701, 0.322, West
A1	I-5 RENTALS	8443 COMMERCIAL WAY	CUPA Listings	Higher	343, 0.065, NE
A2	I-5 RENTALS	8443 COMMERCIAL WAY	AST	Higher	343, 0.065, NE
A3	I-5 RENTALS INC.	8443 COMMERCIAL WAY	AST	Higher	343, 0.065, NE
B4	INTERSTATE DISTRIBUT	1263 COMMERCIAL WAY	HIST UST	Higher	360, 0.068, NNE
B5	AMERIGAS-REDDING	8455 COMMERCIAL WAY	CUPA Listings	Higher	446, 0.084, NNE
6	CITY OF REDDING - SU	5100 SUNNYHILL LN	CUPA Listings	Higher	544, 0.103, North
C7	CHURN CREEK CONSTRUC	8537 COMMERCIAL WAY	CUPA Listings	Higher	581, 0.110, NNE
C8	MPI EQUIPMENT INC	8537 COMMERCIAL WAY	CUPA Listings	Higher	581, 0.110, NNE
D9	VIKING FREIGHT SYSTE	8562 COMMERCIAL WAY	LUST, HIST CORTESE	Higher	903, 0.171, NNE
D10	VIKING FREIGHT SYSTE	8562 COMMERCIAL WAY	SWEEPS UST, CA FID UST	Higher	903, 0.171, NNE
E11	TULLIS, INC	8585 COMMERCIAL WAY	AST	Higher	1057, 0.200, NE
E12	TULLIS, INC.	8585 COMMERCIAL WY	CUPA Listings, HAZNET	Higher	1057, 0.200, NE
F13	CONOCO PHILLIPS #261	5101 CHURN CREEK RD	CUPA Listings, HAZNET	Higher	1141, 0.216, NNE
F14	B/P OIL COMPANY #112	5101 CHURN CREEK RD	LUST, SWEEPS UST, CA FID UST	Higher	1141, 0.216, NNE
F15	MOBIL SERVICE STATIO	5101 CHURN CREEK RD	HIST UST	Higher	1141, 0.216, NNE
F16	TOSCO NORTHWEST CO N	5101 CHURN CREEK RD	RCRA-SQG, FINDS, ECHO	Higher	1141, 0.216, NNE
17	BONNYVIEW TEXACO	5001 BECHELLI LN	CUPA Listings	Higher	1168, 0.221, North
E18	SHASTA TRACTOR & EQU	1263 COMMERCIAL WAY	SWEEPS UST, CA FID UST	Higher	1186, 0.225, NE
E19	SYSTEM 99	1274 COMMERCIAL WAY	HIST UST	Higher	1241, 0.235, NE
F20	MOBIL SS REDDING	5181 CHURN CREEK RD	LUST, HIST CORTESE	Higher	1274, 0.241, NNE
E21	ANDERSON-COTTONWOOD	8592 COMMERCIAL WAY	AST	Higher	1277, 0.242, NE
E22	ANDERSON COTTONWOOD	8592 COMMERCIAL	LUST, CUPA Listings, HIST CORTESE	Higher	1277, 0.242, NE
E23	ANDERSON COTTONWOOD	8592 COMMERCIAL WAY	AST	Higher	1277, 0.242, NE
E24	ANDERSON COTTONWOOD	8592 COMMERCIAL WAY	LUST, SWEEPS UST, WDS	Higher	1277, 0.242, NE
25	JF SHEA CO INC DBA S	1290 SMITH RD	SWEEPS UST, CA FID UST	Higher	1281, 0.243, South
26	SHEA SAND & GRAVEL (1290 SMITH ROAD	HIST UST, EMI	Higher	1309, 0.248, SSE
27	SYSTEMS ABATEMENT CO	6729 RIVERSIDE DR	RCRA NonGen / NLR, FINDS, ECHO	Lower	1317, 0.249, SW
F28	CHURN CREEK CHEVRON	4746 CHURN CREEK RD	LUST, CUPA Listings, HIST CORTESE	Higher	1392, 0.264, NNE
G29	ARCO STATION #6027	5150 CHURN CREEK ROA	Notify 65	Higher	1408, 0.267, NNE
G30	ARCO SS #6027 REDDIN	5150 CHURN CREEK RD	LUST, SWEEPS UST, CUPA Listings, HIST CORTESE	Higher	1408, 0.267, NNE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System

Federal ERNS list

ERNS..... Emergency Response Notification System

EXECUTIVE SUMMARY

State- and tribal - equivalent NPL

RESPONSE..... State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR..... EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

SLIC..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing

UST..... Active UST Facilities

INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

VCP..... Voluntary Cleanup Program Properties

INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Considered Brownfields Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT..... Waste Management Unit Database

SWRCY..... Recycler Database

HAULERS..... Registered Waste Tire Haulers Listing

INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

ODI..... Open Dump Inventory

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register

HIST Cal-Sites..... Historical Calsites Database

SCH..... School Property Evaluation Program

CDL..... Clandestine Drug Labs

EXECUTIVE SUMMARY

Toxic Pits..... Toxic Pits Cleanup Act Sites
US CDL..... National Clandestine Laboratory Register

Local Land Records

LIENS..... Environmental Liens Listing
LIENS 2..... CERCLA Lien Information
DEED..... Deed Restriction Listing

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
CHMIRS..... California Hazardous Material Incident Report System
LDS..... Land Disposal Sites Listing
MCS..... Military Cleanup Sites Listing
SPILLS 90..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

FUDS..... Formerly Used Defense Sites
DOD..... Department of Defense Sites
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR..... Financial Assurance Information
EPA WATCH LIST..... EPA WATCH LIST
2020 COR ACTION..... 2020 Corrective Action Program List
TSCA..... Toxic Substances Control Act
TRIS..... Toxic Chemical Release Inventory System
SSTS..... Section 7 Tracking Systems
RMP..... Risk Management Plans
RAATS..... RCRA Administrative Action Tracking System
PRP..... Potentially Responsible Parties
PADS..... PCB Activity Database System
ICIS..... Integrated Compliance Information System
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS..... Material Licensing Tracking System
COAL ASH DOE..... Steam-Electric Plant Operation Data
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER..... PCB Transformer Registration Database
RADINFO..... Radiation Information Database
HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS..... Incident and Accident Data
INDIAN RESERV..... Indian Reservations
FUSRAP..... Formerly Utilized Sites Remedial Action Program
UMTRA..... Uranium Mill Tailings Sites
LEAD SMELTERS..... Lead Smelter Sites
US AIRS..... Aerometric Information Retrieval System Facility Subsystem
US MINES..... Mines Master Index File
FINDS..... Facility Index System/Facility Registry System
UXO..... Unexploded Ordnance Sites
DOCKET HWC..... Hazardous Waste Compliance Docket Listing
CA BOND EXP. PLAN..... Bond Expenditure Plan
Cortese..... "Cortese" Hazardous Waste & Substances Sites List
DRYCLEANERS..... Cleaner Facilities
EMI..... Emissions Inventory Data

EXECUTIVE SUMMARY

ENF.....	Enforcement Action Listing
Financial Assurance.....	Financial Assurance Information Listing
HAZNET.....	Facility and Manifest Data
HWP.....	EnviroStor Permitted Facilities Listing
HWT.....	Registered Hazardous Waste Transporter Database
MINES.....	Mines Site Location Listing
MWMP.....	Medical Waste Management Program Listing
NPDES.....	NPDES Permits Listing
PEST LIC.....	Pesticide Regulation Licenses Listing
PROC.....	Certified Processors Database
UIC.....	UIC Listing
WASTEWATER PITS.....	Oil Wastewater Pits Listing
WDS.....	Waste Discharge System
WIP.....	Well Investigation Program Case List
ICE.....	ICE
ECHO.....	Enforcement & Compliance History Information
FUELS PROGRAM.....	EPA Fuels Program Registered Listing

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP.....	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto.....	EDR Exclusive Historic Gas Stations
EDR Hist Cleaner.....	EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF.....	Recovered Government Archive Solid Waste Facilities List
RGA LUST.....	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

EXECUTIVE SUMMARY

NPL: Also known as Superfund, the National Priority List database is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund program. The source of this database is the U.S. EPA.

A review of the NPL list, as provided by EDR, and dated 03/07/2016 has revealed that there is 1 NPL site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
IRON MOUNTAIN MINE	OFF HWY 299 9 MI NW	W 1/4 - 1/2 (0.322 mi.)	0	8

Federal CERCLIS list

SEMS: SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the SEMS list, as provided by EDR, and dated 03/07/2016 has revealed that there is 1 SEMS site within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
IRON MOUNTAIN MINE	OFF HWY 299 9 MI NW	W 1/4 - 1/2 (0.322 mi.)	0	8

Federal RCRA generators list

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 06/21/2016 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
TOSCO NORTHWEST CO N	5101 CHURN CREEK RD	NNE 1/8 - 1/4 (0.216 mi.)	F16	78

Federal institutional controls / engineering controls registries

US ENG CONTROLS: A listing of sites with engineering controls in place.

A review of the US ENG CONTROLS list, as provided by EDR, and dated 05/09/2016 has revealed that there is 1 US ENG CONTROLS site within approximately 0.5 miles of the target property.

EXECUTIVE SUMMARY

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
IRON MOUNTAIN MINE	OFF HWY 299 9 MI NW	W 1/4 - 1/2 (0.322 mi.)	0	8

US INST CONTROL: A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

A review of the US INST CONTROL list, as provided by EDR, and dated 05/09/2016 has revealed that there is 1 US INST CONTROL site within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
IRON MOUNTAIN MINE	OFF HWY 299 9 MI NW	W 1/4 - 1/2 (0.322 mi.)	0	8

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, has revealed that there are 7 LUST sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
VIKING FREIGHT SYSTE Database: LUST, Date of Government Version: 06/13/2016 Database: LUST REG 5, Date of Government Version: 07/01/2008 Status: Completed - Case Closed Status: Case Closed Global Id: T0608900141	8562 COMMERCIAL WAY	NNE 1/8 - 1/4 (0.171 mi.)	D9	62
B/P OIL COMPANY #112 Database: LUST, Date of Government Version: 06/13/2016 Database: LUST REG 5, Date of Government Version: 07/01/2008 Status: Open - Site Assessment Status: Pollution Characterization Global Id: T0608936410	5101 CHURN CREEK RD	NNE 1/8 - 1/4 (0.216 mi.)	F14	69
MOBIL SS REDDING Database: LUST, Date of Government Version: 06/13/2016 Database: LUST REG 5, Date of Government Version: 07/01/2008 Status: Completed - Case Closed Status: Case Closed Global Id: T0608900003	5181 CHURN CREEK RD	NNE 1/8 - 1/4 (0.241 mi.)	F20	82
ANDERSON COTTONWOOD Database: LUST, Date of Government Version: 06/13/2016 Status: Completed - Case Closed Global Id: T0608900277	8592 COMMERCIAL	NE 1/8 - 1/4 (0.242 mi.)	E22	84
ANDERSON COTTONWOOD Database: LUST REG 5, Date of Government Version: 07/01/2008	8592 COMMERCIAL WAY	NE 1/8 - 1/4 (0.242 mi.)	E24	87

EXECUTIVE SUMMARY

Status: Case Closed

CHURN CREEK CHEVRON **4746 CHURN CREEK RD** **NNE 1/4 - 1/2 (0.264 mi.)** **F28** **98**

Database: LUST, Date of Government Version: 06/13/2016
 Database: LUST REG 5, Date of Government Version: 07/01/2008
 Status: Completed - Case Closed
 Status: Open - Site Assessment
 Status: Case Closed
 Global Id: T10000003475
 Global Id: T0608900278

ARCO SS #6027 REDDIN **5150 CHURN CREEK RD** **NNE 1/4 - 1/2 (0.267 mi.)** **G30** **104**

Database: LUST, Date of Government Version: 06/13/2016
 Database: LUST REG 5, Date of Government Version: 07/01/2008
 Status: Completed - Case Closed
 Status: Case Closed
 Global Id: T0608900019
 Global Id: T0608900138

State and tribal registered storage tank lists

AST: A listing of aboveground storage tank petroleum storage tank locations.

A review of the AST list, as provided by EDR, and dated 07/06/2016 has revealed that there are 5 AST sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
I-5 RENTALS	8443 COMMERCIAL WAY	NE 0 - 1/8 (0.065 mi.)	A2	58
I-5 RENTALS INC.	8443 COMMERCIAL WAY	NE 0 - 1/8 (0.065 mi.)	A3	58
TULLIS, INC	8585 COMMERCIAL WAY	NE 1/8 - 1/4 (0.200 mi.)	E11	65
ANDERSON-COTTONWOOD	8592 COMMERCIAL WAY	NE 1/8 - 1/4 (0.242 mi.)	E21	84
ANDERSON COTTONWOOD	8592 COMMERCIAL WAY	NE 1/8 - 1/4 (0.242 mi.)	E23	87

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Registered Storage Tanks

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 5 SWEEPS UST sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
VIKING FREIGHT SYSTE	8562 COMMERCIAL WAY	NNE 1/8 - 1/4 (0.171 mi.)	D10	63
Status: A Tank Status: A Comp Number: 346				
B/P OIL COMPANY #112	5101 CHURN CREEK RD	NNE 1/8 - 1/4 (0.216 mi.)	F14	69

EXECUTIVE SUMMARY

Status: A
 Tank Status: A
 Comp Number: 212

SHASTA TRACTOR & EQU **1263 COMMERCIAL WAY** **NE 1/8 - 1/4 (0.225 mi.)** **E18** **80**

Status: A
 Tank Status: A
 Comp Number: 171

ANDERSON COTTONWOOD **8592 COMMERCIAL WAY** **NE 1/8 - 1/4 (0.242 mi.)** **E24** **87**

Status: A
 Tank Status: A
 Comp Number: 226

JF SHEA CO INC DBA S **1290 SMITH RD** **S 1/8 - 1/4 (0.243 mi.)** **25** **89**

Status: A
 Tank Status: A
 Comp Number: 320

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 4 HIST UST sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
INTERSTATE DISTRIBUT Facility Id: 00000012542	1263 COMMERCIAL WAY	NNE 0 - 1/8 (0.068 mi.)	B4	59
MOBIL SERVICE STATIO Facility Id: 00000039656	5101 CHURN CREEK RD	NNE 1/8 - 1/4 (0.216 mi.)	F15	77
SYSTEM 99 Facility Id: 00000045382	1274 COMMERCIAL WAY	NE 1/8 - 1/4 (0.235 mi.)	E19	81
SHEA SAND & GRAVEL (Facility Id: 00000048169	1290 SMITH ROAD	SSE 1/8 - 1/4 (0.248 mi.)	26	90

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 4 CA FID UST sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
VIKING FREIGHT SYSTE Facility Id: 45000263 Status: A	8562 COMMERCIAL WAY	NNE 1/8 - 1/4 (0.171 mi.)	D10	63
B/P OIL COMPANY #112 Facility Id: 45000582 Status: A	5101 CHURN CREEK RD	NNE 1/8 - 1/4 (0.216 mi.)	F14	69
SHASTA TRACTOR & EQU Facility Id: 45000028 Status: A	1263 COMMERCIAL WAY	NE 1/8 - 1/4 (0.225 mi.)	E18	80
JF SHEA CO INC DBA S	1290 SMITH RD	S 1/8 - 1/4 (0.243 mi.)	25	89

EXECUTIVE SUMMARY

Facility Id: 45000962
Status: A

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 06/21/2016 has revealed that there is 1 RCRA NonGen / NLR site within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>SYSTEMS ABATEMENT CO</i>	<i>6729 RIVERSIDE DR</i>	<i>SW 1/8 - 1/4 (0.249 mi.)</i>	<i>27</i>	<i>97</i>

ROD: Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid the cleanup.

A review of the ROD list, as provided by EDR, and dated 11/25/2013 has revealed that there is 1 ROD site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>IRON MOUNTAIN MINE</i>	<i>OFF HWY 299 9 MI NW</i>	<i>W 1/4 - 1/2 (0.322 mi.)</i>	<i>0</i>	<i>8</i>

CONSENT: Major Legal settlements that establish responsibility and standards for cleanup at NPL (superfund) sites. Released periodically by U.S. District Courts after settlement by parties to litigation matters.

A review of the CONSENT list, as provided by EDR, and dated 03/31/2016 has revealed that there is 1 CONSENT site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>IRON MOUNTAIN MINE</i>	<i>OFF HWY 299 9 MI NW</i>	<i>W 1/4 - 1/2 (0.322 mi.)</i>	<i>0</i>	<i>8</i>

CUPA Listings: A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

A review of the CUPA Listings list, as provided by EDR, has revealed that there are 9 CUPA Listings sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
I-5 RENTALS Database: CUPA SHASTA, Date of Government Version: 06/14/2016	8443 COMMERCIAL WAY	NE 0 - 1/8 (0.065 mi.)	A1	57

EXECUTIVE SUMMARY

Facility Status: True				
Site Id: 1609				
AMERIGAS-REDDING	8455 COMMERCIAL WAY	NNE 0 - 1/8 (0.084 mi.)	B5	60
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: False				
Site Id: 530				
CITY OF REDDING - SU	5100 SUNNYHILL LN	N 0 - 1/8 (0.103 mi.)	6	60
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: True				
Site Id: 1678				
CHURN CREEK CONSTRUC	8537 COMMERCIAL WAY	NNE 0 - 1/8 (0.110 mi.)	C7	61
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: False				
Site Id: 224				
MPI EQUIPMENT INC	8537 COMMERCIAL WAY	NNE 0 - 1/8 (0.110 mi.)	C8	61
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: True				
Site Id: 1610				
TULLIS, INC.	8585 COMMERCIAL WY	NE 1/8 - 1/4 (0.200 mi.)	E12	65
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: False				
Site Id: 1735				
CONOCO PHILLIPS #261	5101 CHURN CREEK RD	NNE 1/8 - 1/4 (0.216 mi.)	F13	68
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: False				
Site Id: 210				
BONNYVIEW TEXACO	5001 BECHELLI LN	N 1/8 - 1/4 (0.221 mi.)	17	80
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: True				
Site Id: 802				
ANDERSON COTTONWOOD	8592 COMMERCIAL	NE 1/8 - 1/4 (0.242 mi.)	E22	84
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: True				
Site Id: 207				

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSTITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 5 HIST CORTESE sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
VIKING FREIGHT SYSTE Reg Id: 450144	8562 COMMERCIAL WAY	NNE 1/8 - 1/4 (0.171 mi.)	D9	62
MOBIL SS REDDING Reg Id: 450003	5181 CHURN CREEK RD	NNE 1/8 - 1/4 (0.241 mi.)	F20	82
ANDERSON COTTONWOOD Reg Id: 450283	8592 COMMERCIAL	NE 1/8 - 1/4 (0.242 mi.)	E22	84
CHURN CREEK CHEVRON	4746 CHURN CREEK RD	NNE 1/4 - 1/2 (0.264 mi.)	F28	98

EXECUTIVE SUMMARY

Reg Id: 450284

ARCO SS #6027 REDDIN

5150 CHURN CREEK RD

NNE 1/4 - 1/2 (0.267 mi.) G30

104

Reg Id: 450141

Reg Id: 450019

Notify 65: Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

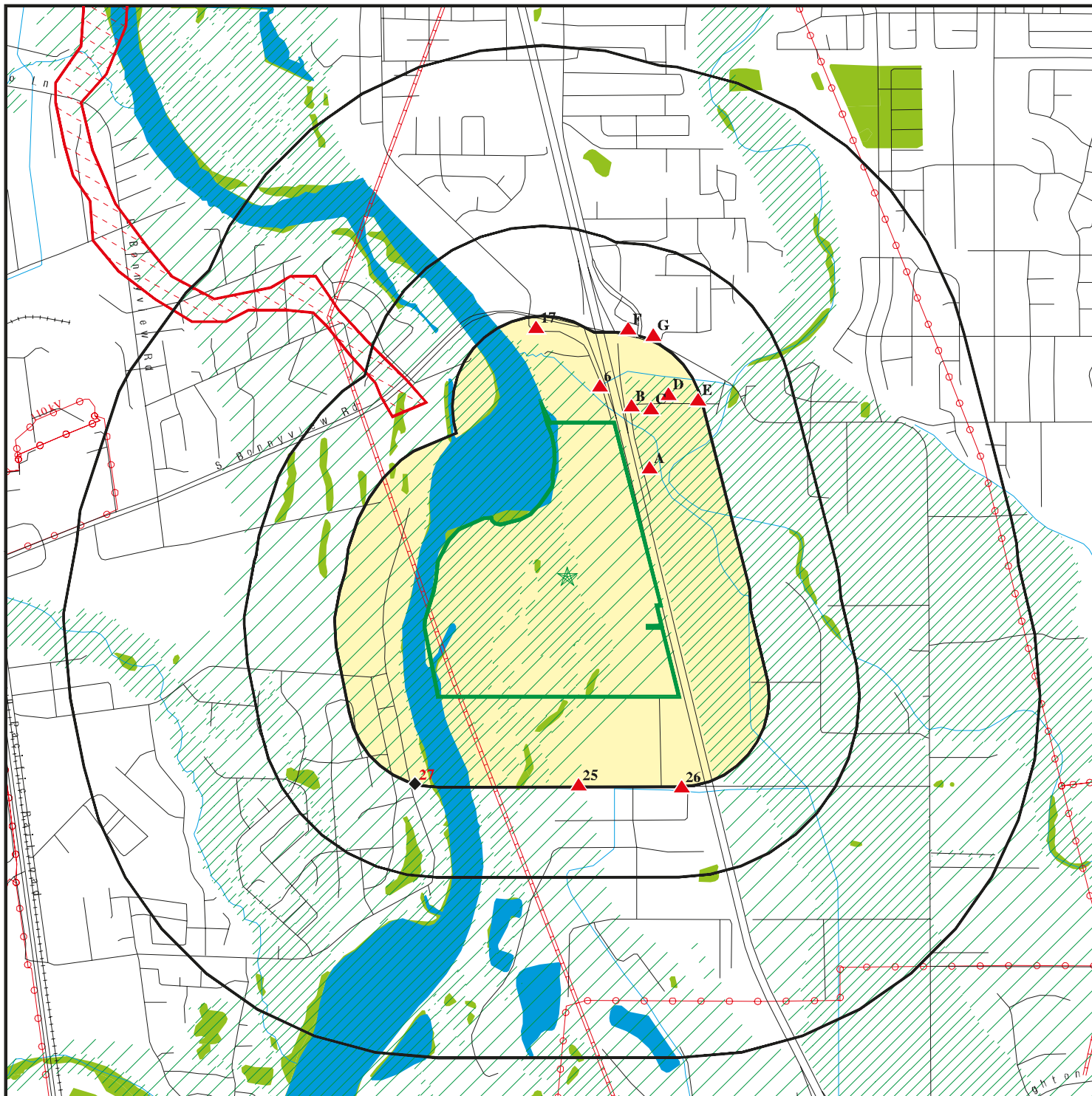
A review of the Notify 65 list, as provided by EDR, and dated 09/10/2015 has revealed that there is 1 Notify 65 site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
ARCO STATION #6027	5150 CHURN CREEK ROA	NNE 1/4 - 1/2 (0.267 mi.)	G29	104

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 4738518.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

Pipelines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

0 1/4 1/2 1 Miles

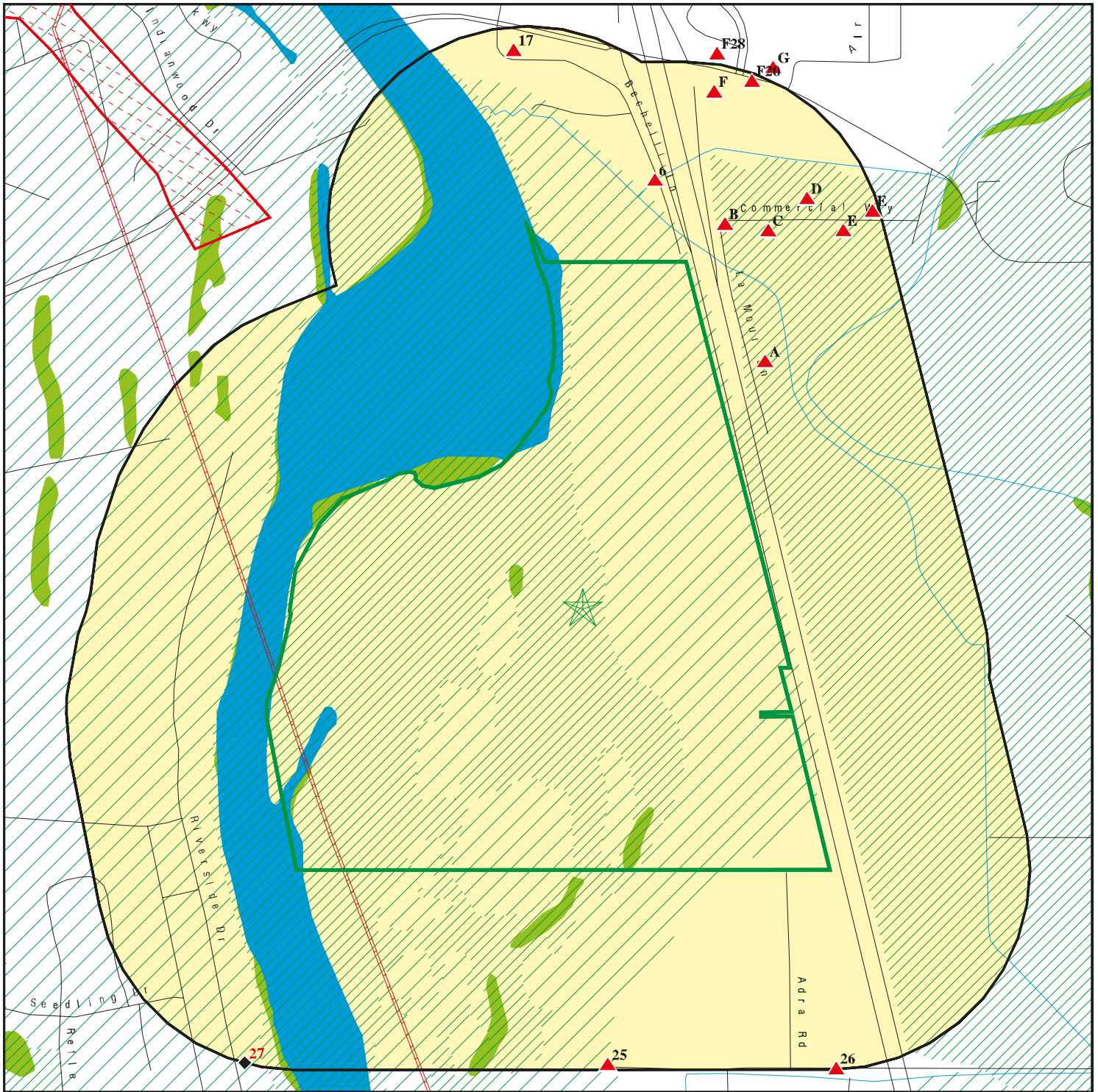


This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Strawberry Fields
 ADDRESS: Not Reported
 Redding CA 96002
 LAT/LONG: 40.528467 / 122.352724

CLIENT: Analytical Environmental Serv.
 CONTACT: Katherine Green
 INQUIRY #: 4738518.2s
 DATE: September 27, 2016 8:39 pm

DETAIL MAP - 4738518.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Pipelines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Strawberry Fields
 ADDRESS: Not Reported
 Redding CA 96002
 LAT/LONG: 40.528467 / 122.352724

CLIENT: Analytical Environmental Serv.
 CONTACT: Katherine Green
 INQUIRY #: 4738518.2s
 DATE: September 27, 2016 8:39 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	1	0	NR	1
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	1	NR	NR	1
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	1	NR	NR	NR	1
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	1	NR	NR	1
US INST CONTROL	0.500		0	0	1	NR	NR	1
<i>Federal ERNS list</i>								
ERNS	0.001		0	NR	NR	NR	NR	0
<i>State- and tribal - equivalent NPL</i>								
RESPONSE	1.000		0	0	0	0	NR	0
<i>State- and tribal - equivalent CERCLIS</i>								
ENVIROSTOR	1.000		0	0	0	0	NR	0
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
LUST	0.500		0	5	2	NR	NR	7

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
SLIC	0.500		0	0	0	NR	NR	0
<i>State and tribal registered storage tank lists</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		2	3	NR	NR	NR	5
INDIAN UST	0.250		0	0	NR	NR	NR	0
<i>State and tribal voluntary cleanup sites</i>								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
<i>State and tribal Brownfields sites</i>								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
<i>Local Brownfield lists</i>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Landfill / Solid Waste Disposal Sites</i>								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
<i>Local Lists of Hazardous waste / Contaminated Sites</i>								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
<i>Local Lists of Registered Storage Tanks</i>								
SWEEPS UST	0.250		0	5	NR	NR	NR	5
HIST UST	0.250		1	3	NR	NR	NR	4
CA FID UST	0.250		0	4	NR	NR	NR	4
<i>Local Land Records</i>								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
<i>Records of Emergency Release Reports</i>								
HMIRS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	1	NR	NR	NR	1
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	1	0	NR	1
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	1	0	NR	1
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		5	4	NR	NR	NR	9
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	3	2	NR	NR	5
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	1	0	NR	1
UIC	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
ICE	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
<u>EDR HIGH RISK HISTORICAL RECORDS</u>								
<i>EDR Exclusive Records</i>								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
<u>EDR RECOVERED GOVERNMENT ARCHIVES</u>								
<i>Exclusive Recovered Govt. Archives</i>								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	8	29	11	0	0	48

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

**NPL
Region
West
1/4-1/2
1701 ft.**

**IRON MOUNTAIN MINE
OFF HWY 299 9 MI NW OF
REDDING, CA 96001**

**NPL 1000305640
SEMS CAD980498612
US ENG CONTROLS
US INST CONTROL
ROD
PRP
ICIS
CONSENT
FINDS
ECHO**

NPL:

EPA ID: CAD980498612
Cerclis ID: 901755
EPA Region: 9
Federal: N
Final Date: 1983-09-08 00:00:00
Site Score: 56.159999999999997
Latitude: 40.671660000000003
Longitude: -122.5278

Category Details:

NPL Status: Currently on the Final NPL
Category Description: Depth To Aquifer-<= 10 Feet
Category Value: 10

NPL Status: Currently on the Final NPL
Category Description: Distance To Nearest Population-> 0 And <= 1/4 Mile
Category Value: 10

Site Details:

Site Name: IRON MOUNTAIN MINE
Site Status: Final
Site Zip: 96001
Site City: REDDING
Site State: CA
Federal Site: No
Site County: SHASTA
EPA Region: 09
Date Proposed: 12/30/82
Date Deleted: Not reported
Date Finalized: 09/08/83

Substance Details:

NPL Status: Currently on the Final NPL
Substance ID: Not reported
Substance: Not reported
CAS #: Not reported
Pathway: Not reported
Scoring: Not reported

NPL Status: Currently on the Final NPL
Substance ID: C178
Substance: COPPER AND COMPOUNDS
CAS #: Not reported
Pathway: GROUND WATER PATHWAY
Scoring: 2

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

NPL Status: Currently on the Final NPL
Substance ID: C178
Substance: COPPER AND COMPOUNDS
CAS #: Not reported
Pathway: SURFACE WATER PATHWAY
Scoring: 2

NPL Status: Currently on the Final NPL
Substance ID: C247
Substance: ZINC AND COMPOUNDS
CAS #: Not reported
Pathway: GROUND WATER PATHWAY
Scoring: 2

NPL Status: Currently on the Final NPL
Substance ID: C247
Substance: ZINC AND COMPOUNDS
CAS #: Not reported
Pathway: SURFACE WATER PATHWAY
Scoring: 2

NPL Status: Currently on the Final NPL
Substance ID: D006
Substance: CADMIUM (CD)
CAS #: 7440-43-9
Pathway: GROUND WATER PATHWAY
Scoring: 4

NPL Status: Currently on the Final NPL
Substance ID: D006
Substance: CADMIUM (CD)
CAS #: 7440-43-9
Pathway: SURFACE WATER PATHWAY
Scoring: 4

Summary Details:

Conditions at listing October 1981): Iron Mountain Mine is a privately owned site in the Klamath Mountains of Shasta County, 9 miles northwest of Redding, California. The mine area, which encompasses about 2,000 acres, is drained by BoulderCreek and Slickrock Creek, both tributaries to Spring Creek. Spring Creek drains into Keswick Reservoir. Flat Creek, which also drains a portion of the site, enters Keswick Reservoir just upstream of Spring Creek. Keswick Reservoir was formed by the construction of Keswick Dam on the Sacramento River, which is a major source of Redding's drinking water. The State has estimated that a daily average of 2,350 pounds of iron, 300 pounds of copper, and 50 pounds of cadmium are carried into Keswick Reservoir from the site. Status July 1983): In February 1982, the State brought action against the present owners of the site. The action resulted in a default judgment against the company and fines totalling 16.8 million. In June and July 1982, the company filed motions to vacate the default judgments, which the Shasta County Superior Court denied. In August 1982, the company filed an appeal from the denials on its motion. One appeal is still pending. The company has reached a settlement with the State on the 16.8 million default judgment. CERCLA funding is being requested for a remedial investigation/feasibility study to determine the type and extent of contamination at the site and identify alternatives for remedial action.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Site Status Details:

NPL Status: Final
Proposed Date: 12/30/1982
Final Date: 09/08/1983
Deleted Date: Not reported

Narratives Details:

NPL Name: IRON MOUNTAIN MINE
City: REDDING
State: CA

SEMS:

Site ID: 901755
EPA ID: CAD980498612
Federal Facility: N
NPL: Currently on the Final NPL
Non NPL Status: Not reported

Following information was gathered from the prior CERCLIS update completed in 10/2013:

Site ID: 0901755
EPA ID: CAD980498612
Facility County: SHASTA
Short Name: IRON MOUNTAIN MINE
Congressional District: 1
IFMS ID: 0917
SMSA Number: 6690
USGC Hydro Unit: 18020101
Federal Facility: Not a Federal Facility
DMNSN Number: 4400.00000
Site Orphan Flag: N
RCRA ID: Not reported
USGS Quadrangle: Not reported
Site Init By Prog: Not reported
NFRAP Flag: Not reported
Parent ID: Not reported
RST Code: I
EPA Region: 09
Classification: Mines/Tailings
Site Settings Code: RU
NPL Status: Currently on the Final NPL
DMNSN Unit Code: ACRE
RBRAC Code: Not reported
RResp Fed Agency Code: Not reported
Non NPL Status: Not reported
Non NPL Status Date: / /
Site Fips Code: 06089
CC Concurrence Date: / /
CC Concurrence FY: Not reported
Alias EPA ID: Not reported
Site FUDS Flag: Not reported

CERCLIS Site Contact Name(s):

Contact ID: 9000171.00000
Contact Name: Chris Weden

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Contact Tel: (415) 972-3041
Contact Title: On-Scene Coordinator (OSC)
Contact Email: Not reported

Contact ID: 13002694.00000
Contact Name: Svetlana Zenkin
Contact Tel: Not reported
Contact Title: Community Involvement Coordinator
Contact Email: Not reported

Contact ID: 13003854.00000
Contact Name: Leslie Ramirez
Contact Tel: (415) 972-3978
Contact Title: Site Assessment Manager (SAM)
Contact Email: Not reported

Contact ID: 13003858.00000
Contact Name: Sharon Murray
Contact Tel: (415) 972-4250
Contact Title: Site Assessment Manager (SAM)
Contact Email: Not reported

Contact ID: 13004003.00000
Contact Name: Carl Brickner
Contact Tel: Not reported
Contact Title: Site Assessment Manager (SAM)
Contact Email: Not reported

CERCLIS Site Alias Name(s):

Alias ID: 101
Alias Name: I M M
Alias Address: T33 R6W MT DIABLO
REDDING (9 MI NW OF), CA 96001

Alias ID: 102
Alias Name: IRON MOUNTAIN MINE
Alias Address: OFF HWY 299 9 MI NW OF
REDDING, CA 96001

Alias Comments: Not reported

Site Description: The Iron Mountain Mine (IMM) Superfund site is located in Shasta County, California, approximately 9 miles northwest of the City of Redding. The collection of mines on Iron Mountain is known as Iron Mountain Mines. The Iron Mountain Mines are the southernmost mines in the West Shasta Mining District. The District encompasses more than a dozen sulfide mines that have been worked for silver, gold, copper, zinc, and pyrite. The IMM Site contains approximately 4,400 acres of land that includes the inactive mining properties on Iron Mountain; the several inactive underground and open pit mines; numerous waste piles; abandoned mining facilities; mine drainage treatment facilities; the downstream reaches of Boulder, Slickrock, Flat, and Spring Creeks; Spring Creek Reservoir; Keswick Reservoir (which includes both the Spring Creek Arm and the main body of Keswick Reservoir); and the Sacramento River affected by drainage from IMM. The summit of Iron Mountain is 3,583 feet above mean sea level and is approximately 3,000 feet above the Sacramento River, 3 miles to the east. The terrain is very steep, with slopes dropping 1 to 2 feet for every 2 feet horizontally, or steeper. The mountain is predominantly forested with some areas of brush and numerous unpaved roads leading to various work locations. Several and possibly all of the mines and the waste rock piles are discharging acidic waters typically with a high content of heavy metals.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

These discharges are herein referred to collectively as "acid mine drainage" or AMD. The largest sources of AMD are located within the Iron Mountain Mine (IMM) property. The largest source of AMD is the Richmond Mine and the second largest is the Hornet Mine both of which drain into Boulder Creek. EPA has identified control of the AMD sources in the Boulder Creek drainage basin as a major step in the ultimate control of the contaminant discharges from Iron Mountain. EPA has designated the Boulder Creek basin as an Operable Unit for a Feasibility Study of pollution sources and alternative approaches for AMD control. This study has included the Richmond and Hornet Mines, waste piles, seeps, and sulfide-rich sediments within the basin. Iron Mountain contains a very large mass of nearly pure sulfide (massive deposit), several small massive sulfide deposits, several zones of disseminated sulfides, and a large gossan. The gossan is a zone of rock from which disseminated sulfides have been almost completely removed by natural solution leaving a residue of iron and other metals. The gossan has been mined by open pit for residual metals. The disseminated and massive sulfides have been mined in open pit and underground openings for copper, cadmium and zinc and for pyrite. The country rock at Iron Mountain is rhyolite. Commercial mining at Iron Mountain started in 1879 and continued with a few interruptions until 1963. In the early twentieth century, the site was one of the largest copper mines in the United States. Mineral extraction objectives and methods varied widely. In recent years, metal recovery activity at the site has been limited to extracting copper from the AMD using copper cementation. The adjacent land is largely undeveloped wilderness property that is currently infrequently visited because of the rugged topography and few roads. Offroad vehicles have been known to visit these areas and the U.S. Bureau of Land Management has notified EPA with regard to potential acquisition of adjacent lands for preservation as wilderness and enhancement for recreational use. The natural resources on the mining property and in the surface waters which flow on or adjacent to the mining property at one time included mature stands of timber, fish, and aquatic populations and sulfide minerals. The natural resources in the downgradient Sacramento River include the valuable Sacramento River fishery, recreational use of the river and Keswick Reservoir, and the valuable water resources which are a major component of the U.S. Bureau of Reclamation's water distribution system for the State. The timber on the IMM property has today been largely removed for timber sales. The timber stands were also extensively damaged by historic smelter operations in the early 1900s. The portions of Boulder Creek, Slickrock Creek, and Spring Creek impacted by AMD from IMM are essentially lifeless. A major portion of the sulfide minerals remain in the mines and in undeveloped areas. The sulfide minerals have not been attractive in recent years, and there is no verified proposal to mine these deposits in the near future. Spring Creek Reservoir was constructed in part as a mitigation measure for the AMD discharges and does not support aquatic life. It is not used for any recreational purpose. The portion of Keswick Reservoir impacted by IMM AMD has reduced recreational value, and the resident trout fishery is impacted by the heavy metal contaminants in the water column in the mixing zones, and the heavy sediment loadings due to the precipitation of iron and coprecipitation of heavy metals. The upper Sacramento River salmon fishery is the most important fishery in the State and has experienced large population declines over the past 20 years due to a number of factors, including IMM AMD impacts. The Sacramento River also supports a major steelhead trout and resident trout fishery. The water resources held in Shasta Lake by the U.S. Bureau of Reclamation (USER) as part of its Central Valley Project (CVP) are an important component of the water distribution system to a growing California's municipal and agricultural interests. CVP operations are today often constrained by the IMM AMD discharges in order that water quality conditions in the Sacramento River can be maintained within safe bounds for

IRON MOUNTAIN MINE (Continued)

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fishery protection. On occasion, the USER has released water from Shasta to dilute AMD which would otherwise have been used for beneficial purposes. Iron Mountain Mine is mainly remote from human populations because of the rugged terrain and the single access roadway. The mine owner has provided heavy metal gates which are locked at most times to discourage casual entry to the site. Human contact with the flows from Iron Mountain are mainly limited to the waters downstream of Spring Creek Debris Dam which includes Keswick Reservoir and the Sacramento River below Keswick Dam. The closest community is Keswick located just east of the site. Several isolated residences are between Keswick and the mine property. The City of Redding has a population of approximately 70,000 people and is located approximately 9 miles from the site. Local surface drainage includes Boulder Creek, located northeast of the mountain, and Slickrock Creek, located to the southwest. Boulder Creek and Slickrock Creek flow into Spring Creek. Spring Creek flows south and east to the Spring Creek Debris Dam (SCDD), from which the U.S. Bureau of Reclamation (USER) releases flow into the Sacramento River. Flat Creek drains an area to the east of Iron Mountain and enters the Sacramento River approximately 0.8 mile north of Spring Creek. Flat Creek also receives water from upper Spring Creek, as a result of a water diversion project constructed in 1990 as part of the CERCLA response at Iron Mountain. The Boulder Creek watershed encompasses 2.7 square miles. The headwaters of Boulder Creek begin at approximately 3,400 feet mean sea level (msl), and flow 3.7 miles to the confluence with Spring Creek at 1,400 feet msl. Boulder Creek receives water from several small tributaries, groundwater seeps, and discharges from the Richmond and Lawson Adits which drain the Richmond and Hornet mines. The estimated average daily flow at Boulder Creek's confluence with Spring Creek is 8.8 cubic feet per second (cfs) (4,000 gpm). Boulder Creek flows vary from essentially a trickle in the upper reaches of the creek during late summer to several hundred cubic feet per second during storm events. Approximately 60 percent (2.2 miles) of Boulder Creek is affected by past mine activities located in the lower Boulder Creek watershed (Figure 2). All identified AMD sources within the Boulder Creek Operable Unit are located in this area. The upper portion of Boulder Creek (1.5 miles) is not significantly affected by mining activities. The rainfall-runoff responsiveness of the Boulder Creek Operable Unit may vary significantly throughout storm events. The amount of runoff is dependent on antecedent moisture conditions, storm intensity, the vegetative cover, ground slope, length of distributing area, and geology. Surface runoff is transported from the basin to Spring Creek. Channel-invert slopes are often greater than 20 percent with well-defined creekbeds. Major storm events may cause a rapid rise in the water levels in Boulder Creek. The rhyolite country rock is a dense rock with two to three sets of joints and a number of faults. The rock blocks generally lack significant porosity and the low porosity of the rock mass is due to the joint/fault discontinuities. The presence of groundwater and its movement within the rock is largely controlled by the discontinuities. The massive sulfide deposits were largely isolated from the groundwater before mining because the joints generally do not extend from the country rock into the mineralized zone. Groundwater was present in the disseminated zones. Mine openings and cracking caused by ground movements induced by mining have opened large volume of massive sulfide to groundwater and increased groundwater access to the disseminated sulfide mineralization. The additional groundwater movement and increased circulation of air within the rockmass has greatly accelerated the process of sulfide dissolution and the formation of metal-rich acid drainage. Surface water and groundwater at Iron Mountain were previously used for mining operations and to provide water supply to the mine staff and their families. These resources are essentially unused today due to contamination from AMD. An open pit mine at Brick Flat, underground

IRON MOUNTAIN MINE (Continued)

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workings at Old Mine, No. 8, and the Confidence-Complex on the southern flank of the mountain, and the Richmond and Hornet Mines on the northern flank are the large mines on Iron Mountain. The mines on the north flank are shown schematically in Figure 3. The Richmond and Hornet Mines clearly affect water quality in the Boulder Creek valley and are of primary interest in this operable unit. Brick Flat Pit, the Confidence-Complex Mine and the Mattie Mine may also affect this operable unit in certain potential actions to control metals releases in the Boulder Creek valley. The Hornet Mine was accessed by the Lawson adit, which at its closest point runs almost directly below Boulder Creek, with the adit at approximately 2,200 feet elevation and Boulder Creek at approximately 2,285 feet elevation (Figure 4). The Lawson adit is currently inaccessible due to partial collapse. The Richmond Mine was accessed by two adits, an extension of the Lawson adit from the Hornet Mine workings, and later by the Richmond adit. The Lawson extension runs northeast approximately 400 feet below the floor of the Richmond Mine into the Lawson adit below the Hornet Mine, and then turns southeast parallel with Boulder Creek for approximately 2,000 feet. The Richmond adit runs from the haulageway level at the base of the Richmond Mine workings east at an elevation of approximately 2,600 feet. A third connection to the Richmond Mine is through the Confidence-Complex adit, which exits the south side of the mountain above Slickrock Creek. Two 400-foot-high raises from the Richmond Mine workings intercept the Confidence-Complex adit at Elevation 3007. The Richmond Mine workings consist of 23 large and several smaller mined-out areas within the Richmond mineralized zone. Most of these openings are stopes as they were mined from the bottom by roof caving. In the innermost portions of the mine, the ore was excavated using a room-and-pillar configuration instead of large stopes. Most of the larger stopes have apparently collapsed. The 10- to 15-acre surface area above the Richmond Mine contains several subsidence areas, totaling about 1 acre, resulting from the collapse of stopes within the underground mine workings. The total volume of the Richmond workings has been estimated at approximately 20 million cubic feet (460 acre-feet). The Hornet and Richmond mineralized zones are separated by the Scott Fault which caused the Hornet zone to drop approximately 200 feet relative to the Richmond zone. The bottom of the Richmond mineralized zone is about 100 feet above and 170 feet offset from the top of the Hornet mineralized zone. Iron Mountain Mine was first secured for mining purposes in 1865 and various individuals held the property and conducted limited mining for the recovery of silver from the gossan cap in the late 1800s. The waste-generating activities that created the surface sources of AMD likely began in the 1880s when the gossan was first mined on a large scale and waste rock that was removed to reach the ore was probably dumped into ravines and eventually washed into the creeks. Beginning in late 1894, Mountain Mining Co., Ltd., began operation of the mine. In approximately 1896, Mountain Copper Co., Ltd. assumed ownership of the mine. Under Mountain Copper, Ltd.'s operation of the mines, Iron Mountain became the largest producer of copper in California and the sixth largest producer in the country during the first quarter of the 20th century. The high-grade copper ore in Old Mine was mined until 1907, No. 8 mine from 1907 until as late as 1923, Hornet Mine from 1907 to 1926, the Richmond Mine from 1926 through 1956, Brick Flat Pit from 1929 and 1942, and 1955 to 1962. In 1968, Stauffer Chemical Co. acquired Mountain Copper Co., Ltd., and thereby acquired beneficial ownership of Iron Mountain Mine. Stauffer transferred record ownership of most of the parcels comprising Iron Mountain Mine from its wholly owned subsidiary to itself in 1969. Stauffer operated the copper cementation plant during its ownership of the site and continued to investigate the commercial mining potential of the property. In November 1976, the California Regional Water Quality Control Board issued Stauffer an order requiring the abatement of the continuing pollution from the

IRON MOUNTAIN MINE (Continued)

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mountain. In December 1976, Stauffer transferred ownership of 31 parcels on Iron Mountain to Iron Mountain Mines, Inc. (IMMI); and in December 1980, five additional parcels were transferred to IMMI. IMMI, a California corporation, is the current owner of Iron Mountain. IMMI constructed a copper cementation plant on Slickrock Creek in 1977. IMMI has intermittently operated this plant and the copper cementation plant on Boulder Creek to recover copper from the AMD. Mountain Copper employed stoping, block caving, and room and pillar techniques in the underground mines; side-hill and open-pit techniques were used at the ground surface. These mining activities and subsequent collapse of underground mine workings have fractured the bedrock overlying the sulfide mineralization, rubblelizing significant quantities of in-place sulfides, and increasing the ability of groundwater to flow through the previously low permeability sulfide zones. The engineered mine openings and the partially collapsed mineralized zones resulting from the mining activity now function as effective groundwater drains, drawing groundwater to and through the sulfide mineralization. The sulfides that were once largely below the water table are now largely within the unsaturated zone, and oxygen is available for reaction. The exothermic oxidation of the sulfide elevates the overall temperature in the sulfide mineralized zone, induces convective air flow, and likely induces evaporation of some subsurface mine waters. These processes contribute to the intensity and pattern of acidic discharges. These mining-related characteristics, in combination with the natural occurrence at Iron Mountain of nearly pure massive sulfide deposits surrounded by bedrock with very little neutralizing capacity, result in a unique hydrogeochemical reactor that is nearly optimal for maximum production of acid mine waters (Nordstrom and Alpers, 1990). Iron Mountain produces mine waters that are among the most acidic in the world, containing extremely elevated concentrations of copper, cadmium, zinc, and other metals known to be toxic to aquatic life. Mining activities at Iron Mountain have also resulted in deposition of large quantities of waste rock and lesser quantities of pyrite tailings on the exposed ground surface at Iron Mountain. Rain and surface flows contact the waste rock and pyrite, which forms AMD and transports contaminants to surface water and sediments. These sources, though secondary in relationship to the quantity and quality of contaminant discharges from the mine workings, are significant, particularly in storm events. The waste rock dumps, mine tailings, unstable excavated areas, and denuded slopes of the watershed contribute to sedimentation in the various drainages. In addition, oxidation of waste materials and portal discharges contribute AMD into Spring Creek, which collects drainage from both Boulder Creek and Slickrock Creek. The increasing use of Sacramento River water to serve a growing California has also increased the significance of Iron Mountain AMD impacts in the Sacramento River. The U.S. Bureau of Reclamation (USBR) constructed Shasta Dam in 1943 to control Sacramento River flows; Keswick Dam, located downstream of Shasta Dam, was completed in 1950. Spring Creek and Sacramento River flows mix in the lower third of Keswick Reservoir. Prior to the USBR's construction of these dams on the Sacramento River, the AMD was often diluted by large flows of water from farther upstream on the Sacramento River. Although fish kills and toxicity problems were documented prior to the completion of Shasta Dam in 1943, the dam compounded the toxicity problems by reducing the availability of dilution flows (CVRWQCB, 1976; Wilson, 1977; Finlayson and Wilson, 1989). Keswick Dam and Reservoir were completed in 1950. This dam restricted the salmon and steelhead to spawning grounds in downstream areas. This restricted the naturally spawning salmon and their early life stages to that area of the Sacramento River with the greatest exposure to AMD discharges from Iron Mountain. After construction of Keswick Dam in 1950, the sediment load from Spring Creek, which previously had been flushed downstream, caused a delta to form in the Spring Creek arm of Keswick

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Reservoir. In response to the problems at Spring Creek, the USER constructed the SCDD in 1963 to control the toxic releases from Spring Creek and to prevent sediment from forming a delta in the vicinity of the Spring Creek Powerplant tailrace. The SCDD allows for the storage and controlled release of water from the Spring Creek basin. Optimally, releases from Spring Creek Reservoir are timed to coincide with releases from Shasta Reservoir to meet interim water quality criteria in the Sacramento River. However, because of the relatively limited capacity of Spring Creek Reservoir with respect to peak discharges from the Spring Creek watershed, there have been uncontrolled spills from the reservoir. Although the debris dam has helped to reduce the incidence and severity of major fish kills, it has not eliminated them. In addition, the gradual release of Iron Mountain AMD from SCDD increases the duration of exposure of fish in the Sacramento River to chronic toxicity resulting from Iron Mountain AMD (EPA, 1992b). Remedial Investigation activities at Iron Mountain began in September 1983, when Iron Mountain was placed on the National Priorities List of the nation's most contaminated sites. In conjunction with EPA's Record of Decision for the first operable unit at Iron Mountain, EPA issued an RI report in 1985 (EPA, 1985a). That report characterizes the entire Iron Mountain site with respect to the nature and extent of contamination from information available at that time. Site characterization studies have continued within the Boulder Creek watershed, and EPA has prepared a second RI report (EPA, 1992a) to present information developed in these additional studies. An Endangerment Assessment (EA) has been prepared to characterize and evaluate the current and potential threats to the environment that may be posed by Iron Mountain contaminants migrating to the groundwater, surface water, and air (EPA, 1992b), and EPA's public health risk assessment (EPA, 1991) has been updated. The Boulder Creek Operable Unit Feasibility Study (OUFS) began as an investigation of the feasibility of the use of lowdensity cellular concrete (LDCC) to stop the AMD formation, a study required by the 1986 ROD. Concurrent with implementing selected remedial actions from the 1986 Record of Decision (ROD), EPA continued its RI/FS activities, including efforts to enter the Richmond Mine workings to investigate groundwater and potential source control alternatives as called for in the 1986 ROD. Based on this further study, the potential use of LDCC has been rejected. Subsequent to these initial investigations, on June 20, 1990, EPA conferred with California support agencies for the Iron Mountain site to determine the sequence of actions necessary to address outstanding site problems. This conference with the State support agencies led to the Boulder Creek OU approach as the next major step towards site cleanup. EPA's Superfund program became involved with the Iron Mountain pollution problem shortly after the enactment of the Superfund law in December 1980. On April 5, 1982, EPA issued general notices of liability to Stauffer Chemical Co. and IMMI for the past and continuing releases of hazardous substances from Iron Mountain and the resulting damage to and destruction of natural resources. The Iron Mountain Mine site was listed on the National Priorities List in 1983. From 1983 through 1985, EPA conducted a remedial investigation/feasibility study of the site and published its report in 1985. After public comment and publication of a Feasibility Study Addendum, EPA signed the first Iron Mountain Mine Record of Decision in October, 1986. That ROD selected a partial remedy at the site, identifying a number of specific projects. These projects included the construction of a partial cap over the Richmond mineralized zone, including a cap of Brick Flat Pit; construction of a diversion in Slickrock Creek to avoid an AMD generating slide; construction of a diversion of the Upper Spring Creek to avoid polluting its cleaner water and filling Spring Creek Reservoir; construction of a diversion of the South Fork of Spring Creek for a similar purpose; a study of the feasibility of filling mine passages with Low Density Cellular Concrete; and an enlargement of Spring

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Creek Debris Dam, the exact size of which would be determined after implementation of other remedies. During 1987 and 1988, EPA sued the property owner to gain access to the site for the purpose of constructing the first of these actions. The court granted EPA access and ordered the property owner not to interfere with the remedial actions. On July 19, 1988, EPA initiated construction of the partial cap over the Richmond mineralized zone. As part of that construction, EPA utilized tailings materials from the Minnesota Flat area, as well as selected other tailings piles that contained relatively high concentrations of copper, cadmium, and zinc. EPA completed construction of the partial cap in July 1989. EPA, through the USER, began construction of the Slickrock Creek diversion in July 1989 and completed construction in January 1990. Under an EPA Order, ICIA, on behalf of Stauffer Chemical Company/ Rhone-Poulenc Basic Chemicals Co., began construction of the upper Spring Creek diversion in July 1990. Construction was substantially completed in December 1990. In addition to the activities implemented pursuant to the ROD, EPA recognized the need for additional actions in light of the drought conditions prevailing in California during the late 1980's. In the winter of 1988-1989, EPA operated an emergency treatment plant at the site to reduce the toxicity of the acid mine drainage releases. The following fall, in part due to continuing drought conditions, the winter-run chinook Chinook were listed as a threatened species under the Endangered Species Act. In August 1989, EPA issued an order requiring that potentially responsible parties operate an emergency treatment plant at the site to reduce the toxicity of the AMD discharges for the upcoming 1989-1990 winter wet season and to provide for metals removal for future years until such time as remedial actions could be selected and implemented. This plant was to be comparable in scope and operation to the plant operated by EPA the previous winter. Pursuant to that order, ICI Americas, Inc., on behalf of Rhone-Poulenc Basic Chemicals constructed the treatment plant and has operated this treatment plant during the 1989 -1990, 1990-1991, and 1991-1992 wet seasons. Because of the continuing drought in California and the critical fishery conditions, EPA issued an order on September 2, 1992, for the 1992-1993 wet season requiring that additional emergency measures be implemented, including increasing capacity of the treatment plant. EPA has also issued an order requiring the PRPs to operate and maintain all EPA constructed remedial actions as well as the actions taken by the PRPs under other orders. EPA has identified the following persons as potentially responsible parties (PRPs), parties who may be liable pursuant to CERCLA, for the clean up of the site: the former owner and operator, Rhone-Poulenc Basic Chemicals (successor to Mountain Copper, Ltd., and Stauffer Chemical Company), and the current owner and operator, Iron Mountain Mines, Inc., and its President and primary owner, T. W. Arman. EPA has filed a civil action for recovery of costs and a judgment of liability for future costs against these PRPs. The defendants have denied liability. The defendants have filed cross-claims and have filed counterclaims against the United States (based on alleged U.S. Bureau of Reclamation involvement at the site) and the State of California. A Record of Decision addressing OU02 of the Iron Mountain Site was completed in September 1992. Iron Mountain contains copper, zinc, silver, gold, and pyrite deposits that have been commercially mined since 1879. In the early twentieth century, the Site was one of the largest copper mines in the United States. Mineral extraction methods varied widely. Underground mining ceased in 1956, and surface mining ceased in 1963. Several, and possibly all, of the mines and the waste rock piles are discharging acidic waters, typically with a high content of heavy metals. These discharges are herein referred to collectively as acid mine drainage, or AMD. Within the IMM property, the two largest sources of AMD are the Richmond Mine and the Hornet Mine. Both of these sources drain into Boulder Creek. The third largest source, the Old/No. 8 Mine

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Seep, drains into Slickrock Creek. Boulder and Slickrock Creeks are major tributaries to Spring Creek, and Spring Creek is a tributary to the Sacramento River. Spring Creek flows into Spring Creek Reservoir (the impoundment created by Spring Creek Debris Dam [SCDD]), and enters the Sacramento River at Keswick Reservoir (created by Keswick Dam). Keswick Dam is located approximately 8 miles below Shasta Dam. The Spring Creek Arm is the portion of Keswick Reservoir directly below SCDD and is located 1.4 miles upstream of Keswick Dam. The Arm is oriented due east of SCDD and is approximately two-thirds of a mile long. AMD discharged from IMM is transported via Spring Creek through the Spring Creek Reservoir into the Spring Creek Arm. The Spring Creek Arm serves as a mixing basin for metal-rich acidic waters and sediments released from behind Spring Creek Debris Dam (SCDD) and freshwater from Shasta Dam, Whiskeytown Reservoir, and Keswick Reservoir. Mixing metal-rich, low-pH water from SCDD with higher-pH water results in precipitation of hydrous metal oxides, which can be colloidal in nature. This phenomenon has resulted in deposition, accumulation, and mixing of metal-enriched sediment and precipitates in the Spring Creek Arm and lower Keswick Reservoir. Completed and ongoing remedial actions to control the sources of AMD at IMM have significantly reduced the acidity and metals content in surface water from IMM. Starting in 1994, virtually all of the AMD discharged from the Richmond Mine, Hornet Mine, and Old/No. 8 Mine Seep has been treated at the IMM treatment plant constructed onsite at Minnesota Flats. From 1994 to 1996 the AMD was treated using the simple mix treatment method. Since January 1997, a high density sludge (HDS) treatment system has provided an improved means of treating these discharges. Further cleanup efforts under ROD 4 have recently been completed in the Slickrock Creek watershed at IMM. Among other items, Record of Decision 4 (ROD 4) provides for construction of a retention reservoir to collect AMD area source discharges in the Slickrock Creek Basin for treatment. Treatment of these IMM AMD flows by the completed remedial actions pursuant to ROD 1 through ROD 4 will result in a total reduction of copper, cadmium, and zinc discharged from IMM sources of approximately 95 percent of the pre-1994 discharge. The fishery resources and other sensitive aquatic species in the Sacramento River below Keswick Dam are the primary natural resources at risk from the continuing uncontrolled IMM heavy metal discharges or mobilization of contaminated sediments from the Spring Creek Arm. As a result of past mining activities and current IMM AMD releases, the affected water bodies upstream of the SCDD are essentially devoid of aquatic life and amphibians that are dependent upon that aquatic life. Iron Mountain was first secured for mining purposes in 1865 because of the presence of a large gossan cap, a surface mineral deposit that is the result of the oxidation of pyrite (iron sulfide) that weathered over geologic time to form a surface mineral deposit that is largely iron oxide containing small amounts of gold and silver. Various individuals held the property and conducted limited mining for the recovery of silver from the gossan areas in the late 1800s. The waste-generating activities that created the surface sources of AMD likely began in the 1880s when the gossan was first mined on a large scale, and waste rock, that was removed to reach the ore, was apparently dumped into ravines and eventually washed into the creeks. Beginning in late 1894, Mountain Mines, Limited (Ltd.), began operation of the mine. In approximately 1896, Mountain Copper Company, Ltd. (Mountain Copper) acquired ownership of the mine. Under Mountain Copper, IMM became the largest producer of copper in California and the sixth largest producer in the country during the first quarter of the twentieth century. High-grade copper ore and other minerals in the deposits were mined in Old Mine until 1907, No. 8 Mine from 1907 until as late as 1923, Hornet Mine from 1907 to 1926, the Richmond Mine from 1926 through 1956, and Brick Flat Pit from 1929 to 1942 and 1955 to 1962. In 1967, Stauffer Chemical Co. (SCC) acquired Mountain Copper. In 1968, SCC obtained legal title

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to the properties comprising IMM from its wholly owned subsidiary, Mountain Copper Company, Ltd. SCC originally took steps to reopen the mine, but the price of sulfur dropped to a point that caused the option to be uneconomical. SCC operated the copper cementation plant on Boulder Creek during its ownership of the Site and continued to investigate the commercial mining potential of the property. In November 1976, the Central Valley Regional Water Quality Control Board (RWQCB) issued an order to SCC requiring the abatement of the continuing water pollution from the mountain. In December 1976, SCC transferred ownership of 31 parcels on Iron Mountain to Iron Mountain Mines, Inc. (IMMI), and in December 1980, SCC transferred five additional parcels to IMMI. IMMI, a California corporation, is the current owner of the mining properties at Iron Mountain. But, certain property interests retained by SCC's successor at the Site are in the process of being transferred to BLM pursuant to a Consent Decree between SCC, the State of California, and the federal government. IMMI constructed a copper cementation plant on Slickrock Creek in 1977. IMMI has intermittently operated this plant and the copper cementation plant on Boulder Creek to recover copper from the AMD. Remedial investigation (RI) activities at Iron Mountain began in September 1983, when Iron Mountain was placed on the CERCLA National Priorities List (NPL) of the nation's most contaminated sites. The U.S. Environmental Protection Agency (EPA) issued a remedial investigation/feasibility study (RI/FS) report in 1985 and an FS Addendum in 1986. The 1985 RI report characterized the entire IMM Site with respect to the nature and extent of contamination. EPA signed the first ROD (ROD 1) for the IMM Site in October 1986. ROD 1 selected an interim remedy for the Sitewide operable unit (OU), identifying a number of specific projects. EPA's Public Health Risk Assessment was updated in 1991. Site characterization studies continued for the Boulder Creek watershed, and EPA prepared a second RI/FS report for that area in 1992. An Endangerment Assessment (EA) was prepared in 1992 to characterize and evaluate the current and potential threats to the environment that may be posed by IMM contaminants migrating to the groundwater, surface water, and air. The Boulder Creek OU ROD (ROD 2), signed in September 1992, addressed remedial actions for (1) AMD from the Richmond portal (Richmond Mine) and Lawson portal (Hornet Mine), the two largest sources of acidity and metals contamination at Iron Mountain; and (2) the numerous waste rock piles, tailing piles, seeps, and contaminated sediments that also affect contaminant levels in Boulder Creek. Site characterization studies continued for the Slickrock Creek watershed, and EPA prepared an RI/FS report for that area in 1993. The Old/No. 8 Mine Seep OU ROD (ROD 3), signed in September 1993, addressed the third largest source of contaminant discharges at IMM. On the basis of the results of its ongoing monitoring program, EPA concluded that the area source discharges of heavy metals, especially copper, zinc, and cadmium, were closely associated with the intense storm-related high runoff events that characterize the hydrology of the Spring Creek watershed at IMM. Through a formal action in 1991 known as an Explanation of Significant Differences (ESD), EPA revoked the fund-balancing waiver upon which EPA relied for ROD 1. This formal action removed the legal basis for EPA's tentative selection of a 9,000-acre-foot reservoir in ROD 1 in lieu of a larger, more protective dam. Consistent with the SCDD enlargement component of ROD 1 and the ESD, EPA conducted engineering and other studies regarding enlarging the SCDD. These studies indicated that a reservoir of at least 15,000 acre-feet would be required. Because of the projected increased costs of the SCDD enlargement and the availability of other new information, EPA decided to expand its studies, re-evaluate other remedial technologies, and publish for public review and comment a new feasibility study and proposed plan. In June 1994, EPA published a Water Management Feasibility Study (FS), which examined potential remedial alternatives that could control, treat, or manage the safe release of continued uncontrolled contaminant discharges from the numerous and widely

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dispersed area sources in the Boulder Creek and Slickrock Creek watersheds at IMM. During the public comment period for the 1994 Proposed Plan, a potentially responsible party (PRP), Rhone-Poulenc, Inc. (Rhone-Poulenc, a successor to SCC) (through its representative, Stauffer Management Company [SMC]), submitted a Focused Feasibility Study (FFS). The FFS identified a range of general collect and treat alternatives for the area source releases from the Slickrock Creek watershed. Rhone-Poulenc urged EPA to delay selecting a remedy so that an additional season of data could be collected. EPA determined that delay in remedy selection was justified because the information submitted by Rhone-Poulenc suggested that it was technically feasible (and also more cost effective) to control the IMM pollution on the mountain rather than simply diluting the pollution by enlarging the SCDD and controlling the discharge rate into Keswick Reservoir. EPA signed the fourth Record of Decision (ROD 4) for the Slickrock Creek OU at the IMM Site in September 1997. The selected remedy includes the construction of the Slickrock Creek Retention Reservoir to assure the collection and treatment of the contaminated storm water flows to address the principal threat posed by contaminant releases from area sources within the Slickrock Creek watershed at the IMM Site. EPA conducted site characterization activities in 1997 and 1998 to support the Remedial Investigation (RI) of contaminated sediment. These activities were a collaborative effort among EPA, the U.S. Geological Survey (USGS), and the U.S. Bureau of Reclamation. The City of Redding has a population of approximately 87,000 people and is located approximately 9 miles from the Site. The closest community is Keswick, located just east of the Site, and less than one mile south of the Spring Creek Arm. The land surrounding the Spring Creek Arm is owned by the federal government (i.e., public lands) or Southern Pacific Railroad. The Shasta County General Plan Map for the South Central Region designates the following land uses within one mile of the Spring Creek Arm: Natural Resource Protection-Open Space (N-O), Rural Residential (RA or RB), and Suburban Residential (SR). However, no private residential land directly adjoins the Spring Creek Arm or the Spring Creek Reservoir. Keswick Reservoir is used for recreational activities (e.g., fishing and boating). Land access to the Spring Creek Arm is limited because of steep shores and limited locations where roads or trails extend down to the Arm. Primary access to the Spring Creek Arm is by water from the boat ramp located on the main body of Keswick Reservoir, just to the north of the Spring Creek Arm. Additional access is provided to limited sections of the Arm by the extension of the Sacramento River Trail, constructed by the Bureau of Land Management (BLM) on the old Southern Pacific railroad bed. The section of the Sacramento River downstream from Keswick Reservoir (i.e., below Keswick Dam) currently serves as the water source for the City of Redding, and is used for recreational activities, including fishing and boating. There is no expectation for the future use of the land adjacent to the Spring Creek Arm to change. The Shasta County General Plan Map indicates the majority of the land surrounding the Arm is public lands and will not be developed for residential, commercial, or industrial use. The General Plan is the official land use policy document for Shasta County. Zoning classifications as well as other development policies must be consistent with the General Plan. A proposed change to the County's adopted land use policies or maps contained in the General Plan would require advertised public hearings because of potential environmental and/or land use impacts. Keswick Reservoir and the Sacramento River downstream of Keswick Reservoir are major components of Reclamation's water distribution system in California. In addition to providing valuable water resources, these surface waters provide recreational opportunities and high-quality habitat for spawning and rearing fish, including anadromous fish populations. The Central Valley Project (CVP) is one of the nation's major water conservation developments and is a central component of the California water distribution system. Specifically, Keswick

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Dam and Reservoir are used to equalize flow discharged from Shasta Dam and SCPP to enable a relatively constant flow in the Sacramento River downstream of Keswick Dam. Shasta Power Plant, Keswick Power Plant, and SCPP provide power first to meet the project facilities requirements, and then remaining energy is marketed to various customers in northern California. Shasta Power Plant and SCPP are classified as peaking plants, while Keswick Power Plant is a run-of-the-river plant. The past and current IMM AMD discharges continue to impact the beneficial uses of the CVP water resources. Although the current IMM metal discharges have been reduced by 95 percent from the uncontrolled levels, it remains necessary to make low-flow releases from SCPP during releases from SCDD to flush the contaminated water through the Spring Creek Arm to prevent the buildup of metal concentrations in the Arm. The sediment deposits in the Spring Creek Arm that have resulted from past IMM metal releases restrict the range of operating levels of Keswick Reservoir because of concerns that sediment with high metals concentrations in the Spring Creek Arm would become mobilized. The portion of Keswick Reservoir affected by IMM AMD has reduced recreational value. The resident trout fishery in Keswick Reservoir and the main body of the Sacramento River is impacted by both the heavy metal contaminants in the water column of the mixing zones and the heavy sediment loading caused by the precipitation of iron and other heavy metals discharged from the IMM Site over the past century. The Sacramento River salmon fishery (downstream of Keswick Dam) is the most important fishery in the State of California. The salmon fishery has experienced large population declines because of a number of factors, including the IMM AMD impacts. The Sacramento River Winter-run Chinook salmon is listed as endangered by the United States and the State of California, and the Sacramento River Spring-run Chinook salmon is listed as threatened. The Sacramento River also supports a major steelhead trout and resident rainbow trout fishery. Spring Creek Reservoir was constructed in part as a mitigation measure for the AMD discharges and does not support aquatic life, nor is it currently used for any recreational purpose. The Spring Creek Reservoir meters the Spring Creek watershed surface waters, contaminated by the continuing uncontrolled IMM AMD area source discharges, into the Sacramento River at Keswick Reservoir. The portions of Spring Creek impacted by IMM AMD are essentially lifeless. Contaminated sediments in the Spring Creek Arm of Keswick Reservoir are considered to be the fifth operable unit (OU-5) for the IMM Site. The fifth ROD for the IMM Site, addressing OU5, was completed in September 2004.

CERCLIS Assessment History:

Action Code:	001
Action:	DISCOVERY
Date Started:	/ /
Date Completed:	06/01/81
Priority Level:	Not reported
Operable Unit:	SITEWIDE
Primary Responsibility:	EPA Fund-Financed
Planning Status:	Not reported
Urgency Indicator:	Not reported
Action Anomaly:	Not reported
Action Code:	001
Action:	PRELIMINARY ASSESSMENT
Date Started:	/ /
Date Completed:	09/01/81
Priority Level:	Low priority for further assessment
Operable Unit:	SITEWIDE

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Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 002
Action: Notice Letters Issued
Date Started: / /
Date Completed: 04/05/82
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: HAZARD RANKING SYSTEM PACKAGE
Date Started: / /
Date Completed: 12/01/82
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: PROPOSAL TO NATIONAL PRIORITIES LIST
Date Started: / /
Date Completed: 12/30/82
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: REMEDIAL INVESTIGATION/FEASIBILITY STUDY WORKPLAN APPROVAL BY HQ
Date Started: / /
Date Completed: 08/08/83
Priority Level: Not reported
Operable Unit: WATER MANAGEMENT
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: SITE INSPECTION
Date Started: 09/01/83

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EPA ID Number

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Date Completed: 09/01/83
Priority Level: Higher priority for further assessment
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: FINAL LISTING ON NATIONAL PRIORITIES LIST
Date Started: / /
Date Completed: 09/08/83
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: COMBINED REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 08/19/83
Date Completed: 10/03/86
Priority Level: Not reported
Operable Unit: WATER MANAGEMENT
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 10/03/86
Priority Level: Not reported
Operable Unit: WATER MANAGEMENT
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 002
Action: REMEDIAL DESIGN/REMEDIAL ACTION NEGOTIATIONS
Date Started: 11/15/86
Date Completed: 04/30/87
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action: REMEDIAL DESIGN
Date Started: 03/25/87
Date Completed: 05/04/88
Priority Level: Not reported
Operable Unit: WATER MANAGEMENT
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: PRELIMINARY INJUNCTION
Date Started: / /
Date Completed: 08/29/88
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: REMOVAL
Date Started: 09/07/88
Date Completed: 03/03/89
Priority Level: Stabilized
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Time Critical
Action Anomaly: Not reported

Action Code: 003
Action: REMEDIAL DESIGN
Date Started: 09/25/87
Date Completed: 06/01/89
Priority Level: Not reported
Operable Unit: WATER MANAGEMENT
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: UNILATERAL ADMIN ORDER
Date Started: / /
Date Completed: 08/15/89
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action: Notice Letters Issued
Date Started: / /
Date Completed: 09/07/89
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 002
Action: REMEDIAL ACTION
Date Started: 06/06/88
Date Completed: 09/26/89
Priority Level: Not reported
Operable Unit: WATER MANAGEMENT
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: Special Notice Issued
Date Started: / /
Date Completed: 01/15/90
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 003
Action: REMEDIAL ACTION
Date Started: 03/29/89
Date Completed: 01/30/90
Priority Level: Not reported
Operable Unit: WATER MANAGEMENT
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 004
Action: REMEDIAL DESIGN
Date Started: 09/25/87
Date Completed: 03/29/90
Priority Level: Not reported
Operable Unit: WATER MANAGEMENT
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action: REMEDIAL ACTION
Date Started: 09/15/89
Date Completed: 03/29/90
Priority Level: Not reported
Operable Unit: WATER MANAGEMENT
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Original Action Take Over

Action Code: 001
Action: REMEDIAL DESIGN/REMEDIAL ACTION NEGOTIATIONS
Date Started: 01/15/90
Date Completed: 03/29/90
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 002
Action: UNILATERAL ADMIN ORDER
Date Started: / /
Date Completed: 03/29/90
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 002
Action: REMEDIAL DESIGN
Date Started: 09/05/87
Date Completed: 05/11/90
Priority Level: Not reported
Operable Unit: WATER MANAGEMENT
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: PREPARATION OF COST DOCUMENT PACKAGE
Date Started: 02/01/90
Date Completed: 07/13/90
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Alternate
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action: NATIONAL PRIORITIES LIST RESPONSIBLE PARTY SEARCH
Date Started: / /
Date Completed: 07/20/90
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: ISSUE REQUEST LETTERS (104E)
Date Started: / /
Date Completed: 07/20/90
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: REMOVAL ASSESSMENT
Date Started: 09/06/90
Date Completed: 09/06/90
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 002
Action: ADMINISTRATIVE RECORDS
Date Started: 11/15/90
Date Completed: 11/15/90
Priority Level: Admin Record Compiled for a Removal Event
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 003
Action: UNILATERAL ADMIN ORDER
Date Started: / /
Date Completed: 01/02/91
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action Code: 001
Action: COMMUNITY INVOLVEMENT
Date Started: 08/19/83
Date Completed: 01/30/91
Priority Level: Not reported
Operable Unit: WATER MANAGEMENT
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL ACTION
Date Started: 03/29/90
Date Completed: 01/30/91
Priority Level: Not reported
Operable Unit: WATER MANAGEMENT
Primary Responsibility: Responsible Party
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: New Action Resulting from Take Over

Action Code: 001
Action: TECHNICAL ASSISTANCE
Date Started: 06/20/91
Date Completed: 12/13/91
Priority Level: Not reported
Operable Unit: WATER MANAGEMENT
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 002
Action: REMOVAL ASSESSMENT
Date Started: 12/13/91
Date Completed: 12/13/91
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 004
Action: UNILATERAL ADMIN ORDER
Date Started: / /
Date Completed: 09/02/92
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action Code: 002
Action: COMBINED REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 03/28/87
Date Completed: 09/30/92
Priority Level: Not reported
Operable Unit: SOURCE CONTROL
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 002
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 09/30/92
Priority Level: Not reported
Operable Unit: SOURCE CONTROL
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 003
Action: REMEDIAL DESIGN/REMEDIAL ACTION NEGOTIATIONS
Date Started: 11/03/92
Date Completed: 11/03/92
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 005
Action: UNILATERAL ADMIN ORDER
Date Started: / /
Date Completed: 11/03/92
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 003
Action: COMBINED REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 08/06/92
Date Completed: 09/24/93
Priority Level: Not reported
Operable Unit: OLD/NO. 8 MINE SEEP
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action Code: 003
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 09/24/93
Priority Level: Not reported
Operable Unit: OLD/NO. 8 MINE SEEP
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: FIVE-YEAR REVIEW
Date Started: / /
Date Completed: 09/30/93
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 004
Action: REMEDIAL DESIGN/REMEDIAL ACTION NEGOTIATIONS
Date Started: 04/19/94
Date Completed: 04/19/94
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 006
Action: UNILATERAL ADMIN ORDER
Date Started: / /
Date Completed: 04/19/94
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: POTENTIALLY RESPONSIBLE PARTY REMOVAL
Date Started: 09/30/89
Date Completed: 09/15/94
Priority Level: Stabilized
Operable Unit: SITEWIDE
Primary Responsibility: Responsible Party
Planning Status: Primary
Urgency Indicator: Time Critical
Action Anomaly: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action Code: 007
Action: REMEDIAL DESIGN
Date Started: 09/30/93
Date Completed: 05/22/96
Priority Level: Not reported
Operable Unit: OLD/NO. 8 MINE SEEP
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: TECHNICAL ASSISTANCE GRANT
Date Started: 09/30/93
Date Completed: 03/31/97
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 004
Action: COMBINED REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 04/21/94
Date Completed: 09/30/97
Priority Level: Not reported
Operable Unit: SLICKROCK CREEK AREA SOURCE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 005
Action: REMEDIAL DESIGN/REMEDIAL ACTION NEGOTIATIONS
Date Started: 09/30/97
Date Completed: 09/30/97
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 004
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 09/30/97
Priority Level: Not reported
Operable Unit: SLICKROCK CREEK AREA SOURCE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 007

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action: UNILATERAL ADMIN ORDER
Date Started: / /
Date Completed: 09/30/97
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 002
Action: REMOVAL
Date Started: 08/01/97
Date Completed: 03/15/98
Priority Level: Stabilized
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Time Critical
Action Anomaly: Not reported

Action Code: 002
Action: FIVE-YEAR REVIEW
Date Started: / /
Date Completed: 10/08/98
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL DESIGN
Date Started: 01/27/93
Date Completed: 09/30/99
Priority Level: Not reported
Operable Unit: SOURCE CONTROL
Primary Responsibility: Responsible Party
Planning Status: Project Suspended
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 002
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL DESIGN
Date Started: 09/21/94
Date Completed: 09/30/99
Priority Level: Not reported
Operable Unit: OLD/NO. 8 MINE SEEP
Primary Responsibility: Responsible Party
Planning Status: Project Suspended
Urgency Indicator: Not reported
Action Anomaly: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action Code: 004
Action: REMEDIAL ACTION
Date Started: 08/23/94
Date Completed: 09/29/00
Priority Level: Not reported
Operable Unit: OLD/NO. 8 MINE SEEP
Primary Responsibility: EPA Fund-Financed
Planning Status: Project Suspended
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 002
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL ACTION
Date Started: 09/30/99
Date Completed: 09/29/00
Priority Level: Not reported
Operable Unit: SOURCE CONTROL
Primary Responsibility: Responsible Party
Planning Status: Project Suspended
Urgency Indicator: Long Term Action
Action Anomaly: Not reported

Action Code: 004
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL ACTION
Date Started: 09/29/00
Date Completed: 09/29/00
Priority Level: Not reported
Operable Unit: SLICKROCK CREEK AREA SOURCE
Primary Responsibility: Responsible Party
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Original Action Take Over

Action Code: 003
Action: POTENTIALLY RESPONSIBLE PARTY REMEDIAL DESIGN
Date Started: / /
Date Completed: 09/29/00
Priority Level: Not reported
Operable Unit: SLICKROCK CREEK AREA SOURCE
Primary Responsibility: Responsible Party
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Original Action Take Over

Action Code: 006
Action: REMEDIAL DESIGN
Date Started: 09/21/92
Date Completed: 09/30/00
Priority Level: Not reported
Operable Unit: WATER MANAGEMENT
Primary Responsibility: EPA Fund-Financed
Planning Status: Project Suspended
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action: Lodged By DOJ
Date Started: / /
Date Completed: 10/19/00
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: ALTERNATIVE DISPUTE RESOLUTION
Date Started: 09/15/98
Date Completed: 12/08/00
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: CONSENT DECREE
Date Started: 10/04/00
Date Completed: 12/08/00
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Alternate
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 008
Action: REMEDIAL DESIGN
Date Started: 09/27/00
Date Completed: 07/30/01
Priority Level: Not reported
Operable Unit: SLICKROCK CREEK AREA SOURCE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: New Action Resulting from Take Over

Action Code: 003
Action: FIVE-YEAR REVIEW
Date Started: 07/29/03
Date Completed: 09/30/03
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action Code: 005
Action: REMEDIAL ACTION
Date Started: 09/27/00
Date Completed: 09/24/04
Priority Level: Interim RA Report
Operable Unit: SLICKROCK CREEK AREA SOURCE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: New Action Resulting from Take Over

Action Code: 005
Action: COMBINED REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/18/96
Date Completed: 09/30/04
Priority Level: Not reported
Operable Unit: SEDIMENTS
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 005
Action: RECORD OF DECISION
Date Started: / /
Date Completed: 09/30/04
Priority Level: Not reported
Operable Unit: SEDIMENTS
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: FEDERAL FACILITY REMOVAL
Date Started: 06/26/02
Date Completed: 12/15/05
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Facilities
Planning Status: Primary
Urgency Indicator: Time Critical
Action Anomaly: Not reported

Action Code: 009
Action: REMEDIAL DESIGN
Date Started: 01/21/05
Date Completed: 09/27/07
Priority Level: Not reported
Operable Unit: SEDIMENTS
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action Code: 004
Action: FIVE-YEAR REVIEW
Date Started: 12/16/07
Date Completed: 07/14/08
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 002
Action: CONSENT DECREE
Date Started: / /
Date Completed: 12/15/10
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 002
Action: Lodged By DOJ
Date Started: / /
Date Completed: 12/15/10
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 006
Action: REMEDIAL ACTION
Date Started: 08/28/08
Date Completed: 06/27/12
Priority Level: Not reported
Operable Unit: SEDIMENTS
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 006
Action: FIVE-YEAR REVIEW
Date Started: / /
Date Completed: 09/26/13
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Map ID
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Elevation

MAP FINDINGS

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Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action Code: 001
Action: OPERATIONS AND MAINTENANCE
Date Started: 01/02/91
Date Completed: / /
Priority Level: Not reported
Operable Unit: WATER MANAGEMENT
Primary Responsibility: Responsible Party
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 002
Action: OPERATIONS AND MAINTENANCE
Date Started: 09/15/94
Date Completed: / /
Priority Level: Not reported
Operable Unit: SOURCE CONTROL
Primary Responsibility: Responsible Party
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 003
Action: OPERATIONS AND MAINTENANCE
Date Started: 09/15/94
Date Completed: / /
Priority Level: Not reported
Operable Unit: OLD/NO. 8 MINE SEEP
Primary Responsibility: Responsible Party
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 007
Action: COMBINED REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Date Started: 09/29/96
Date Completed: / /
Priority Level: Not reported
Operable Unit: BOULDER CREEK AREA SOURCE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: POTENTIALLY RESPONSIBLE PARTY LONG-TERM RESPONSE ACTION
Date Started: 09/24/04
Date Completed: / /
Priority Level: Not reported
Operable Unit: SLICKROCK CREEK AREA SOURCE
Primary Responsibility: Responsible Party
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Map ID
Direction
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Elevation

MAP FINDINGS

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Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Federal Register Details:

Fed Register Date: 09/08/83
Fed Register Volume: 48
Page Number: 40658

Fed Register Date: 12/30/82
Fed Register Volume: 47
Page Number: 58476

US ENG CONTROLS:

EPA ID: CAD980498612
Site ID: 0901755
Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
REDDING, CA 96001

EPA Region: 09
County: SHASTA
Event Code: Not reported
Actual Date: 09/30/2004
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 10/03/1986
Operable Unit: 01
Contaminated Media : Solid Waste
Engineering Control: Cap
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 10/03/1986
Operable Unit: 01
Contaminated Media : Surface Water
Engineering Control: Dike/Berm
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 10/03/1986
Operable Unit: 01
Contaminated Media : Surface Water
Engineering Control: Storage - Permanent
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 09/30/1992
Operable Unit: 02
Contaminated Media : Leachate
Engineering Control: Discharge
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 09/30/1992
Operable Unit: 02
Contaminated Media : Leachate
Engineering Control: Leachate Control
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 09/30/1992
Operable Unit: 02
Contaminated Media : Leachate
Engineering Control: Neutralization
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 002

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action Name: RECORD OF DECISION
Action Completion date: 09/30/1992
Operable Unit: 02
Contaminated Media : Leachate
Engineering Control: Precipitation
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 09/30/1992
Operable Unit: 02
Contaminated Media : Leachate
Engineering Control: Residuals Disposal
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 09/30/1992
Operable Unit: 02
Contaminated Media : Solid Waste
Engineering Control: Cap
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 002
Action Name: RECORD OF DECISION
Action Completion date: 09/30/1992
Operable Unit: 02
Contaminated Media : Solid Waste
Engineering Control: Consolidate
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 002
Action Name: RECORD OF DECISION

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Action Completion date: 09/30/1992
Operable Unit: 02
Contaminated Media : Solid Waste
Engineering Control: Excavation
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 003
Action Name: RECORD OF DECISION
Action Completion date: 09/24/1993
Operable Unit: 03
Contaminated Media : Surface Water
Engineering Control: Discharge
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 003
Action Name: RECORD OF DECISION
Action Completion date: 09/24/1993
Operable Unit: 03
Contaminated Media : Surface Water
Engineering Control: Engineering Control, (N.O.S.)
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 003
Action Name: RECORD OF DECISION
Action Completion date: 09/24/1993
Operable Unit: 03
Contaminated Media : Surface Water
Engineering Control: Equalization
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 003
Action Name: RECORD OF DECISION
Action Completion date: 09/24/1993

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Operable Unit: 03
Contaminated Media : Surface Water
Engineering Control: Precipitation
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 003
Action Name: RECORD OF DECISION
Action Completion date: 09/24/1993
Operable Unit: 03
Contaminated Media : Surface Water
Engineering Control: Residuals Disposal
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 004
Action Name: RECORD OF DECISION
Action Completion date: 09/30/1997
Operable Unit: 04
Contaminated Media : Sediment
Engineering Control: Surface Drainage Control
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 004
Action Name: RECORD OF DECISION
Action Completion date: 09/30/1997
Operable Unit: 04
Contaminated Media : Surface Water
Engineering Control: Containment, (N.O.S.)
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 004
Action Name: RECORD OF DECISION
Action Completion date: 09/30/1997
Operable Unit: 04

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Contaminated Media : Surface Water
Engineering Control: Discharge
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 004
Action Name: RECORD OF DECISION
Action Completion date: 09/30/1997
Operable Unit: 04
Contaminated Media : Surface Water
Engineering Control: Neutralization
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 004
Action Name: RECORD OF DECISION
Action Completion date: 09/30/1997
Operable Unit: 04
Contaminated Media : Surface Water
Engineering Control: Operations & Maintenance (O&M)
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 004
Action Name: RECORD OF DECISION
Action Completion date: 09/30/1997
Operable Unit: 04
Contaminated Media : Surface Water
Engineering Control: Publicly Owned Treatment Works (POTW)
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 004
Action Name: RECORD OF DECISION
Action Completion date: 09/30/1997
Operable Unit: 04
Contaminated Media : Surface Water

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Engineering Control: Surface Water Control
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 004
Action Name: RECORD OF DECISION
Action Completion date: 09/30/1997
Operable Unit: 04
Contaminated Media : Surface Water
Engineering Control: Treatment, (N.O.S.)
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 005
Action Name: RECORD OF DECISION
Action Completion date: 09/30/2004
Operable Unit: 05
Contaminated Media : Sediment
Engineering Control: Disposal
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 005
Action Name: RECORD OF DECISION
Action Completion date: 09/30/2004
Operable Unit: 05
Contaminated Media : Sediment
Engineering Control: Engineering Control, (N.O.S.)
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 005
Action Name: RECORD OF DECISION
Action Completion date: 09/30/2004
Operable Unit: 05
Contaminated Media : Sediment
Engineering Control: Excavation

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 005
Action Name: RECORD OF DECISION
Action Completion date: 09/30/2004
Operable Unit: 05
Contaminated Media : Sediment
Engineering Control: Monitoring
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

Action ID: 005
Action Name: RECORD OF DECISION
Action Completion date: 09/30/2004
Operable Unit: 05
Contaminated Media : Sediment
Engineering Control: Physical/Chemical Treatment, (Ex-Situ)
Contact Name: Not reported
Contact Phone and Ext: Not reported
Latitude: Not reported
Longitude: Not reported
Event Code Description: Not reported
GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

US INST CONTROL:

EPA ID: CAD980498612
Site ID: 0901755
Name: IRON MOUNTAIN MINE
Action Name: RECORD OF DECISION
Address: OFF HWY 299 9 MI NW OF
REDDING, CA 96001
EPA Region: 09
County: SHASTA
Event Code: Not reported
Inst. Control: Covenant
Actual Date: 09/30/2004
Comple. Date: 09/30/2004
Operable Unit: 05
Contaminated Media : Sediment
Contact Name : Not reported
Contact Phone and Ext : Not reported
Latitude : Not reported
Longitude : Not reported
Event Code Description: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

GIS Lat/Long Sequence: Not reported
GIS Sequence: Not reported

ROD:

Full-text of USEPA Record of Decision(s) is available from EDR.

PRP:

PRP name: IRON MOUNTAIN MINES, INC.
IRON MOUNTAIN MINES, INC.
IRON MOUNTAIN MINES, INC.
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IRON MOUNTAIN MINES, INC.
IRON MOUNTAIN MINES, INC.
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T.W. ARMAN
T.W. ARMAN

ICIS:

Enforcement Action ID: 09-2002-0078
FRS ID: 110009333140
Program ID: CERCLIS CAD980498612
Action Name: IT CORPORATION BANKRUPTCY REFERRAL
Full Address: OFF HWY 299 9 MI NW OF OFF HWY 299 9 MI NW OF REDDING CA 96001
State: California
Facility Name: IRON MOUNTAIN MINE
Facility Address: OFF HWY 299 9 MI NW OF REDDING, CA 96001
Enforcement Action Type: Bankruptcy
Facility County: SHASTA
EPA Region #: 9

Enforcement Action ID: 09-2002-0078
FRS ID: 110009333140
Program ID: DTSC-ENVIROSTOR 45100001
Action Name: IT CORPORATION BANKRUPTCY REFERRAL
Full Address: OFF HWY 299 9 MI NW OF OFF HWY 299 9 MI NW OF REDDING CA 96001
State: California
Facility Name: IRON MOUNTAIN MINE
Facility Address: OFF HWY 299 9 MI NW OF REDDING, CA 96001

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Enforcement Action Type: Bankruptcy
Facility County: SHASTA
EPA Region #: 9

Enforcement Action ID: 09-2002-0078
FRS ID: 110009333140
Program ID: FRS 110009333140
Action Name: IT CORPORATION BANKRUPTCY REFERRAL
Full Address: OFF HWY 299 9 MI NW OF OFF HWY 299 9 MI NW OF REDDING CA 96001
State: California
Facility Name: IRON MOUNTAIN MINE
Facility Address: OFF HWY 299 9 MI NW OF REDDING, CA 96001

Enforcement Action Type: Bankruptcy
Facility County: SHASTA
EPA Region #: 9

Enforcement Action ID: 09-1997-0157
FRS ID: 110009333140
Program ID: CERCLIS CAD980498612
Action Name: IRON MOUNTAIN
Full Address: OFF HWY 299 9 MI NW OF OFF HWY 299 9 MI NW OF REDDING CA 96001
State: California
Facility Name: IRON MOUNTAIN MINE
Facility Address: OFF HWY 299 9 MI NW OF REDDING, CA 96001

Enforcement Action Type: CERCLA 106 AO For Resp Action/Imm Haz
Facility County: SHASTA
EPA Region #: 9

Enforcement Action ID: 09-1997-0157
FRS ID: 110009333140
Program ID: DTSC-ENVIROSTOR 45100001
Action Name: IRON MOUNTAIN
Full Address: OFF HWY 299 9 MI NW OF OFF HWY 299 9 MI NW OF REDDING CA 96001
State: California
Facility Name: IRON MOUNTAIN MINE
Facility Address: OFF HWY 299 9 MI NW OF REDDING, CA 96001

Enforcement Action Type: CERCLA 106 AO For Resp Action/Imm Haz
Facility County: SHASTA
EPA Region #: 9

Enforcement Action ID: 09-1997-0157
FRS ID: 110009333140
Program ID: FRS 110009333140
Action Name: IRON MOUNTAIN
Full Address: OFF HWY 299 9 MI NW OF OFF HWY 299 9 MI NW OF REDDING CA 96001
State: California
Facility Name: IRON MOUNTAIN MINE
Facility Address: OFF HWY 299 9 MI NW OF REDDING, CA 96001

Enforcement Action Type: CERCLA 106 AO For Resp Action/Imm Haz
Facility County: SHASTA
EPA Region #: 9

Enforcement Action ID: 09-1997-0008

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

FRS ID: 110009333140
Program ID: CERCLIS CAD980498612
Action Name: IRON MOUNTAIN
Full Address: OFF HWY 299 9 MI NW OF OFF HWY 299 9 MI NW OF REDDING CA 96001
State: California
Facility Name: IRON MOUNTAIN MINE
Facility Address: OFF HWY 299 9 MI NW OF REDDING, CA 96001
Enforcement Action Type: CERCLA 106 AO For Resp Action/Imm Haz
Facility County: SHASTA
EPA Region #: 9

Enforcement Action ID: 09-1997-0008
FRS ID: 110009333140
Program ID: DTSC-ENVIROSTOR 45100001
Action Name: IRON MOUNTAIN
Full Address: OFF HWY 299 9 MI NW OF OFF HWY 299 9 MI NW OF REDDING CA 96001
State: California
Facility Name: IRON MOUNTAIN MINE
Facility Address: OFF HWY 299 9 MI NW OF REDDING, CA 96001
Enforcement Action Type: CERCLA 106 AO For Resp Action/Imm Haz
Facility County: SHASTA
EPA Region #: 9

Enforcement Action ID: 09-1997-0008
FRS ID: 110009333140
Program ID: FRS 110009333140
Action Name: IRON MOUNTAIN
Full Address: OFF HWY 299 9 MI NW OF OFF HWY 299 9 MI NW OF REDDING CA 96001
State: California
Facility Name: IRON MOUNTAIN MINE
Facility Address: OFF HWY 299 9 MI NW OF REDDING, CA 96001
Enforcement Action Type: CERCLA 106 AO For Resp Action/Imm Haz
Facility County: SHASTA
EPA Region #: 9

Enforcement Action ID: 09-1990-0018
FRS ID: 110009333140
Program ID: CERCLIS CAD980498612
Action Name: IRON MOUNTAIN MINES, INC.
Full Address: OFF HWY 299 9 MI NW OF OFF HWY 299 9 MI NW OF REDDING CA 96001
State: California
Facility Name: IRON MOUNTAIN MINE
Facility Address: OFF HWY 299 9 MI NW OF REDDING, CA 96001
Enforcement Action Type: Civil Judicial Action
Facility County: SHASTA
EPA Region #: 9

Enforcement Action ID: 09-1990-0018
FRS ID: 110009333140
Program ID: DTSC-ENVIROSTOR 45100001
Action Name: IRON MOUNTAIN MINES, INC.
Full Address: OFF HWY 299 9 MI NW OF OFF HWY 299 9 MI NW OF REDDING CA 96001
State: California

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Facility Name: IRON MOUNTAIN MINE
Facility Address: OFF HWY 299 9 MI NW OF REDDING, CA 96001

Enforcement Action Type: Civil Judicial Action
Facility County: SHASTA
EPA Region #: 9

Enforcement Action ID: 09-1990-0018
FRS ID: 110009333140
Program ID: FRS 110009333140
Action Name: IRON MOUNTAIN MINES, INC.
Full Address: OFF HWY 299 9 MI NW OF OFF HWY 299 9 MI NW OF REDDING CA 96001
State: California
Facility Name: IRON MOUNTAIN MINE
Facility Address: OFF HWY 299 9 MI NW OF REDDING, CA 96001

Enforcement Action Type: Civil Judicial Action
Facility County: SHASTA
EPA Region #: 9

Enforcement Action ID: 09-1987-0013
FRS ID: 110009333140
Program ID: CERCLIS CAD980498612
Action Name: IRON MOUNTAIN MINE INCORPORATED
Full Address: OFF HWY 299 9 MI NW OF OFF HWY 299 9 MI NW OF REDDING CA 96001
State: California
Facility Name: IRON MOUNTAIN MINE
Facility Address: OFF HWY 299 9 MI NW OF REDDING, CA 96001

Enforcement Action Type: Civil Judicial Action
Facility County: SHASTA
EPA Region #: 9

Enforcement Action ID: 09-1987-0013
FRS ID: 110009333140
Program ID: DTSC-ENVIROSTOR 45100001
Action Name: IRON MOUNTAIN MINE INCORPORATED
Full Address: OFF HWY 299 9 MI NW OF OFF HWY 299 9 MI NW OF REDDING CA 96001
State: California
Facility Name: IRON MOUNTAIN MINE
Facility Address: OFF HWY 299 9 MI NW OF REDDING, CA 96001

Enforcement Action Type: Civil Judicial Action
Facility County: SHASTA
EPA Region #: 9

Enforcement Action ID: 09-1987-0013
FRS ID: 110009333140
Program ID: FRS 110009333140
Action Name: IRON MOUNTAIN MINE INCORPORATED
Full Address: OFF HWY 299 9 MI NW OF OFF HWY 299 9 MI NW OF REDDING CA 96001
State: California
Facility Name: IRON MOUNTAIN MINE
Facility Address: OFF HWY 299 9 MI NW OF REDDING, CA 96001

Enforcement Action Type: Civil Judicial Action
Facility County: SHASTA

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

EPA Region #: 9

Program ID: CERCLIS CAD980498612
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1011

Program ID: CERCLIS CAD980498612
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1021

Program ID: CERCLIS CAD980498612
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1031

Program ID: DTSC-ENVIROSTOR 45100001
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1011

Program ID: DTSC-ENVIROSTOR 45100001
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1021

Program ID: DTSC-ENVIROSTOR 45100001
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1031

Program ID: FRS 110009333140
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

SIC Code: 1011

Program ID: FRS 110009333140
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1021

Program ID: FRS 110009333140
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1031

Program ID: CERCLIS CAD980498612
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1011

Program ID: CERCLIS CAD980498612
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1021

Program ID: CERCLIS CAD980498612
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1031

Program ID: DTSC-ENVIROSTOR 45100001
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1011

Program ID: DTSC-ENVIROSTOR 45100001
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1021

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Program ID: DTSC-ENVIROSTOR 45100001
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1031

Program ID: FRS 110009333140
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1011

Program ID: FRS 110009333140
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1021

Program ID: FRS 110009333140
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1031

Program ID: CERCLIS CAD980498612
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1011

Program ID: CERCLIS CAD980498612
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1021

Program ID: CERCLIS CAD980498612
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1031

Program ID: DTSC-ENVIROSTOR 45100001

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1011

Program ID: DTSC-ENVIROSTOR 45100001
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1021

Program ID: DTSC-ENVIROSTOR 45100001
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1031

Program ID: FRS 110009333140
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1011

Program ID: FRS 110009333140
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1021

Program ID: FRS 110009333140
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1031

Program ID: CERCLIS CAD980498612
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1011

Program ID: CERCLIS CAD980498612
Facility Name: IRON MOUNTAIN MINE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1021

Program ID: CERCLIS CAD980498612
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1031

Program ID: DTSC-ENVIROSTOR 45100001
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1011

Program ID: DTSC-ENVIROSTOR 45100001
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1021

Program ID: DTSC-ENVIROSTOR 45100001
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1031

Program ID: FRS 110009333140
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1011

Program ID: FRS 110009333140
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1021

Program ID: FRS 110009333140
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	1031
Program ID:	CERCLIS CAD980498612
Facility Name:	IRON MOUNTAIN MINE
Address:	OFF HWY 299 9 MI NW OF
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	1011
Program ID:	CERCLIS CAD980498612
Facility Name:	IRON MOUNTAIN MINE
Address:	OFF HWY 299 9 MI NW OF
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	1021
Program ID:	CERCLIS CAD980498612
Facility Name:	IRON MOUNTAIN MINE
Address:	OFF HWY 299 9 MI NW OF
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	1031
Program ID:	DTSC-ENVIROSTOR 45100001
Facility Name:	IRON MOUNTAIN MINE
Address:	OFF HWY 299 9 MI NW OF
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	1011
Program ID:	DTSC-ENVIROSTOR 45100001
Facility Name:	IRON MOUNTAIN MINE
Address:	OFF HWY 299 9 MI NW OF
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	1021
Program ID:	DTSC-ENVIROSTOR 45100001
Facility Name:	IRON MOUNTAIN MINE
Address:	OFF HWY 299 9 MI NW OF
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	1031
Program ID:	FRS 110009333140
Facility Name:	IRON MOUNTAIN MINE
Address:	OFF HWY 299 9 MI NW OF
Tribal Indicator:	N

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

Fed Facility: No
NAIC Code: Not reported
SIC Code: 1011

Program ID: FRS 110009333140
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1021

Program ID: FRS 110009333140
Facility Name: IRON MOUNTAIN MINE
Address: OFF HWY 299 9 MI NW OF
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 1031

CONSENT:

EPA ID: CAD980498612
Site ID: Not reported
Case Title: U.S. V. IRON MOUNTAIN MINES, INC. AND T.W. ARMAN
Court Num: 91-768
District: California, East
Entered Date: 20001208
Full-text of the consent decree for this site issued by the United States District Court is available from EDR. Contact your EDR Account Executive.

FINDS:

Registry ID: 110009333140

Environmental Interest/Information System

California Department of Toxic Substances Control EnviroStor System (DTSC-EnviroStor) is an online search and Geographic Information System (GIS) tool for identifying sites that have known contamination or sites for which there may be reasons to investigate further. The EnviroStor database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites.

CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System) is the Superfund database that is used to support management in all phases of the Superfund program. The system contains information on all aspects of hazardous waste sites, including an inventory of sites, planned and actual site activities, and financial information.

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

IRON MOUNTAIN MINE (Continued)

1000305640

replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

ECHO:

Envid: 1000305640
 Registry ID: 110009333140
 DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110009333140

**A1
 NE
 < 1/8
 0.065 mi.
 343 ft.**

**I-5 RENTALS
 8443 COMMERCIAL WAY
 REDDING, CA
 Site 1 of 3 in cluster A**

**CUPA Listings S110373290
 N/A**

**Relative:
 Higher**

CUPA SHASTA:
 Site Id: 1609
 CersID: 10626244
 Facility Status: True
 Attn: DAN HAGUS
 Mail Addr: 8443 COMMERCIAL WAY
 Mail City: REDDING
 Mail State: CA
 Mail Zip: 96002
 EDR Link ID: 1609

**Actual:
 454 ft.**

Detail:

Facid: 1609
 Facility Name: I-5 RENTALS
 File Type: Hazardous Material Business Plan Site

Facid: 1609
 Facility Name: I-5 RENTALS
 File Type: Hazardous Waste Generator

Facid: 1609
 Facility Name: I-5 RENTALS
 File Type: Aboveground Petroleum Storage Act

MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Site

Database(s)

EDR ID Number
 EPA ID Number

A2
NE
 < 1/8
 0.065 mi.
 343 ft.

I-5 RENTALS
8443 COMMERCIAL WAY
REDDING, CA
Site 2 of 3 in cluster A

AST A100339143
N/A

Relative:
Higher

AST:

Certified Unified Program Agencies: Shasta
 Owner: Not reported
 Total Gallons: 5,000
 CERSID: Not reported
 Facility ID: Not reported
 Business Name: Not reported
 Phone: Not reported
 Fax: Not reported
 Mailing Address: Not reported
 Mailing Address City: Not reported
 Mailing Address State: Not reported
 Mailing Address Zip Code: Not reported
 Operator Name: Not reported
 Operator Phone: Not reported
 Owner Phone: Not reported
 Owner Mail Address: Not reported
 Owner State: Not reported
 Owner Zip Code: Not reported
 Owner Country: Not reported
 Property Owner Name: Not reported
 Property Owner Phone: Not reported
 Property Owner Mailing Address: Not reported
 Property Owner City: Not reported
 Property Owner Stat : Not reported
 Property Owner Zip Code: Not reported
 Property Owner Country: Not reported
 EPAID: Not reported

Actual:
454 ft.

A3
NE
 < 1/8
 0.065 mi.
 343 ft.

I-5 RENTALS INC.
8443 COMMERCIAL WAY
REDDING, CA 96002
Site 3 of 3 in cluster A

AST A100420924
N/A

Relative:
Higher

AST:

Certified Unified Program Agencies: Not reported
 Owner: Dan Hagus
 Total Gallons: Not reported
 CERSID: 10626244
 Facility ID: 45-000-000861
 Business Name: I-5 Rentals Inc.
 Phone: 530-226-8081
 Fax: Not reported
 Mailing Address: 8443 Commercial Way
 Mailing Address City: Redding
 Mailing Address State: CA
 Mailing Address Zip Code: 96002
 Operator Name: Dan Hagus
 Operator Phone: 530-226-8081
 Owner Phone: 530-226-8081
 Owner Mail Address: 8443 Commercial Way
 Owner State: CA
 Owner Zip Code: 96002

Actual:
454 ft.

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

I-5 RENTALS INC. (Continued)

A100420924

Owner Country: United States
 Property Owner Name: Not reported
 Property Owner Phone: Not reported
 Property Owner Mailing Address: Not reported
 Property Owner City: Not reported
 Property Owner Stat : Not reported
 Property Owner Zip Code: Not reported
 Property Owner Country: Not reported
 EPAID: CAL000231726

B4
NNE
 < 1/8
 0.068 mi.
 360 ft.

INTERSTATE DISTRIBUTOR CO
1263 COMMERCIAL WAY
REDDING, CA 96003
 Site 1 of 2 in cluster B

HIST UST **U001618650**
N/A

Relative:
Higher

HIST UST:
 File Number: 00020E2E
 URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020E2E.pdf>
 Region: STATE
 Facility ID: 00000012542
 Facility Type: Other
 Other Type: PRIVATE TRUCK TERMINAL
 Contact Name: DAN HAYES (FOREMAN)
 Telephone: 9162215818
 Owner Name: INTERSTATE DISTRIBUTOR CO.
 Owner Address: 8311 DURANGO S.W.
 Owner City,St,Zip: TACOMA, WA 98499
 Total Tanks: 0003

Actual:
 457 ft.

Tank Num: 001
 Container Num: 1
 Year Installed: Not reported
 Tank Capacity: 00000000
 Tank Used for: Not reported
 Type of Fuel: Not reported
 Container Construction Thickness: Not reported
 Leak Detection: None

Tank Num: 002
 Container Num: 2
 Year Installed: Not reported
 Tank Capacity: 00000000
 Tank Used for: WASTE
 Type of Fuel: UNLEADED
 Container Construction Thickness: Not reported
 Leak Detection: None

Tank Num: 003
 Container Num: 3
 Year Installed: Not reported
 Tank Capacity: 00000000
 Tank Used for: WASTE
 Type of Fuel: WASTE OIL
 Container Construction Thickness: Not reported
 Leak Detection: None

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

INTERSTATE DISTRIBUTOR CO (Continued)

U001618650

[Click here for Geo Tracker PDF:](#)

B5
NNE
< 1/8
0.084 mi.
446 ft.

AMERIGAS-REDDING
8455 COMMERCIAL WAY
REDDING, CA

CUPA Listings S110744344
N/A

Site 2 of 2 in cluster B

Relative:
Higher

CUPA SHASTA:
Site Id: 530
CersID: Not reported
Facility Status: False
Attn: JAY DAVIS
Mail Addr: 1400 BELTLINE RD
Mail City: REDDING
Mail State: CA
Mail Zip: 96003-1484
EDR Link ID: 530

Actual:
457 ft.

Detail:
Facid: 530
Facility Name: AMERIGAS-REDDING
File Type: Hazardous Material Business Plan Site

6
North
< 1/8
0.103 mi.
544 ft.

CITY OF REDDING - SUNNYHILL SEWER LIFT STATION
5100 SUNNYHILL LN
REDDING, CA

CUPA Listings S110744464
N/A

Relative:
Higher

CUPA SHASTA:
Site Id: 1678
CersID: 10621828
Facility Status: True
Attn: JOSH KEENER, WASTEWATER COMPLIANCE
Mail Addr: P O BOX 496071
Mail City: REDDING
Mail State: CA
Mail Zip: 96049-6071
EDR Link ID: 1678

Actual:
458 ft.

Detail:
Facid: 1678
Facility Name: CITY OF REDDING - SUNNYHILL SEWER LIFT STATION
File Type: Hazardous Material Business Plan Site

Facid: 1678
Facility Name: CITY OF REDDING - SUNNYHILL SEWER LIFT STATION
File Type: Closed underground tank site

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

C7
NNE
< 1/8
0.110 mi.
581 ft.

CHURN CREEK CONSTRUCTION
8537 COMMERCIAL WAY
REDDING, CA

CUPA Listings **S113746001**
N/A

Site 1 of 2 in cluster C

Relative:
Higher

CUPA SHASTA:

Site Id: 224
CersID: Not reported
Facility Status: False
Attn: KAREN TOLSON
Mail Addr: 8537 COMMERCIAL WAY
Mail City: REDDING
Mail State: CA
Mail Zip: 96002
EDR Link ID: 224

Actual:
458 ft.

Detail:

Facid: 224
Facility Name: CHURN CREEK CONSTRUCTION
File Type: Hazardous Material Business Plan Site

Facid: 224
Facility Name: CHURN CREEK CONSTRUCTION
File Type: Closed underground tank site

C8
NNE
< 1/8
0.110 mi.
581 ft.

MPI EQUIPMENT INC
8537 COMMERCIAL WAY
REDDING, CA

CUPA Listings **S106093544**
N/A

Site 2 of 2 in cluster C

Relative:
Higher

CUPA SHASTA:

Site Id: 1610
CersID: 10592719
Facility Status: True
Attn: CHUCK LANDIS
Mail Addr: P O BOX 994167
Mail City: REDDING
Mail State: CA
Mail Zip: 96099-4167
EDR Link ID: 1610

Actual:
458 ft.

Detail:

Facid: 1610
Facility Name: MPI EQUIPMENT INC
File Type: Hazardous Material Business Plan Site

Facid: 1610
Facility Name: MPI EQUIPMENT INC
File Type: Hazardous Waste Generator

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

D9
NNE
1/8-1/4
0.171 mi.
903 ft.

VIKING FREIGHT SYSTEMS
8562 COMMERCIAL WAY
REDDING, CA 96002
Site 1 of 2 in cluster D

LUST **S102440930**
HIST CORTESE **N/A**

Relative:
Higher

LUST:

Actual:
461 ft.

Region: STATE
Global Id: T0608900141
Latitude: 40.536093
Longitude: -122.347747
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 12/09/1997
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: Not reported
Local Agency: SHASTA COUNTY
RB Case Number: 450144
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Soil
Potential Contaminants of Concern: Diesel
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0608900141
Contact Type: Regional Board Caseworker
Contact Name: RECEPTIONIST, REGION 5 REDDING
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 415 KNOLLCREST DR., SUITE 100
City: REDDING
Email: Not reported
Phone Number: Not reported

Global Id: T0608900141
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Status History:

Global Id: T0608900141
Status: Completed - Case Closed
Status Date: 12/09/1997

Global Id: T0608900141
Status: Open - Case Begin Date
Status Date: 08/15/1995

Global Id: T0608900141
Status: Open - Site Assessment
Status Date: 08/15/1995

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

VIKING FREIGHT SYSTEMS (Continued)

S102440930

Regulatory Activities:

Global Id: T0608900141
Action Type: Other
Date: 08/15/1995
Action: Leak Discovery

Global Id: T0608900141
Action Type: Other
Date: 12/01/1995
Action: Leak Reported

Global Id: T0608900141
Action Type: ENFORCEMENT
Date: 12/09/1997
Action: Closure/No Further Action Letter

Global Id: T0608900141
Action Type: Other
Date: 08/15/1995
Action: Leak Stopped

LUST REG 5:

Region: 5
Status: Case Closed
Case Number: 450144
Case Type: Soil only
Substance: DIESEL
Staff Initials: CMB
Lead Agency: Regional
Program: LUST
MTBE Code: 2

HIST CORTESE:

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450144

D10
NNE
1/8-1/4
0.171 mi.
903 ft.

VIKING FREIGHT SYSTEM INC
8562 COMMERCIAL WAY
REDDING, CA 96002

SWEEPS UST S101594825
CA FID UST N/A

Site 2 of 2 in cluster D

Relative:
Higher

SWEEPS UST:

Status: Active
Comp Number: 346
Number: 1
Board Of Equalization: 44-007957
Referral Date: 11-27-91
Action Date: 07-10-92
Created Date: 07-10-92
Owner Tank Id: 1
SWRCB Tank Id: 45-000-000346-000001
Tank Status: A

Actual:
461 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

VIKING FREIGHT SYSTEM INC (Continued)

S101594825

Capacity: 10000
Active Date: 11-27-91
Tank Use: M.V. FUEL
STG: P
Content: DIESEL
Number Of Tanks: 3

Status: Active
Comp Number: 346
Number: 1
Board Of Equalization: 44-007957
Referral Date: 11-27-91
Action Date: 07-10-92
Created Date: 07-10-92
Owner Tank Id: 2
SWRCB Tank Id: 45-000-000346-000002
Tank Status: A
Capacity: 10000
Active Date: 11-27-91
Tank Use: M.V. FUEL
STG: P
Content: DIESEL
Number Of Tanks: Not reported

Status: Active
Comp Number: 346
Number: 1
Board Of Equalization: 44-007957
Referral Date: 11-27-91
Action Date: 07-10-92
Created Date: 07-10-92
Owner Tank Id: 3
SWRCB Tank Id: 45-000-000346-000003
Tank Status: A
Capacity: 550
Active Date: 11-27-91
Tank Use: OIL
STG: W
Content: WASTE OIL
Number Of Tanks: Not reported

CA FID UST:

Facility ID: 45000263
Regulated By: UTNKA
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 9162211476
Mail To: Not reported
Mailing Address: 2881 CLAIRMONT CT
Mailing Address 2: Not reported
Mailing City,St,Zip: REDDING 96002
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

VIKING FREIGHT SYSTEM INC (Continued)

S101594825

Comments: Not reported
 Status: Active

**E11
 NE
 1/8-1/4
 0.200 mi.
 1057 ft.**

**TULLIS, INC
 8585 COMMERCIAL WAY
 REDDING, CA**

**AST A100340491
 N/A**

Site 1 of 8 in cluster E

**Relative:
 Higher**

AST:
 Certified Unified Program Agencies: Shasta
 Owner: Not reported
 Total Gallons: 1,915
 CERSID: Not reported
 Facility ID: Not reported
 Business Name: Not reported
 Phone: Not reported
 Fax: Not reported
 Mailing Address: Not reported
 Mailing Address City: Not reported
 Mailing Address State: Not reported
 Mailing Address Zip Code: Not reported
 Operator Name: Not reported
 Operator Phone: Not reported
 Owner Phone: Not reported
 Owner Mail Address: Not reported
 Owner State: Not reported
 Owner Zip Code: Not reported
 Owner Country: Not reported
 Property Owner Name: Not reported
 Property Owner Phone: Not reported
 Property Owner Mailing Address: Not reported
 Property Owner City: Not reported
 Property Owner Stat : Not reported
 Property Owner Zip Code: Not reported
 Property Owner Country: Not reported
 EPAID: Not reported

**Actual:
 458 ft.**

**E12
 NE
 1/8-1/4
 0.200 mi.
 1057 ft.**

**TULLIS, INC.
 8585 COMMERCIAL WY
 REDDING, CA 96002**

**CUPA Listings S113119671
 HAZNET N/A**

Site 2 of 8 in cluster E

**Relative:
 Higher**

CUPA SHASTA:
 Site Id: 1735
 CersID: Not reported
 Facility Status: False
 Attn: LYLE TULLIS
 Mail Addr: P O BOX 493416
 Mail City: REDDING
 Mail State: CA
 Mail Zip: 96049
 EDR Link ID: 1735

**Actual:
 458 ft.**

Detail:
 Facid: 1735

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TULLIS, INC. (Continued)

S113119671

Facility Name: TULLIS INC
File Type: Hazardous Material Business Plan Site

Facid: 1735
Facility Name: TULLIS INC
File Type: Hazardous Waste Generator

HAZNET:

envid: S113119671
Year: 2011
GEPaid: CAL000252817
Contact: CHERYL DICKSON
Telephone: 5302415105
Mailing Name: Not reported
Mailing Address: PO BOX 493416
Mailing City,St,Zip: REDDING, CA 960490000
Gen County: Not reported
TSD EPA ID: CAD980887418
TSD County: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.075
Cat Decode: Unspecified oil-containing waste
Method Decode: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: Shasta

envid: S113119671
Year: 2011
GEPaid: CAL000252817
Contact: CHERYL DICKSON
Telephone: 5302415105
Mailing Name: Not reported
Mailing Address: PO BOX 493416
Mailing City,St,Zip: REDDING, CA 960490000
Gen County: Not reported
TSD EPA ID: CAD097030993
TSD County: Not reported
Waste Category: Other organic solids
Disposal Method: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.1
Cat Decode: Other organic solids
Method Decode: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: Shasta

envid: S113119671
Year: 2010
GEPaid: CAL000252817
Contact: CHERYL DICKSON
Telephone: 5302415105
Mailing Name: Not reported
Mailing Address: PO BOX 493416
Mailing City,St,Zip: REDDING, CA 960490000

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TULLIS, INC. (Continued)

S113119671

Gen County: Not reported
TSD EPA ID: CAD097030993
TSD County: Not reported
Waste Category: Other organic solids
Disposal Method: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.15
Cat Decode: Other organic solids
Method Decode: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: Shasta

envid: S113119671
Year: 2009
GEPaid: CAL000252817
Contact: CHERYL DICKSON
Telephone: 5302415105
Mailing Name: Not reported
Mailing Address: PO BOX 493416
Mailing City,St,Zip: REDDING, CA 96049
Gen County: Not reported
TSD EPA ID: CAD097030993
TSD County: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.04
Cat Decode: Unspecified oil-containing waste
Method Decode: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: Shasta

envid: S113119671
Year: 2008
GEPaid: CAL000252817
Contact: CHERYL DICKSON
Telephone: 5302415105
Mailing Name: Not reported
Mailing Address: PO BOX 493416
Mailing City,St,Zip: REDDING, CA 96049
Gen County: Not reported
TSD EPA ID: CAD097030993
TSD County: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.075
Cat Decode: Unspecified oil-containing waste
Method Decode: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: Shasta

[Click this hyperlink](#) while viewing on your computer to access 3 additional CA_HAZNET: record(s) in the EDR Site Report.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

F13
NNE
1/8-1/4
0.216 mi.
1141 ft.

CONOCO PHILLIPS #2611241
5101 CHURN CREEK RD
REDDING, CA 96002

CUPA Listings **S113135014**
HAZNET **N/A**

Site 1 of 6 in cluster F

Relative:
Higher

CUPA SHASTA:
Site Id: 210
CersID: Not reported
Facility Status: False
Attn: ENV COMPLIANCE DEPT
Mail Addr: P O BOX 52085
Mail City: PHOENIX
Mail State: AZ
Mail Zip: 85072-2085
EDR Link ID: 210

Actual:
515 ft.

Detail:
Facid: 210
Facility Name: CONOCO PHILLIPS # 2611241
File Type: Closed underground tank site

HAZNET:
envid: S113135014
Year: 2005
GEPaid: CAL000288923
Contact: DANELLE EICHHORST
Telephone: 2812933723
Mailing Name: Not reported
Mailing Address: 600 N DAIRY ASHFORD PO 3014A
Mailing City,St,Zip: HOUSTON, TX 77079
Gen County: Not reported
TSD EPA ID: CAD009466392
TSD County: Not reported
Waste Category: Other empty containers 30 gallons or more
Disposal Method: Disposal, Other
Tons: 12.62
Cat Decode: Other empty containers 30 gallons or more
Method Decode: Disposal, Other
Facility County: Shasta

envid: S113135014
Year: 2005
GEPaid: CAL000288923
Contact: DANELLE EICHHORST
Telephone: 2812933723
Mailing Name: Not reported
Mailing Address: 600 N DAIRY ASHFORD PO 3014A
Mailing City,St,Zip: HOUSTON, TX 77079
Gen County: Not reported
TSD EPA ID: CAD982444481
TSD County: Not reported
Waste Category: Other organic solids
Disposal Method: Recycler
Tons: 0.17
Cat Decode: Other organic solids
Method Decode: Recycler
Facility County: Shasta

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

CONOCO PHILLIPS #2611241 (Continued)

S113135014

envid: S113135014
 Year: 2005
 GEPAID: CAL000288923
 Contact: DANELLE EICHHORST
 Telephone: 2812933723
 Mailing Name: Not reported
 Mailing Address: 600 N DAIRY ASHFORD PO 3014A
 Mailing City,St,Zip: HOUSTON, TX 77079
 Gen County: Not reported
 TSD EPA ID: CAD980887418
 TSD County: Not reported
 Waste Category: Waste oil and mixed oil
 Disposal Method: Recycler
 Tons: 0.43
 Cat Decode: Waste oil and mixed oil
 Method Decode: Recycler
 Facility County: Shasta

**F14
 NNE
 1/8-1/4
 0.216 mi.
 1141 ft.**

**B/P OIL COMPANY #11241
 5101 CHURN CREEK RD
 REDDING, CA 96002**

**LUST S101594844
 SWEEPS UST N/A
 CA FID UST**

Site 2 of 6 in cluster F

**Relative:
 Higher**

LUST:

**Actual:
 515 ft.**

Region: STATE
 Global Id: T0608936410
 Latitude: 40.53783213
 Longitude: -122.349592
 Case Type: LUST Cleanup Site
 Status: Open - Site Assessment
 Status Date: 01/22/2015
 Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
 Case Worker: BB
 Local Agency: SHASTA COUNTY
 RB Case Number: 450324
 LOC Case Number: Not reported
 File Location: Regional Board
 Potential Media Affect: Aquifer used for drinking water supply
 Potential Contaminants of Concern: Other Solvent or Non-Petroleum Hydrocarbon
 Site History: The case was opened following an unauthorized release from an underground storage tank system at the subject site. Corrective action is underway as directed by the CVRWQCB. Corrective action may consist of preliminary site investigation, planning and implementation of remedial action, verification monitoring, or a combination thereof. A summary of the site history is available by clicking on either the "Cleanup Status History", "Regulatory Activities" or the "Site Maps/Documents" tab. For a complete site history the case file at the CVRWQCB should be consulted.

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id: T0608936410
 Contact Type: Regional Board Caseworker
 Contact Name: BILL BERGMANN
 Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
 Address: 364 Knollcrest Drive, Suite 205

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

B/P OIL COMPANY #11241 (Continued)

S101594844

City: REDDING
Email: william.bergmann@waterboards.ca.gov
Phone Number: 5302244852

Global Id: T0608936410
Contact Type: Local Agency Caseworker
Contact Name: NEIL SULLIVAN
Organization Name: SHASTA COUNTY
Address: 1855 PLACER ST.
City: REDDING
Email: nsullivan@co.shasta.ca.us
Phone Number: 5302255405

Status History:

Global Id: T0608936410
Status: Open - Case Begin Date
Status Date: 02/12/2004

Global Id: T0608936410
Status: Open - Site Assessment
Status Date: 07/15/2004

Global Id: T0608936410
Status: Open - Site Assessment
Status Date: 08/25/2004

Global Id: T0608936410
Status: Open - Site Assessment
Status Date: 01/22/2005

Global Id: T0608936410
Status: Open - Site Assessment
Status Date: 01/21/2015

Global Id: T0608936410
Status: Open - Site Assessment
Status Date: 01/22/2015

Regulatory Activities:

Global Id: T0608936410
Action Type: ENFORCEMENT
Date: 06/08/2006
Action: Staff Letter

Global Id: T0608936410
Action Type: RESPONSE
Date: 07/30/2010
Action: Monitoring Report - Quarterly

Global Id: T0608936410
Action Type: ENFORCEMENT
Date: 10/09/2015
Action: Staff Letter

Global Id: T0608936410
Action Type: RESPONSE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

B/P OIL COMPANY #11241 (Continued)

S101594844

Date: 01/30/2005
Action: Monitoring Report - Quarterly

Global Id: T0608936410
Action Type: ENFORCEMENT
Date: 12/08/2011
Action: Staff Letter

Global Id: T0608936410
Action Type: Other
Date: 01/01/1977
Action: Leak Began

Global Id: T0608936410
Action Type: RESPONSE
Date: 01/30/2009
Action: Monitoring Report - Quarterly

Global Id: T0608936410
Action Type: ENFORCEMENT
Date: 02/11/2005
Action: Staff Letter

Global Id: T0608936410
Action Type: RESPONSE
Date: 10/31/2007
Action: Monitoring Report - Quarterly

Global Id: T0608936410
Action Type: ENFORCEMENT
Date: 01/13/2014
Action: Technical Correspondence / Assistance / Other

Global Id: T0608936410
Action Type: ENFORCEMENT
Date: 08/28/2014
Action: Staff Letter

Global Id: T0608936410
Action Type: ENFORCEMENT
Date: 07/17/2015
Action: Staff Letter

Global Id: T0608936410
Action Type: RESPONSE
Date: 01/30/2010
Action: Monitoring Report - Quarterly

Global Id: T0608936410
Action Type: RESPONSE
Date: 04/15/2011
Action: Monitoring Report - Quarterly

Global Id: T0608936410
Action Type: ENFORCEMENT
Date: 07/01/2008
Action: Staff Letter

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

B/P OIL COMPANY #11241 (Continued)

S101594844

Global Id:	T0608936410
Action Type:	RESPONSE
Date:	10/30/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0608936410
Action Type:	RESPONSE
Date:	04/30/2009
Action:	Monitoring Report - Quarterly
Global Id:	T0608936410
Action Type:	RESPONSE
Date:	01/04/2015
Action:	Other Report / Document
Global Id:	T0608936410
Action Type:	RESPONSE
Date:	04/30/2005
Action:	Monitoring Report - Quarterly
Global Id:	T0608936410
Action Type:	ENFORCEMENT
Date:	11/21/2005
Action:	Staff Letter
Global Id:	T0608936410
Action Type:	RESPONSE
Date:	04/30/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0608936410
Action Type:	RESPONSE
Date:	05/17/2010
Action:	Other Report / Document
Global Id:	T0608936410
Action Type:	RESPONSE
Date:	04/30/2010
Action:	Monitoring Report - Quarterly
Global Id:	T0608936410
Action Type:	RESPONSE
Date:	06/01/2014
Action:	Soil and Water Investigation Report
Global Id:	T0608936410
Action Type:	RESPONSE
Date:	07/30/2005
Action:	Monitoring Report - Quarterly
Global Id:	T0608936410
Action Type:	RESPONSE
Date:	07/30/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0608936410
Action Type:	ENFORCEMENT

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

B/P OIL COMPANY #11241 (Continued)

S101594844

Date: 10/04/2004
Action: Staff Letter

Global Id: T0608936410
Action Type: RESPONSE
Date: 01/30/2007
Action: Monitoring Report - Quarterly

Global Id: T0608936410
Action Type: ENFORCEMENT
Date: 06/13/2014
Action: Technical Correspondence / Assistance / Other

Global Id: T0608936410
Action Type: RESPONSE
Date: 10/30/2009
Action: Monitoring Report - Quarterly

Global Id: T0608936410
Action Type: RESPONSE
Date: 05/20/2005
Action: Soil and Water Investigation Report

Global Id: T0608936410
Action Type: RESPONSE
Date: 10/30/2006
Action: Monitoring Report - Quarterly

Global Id: T0608936410
Action Type: RESPONSE
Date: 07/30/2006
Action: Monitoring Report - Quarterly

Global Id: T0608936410
Action Type: ENFORCEMENT
Date: 07/19/2007
Action: Verbal Communication

Global Id: T0608936410
Action Type: RESPONSE
Date: 04/15/2012
Action: Monitoring Report - Quarterly

Global Id: T0608936410
Action Type: RESPONSE
Date: 04/04/2016
Action: Site Assessment Report

Global Id: T0608936410
Action Type: RESPONSE
Date: 10/15/2013
Action: Other Workplan - Regulator Responded

Global Id: T0608936410
Action Type: RESPONSE
Date: 12/17/2004
Action: Soil and Water Investigation Workplan

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

B/P OIL COMPANY #11241 (Continued)

S101594844

Global Id:	T0608936410
Action Type:	ENFORCEMENT
Date:	04/30/2013
Action:	Staff Letter
Global Id:	T0608936410
Action Type:	RESPONSE
Date:	04/30/2006
Action:	Monitoring Report - Quarterly
Global Id:	T0608936410
Action Type:	ENFORCEMENT
Date:	02/10/2005
Action:	Staff Letter
Global Id:	T0608936410
Action Type:	RESPONSE
Date:	11/15/2012
Action:	Monitoring Report - Quarterly
Global Id:	T0608936410
Action Type:	Other
Date:	01/01/1977
Action:	Leak Discovery
Global Id:	T0608936410
Action Type:	Other
Date:	08/25/2004
Action:	Leak Reported
Global Id:	T0608936410
Action Type:	ENFORCEMENT
Date:	07/29/2006
Action:	File review
Global Id:	T0608936410
Action Type:	ENFORCEMENT
Date:	10/10/2013
Action:	Staff Letter
Global Id:	T0608936410
Action Type:	RESPONSE
Date:	04/30/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0608936410
Action Type:	ENFORCEMENT
Date:	09/15/2009
Action:	Staff Letter
Global Id:	T0608936410
Action Type:	ENFORCEMENT
Date:	03/10/2016
Action:	Warning Letter
Global Id:	T0608936410
Action Type:	RESPONSE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

B/P OIL COMPANY #11241 (Continued)

S101594844

Date: 07/30/2008
Action: Monitoring Report - Quarterly

Global Id: T0608936410
Action Type: RESPONSE
Date: 05/15/2015
Action: Pilot Study/ Treatability Report - Regulator Responded

Global Id: T0608936410
Action Type: RESPONSE
Date: 08/01/2007
Action: Other Report / Document

Global Id: T0608936410
Action Type: RESPONSE
Date: 03/31/2006
Action: Other Workplan

Global Id: T0608936410
Action Type: RESPONSE
Date: 01/31/2006
Action: Monitoring Report - Quarterly

Global Id: T0608936410
Action Type: Other
Date: 01/01/2005
Action: Leak Stopped

Global Id: T0608936410
Action Type: RESPONSE
Date: 07/30/2009
Action: Monitoring Report - Quarterly

Global Id: T0608936410
Action Type: RESPONSE
Date: 03/01/2016
Action: Other Report / Document

Global Id: T0608936410
Action Type: RESPONSE
Date: 09/29/2015
Action: Other Workplan - Regulator Responded

Global Id: T0608936410
Action Type: RESPONSE
Date: 05/20/2005
Action: Sensitive Receptor Survey Report

Global Id: T0608936410
Action Type: RESPONSE
Date: 10/30/2005
Action: Monitoring Report - Quarterly

Global Id: T0608936410
Action Type: RESPONSE
Date: 01/30/2008
Action: Monitoring Report - Quarterly

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

B/P OIL COMPANY #11241 (Continued)

S101594844

LUST REG 5:

Region: 5
Status: Pollution Characterization
Case Number: 450324
Case Type: Drinking Water Aquifer affected
Substance: HYDROCARBONS
Staff Initials: RF
Lead Agency: Regional
Program: LUST
MTBE Code: N/A

SWEEPS UST:

Status: Active
Comp Number: 212
Number: 1
Board Of Equalization: 44-027706
Referral Date: 06-17-92
Action Date: 03-09-93
Created Date: 10-27-88
Owner Tank Id: 1
SWRCB Tank Id: 45-000-000212-000001
Tank Status: A
Capacity: 500
Active Date: 06-16-92
Tank Use: OIL
STG: W
Content: WASTE OIL
Number Of Tanks: 4

Status: Active
Comp Number: 212
Number: 1
Board Of Equalization: 44-027706
Referral Date: 06-17-92
Action Date: 03-09-93
Created Date: 10-27-88
Owner Tank Id: Not reported
SWRCB Tank Id: 45-000-000212-000002
Tank Status: A
Capacity: 10000
Active Date: 06-17-92
Tank Use: M.V. FUEL
STG: P
Content: PRM UNLEADED
Number Of Tanks: Not reported

Status: Active
Comp Number: 212
Number: 1
Board Of Equalization: 44-027706
Referral Date: 06-17-92
Action Date: 03-09-93
Created Date: 10-27-88
Owner Tank Id: Not reported
SWRCB Tank Id: 45-000-000212-000003
Tank Status: A

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

B/P OIL COMPANY #11241 (Continued)

S101594844

Capacity: 10000
Active Date: 06-17-92
Tank Use: M.V. FUEL
STG: P
Content: PRM UNLEADED
Number Of Tanks: Not reported

Status: Active
Comp Number: 212
Number: 1
Board Of Equalization: 44-027706
Referral Date: 06-17-92
Action Date: 03-09-93
Created Date: 10-27-88
Owner Tank Id: Not reported
SWRCB Tank Id: 45-000-000212-000004
Tank Status: A
Capacity: 12000
Active Date: 06-17-92
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

CA FID UST:

Facility ID: 45000582
Regulated By: UTNKA
Regulated ID: CAL000058
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 9162213599
Mail To: Not reported
Mailing Address: 2868 PROSPECT PARK
Mailing Address 2: Not reported
Mailing City,St,Zip: REDDING 96002
Contact: Not reported
Contact Phone: Not reported
DUNS Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

F15
NNE
1/8-1/4
0.216 mi.
1141 ft.

MOBIL SERVICE STATION
5101 CHURN CREEK RD
REDDING, CA 96001

Site 3 of 6 in cluster F

HIST UST **U001618523**
N/A

Relative:
Higher

HIST UST:

File Number: 00020EB4
URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020EB4.pdf>
Region: STATE
Facility ID: 00000039656
Facility Type: Gas Station
Other Type: MOTOR VEHICLE FUEL S
Contact Name: RALPH W FAILOR JR

Actual:
515 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MOBIL SERVICE STATION (Continued)

U001618523

Telephone: 9162213599
Owner Name: MOBIL OIL CORPORATION
Owner Address: 612 SO. FLOWER STREET
Owner City,St,Zip: LOS ANGELES, CA 90017
Total Tanks: 0004

Tank Num: 001
Container Num: 1
Year Installed: 1967
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Container Construction Thickness: Not reported
Leak Detection: Visual, Stock Inventor, Pressure Test

Tank Num: 002
Container Num: 2
Year Installed: 1967
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Container Construction Thickness: Not reported
Leak Detection: Visual, Stock Inventor, Pressure Test

Tank Num: 003
Container Num: 3
Year Installed: 1974
Tank Capacity: 00005000
Tank Used for: PRODUCT
Type of Fuel: 06
Container Construction Thickness: Not reported
Leak Detection: Visual, Stock Inventor, Pressure Test

Tank Num: 004
Container Num: 4
Year Installed: 1967
Tank Capacity: 00000285
Tank Used for: WASTE
Type of Fuel: WASTE OIL
Container Construction Thickness: Not reported
Leak Detection: Visual

[Click here for Geo Tracker PDF:](#)

F16
NNE
1/8-1/4
0.216 mi.
1141 ft.

TOSCO NORTHWEST CO NO 11241
5101 CHURN CREEK RD
REDDING, CA 96001
Site 4 of 6 in cluster F

RCRA-SQG 1000984968
FINDS CAR000000778
ECHO

Relative:
Higher

RCRA-SQG:
Date form received by agency: 02/09/1995
Facility name: TOSCO NORTHWEST CO NO 11241
Facility address: 5101 CHURN CREEK RD
REDDING, CA 96001
EPA ID: CAR000000778
Contact: LYNN CHUN
Contact address: 601 UNION ST STE 2500

Actual:
515 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TOSCO NORTHWEST CO NO 11241 (Continued)

1000984968

Contact country: SEATTLE, WA 98101
US
Contact telephone: (602) 442-7193
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name: TOSCO NORTHWEST CO
Owner/operator address: 601 UNION ST STE 2500
SEATTLE, WA 98101
Owner/operator country: Not reported
Owner/operator telephone: (206) 442-7000
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110006485231

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

ECHO:

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

TOSCO NORTHWEST CO NO 11241 (Continued)

1000984968

Envid: 1000984968
Registry ID: 110006485231
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110006485231

17
North
1/8-1/4
0.221 mi.
1168 ft.

BONNYVIEW TEXACO
5001 BECHELLI LN
REDDING, CA

CUPA Listings S110744381
N/A

Relative:
Higher

CUPA SHASTA:
Site Id: 802
CersID: 10483783
Facility Status: True
Attn: BALWINDER SINGH GILL
Mail Addr: 5001 BECHELLI LN
Mail City: REDDING
Mail State: CA
Mail Zip: 96002
EDR Link ID: 802

Actual:
516 ft.

Detail:

Facid: 802
Facility Name: BONNYVIEW TEXACO
File Type: Hazardous Material Business Plan Site

Facid: 802
Facility Name: BONNYVIEW TEXACO
File Type: Underground Tank

Facid: 802
Facility Name: BONNYVIEW TEXACO
File Type: Hazardous Waste Generator

E18
NE
1/8-1/4
0.225 mi.
1186 ft.

SHASTA TRACTOR & EQUIPMENT/JAMES BRASHEAR
1263 COMMERCIAL WAY
REDDING, CA 96002

SWEEPS UST S101594803
CA FID UST N/A

Site 3 of 8 in cluster E

Relative:
Higher

SWEEPS UST:
Status: Active
Comp Number: 171
Number: 2
Board Of Equalization: Not reported
Referral Date: 04-20-90
Action Date: 04-20-90
Created Date: 04-20-90
Owner Tank Id: NORTH
SWRCB Tank Id: 45-000-000171-000001
Tank Status: A
Capacity: 1000
Active Date: 04-20-90
Tank Use: M.V. FUEL
STG: P
Content: DIESEL

Actual:
459 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHASTA TRACTOR & EQUIPMENT/JAMES BRASHEAR (Continued)

S101594803

Number Of Tanks: 2

Status: Active
Comp Number: 171
Number: 2
Board Of Equalization: Not reported
Referral Date: 04-20-90
Action Date: 04-20-90
Created Date: 04-20-90
Owner Tank Id: MIDDLE
SWRCB Tank Id: 45-000-000171-000002
Tank Status: A
Capacity: 10000
Active Date: 04-20-90
Tank Use: M.V. FUEL
STG: P
Content: DIESEL
Number Of Tanks: Not reported

CA FID UST:

Facility ID: 45000028
Regulated By: UTNKA
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 9162220191
Mail To: Not reported
Mailing Address: 1263 COMMERCIAL WAY
Mailing Address 2: Not reported
Mailing City,St,Zip: REDDING 96002
Contact: Not reported
Contact Phone: Not reported
DUNS Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

E19
NE
1/8-1/4
0.235 mi.
1241 ft.

SYSTEM 99
1274 COMMERCIAL WAY
REDDING, CA 96001
Site 4 of 8 in cluster E

HIST UST U001618571
N/A

Relative:
Higher

HIST UST:

Actual:
459 ft.

File Number: 00020E03
URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020E03.pdf>
Region: STATE
Facility ID: 00000045382
Facility Type: Other
Other Type: COMMON CARRIER
Contact Name: MIKE MORRIS
Telephone: 9162214811
Owner Name: FRANK T. KERSHNER
Owner Address: 1210 FULLERTON ROAD
Owner City,St,Zip: CITY OF INDUSTRY, CA 91748
Total Tanks: 0003

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SYSTEM 99 (Continued)

U001618571

Tank Num: 001
Container Num: 554
Year Installed: 1971
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Tank Num: 002
Container Num: 553
Year Installed: 1971
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Tank Num: 003
Container Num: 586W
Year Installed: 1971
Tank Capacity: 00000500
Tank Used for: WASTE
Type of Fuel: WASTE OIL
Container Construction Thickness: Not reported
Leak Detection: None

[Click here for Geo Tracker PDF:](#)

F20
NNE
1/8-1/4
0.241 mi.
1274 ft.

MOBIL SS REDDING
5181 CHURN CREEK RD
REDDING, CA 96002
Site 5 of 6 in cluster F

LUST **S102433843**
HIST CORTESE **N/A**

Relative:
Higher

LUST:
Region: STATE
Global Id: T0608900003
Latitude: 40.5378938
Longitude: -122.347848
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 06/24/1987
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: Not reported
Local Agency: SHASTA COUNTY
RB Case Number: 450003
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Actual:
517 ft.

[Click here to access the California GeoTracker records for this facility:](#)

Contact:
Global Id: T0608900003
Contact Type: Local Agency Caseworker

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MOBIL SS REDDING (Continued)

S102433843

Contact Name: NEIL SULLIVAN
Organization Name: SHASTA COUNTY
Address: 1855 PLACER ST.
City: REDDING
Email: nsullivan@co.shasta.ca.us
Phone Number: 5302255405

Status History:

Global Id: T0608900003
Status: Completed - Case Closed
Status Date: 06/24/1987

Global Id: T0608900003
Status: Open - Case Begin Date
Status Date: 04/09/1986

Global Id: T0608900003
Status: Open - Site Assessment
Status Date: 04/09/1986

Regulatory Activities:

Global Id: T0608900003
Action Type: Other
Date: 04/09/1986
Action: Leak Discovery

Global Id: T0608900003
Action Type: Other
Date: 04/09/1986
Action: Leak Reported

Global Id: T0608900003
Action Type: ENFORCEMENT
Date: 06/24/1987
Action: Closure/No Further Action Letter

Global Id: T0608900003
Action Type: Other
Date: 04/09/1986
Action: Leak Stopped

LUST REG 5:

Region: 5
Status: Case Closed
Case Number: 450003
Case Type: Soil only
Substance: GASOLINE
Staff Initials: RSD
Lead Agency: Regional
Program: LUST
MTBE Code: N/A

HIST CORTESE:

Region: CORTESE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MOBIL SS REDDING (Continued)

S102433843

Facility County Code: 45
Reg By: LTNKA
Reg Id: 450003

**E21
NE
1/8-1/4
0.242 mi.
1277 ft.**

**ANDERSON-COTTONWOOD DISPOSAL
8592 COMMERCIAL WAY
REDDING, CA
Site 5 of 8 in cluster E**

**AST A100210843
N/A**

**Relative:
Higher**

AST:

Certified Unified Program Agencies: Shasta
Owner: Not reported
Total Gallons: 13,080
CERSID: Not reported
Facility ID: Not reported
Business Name: Not reported
Phone: Not reported
Fax: Not reported
Mailing Address: Not reported
Mailing Address City: Not reported
Mailing Address State: Not reported
Mailing Address Zip Code: Not reported
Operator Name: Not reported
Operator Phone: Not reported
Owner Phone: Not reported
Owner Mail Address: Not reported
Owner State: Not reported
Owner Zip Code: Not reported
Owner Country: Not reported
Property Owner Name: Not reported
Property Owner Phone: Not reported
Property Owner Mailing Address: Not reported
Property Owner City: Not reported
Property Owner Stat : Not reported
Property Owner Zip Code: Not reported
Property Owner Country: Not reported
EPAID: Not reported

**Actual:
460 ft.**

**E22
NE
1/8-1/4
0.242 mi.
1277 ft.**

**ANDERSON COTTONWOOD DISPO
8592 COMMERCIAL
REDDING, CA 96002
Site 6 of 8 in cluster E**

**LUST S103950170
CUPA Listings N/A
HIST CORTESE**

**Relative:
Higher**

LUST:

Region: STATE
Global Id: T0608900277
Latitude: 40.5355966
Longitude: -122.3479657
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 05/01/2003
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: HB
Local Agency: SHASTA COUNTY

**Actual:
460 ft.**

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ANDERSON COTTONWOOD DISPO (Continued)

S103950170

RB Case Number: 450283
LOC Case Number: Not reported
File Location: Archived
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Diesel
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0608900277
Contact Type: Regional Board Caseworker
Contact Name: HEIDI BAUER
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 415 KNOLLCREST DR.,STE 100
City: REDDING
Email: hbauer@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0608900277
Contact Type: Local Agency Caseworker
Contact Name: NEIL SULLIVAN
Organization Name: SHASTA COUNTY
Address: 1855 PLACER ST.
City: REDDING
Email: nsullivan@co.shasta.ca.us
Phone Number: 5302255405

Status History:

Global Id: T0608900277
Status: Completed - Case Closed
Status Date: 05/01/2003

Global Id: T0608900277
Status: Open - Case Begin Date
Status Date: 12/17/1998

Global Id: T0608900277
Status: Open - Site Assessment
Status Date: 01/16/1999

Global Id: T0608900277
Status: Open - Site Assessment
Status Date: 03/18/1999

Global Id: T0608900277
Status: Open - Site Assessment
Status Date: 03/29/1999

Regulatory Activities:

Global Id: T0608900277
Action Type: ENFORCEMENT
Date: 05/01/2003
Action: Closure/No Further Action Letter

Global Id: T0608900277
Action Type: Other

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ANDERSON COTTONWOOD DISPO (Continued)

S103950170

Date: 01/16/1999
Action: Leak Discovery

Global Id: T0608900277
Action Type: Other
Date: 01/18/1999
Action: Leak Reported

Global Id: T0608900277
Action Type: REMEDIATION
Date: 10/30/2000
Action: Excavation

Global Id: T0608900277
Action Type: Other
Date: 12/17/1998
Action: Leak Stopped

CUPA SHASTA:

Site Id: 207
CersID: 10416523
Facility Status: True
Attn: WASTE MANAGEMENT ATTN MATT FRYER
Mail Addr: 8592 COMMERCIAL WAY
Mail City: REDDING
Mail State: CA
Mail Zip: 96002
EDR Link ID: 207

Detail:

Facid: 207
Facility Name: ANDERSON COTTONWOOD DISPOSAL
File Type: Hazardous Material Business Plan Site

Facid: 207
Facility Name: ANDERSON COTTONWOOD DISPOSAL
File Type: Hazardous Waste Generator

Facid: 207
Facility Name: ANDERSON COTTONWOOD DISPOSAL
File Type: Closed underground tank site

Facid: 207
Facility Name: ANDERSON COTTONWOOD DISPOSAL
File Type: Aboveground Petroleum Storage Act

HIST CORTESE:

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450283

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

E23
NE
1/8-1/4
0.242 mi.
1277 ft.

ANDERSON COTTONWOOD DISPOSAL SERVICES
8592 COMMERCIAL WAY
REDDING, CA 96002
Site 7 of 8 in cluster E

AST **A100417138**
N/A

Relative:
Higher

AST:

Certified Unified Program Agencies: Not reported
Owner: USA Waste of California, Inc
Total Gallons: Not reported
CERSID: 10416523
Facility ID: 45-000-000142
Business Name: Anderson Cottonwood Disposal Services
Phone: 530-221-6510
Fax: 530-221-2869
Mailing Address: 8592 Commercial Way
Mailing Address City: Redding
Mailing Address State: CA
Mailing Address Zip Code: 96002
Operator Name: Anderson Cottonwood Disposal Services
Operator Phone: 530-722-7574
Owner Phone: 530-221-6510
Owner Mail Address: 8592 Commercial Way
Owner State: CA
Owner Zip Code: 96002
Owner Country: United States
Property Owner Name: Not reported
Property Owner Phone: Not reported
Property Owner Mailing Address: Not reported
Property Owner City: Not reported
Property Owner Stat : Not reported
Property Owner Zip Code: Not reported
Property Owner Country: Not reported
EPAID: CAL000088008

Actual:
460 ft.

E24
NE
1/8-1/4
0.242 mi.
1277 ft.

ANDERSON COTTONWOOD DISPOSAL
8592 COMMERCIAL WAY
REDDING, CA 96002
Site 8 of 8 in cluster E

LUST **S103771036**
SWEEPS UST **N/A**
WDS

Relative:
Higher

LUST REG 5:

Region: 5
Status: Case Closed
Case Number: 450283
Case Type: Drinking Water Aquifer affected
Substance: DIESEL
Staff Initials: HB
Lead Agency: Regional
Program: LUST
MTBE Code: 1

Actual:
460 ft.

SWEEPS UST:

Status: Active
Comp Number: 226
Number: 1
Board Of Equalization: 44-027267
Referral Date: 11-20-92
Action Date: 03-08-93

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ANDERSON COTTONWOOD DISPOSAL (Continued)

S103771036

Created Date: 08-22-89
Owner Tank Id: SOUTH
SWRCB Tank Id: 45-000-000226-000001
Tank Status: A
Capacity: 10000
Active Date: 11-20-92
Tank Use: M.V. FUEL
STG: P
Content: DIESEL
Number Of Tanks: 2

Status: Active
Comp Number: 226
Number: 1
Board Of Equalization: 44-027267
Referral Date: 11-20-92
Action Date: 03-08-93
Created Date: 08-22-89
Owner Tank Id: NORTH
SWRCB Tank Id: 45-000-000226-000002
Tank Status: A
Capacity: 10000
Active Date: 11-20-92
Tank Use: M.V. FUEL
STG: P
Content: DIESEL
Number Of Tanks: Not reported

WDS:

Facility ID: 5R 45I011121
Facility Type: Other - Does not fall into the category of Municipal/Domestic, Industrial, Agricultural or Solid Waste (Class I, II or III)
Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number: CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion: 0
Facility Telephone: Not reported
Facility Contact: Not reported
Agency Name: ANDERSON COTTONWOOD DISPOSAL
Agency Address: PO BOX 494245
Agency City,St,Zip: REDDING 960494245
Agency Contact: DENNIS HARRAH
Agency Telephone: Not reported
Agency Type: Private
SIC Code: 4173
SIC Code 2: Not reported
Primary Waste Type: Inert/Influent or Solid Wastes that do not contain soluble pollutants or organic wastes and have little adverse impact on water quality. Such wastes could cause turbidity and siltation. Uncontaminated soils, rubble and concrete are examples of this category.
Primary Waste: STORMS
Waste Type2: Not reported
Waste2: Stormwater Runoff
Primary Waste Type: Inert/Influent or Solid Wastes that do not contain soluble pollutants or organic wastes and have little adverse impact on water quality. Such wastes could cause turbidity and siltation. Uncontaminated soils,

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

ANDERSON COTTONWOOD DISPOSAL (Continued)

S103771036

Secondary Waste: rubble and concrete are examples of this category.
 Secondary Waste: Not reported
 Secondary Waste Type: Not reported
 Design Flow: 0
 Baseline Flow: 0
 Reclamation: Not reported
 POTW: Not reported
 Treat To Water: Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
 Complexity: Category C - Facilities having no waste treatment systems, such as cooling water dischargers or those who must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

25
South
1/8-1/4
0.243 mi.
1281 ft.

JF SHEA CO INC DBA SHEA SAND & GAVEL
1290 SMITH RD
REDDING, CA 96002

SWEEPS UST S101594852
CA FID UST N/A

Relative:
Higher

SWEEPS UST:
 Status: Active
 Comp Number: 320
 Number: 1
 Board Of Equalization: 44-027240
 Referral Date: 02-18-92
 Action Date: 10-02-92
 Created Date: 11-19-90
 Owner Tank Id: 2
 SWRCB Tank Id: 45-000-000320-000002
 Tank Status: A
 Capacity: 10000
 Active Date: 02-18-92
 Tank Use: M.V. FUEL
 STG: P
 Content: DIESEL
 Number Of Tanks: 2

Actual:
447 ft.

Status: Active
 Comp Number: 320
 Number: 1
 Board Of Equalization: 44-027240
 Referral Date: 02-18-92
 Action Date: 10-02-92
 Created Date: 11-19-90
 Owner Tank Id: 3
 SWRCB Tank Id: 45-000-000320-000003
 Tank Status: A
 Capacity: 6000
 Active Date: 04-28-92
 Tank Use: OIL
 STG: P

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

JF SHEA CO INC DBA SHEA SAND & GAVEL (Continued)

S101594852

Content: RECLAIMED HE
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 320
Number: Not reported
Board Of Equalization: 44-027240
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: 45-000-000320-000001
Tank Status: Not reported
Capacity: 10000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: PRODUCT
Content: LEADED
Number Of Tanks: 1

CA FID UST:

Facility ID: 45000962
Regulated By: UTNKA
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 9162214222
Mail To: Not reported
Mailing Address: 17400 CLEAR CREEK RD
Mailing Address 2: Not reported
Mailing City,St,Zip: REDDING 96002
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

26
SSE
1/8-1/4
0.248 mi.
1309 ft.

SHEA SAND & GRAVEL (JFS-SR)
1290 SMITH ROAD
REDDING, CA 96001

HIST UST U001618605
EMI N/A

Relative:
Higher

HIST UST:

File Number: 00020E37
URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020E37.pdf>
Region: STATE
Facility ID: 00000048169
Facility Type: Other
Other Type: CONSTRUCTION EQUIPME
Contact Name: JACK CARRIER
Telephone: 9162214292
Owner Name: J.F. SHEA CO., INC.
Owner Address: 1290 SMITH ROAD
Owner City,St,Zip: REDDING, CA 96002

Actual:
452 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHEA SAND & GRAVEL (JFS-SR) (Continued)

U001618605

Total Tanks: 0012

Tank Num: 001
Container Num: 30-1
Year Installed: 1979
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Tank Num: 002
Container Num: 30-12
Year Installed: 1982
Tank Capacity: 00000550
Tank Used for: WASTE
Type of Fuel: WASTE OIL
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Tank Num: 003
Container Num: 464-11
Year Installed: 1958
Tank Capacity: 00011980
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: None

Tank Num: 004
Container Num: 464-10
Year Installed: 1958
Tank Capacity: 00011980
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: None

Tank Num: 005
Container Num: 464-9
Year Installed: 1958
Tank Capacity: 00011980
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: None

Tank Num: 006
Container Num: 464-8
Year Installed: 1958
Tank Capacity: 00011980
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: None

Tank Num: 007

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHEA SAND & GRAVEL (JFS-SR) (Continued)

U001618605

Container Num: 464-7
Year Installed: 1958
Tank Capacity: 00011980
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: None

Tank Num: 008
Container Num: 464-6
Year Installed: 1958
Tank Capacity: 00011980
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Not reported

Tank Num: 009
Container Num: 464-5
Year Installed: 1972
Tank Capacity: 00006000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: None

Tank Num: 010
Container Num: 464-4
Year Installed: 1972
Tank Capacity: 00008000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: None

Tank Num: 011
Container Num: 464-3
Year Installed: Not reported
Tank Capacity: 00010000
Tank Used for: WASTE
Type of Fuel: WASTE OIL
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Tank Num: 012
Container Num: 464-2
Year Installed: Not reported
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

[Click here for Geo Tracker PDF:](#)

EMI:
Year: 1987

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHEA SAND & GRAVEL (JFS-SR) (Continued)

U001618605

County Code: 45
Air Basin: SV
Facility ID: 8
Air District Name: SHA
SIC Code: 2951
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 5
SOX - Oxides of Sulphur Tons/Yr: 6
Particulate Matter Tons/Yr: 37
Part. Matter 10 Micrometers and Smlr Tons/Yr:13

Year: 1990
County Code: 45
Air Basin: SV
Facility ID: 8
Air District Name: SHA
SIC Code: 2951
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 16
Reactive Organic Gases Tons/Yr: 13
Carbon Monoxide Emissions Tons/Yr: 2
NOX - Oxides of Nitrogen Tons/Yr: 2
SOX - Oxides of Sulphur Tons/Yr: 8
Particulate Matter Tons/Yr: 15
Part. Matter 10 Micrometers and Smlr Tons/Yr:4

Year: 1993
County Code: 45
Air Basin: SV
Facility ID: 8
Air District Name: SHA
SIC Code: 2951
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 13
Reactive Organic Gases Tons/Yr: 13
Carbon Monoxide Emissions Tons/Yr: 3
NOX - Oxides of Nitrogen Tons/Yr: 3
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 9
Part. Matter 10 Micrometers and Smlr Tons/Yr:4

Year: 1995
County Code: 45
Air Basin: SV
Facility ID: 8
Air District Name: SHA
SIC Code: 2951
Air District Name: SHASTA COUNTY AQMD

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHEA SAND & GRAVEL (JFS-SR) (Continued)

U001618605

Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 5
Reactive Organic Gases Tons/Yr: 5
Carbon Monoxide Emissions Tons/Yr: 10
NOX - Oxides of Nitrogen Tons/Yr: 32
SOX - Oxides of Sulphur Tons/Yr: 1
Particulate Matter Tons/Yr: 10
Part. Matter 10 Micrometers and Smlr Tons/Yr:5

Year: 1996
County Code: 45
Air Basin: SV
Facility ID: 8
Air District Name: SHA
SIC Code: 2951
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 2
Reactive Organic Gases Tons/Yr: 2
Carbon Monoxide Emissions Tons/Yr: 6
NOX - Oxides of Nitrogen Tons/Yr: 20
SOX - Oxides of Sulphur Tons/Yr: 1
Particulate Matter Tons/Yr: 7
Part. Matter 10 Micrometers and Smlr Tons/Yr:3

Year: 1997
County Code: 45
Air Basin: SV
Facility ID: 8
Air District Name: SHA
SIC Code: 2951
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 2
Reactive Organic Gases Tons/Yr: 2
Carbon Monoxide Emissions Tons/Yr: 6
NOX - Oxides of Nitrogen Tons/Yr: 20
SOX - Oxides of Sulphur Tons/Yr: 1
Particulate Matter Tons/Yr: 7
Part. Matter 10 Micrometers and Smlr Tons/Yr:3

Year: 1998
County Code: 45
Air Basin: SV
Facility ID: 8
Air District Name: SHA
SIC Code: 2951
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 2
Reactive Organic Gases Tons/Yr: 2
Carbon Monoxide Emissions Tons/Yr: 6
NOX - Oxides of Nitrogen Tons/Yr: 20

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHEA SAND & GRAVEL (JFS-SR) (Continued)

U001618605

SOX - Oxides of Sulphur Tons/Yr: 1
Particulate Matter Tons/Yr: 7
Part. Matter 10 Micrometers and Smlr Tons/Yr:3

Year: 1999
County Code: 45
Air Basin: SV
Facility ID: 8
Air District Name: SHA
SIC Code: 2951
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 4
Reactive Organic Gases Tons/Yr: 4
Carbon Monoxide Emissions Tons/Yr: 9
NOX - Oxides of Nitrogen Tons/Yr: 27
SOX - Oxides of Sulphur Tons/Yr: 1
Particulate Matter Tons/Yr: 8
Part. Matter 10 Micrometers and Smlr Tons/Yr:5

Year: 2000
County Code: 45
Air Basin: SV
Facility ID: 8
Air District Name: SHA
SIC Code: 2951
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 3
Reactive Organic Gases Tons/Yr: 3
Carbon Monoxide Emissions Tons/Yr: 11
NOX - Oxides of Nitrogen Tons/Yr: 31
SOX - Oxides of Sulphur Tons/Yr: 1
Particulate Matter Tons/Yr: 6
Part. Matter 10 Micrometers and Smlr Tons/Yr:1

Year: 2001
County Code: 45
Air Basin: SV
Facility ID: 8
Air District Name: SHA
SIC Code: 2951
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Y
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 3
Reactive Organic Gases Tons/Yr: 3
Carbon Monoxide Emissions Tons/Yr: 11
NOX - Oxides of Nitrogen Tons/Yr: 27
SOX - Oxides of Sulphur Tons/Yr: 1
Particulate Matter Tons/Yr: 5
Part. Matter 10 Micrometers and Smlr Tons/Yr:1

Year: 2002
County Code: 45

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHEA SAND & GRAVEL (JFS-SR) (Continued)

U001618605

Air Basin: SV
Facility ID: 8
Air District Name: SHA
SIC Code: 2951
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Y
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 10
NOX - Oxides of Nitrogen Tons/Yr: 24
SOX - Oxides of Sulphur Tons/Yr: 1
Particulate Matter Tons/Yr: 25
Part. Matter 10 Micrometers and Smlr Tons/Yr:3

Year: 2003
County Code: 45
Air Basin: SV
Facility ID: 8
Air District Name: SHA
SIC Code: 2951
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 2
Reactive Organic Gases Tons/Yr: 2
Carbon Monoxide Emissions Tons/Yr: 8
NOX - Oxides of Nitrogen Tons/Yr: 22
SOX - Oxides of Sulphur Tons/Yr: 1
Particulate Matter Tons/Yr: 5
Part. Matter 10 Micrometers and Smlr Tons/Yr:3

Year: 2009
County Code: 45
Air Basin: SV
Facility ID: 8
Air District Name: SHA
SIC Code: 2951
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1.1299999999999999E-2
Reactive Organic Gases Tons/Yr: 1.1299999999999999E-2
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Year: 2010
County Code: 45
Air Basin: SV
Facility ID: 8
Air District Name: SHA
SIC Code: 2951
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

SHEA SAND & GRAVEL (JFS-SR) (Continued)

U001618605

Consolidated Emission Reporting Rule: Not reported
 Total Organic Hydrocarbon Gases Tons/Yr: 0
 Reactive Organic Gases Tons/Yr: 0
 Carbon Monoxide Emissions Tons/Yr: 0
 NOX - Oxides of Nitrogen Tons/Yr: 0
 SOX - Oxides of Sulphur Tons/Yr: 0
 Particulate Matter Tons/Yr: 0
 Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Year: 2011
 County Code: 45
 Air Basin: SV
 Facility ID: 8
 Air District Name: SHA
 SIC Code: 2951
 Air District Name: SHASTA COUNTY AQMD
 Community Health Air Pollution Info System: Not reported
 Consolidated Emission Reporting Rule: Not reported
 Total Organic Hydrocarbon Gases Tons/Yr: 0
 Reactive Organic Gases Tons/Yr: 0
 Carbon Monoxide Emissions Tons/Yr: 0
 NOX - Oxides of Nitrogen Tons/Yr: 0
 SOX - Oxides of Sulphur Tons/Yr: 0
 Particulate Matter Tons/Yr: 0
 Part. Matter 10 Micrometers and Smlr Tons/Yr:0

27
SW
1/8-1/4
0.249 mi.
1317 ft.

SYSTEMS ABATEMENT CORP
6729 RIVERSIDE DR
REDDING, CA 96001

RCRA NonGen / NLR **1004676100**
FINDS **CAR000080820**
ECHO

Relative:
Lower

RCRA NonGen / NLR:
 Date form received by agency:08/21/2000
 Facility name: SYSTEMS ABATEMENT CORP
 Facility address: 6729 RIVERSIDE DR
 REDDING, CA 96001
 EPA ID: CAR000080820
 Contact: JOE NIXT
 Contact address: 6729 RIVERSIDE DR
 REDDING, CA 96001
 Contact country: US
 Contact telephone: (916) 425-5113
 Contact email: Not reported
 EPA Region: 09
 Classification: Non-Generator
 Description: Handler: Non-Generators do not presently generate hazardous waste

Actual:
442 ft.

Owner/Operator Summary:
 Owner/operator name: JOE NIXT
 Owner/operator address: 6729 RIVERSIDE DR
 REDDING, CA 96001
 Owner/operator country: Not reported
 Owner/operator telephone: (916) 425-5113
 Legal status: Private
 Owner/Operator Type: Owner
 Owner/Op start date: Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

SYSTEMS ABATEMENT CORP (Continued)

1004676100

Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
 Mixed waste (haz. and radioactive): No
 Recycler of hazardous waste: No
 Transporter of hazardous waste: Yes
 Treater, storer or disposer of HW: No
 Underground injection activity: No
 On-site burner exemption: No
 Furnace exemption: No
 Used oil fuel burner: No
 Used oil processor: No
 User oil refiner: No
 Used oil fuel marketer to burner: No
 Used oil Specification marketer: No
 Used oil transfer facility: No
 Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110002942371

Environmental Interest/Information System

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

ECHO:

Envid: 1004676100
 Registry ID: 110002942371
 DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110002942371

F28
NNE
1/4-1/2
0.264 mi.
1392 ft.

CHURN CREEK CHEVRON
4746 CHURN CREEK RD
REDDING, CA 96002
Site 6 of 6 in cluster F

LUST **S103771037**
CUPA Listings **N/A**
HIST CORTESE

Relative:
Higher

LUST:
 Region: STATE
 Global Id: T10000003475
 Latitude: 40.538489
 Longitude: -122.349529
 Case Type: LUST Cleanup Site
 Status: Completed - Case Closed

Actual:
512 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHURN CREEK CHEVRON (Continued)

S103771037

Status Date: 01/23/2013
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: BB
Local Agency: Not reported
RB Case Number: 450344
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Other Groundwater (uses other than drinking water), Soil
Potential Contaminants of Concern: Gasoline
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T10000003475
Contact Type: Regional Board Caseworker
Contact Name: BILL BERGMANN
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 364 Knollcrest Drive, Suite 205
City: REDDING
Email: william.bergmann@waterboards.ca.gov
Phone Number: 5302244852

Status History:

Global Id: T10000003475
Status: Completed - Case Closed
Status Date: 01/23/2013

Global Id: T10000003475
Status: Open - Case Begin Date
Status Date: 12/08/2011

Global Id: T10000003475
Status: Open - Site Assessment
Status Date: 01/09/2012

Regulatory Activities:

Global Id: T10000003475
Action Type: ENFORCEMENT
Date: 12/08/2011
Action: Staff Letter

Global Id: T10000003475
Action Type: ENFORCEMENT
Date: 01/23/2013
Action: File Review - Closure

Global Id: T10000003475
Action Type: ENFORCEMENT
Date: 04/17/2012
Action: Staff Letter

Global Id: T10000003475
Action Type: RESPONSE
Date: 02/29/2012
Action: Other Workplan

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHURN CREEK CHEVRON (Continued)

S103771037

Global Id: T10000003475
Action Type: Other
Date: 12/08/2011
Action: Leak Discovery

Global Id: T10000003475
Action Type: Other
Date: 12/08/2011
Action: Leak Reported

Global Id: T10000003475
Action Type: ENFORCEMENT
Date: 06/26/2012
Action: Staff Letter

Global Id: T10000003475
Action Type: RESPONSE
Date: 02/07/2012
Action: Correspondence

Region: STATE
Global Id: T0608900278
Latitude: 40.5384888333333
Longitude: -122.3497028
Case Type: LUST Cleanup Site
Status: Open - Site Assessment
Status Date: 01/23/2013
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: BB
Local Agency: SHASTA COUNTY
RB Case Number: 450284
LOC Case Number: Not reported
File Location: Archived
Potential Media Affect: Under Investigation
Potential Contaminants of Concern: Gasoline
Site History: The case was reopened following a review of case files associated with this site and the adjacent 76 Service Stations UST Case No. 450324. Based upon preliminary review, data indicates that an unauthorized release or undocumented contaminant mass from an underground storage tank system may exist beneath the subject site. Corrective action activities are currently underway as directed by the Central Valley Regional Water Quality Control Board. Work to date has included a preliminary site investigation. A summary of the site history is available by clicking on either the "Cleanup Status History", "Regulatory Activities", or the "Site Maps/Documents" tab. For a complete site history the case file at the Central Valley Regional Water Quality Control Board should be consulted.

[Click here to access the California GeoTracker records for this facility:](#)

Contact:
Global Id: T0608900278
Contact Type: Regional Board Caseworker
Contact Name: BILL BERGMANN
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 364 Knollcrest Drive, Suite 205
City: REDDING

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHURN CREEK CHEVRON (Continued)

S103771037

Email: william.bergmann@waterboards.ca.gov
Phone Number: 5302244852

Status History:

Global Id: T0608900278
Status: Completed - Case Closed
Status Date: 06/26/2000

Global Id: T0608900278
Status: Open - Case Begin Date
Status Date: 12/21/1998

Global Id: T0608900278
Status: Open - Reopen Case
Status Date: 01/23/2013

Global Id: T0608900278
Status: Open - Site Assessment
Status Date: 12/21/1998

Global Id: T0608900278
Status: Open - Site Assessment
Status Date: 01/23/2013

Regulatory Activities:

Global Id: T0608900278
Action Type: RESPONSE
Date: 02/07/2012
Action: Correspondence

Global Id: T0608900278
Action Type: ENFORCEMENT
Date: 06/26/2013
Action: Staff Letter

Global Id: T0608900278
Action Type: RESPONSE
Date: 04/30/2014
Action: Soil and Water Investigation Report

Global Id: T0608900278
Action Type: RESPONSE
Date: 07/31/2015
Action: Conceptual Site Model

Global Id: T0608900278
Action Type: ENFORCEMENT
Date: 02/03/2014
Action: Technical Correspondence / Assistance / Other

Global Id: T0608900278
Action Type: ENFORCEMENT
Date: 01/23/2013
Action: Site Reopened Letter

Global Id: T0608900278

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHURN CREEK CHEVRON (Continued)

S103771037

Action Type:	ENFORCEMENT
Date:	04/17/2012
Action:	13267 Requirement
Global Id:	T0608900278
Action Type:	RESPONSE
Date:	06/14/2013
Action:	Site Assessment Report - Regulator Responded
Global Id:	T0608900278
Action Type:	ENFORCEMENT
Date:	06/19/2013
Action:	Staff Letter
Global Id:	T0608900278
Action Type:	ENFORCEMENT
Date:	06/17/2014
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0608900278
Action Type:	Other
Date:	12/21/1998
Action:	Leak Discovery
Global Id:	T0608900278
Action Type:	Other
Date:	12/22/1998
Action:	Leak Reported
Global Id:	T0608900278
Action Type:	RESPONSE
Date:	06/15/2012
Action:	Soil and Water Investigation Workplan - Regulator Responded
Global Id:	T0608900278
Action Type:	RESPONSE
Date:	05/12/2014
Action:	Soil and Water Investigation Workplan - Addendum - Regulator Responded
Global Id:	T0608900278
Action Type:	ENFORCEMENT
Date:	12/08/2011
Action:	Staff Letter
Global Id:	T0608900278
Action Type:	ENFORCEMENT
Date:	06/25/2012
Action:	Staff Letter
Global Id:	T0608900278
Action Type:	ENFORCEMENT
Date:	06/26/2000
Action:	Closure/No Further Action Letter
Global Id:	T0608900278
Action Type:	RESPONSE
Date:	12/22/1998

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHURN CREEK CHEVRON (Continued)

S103771037

Action: Unauthorized Release Form

Global Id: T0608900278
Action Type: RESPONSE
Date: 12/31/1998
Action: Tank Removal Report / UST Sampling Report

Global Id: T0608900278
Action Type: RESPONSE
Date: 06/16/2000
Action: Preliminary Site Assessment Report

Global Id: T0608900278
Action Type: Other
Date: 12/21/1998
Action: Leak Stopped

LUST REG 5:

Region: 5
Status: Case Closed
Case Number: 450284
Case Type: Undefined
Substance: GASOLINE
Staff Initials: MEB
Lead Agency: Local
Program: LUST
MTBE Code: N/A

CUPA SHASTA:

Site Id: 225
CersID: 10477294
Facility Status: True
Attn: J WARREN & MARY LOU LANE
Mail Addr: 4746 CHURN CREEK RD
Mail City: REDDING
Mail State: CA
Mail Zip: 96002
EDR Link ID: 225

Detail:

Facid: 225
Facility Name: CHURN CREEK CHEVRON
File Type: Hazardous Waste Generator

Facid: 225
Facility Name: CHURN CREEK CHEVRON
File Type: Hazardous Material Business Plan Site

Facid: 225
Facility Name: CHURN CREEK CHEVRON
File Type: Underground Tank

HIST CORTESE:

Region: CORTESE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHURN CREEK CHEVRON (Continued)

S103771037

Facility County Code: 45
Reg By: LTNKA
Reg Id: 450284

G29
NNE
1/4-1/2
0.267 mi.
1408 ft.

ARCO STATION #6027
5150 CHURN CREEK ROAD
REDDING, CA 94950
Site 1 of 2 in cluster G

Notify 65 **S100178682**
N/A

Relative:
Higher

NOTIFY 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Issue Date: Not reported
Incident Description: Not reported

Actual:
516 ft.

G30
NNE
1/4-1/2
0.267 mi.
1408 ft.

ARCO SS #6027 REDDING
5150 CHURN CREEK RD
REDDING, CA 96001
Site 2 of 2 in cluster G

LUST **S101304515**
SWEEPS UST **N/A**
CUPA Listings
HIST CORTESE

Relative:
Higher

LUST:
Region: STATE
Global Id: T0608900019
Latitude: 40.5382636
Longitude: -122.3480097
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 09/07/1993
Lead Agency: SHASTA COUNTY
Case Worker: MAR
Local Agency: SHASTA COUNTY
RB Case Number: 450019
LOC Case Number: Not reported
File Location: Archived
Potential Media Affect: Soil
Potential Contaminants of Concern: Waste Oil / Motor / Hydraulic / Lubricating
Site History: Not reported

Actual:
516 ft.

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id: T0608900019
Contact Type: Regional Board Caseworker
Contact Name: RECEPTIONIST, REGION 5 REDDING
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 415 KNOLLCREST DR., SUITE 100
City: REDDING
Email: Not reported
Phone Number: Not reported

Global Id: T0608900019
Contact Type: Local Agency Caseworker

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ARCO SS #6027 REDDING (Continued)

S101304515

Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Status History:

Global Id: T0608900019
Status: Completed - Case Closed
Status Date: 09/07/1993

Global Id: T0608900019
Status: Open - Case Begin Date
Status Date: 07/19/1988

Global Id: T0608900019
Status: Open - Site Assessment
Status Date: 08/03/1988

Regulatory Activities:

Global Id: T0608900019
Action Type: Other
Date: 07/19/1988
Action: Leak Discovery

Global Id: T0608900019
Action Type: Other
Date: 07/26/1988
Action: Leak Reported

Global Id: T0608900019
Action Type: ENFORCEMENT
Date: 09/07/1993
Action: Closure/No Further Action Letter

Global Id: T0608900019
Action Type: Other
Date: 07/19/1988
Action: Leak Stopped

Region: STATE
Global Id: T0608900138
Latitude: 40.5382636
Longitude: -122.3480097
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 02/20/1996
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: Not reported
Local Agency: SHASTA COUNTY
RB Case Number: 450141
LOC Case Number: Not reported
File Location: Archived
Potential Media Affect: Soil

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ARCO SS #6027 REDDING (Continued)

S101304515

Potential Contaminants of Concern: Gasoline
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0608900138
Contact Type: Regional Board Caseworker
Contact Name: RECEPTIONIST, REGION 5 REDDING
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 415 KNOLLCREST DR., SUITE 100
City: REDDING
Email: Not reported
Phone Number: Not reported

Global Id: T0608900138
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Status History:

Global Id: T0608900138
Status: Completed - Case Closed
Status Date: 02/20/1996

Global Id: T0608900138
Status: Open - Case Begin Date
Status Date: 03/11/1993

Global Id: T0608900138
Status: Open - Site Assessment
Status Date: 03/11/1993

Regulatory Activities:

Global Id: T0608900138
Action Type: REMEDIATION
Date: 01/18/2001
Action: Excavation

Global Id: T0608900138
Action Type: Other
Date: 03/11/1993
Action: Leak Discovery

Global Id: T0608900138
Action Type: Other
Date: 03/12/1993
Action: Leak Reported

Global Id: T0608900138
Action Type: ENFORCEMENT
Date: 02/20/1996
Action: Closure/No Further Action Letter

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ARCO SS #6027 REDDING (Continued)

S101304515

Global Id: T0608900138
Action Type: Other
Date: 03/11/1993
Action: Leak Stopped

LUST REG 5:

Region: 5
Status: Case Closed
Case Number: 450019
Case Type: Soil only
Substance: WASTE OIL
Staff Initials: CMB
Lead Agency: Local
Program: LUST
MTBE Code: N/A

Region: 5
Status: Case Closed
Case Number: 450141
Case Type: Soil only
Substance: GASOLINE
Staff Initials: CMB
Lead Agency: Local
Program: LUST
MTBE Code: N/A

SWEEPS UST:

Status: Active
Comp Number: 20
Number: 1
Board Of Equalization: 44-000506
Referral Date: 02-01-92
Action Date: 07-09-92
Created Date: 12-15-89
Owner Tank Id: 1-UNL-R
SWRCB Tank Id: 45-000-000020-000001
Tank Status: A
Capacity: 12000
Active Date: 07-09-92
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: 3

Status: Active
Comp Number: 20
Number: 1
Board Of Equalization: 44-000506
Referral Date: 02-01-92
Action Date: 07-09-92
Created Date: 12-15-89
Owner Tank Id: 2-UNL-R
SWRCB Tank Id: 45-000-000020-000002
Tank Status: A
Capacity: 12000

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ARCO SS #6027 REDDING (Continued)

S101304515

Active Date: 02-21-92
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Active
Comp Number: 20
Number: 1
Board Of Equalization: 44-000506
Referral Date: 02-01-92
Action Date: 07-09-92
Created Date: 12-15-89
Owner Tank Id: 3-UNL-P
SWRCB Tank Id: 45-000-000020-000003
Tank Status: A
Capacity: 12000
Active Date: 02-21-92
Tank Use: M.V. FUEL
STG: P
Content: PRM UNLEADED
Number Of Tanks: Not reported

CUPA SHASTA:

Site Id: 208
CersID: 10485427
Facility Status: True
Attn: JAG SINGH
Mail Addr: 5150 CHURN CREEK RD
Mail City: REDDING
Mail State: CA
Mail Zip: 96002
EDR Link ID: 208

Detail:

Facid: 208
Facility Name: FOOD EXPRESS # 5
File Type: Hazardous Waste Generator

Facid: 208
Facility Name: FOOD EXPRESS # 5
File Type: Hazardous Material Business Plan Site

Facid: 208
Facility Name: FOOD EXPRESS # 5
File Type: Underground Tank

HIST CORTESE:

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450141

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ARCO SS #6027 REDDING (Continued)

S101304515

Reg Id:

450019

Count: 0 records.

ORPHAN SUMMARY

<u>City</u>	<u>EDR ID</u>	<u>Site Name</u>	<u>Site Address</u>	<u>Zip</u>	<u>Database(s)</u>
NO SITES FOUND					

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: N/A
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: N/A
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: N/A
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/13/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/06/2016	Telephone: 703-603-8704
Date Made Active in Reports: 05/20/2016	Last EDR Contact: 07/06/2016
Number of Days to Update: 135	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: 800-424-9346
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/22/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: 800-424-9346
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/22/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/27/2016	Source: EPA
Date Data Arrived at EDR: 06/30/2016	Telephone: 800-424-9346
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/10/2016
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/21/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/30/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/21/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/30/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/21/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/30/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/21/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/30/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015	Source: Department of the Navy
Date Data Arrived at EDR: 05/29/2015	Telephone: 843-820-7326
Date Made Active in Reports: 06/11/2015	Last EDR Contact: 08/12/2016
Number of Days to Update: 13	Next Scheduled EDR Contact: 11/28/2016
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 05/09/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/01/2016	Telephone: 703-603-0695
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 08/31/2016
Number of Days to Update: 93	Next Scheduled EDR Contact: 12/12/2016
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 05/09/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/01/2016	Telephone: 703-603-0695
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 08/31/2016
Number of Days to Update: 93	Next Scheduled EDR Contact: 12/12/2016
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/28/2016

Date Data Arrived at EDR: 03/30/2016

Date Made Active in Reports: 05/20/2016

Number of Days to Update: 51

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180

Last EDR Contact: 09/26/2016

Next Scheduled EDR Contact: 01/09/2017

Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 05/02/2016

Date Data Arrived at EDR: 05/04/2016

Date Made Active in Reports: 06/21/2016

Number of Days to Update: 48

Source: Department of Toxic Substances Control

Telephone: 916-323-3400

Last EDR Contact: 08/02/2016

Next Scheduled EDR Contact: 11/14/2016

Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 05/02/2016

Date Data Arrived at EDR: 05/04/2016

Date Made Active in Reports: 06/21/2016

Number of Days to Update: 48

Source: Department of Toxic Substances Control

Telephone: 916-323-3400

Last EDR Contact: 08/02/2016

Next Scheduled EDR Contact: 11/14/2016

Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/16/2016

Date Data Arrived at EDR: 05/18/2016

Date Made Active in Reports: 06/21/2016

Number of Days to Update: 34

Source: Department of Resources Recycling and Recovery

Telephone: 916-341-6320

Last EDR Contact: 08/16/2016

Next Scheduled EDR Contact: 11/28/2016

Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008	Source: California Regional Water Quality Control Board Central Valley Region (5)
Date Data Arrived at EDR: 07/22/2008	Telephone: 916-464-4834
Date Made Active in Reports: 07/31/2008	Last EDR Contact: 07/01/2011
Number of Days to Update: 9	Next Scheduled EDR Contact: 10/17/2011
	Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001	Source: California Regional Water Quality Control Board San Diego Region (9)
Date Data Arrived at EDR: 04/23/2001	Telephone: 858-637-5595
Date Made Active in Reports: 05/21/2001	Last EDR Contact: 09/26/2011
Number of Days to Update: 28	Next Scheduled EDR Contact: 01/09/2012
	Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005	Source: California Regional Water Quality Control Board Santa Ana Region (8)
Date Data Arrived at EDR: 02/15/2005	Telephone: 909-782-4496
Date Made Active in Reports: 03/28/2005	Last EDR Contact: 08/15/2011
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: Varies

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004	Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Date Data Arrived at EDR: 02/26/2004	Telephone: 760-776-8943
Date Made Active in Reports: 03/24/2004	Last EDR Contact: 08/01/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 11/14/2011
	Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005	Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Date Data Arrived at EDR: 06/07/2005	Telephone: 760-241-7365
Date Made Active in Reports: 06/29/2005	Last EDR Contact: 09/12/2011
Number of Days to Update: 22	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003	Source: California Regional Water Quality Control Board Lahontan Region (6)
Date Data Arrived at EDR: 09/10/2003	Telephone: 530-542-5572
Date Made Active in Reports: 10/07/2003	Last EDR Contact: 09/12/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/13/2016
Date Data Arrived at EDR: 06/14/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 56

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 09/13/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 12/11/2015
Date Data Arrived at EDR: 02/19/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 105

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/09/2015
Date Data Arrived at EDR: 02/12/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 112

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/13/2015	Source: EPA Region 8
Date Data Arrived at EDR: 10/23/2015	Telephone: 303-312-6271
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 118	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 02/25/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/27/2016	Telephone: 415-972-3372
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 01/07/2016	Source: EPA Region 10
Date Data Arrived at EDR: 01/08/2016	Telephone: 206-553-2857
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/27/2015	Source: EPA Region 1
Date Data Arrived at EDR: 10/29/2015	Telephone: 617-918-1313
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 07/29/2016
Number of Days to Update: 67	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 02/17/2016	Source: EPA, Region 5
Date Data Arrived at EDR: 04/27/2016	Telephone: 312-886-7439
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/05/2016	Source: EPA Region 4
Date Data Arrived at EDR: 04/29/2016	Telephone: 404-562-8677
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/26/2016
Number of Days to Update: 35	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Semi-Annually

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 06/13/2016	Source: State Water Resources Control Board
Date Data Arrived at EDR: 06/14/2016	Telephone: 866-480-1028
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 09/13/2016
Number of Days to Update: 56	Next Scheduled EDR Contact: 12/26/2016
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/13/2016
Date Data Arrived at EDR: 06/14/2016
Date Made Active in Reports: 08/08/2016
Number of Days to Update: 55

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 09/14/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 07/12/2016	Telephone: 916-327-5092
Date Made Active in Reports: 09/19/2016	Last EDR Contact: 09/26/2016
Number of Days to Update: 69	Next Scheduled EDR Contact: 01/09/2017
	Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2015	Source: EPA Region 5
Date Data Arrived at EDR: 11/13/2015	Telephone: 312-886-6136
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 52	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 01/07/2016	Source: EPA Region 10
Date Data Arrived at EDR: 01/08/2016	Telephone: 206-553-2857
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/25/2016	Source: EPA Region 9
Date Data Arrived at EDR: 04/27/2016	Telephone: 415-972-3368
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/26/2016	Source: EPA Region 8
Date Data Arrived at EDR: 02/05/2016	Telephone: 303-312-6137
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 119	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/20/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 10/29/2015	Telephone: 617-918-1313
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 07/29/2016
Number of Days to Update: 67	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/05/2016	Source: EPA Region 4
Date Data Arrived at EDR: 04/29/2016	Telephone: 404-562-9424
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/26/2016
Number of Days to Update: 35	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Semi-Annually

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 12/03/2015	Source: EPA Region 6
Date Data Arrived at EDR: 02/04/2016	Telephone: 214-665-7591
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 120	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014	Source: EPA Region 7
Date Data Arrived at EDR: 11/25/2014	Telephone: 913-551-7003
Date Made Active in Reports: 01/29/2015	Last EDR Contact: 07/27/2016
Number of Days to Update: 65	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 09/29/2015	Telephone: 617-918-1102
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 09/26/2016
Number of Days to Update: 142	Next Scheduled EDR Contact: 01/09/2017
	Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 05/02/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 05/04/2016	Telephone: 916-323-3400
Date Made Active in Reports: 06/21/2016	Last EDR Contact: 08/02/2016
Number of Days to Update: 48	Next Scheduled EDR Contact: 11/14/2016
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfields Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 02/29/2016
Date Data Arrived at EDR: 03/07/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 58

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/21/2016
Date Data Arrived at EDR: 06/22/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/21/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 06/13/2016
Date Data Arrived at EDR: 06/14/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 56

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/14/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/16/2016
Date Data Arrived at EDR: 06/16/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 54

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 08/10/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 08/05/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/20/2016
Next Scheduled EDR Contact: 10/07/2016
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 08/31/2016
Date Data Arrived at EDR: 09/06/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 17

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/31/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/02/2016
Date Data Arrived at EDR: 05/04/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/02/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 05/10/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 08/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/06/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 17

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/31/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 06/07/2016
Date Data Arrived at EDR: 06/09/2016
Date Made Active in Reports: 06/23/2016
Number of Days to Update: 14

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 09/12/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990	Source: State Water Resources Control Board
Date Data Arrived at EDR: 01/25/1991	Telephone: 916-341-5851
Date Made Active in Reports: 02/12/1991	Last EDR Contact: 07/26/2001
Number of Days to Update: 18	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 09/05/1995	Telephone: 916-341-5851
Date Made Active in Reports: 09/29/1995	Last EDR Contact: 12/28/1998
Number of Days to Update: 24	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 06/02/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 06/07/2016	Telephone: 916-323-3400
Date Made Active in Reports: 07/20/2016	Last EDR Contact: 09/02/2016
Number of Days to Update: 43	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/18/2014	Telephone: 202-564-6023
Date Made Active in Reports: 04/24/2014	Last EDR Contact: 07/29/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 06/06/2016	Source: DTSC and SWRCB
Date Data Arrived at EDR: 06/07/2016	Telephone: 916-323-3400
Date Made Active in Reports: 07/20/2016	Last EDR Contact: 09/07/2016
Number of Days to Update: 43	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/27/2016	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 06/28/2016	Telephone: 202-366-4555
Date Made Active in Reports: 09/23/2016	Last EDR Contact: 06/28/2016
Number of Days to Update: 87	Next Scheduled EDR Contact: 10/10/2016
	Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 06/03/2016	Source: Office of Emergency Services
Date Data Arrived at EDR: 07/26/2016	Telephone: 916-845-8400
Date Made Active in Reports: 09/23/2016	Last EDR Contact: 07/26/2016
Number of Days to Update: 59	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 06/13/2016	Source: State Water Quality Control Board
Date Data Arrived at EDR: 06/14/2016	Telephone: 866-480-1028
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 09/13/2016
Number of Days to Update: 56	Next Scheduled EDR Contact: 12/26/2016
	Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 06/13/2016	Source: State Water Resources Control Board
Date Data Arrived at EDR: 06/14/2016	Telephone: 866-480-1028
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 09/13/2016
Number of Days to Update: 56	Next Scheduled EDR Contact: 12/26/2016
	Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 02/22/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 50	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/21/2016
Date Data Arrived at EDR: 06/30/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/09/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/15/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 05/08/2016
Date Data Arrived at EDR: 05/18/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 107

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/21/2014	Telephone: 617-520-3000
Date Made Active in Reports: 06/17/2014	Last EDR Contact: 08/08/2016
Number of Days to Update: 88	Next Scheduled EDR Contact: 11/21/2016
	Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/03/2015	Telephone: 703-308-4044
Date Made Active in Reports: 03/09/2015	Last EDR Contact: 09/06/2016
Number of Days to Update: 6	Next Scheduled EDR Contact: 11/21/2016
	Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012	Source: EPA
Date Data Arrived at EDR: 01/15/2015	Telephone: 202-260-5521
Date Made Active in Reports: 01/29/2015	Last EDR Contact: 09/23/2016
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/02/2017
	Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2014	Source: EPA
Date Data Arrived at EDR: 11/24/2015	Telephone: 202-566-0250
Date Made Active in Reports: 04/05/2016	Last EDR Contact: 08/26/2016
Number of Days to Update: 133	Next Scheduled EDR Contact: 12/05/2016
	Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009	Source: EPA
Date Data Arrived at EDR: 12/10/2010	Telephone: 202-564-4203
Date Made Active in Reports: 02/25/2011	Last EDR Contact: 07/25/2016
Number of Days to Update: 77	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013	Source: EPA
Date Data Arrived at EDR: 12/12/2013	Telephone: 703-416-0223
Date Made Active in Reports: 02/24/2014	Last EDR Contact: 09/09/2016
Number of Days to Update: 74	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/01/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/26/2016	Telephone: 202-564-8600
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 07/25/2016
Number of Days to Update: 99	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 10/17/2014	Telephone: 202-564-6023
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 08/12/2016
Number of Days to Update: 3	Next Scheduled EDR Contact: 11/21/2016
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 01/20/2016	Source: EPA
Date Data Arrived at EDR: 04/28/2016	Telephone: 202-566-0500
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 07/15/2016
Number of Days to Update: 127	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/06/2015	Telephone: 202-564-5088
Date Made Active in Reports: 03/09/2015	Last EDR Contact: 07/07/2016
Number of Days to Update: 31	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/17/2016
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/05/2016
	Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/17/2016
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/05/2016
	Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/07/2016	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 03/18/2016	Telephone: 301-415-7169
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 09/05/2016
Number of Days to Update: 28	Next Scheduled EDR Contact: 11/21/2016
	Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005	Source: Department of Energy
Date Data Arrived at EDR: 08/07/2009	Telephone: 202-586-8719
Date Made Active in Reports: 10/22/2009	Last EDR Contact: 09/09/2016
Number of Days to Update: 76	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/10/2014	Telephone: N/A
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 09/06/2016
Number of Days to Update: 40	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/19/2011	Telephone: 202-566-0517
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 07/29/2016
Number of Days to Update: 83	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/07/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/09/2015	Telephone: 202-343-9775
Date Made Active in Reports: 09/16/2015	Last EDR Contact: 07/07/2016
Number of Days to Update: 69	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2008
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012	Source: Department of Transportation, Office of Pipeline Safety
Date Data Arrived at EDR: 08/07/2012	Telephone: 202-366-4595
Date Made Active in Reports: 09/18/2012	Last EDR Contact: 08/02/2016
Number of Days to Update: 42	Next Scheduled EDR Contact: 11/14/2016
	Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/31/2016
Date Data Arrived at EDR: 08/01/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 53

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 08/26/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 07/21/2016
Date Data Arrived at EDR: 07/26/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 59

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 07/26/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 09/09/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/07/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 148

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 07/08/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/05/2016
Date Data Arrived at EDR: 09/01/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 22

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/01/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/20/2015	Source: EPA
Date Data Arrived at EDR: 09/09/2015	Telephone: (415) 947-8000
Date Made Active in Reports: 11/03/2015	Last EDR Contact: 09/07/2016
Number of Days to Update: 55	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 06/02/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/03/2016	Telephone: 202-564-0527
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 08/24/2016
Number of Days to Update: 91	Next Scheduled EDR Contact: 12/12/2016
	Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2015	Source: Department of Defense
Date Data Arrived at EDR: 01/29/2016	Telephone: 571-373-0407
Date Made Active in Reports: 04/05/2016	Last EDR Contact: 09/19/2016
Number of Days to Update: 67	Next Scheduled EDR Contact: 01/02/2017
	Data Release Frequency: Varies

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989	Source: Department of Health Services
Date Data Arrived at EDR: 07/27/1994	Telephone: 916-255-2118
Date Made Active in Reports: 08/02/1994	Last EDR Contact: 05/31/1994
Number of Days to Update: 6	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 06/27/2016	Source: CAL EPA/Office of Emergency Information
Date Data Arrived at EDR: 06/28/2016	Telephone: 916-323-3400
Date Made Active in Reports: 08/18/2016	Last EDR Contact: 06/28/2016
Number of Days to Update: 51	Next Scheduled EDR Contact: 10/10/2016
	Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 06/02/2016	Source: Department of Toxic Substance Control
Date Data Arrived at EDR: 07/12/2016	Telephone: 916-327-4498
Date Made Active in Reports: 08/18/2016	Last EDR Contact: 09/02/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2015	Source: California Air Resources Board
Date Data Arrived at EDR: 06/22/2016	Telephone: 916-322-2990
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 09/23/2016
Number of Days to Update: 48	Next Scheduled EDR Contact: 01/02/2017
	Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 05/25/2016	Source: State Water Resources Control Board
Date Data Arrived at EDR: 05/27/2016	Telephone: 916-445-9379
Date Made Active in Reports: 07/20/2016	Last EDR Contact: 08/22/2016
Number of Days to Update: 54	Next Scheduled EDR Contact: 10/07/2016
	Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 04/25/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 04/29/2016	Telephone: 916-255-3628
Date Made Active in Reports: 06/21/2016	Last EDR Contact: 07/20/2016
Number of Days to Update: 53	Next Scheduled EDR Contact: 10/07/2016
	Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/25/2016	Source: California Integrated Waste Management Board
Date Data Arrived at EDR: 06/01/2016	Telephone: 916-341-6066
Date Made Active in Reports: 07/20/2016	Last EDR Contact: 08/10/2016
Number of Days to Update: 49	Next Scheduled EDR Contact: 11/28/2016
	Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2014	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 10/14/2015	Telephone: 916-255-1136
Date Made Active in Reports: 12/11/2015	Last EDR Contact: 07/15/2016
Number of Days to Update: 58	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Annually

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 01/22/2009	Telephone: 916-323-3400
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 01/22/2009
Number of Days to Update: 76	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 05/23/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 05/25/2016	Telephone: 916-323-3400
Date Made Active in Reports: 07/20/2016	Last EDR Contact: 08/23/2016
Number of Days to Update: 56	Next Scheduled EDR Contact: 12/05/2016
	Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 07/11/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 07/13/2016	Telephone: 916-440-7145
Date Made Active in Reports: 08/18/2016	Last EDR Contact: 07/13/2016
Number of Days to Update: 36	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 06/13/2016	Source: Department of Conservation
Date Data Arrived at EDR: 06/14/2016	Telephone: 916-322-1080
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 09/14/2016
Number of Days to Update: 56	Next Scheduled EDR Contact: 12/26/2016
	Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/25/2016	Source: Department of Public Health
Date Data Arrived at EDR: 06/07/2016	Telephone: 916-558-1784
Date Made Active in Reports: 07/20/2016	Last EDR Contact: 09/07/2016
Number of Days to Update: 43	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/16/2016	Source: State Water Resources Control Board
Date Data Arrived at EDR: 05/18/2016	Telephone: 916-445-9379
Date Made Active in Reports: 06/23/2016	Last EDR Contact: 08/16/2016
Number of Days to Update: 36	Next Scheduled EDR Contact: 11/28/2016
	Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 06/06/2016	Source: Department of Pesticide Regulation
Date Data Arrived at EDR: 06/07/2016	Telephone: 916-445-4038
Date Made Active in Reports: 07/20/2016	Last EDR Contact: 09/07/2016
Number of Days to Update: 43	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 06/13/2016
Date Data Arrived at EDR: 06/14/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 56

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/14/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 01/05/2016
Date Made Active in Reports: 02/12/2016
Number of Days to Update: 38

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 02/12/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 06/13/2016
Number of Days to Update: 89

Source: Department of Conservation
Telephone: 916-445-2408
Last EDR Contact: 09/14/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board's review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Varies

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 09/23/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/20/2015
Date Data Arrived at EDR: 09/23/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 103

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 09/20/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Quarterly

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 05/23/2016
Date Data Arrived at EDR: 05/25/2016
Date Made Active in Reports: 07/20/2016
Number of Days to Update: 56

Source: Department of Toxic Substances Control
Telephone: 877-786-9427
Last EDR Contact: 08/23/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 05/24/2016
Date Data Arrived at EDR: 05/25/2016
Date Made Active in Reports: 07/13/2016
Number of Days to Update: 49

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/23/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR Hist Cleaner: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A	Source: Department of Resources Recycling and Recovery
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/13/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 196	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A	Source: State Water Resources Control Board
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 12/30/2013	Last EDR Contact: 06/01/2012
Number of Days to Update: 182	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 07/07/2016	Source: Alameda County Environmental Health Services
Date Data Arrived at EDR: 07/12/2016	Telephone: 510-567-6700
Date Made Active in Reports: 08/18/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 07/07/2016	Source: Alameda County Environmental Health Services
Date Data Arrived at EDR: 07/12/2016	Telephone: 510-567-6700
Date Made Active in Reports: 08/08/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 27	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Semi-Annually

AMADOR COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

Cupa Facility List

Date of Government Version: 06/06/2016
Date Data Arrived at EDR: 06/09/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 12

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 06/02/2016
Date Data Arrived at EDR: 06/03/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 18

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing

Cupa Facility Listing

Date of Government Version: 07/20/2016
Date Data Arrived at EDR: 07/25/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 60

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 05/25/2016
Date Data Arrived at EDR: 05/26/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 22

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 09/06/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 05/24/2016
Date Data Arrived at EDR: 05/26/2016
Date Made Active in Reports: 07/20/2016
Number of Days to Update: 55

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 08/01/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

Cupa Facility list

Date of Government Version: 04/08/2016
Date Data Arrived at EDR: 05/03/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 50

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 05/24/2016
Date Data Arrived at EDR: 05/26/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 75

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 07/13/2016
Date Data Arrived at EDR: 07/19/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 21

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 07/13/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/08/2016
Date Made Active in Reports: 08/18/2016
Number of Days to Update: 41

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 08/22/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 07/25/2016
Date Data Arrived at EDR: 07/26/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 59

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 07/20/2016
Next Scheduled EDR Contact: 10/07/2016
Data Release Frequency: Varies

INYO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing Kern County Sites and Tanks Listing.

Date of Government Version: 05/16/2016
Date Data Arrived at EDR: 05/20/2016
Date Made Active in Reports: 08/08/2016
Number of Days to Update: 80

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/25/2016
Date Data Arrived at EDR: 05/27/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 26

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 04/26/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 51

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 08/19/2016
Next Scheduled EDR Contact: 10/31/2016
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 07/05/2016	Source: Department of Public Works
Date Data Arrived at EDR: 07/12/2016	Telephone: 626-458-3517
Date Made Active in Reports: 08/18/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/18/2016	Source: La County Department of Public Works
Date Data Arrived at EDR: 04/20/2016	Telephone: 818-458-5185
Date Made Active in Reports: 06/01/2016	Last EDR Contact: 07/19/2016
Number of Days to Update: 42	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2016	Source: Engineering & Construction Division
Date Data Arrived at EDR: 01/26/2016	Telephone: 213-473-7869
Date Made Active in Reports: 03/22/2016	Last EDR Contact: 07/18/2016
Number of Days to Update: 56	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/29/2016	Source: Community Health Services
Date Data Arrived at EDR: 04/06/2016	Telephone: 323-890-7806
Date Made Active in Reports: 06/13/2016	Last EDR Contact: 07/13/2016
Number of Days to Update: 68	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 03/30/2015	Source: City of El Segundo Fire Department
Date Data Arrived at EDR: 04/02/2015	Telephone: 310-524-2236
Date Made Active in Reports: 04/13/2015	Last EDR Contact: 07/13/2016
Number of Days to Update: 11	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 11/04/2015	Source: City of Long Beach Fire Department
Date Data Arrived at EDR: 11/13/2015	Telephone: 562-570-2563
Date Made Active in Reports: 12/17/2015	Last EDR Contact: 07/25/2016
Number of Days to Update: 34	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/23/2016	Source: City of Torrance Fire Department
Date Data Arrived at EDR: 07/12/2016	Telephone: 310-618-2973
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 28	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Semi-Annually

MADERA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/18/2016
Date Data Arrived at EDR: 08/22/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 32

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 04/07/2016
Date Data Arrived at EDR: 04/26/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 36

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 08/17/2016
Date Data Arrived at EDR: 08/22/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 32

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List

CUPA Facility List

Date of Government Version: 05/25/2016
Date Data Arrived at EDR: 06/01/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 21

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 08/24/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing

CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/24/2016
Date Data Arrived at EDR: 06/27/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 43

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 08/22/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

NAPA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Sites With Reported Contamination

A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/24/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/24/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 07/25/2016
Date Data Arrived at EDR: 08/01/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 33

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 05/01/2016
Date Data Arrived at EDR: 05/17/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 35

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/08/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/01/2016
Date Data Arrived at EDR: 05/17/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 35

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/08/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 05/01/2016
Date Data Arrived at EDR: 05/11/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 21

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/09/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

PLACER COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 06/16/2016
Date Data Arrived at EDR: 06/20/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 50

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites

Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/13/2016
Date Data Arrived at EDR: 04/15/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 24

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 07/13/2016
Date Data Arrived at EDR: 07/18/2016
Date Made Active in Reports: 08/08/2016
Number of Days to Update: 21

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 05/02/2016
Date Data Arrived at EDR: 07/06/2016
Date Made Active in Reports: 08/18/2016
Number of Days to Update: 43

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/06/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/02/2016
Date Data Arrived at EDR: 07/06/2016
Date Made Active in Reports: 08/18/2016
Number of Days to Update: 43

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/05/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/09/2016
Date Data Arrived at EDR: 06/10/2016
Date Made Active in Reports: 07/20/2016
Number of Days to Update: 40

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 08/08/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/02/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 07/20/2016
Next Scheduled EDR Contact: 10/07/2016
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversight Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/16/2016
Date Data Arrived at EDR: 06/20/2016
Date Made Active in Reports: 08/08/2016
Number of Days to Update: 49

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 05/23/2016
Date Data Arrived at EDR: 05/24/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 28

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 06/02/2016
Date Data Arrived at EDR: 06/07/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 15

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/12/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 06/09/2016
Date Data Arrived at EDR: 06/13/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 57

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/12/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List

Cupa facility list

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/25/2016
Date Data Arrived at EDR: 05/26/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 27

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 08/24/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Annually

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 05/26/2016
Date Data Arrived at EDR: 06/01/2016
Date Made Active in Reports: 07/20/2016
Number of Days to Update: 49

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List

CUPA facility listing.

Date of Government Version: 05/31/2016
Date Data Arrived at EDR: 06/02/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 19

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 06/14/2016
Date Data Arrived at EDR: 06/16/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 54

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 08/22/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

SOLANO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/09/2016
Date Data Arrived at EDR: 06/13/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 57

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 06/09/2016
Date Data Arrived at EDR: 06/14/2016
Date Made Active in Reports: 08/08/2016
Number of Days to Update: 55

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List

Cupa Facility list

Date of Government Version: 07/10/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 28

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/01/2016
Date Data Arrived at EDR: 07/05/2016
Date Made Active in Reports: 08/18/2016
Number of Days to Update: 44

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 06/02/2016
Date Data Arrived at EDR: 06/07/2016
Date Made Active in Reports: 06/23/2016
Number of Days to Update: 16

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 05/03/2016
Date Data Arrived at EDR: 05/10/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 38

Source: Division of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 10/07/2016
Data Release Frequency: Varies

VENTURA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 06/28/2016	Source: Ventura County Environmental Health Division
Date Data Arrived at EDR: 08/01/2016	Telephone: 805-654-2813
Date Made Active in Reports: 09/23/2016	Last EDR Contact: 07/25/2016
Number of Days to Update: 53	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011	Source: Environmental Health Division
Date Data Arrived at EDR: 12/01/2011	Telephone: 805-654-2813
Date Made Active in Reports: 01/19/2012	Last EDR Contact: 06/28/2016
Number of Days to Update: 49	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008	Source: Environmental Health Division
Date Data Arrived at EDR: 06/24/2008	Telephone: 805-654-2813
Date Made Active in Reports: 07/31/2008	Last EDR Contact: 08/10/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 11/28/2016
	Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 03/28/2016	Source: Ventura County Resource Management Agency
Date Data Arrived at EDR: 04/29/2016	Telephone: 805-654-2813
Date Made Active in Reports: 06/22/2016	Last EDR Contact: 07/25/2016
Number of Days to Update: 54	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 05/26/2016	Source: Environmental Health Division
Date Data Arrived at EDR: 06/16/2016	Telephone: 805-654-2813
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 09/14/2016
Number of Days to Update: 54	Next Scheduled EDR Contact: 12/26/2016
	Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 06/30/2016	Source: Yolo County Department of Health
Date Data Arrived at EDR: 07/05/2016	Telephone: 530-666-8646
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 35	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Annually

YUBA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

CUPA facility listing for Yuba County.

Date of Government Version: 04/29/2016
Date Data Arrived at EDR: 05/03/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 45

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/10/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/12/2015
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/11/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2016
Date Data Arrived at EDR: 08/03/2016
Date Made Active in Reports: 09/09/2016
Number of Days to Update: 37

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/24/2015
Date Made Active in Reports: 08/18/2015
Number of Days to Update: 25

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/18/2016
Next Scheduled EDR Contact: 10/31/2016
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 09/20/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 04/14/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 50

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/12/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health
Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities

Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

STRAWBERRY FIELDS
NOT REPORTED
REDDING, CA 96002

TARGET PROPERTY COORDINATES

Latitude (North): 40.528467 - 40° 31' 42.48"
Longitude (West): 122.352724 - 122° 21' 9.81"
Universal Transverse Mercator: Zone 10
UTM X (Meters): 554824.6
UTM Y (Meters): 4486405.0
Elevation: 443 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map: 5605372 ENTERPRISE, CA
Version Date: 2012

Northwest Map: 5605416 REDDING, CA
Version Date: 2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

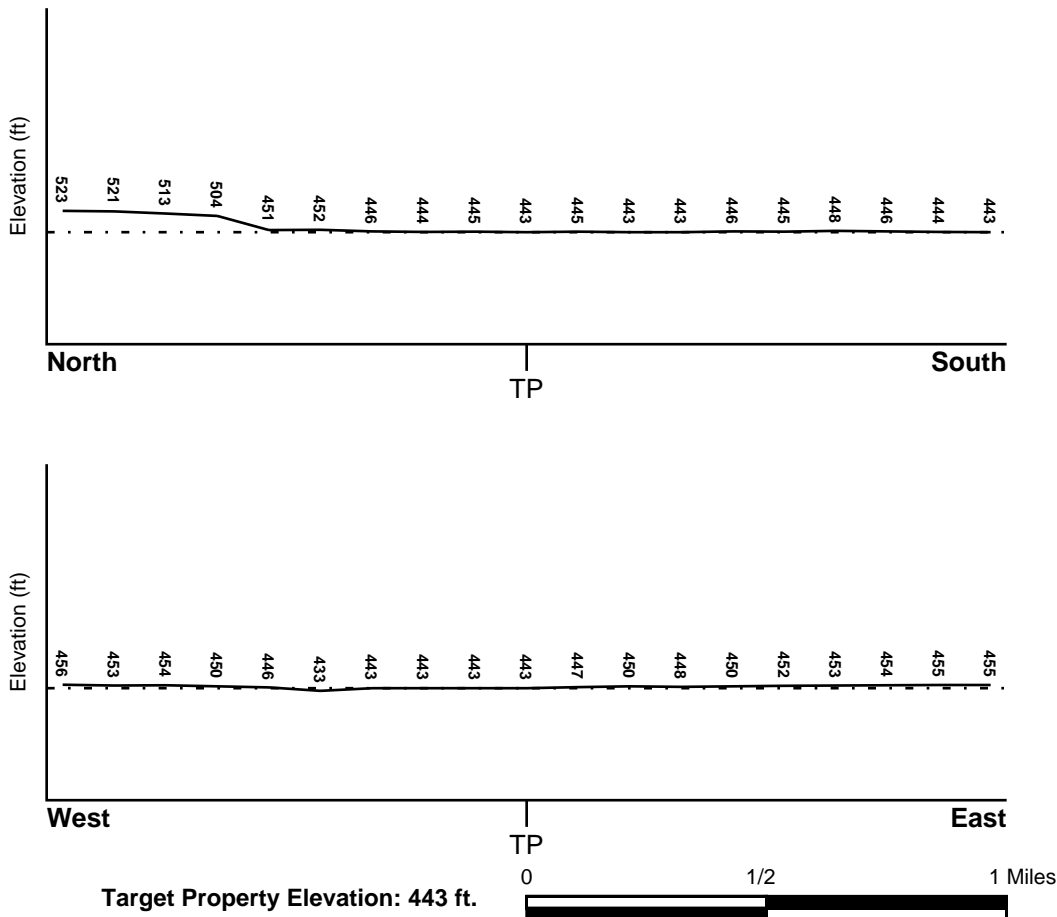
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General WSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
06089C1563G	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
06089C1561G	FEMA FIRM Flood data
06089C1562G	FEMA FIRM Flood data
06089C1564G	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
ENTERPRISE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

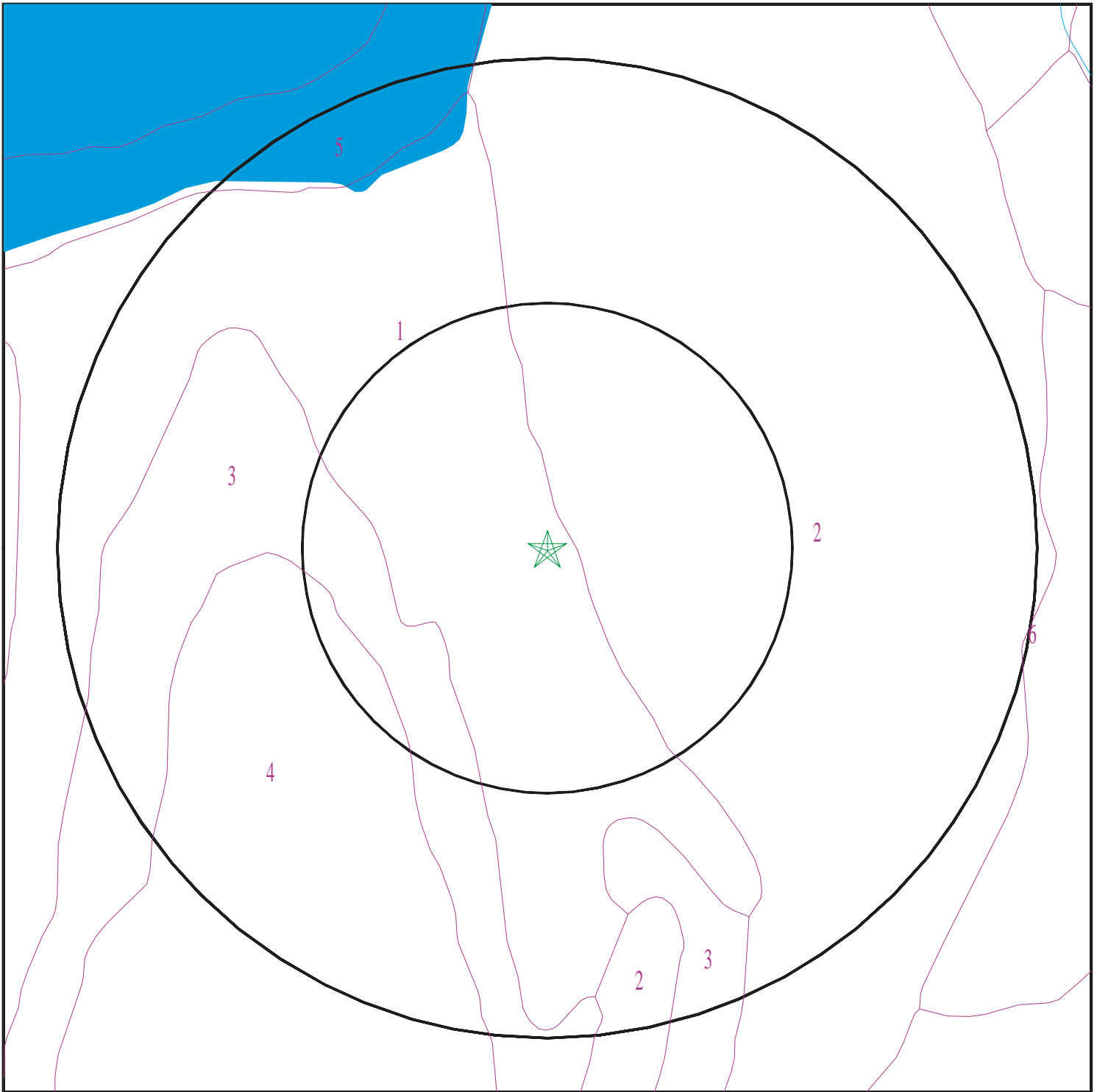
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q (<i>decoded above as Era, System & Series</i>)

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4738518.2s



- ★ Target Property
- ∩ SSURGO Soil
- ∩ Water



SITE NAME: Strawberry Fields
ADDRESS: Not Reported
Redding CA 96002
LAT/LONG: 40.528467 / 122.352724

CLIENT: Analytical Environmental Serv.
CONTACT: Katherine Green
INQUIRY #: 4738518.2s
DATE: September 27, 2016 8:39 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Riverwash

Soil Surface Texture: very gravelly sand

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Excessively drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	very gravelly sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean Gravels, Well-graded gravel.	Max: 141 Min: 42	Max: Min:
2	5 inches	59 inches	stratified very gravelly coarse sand to gravelly sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean Gravels, Well-graded gravel.	Max: 141 Min: 42	Max: Min:

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 2

Soil Component Name: Reiff

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	18 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 6.5 Min: 5.6
2	18 inches	42 inches	stratified sandy loam to loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
3	42 inches	59 inches	stratified loamy sand to sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 3

Soil Component Name: Cobbly alluvial land

Soil Surface Texture: very cobbly loamy sand

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Excessively drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	very cobbly loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel. COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel.	Max: 141 Min: 42	Max: Min:
2	11 inches	59 inches	very cobbly loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel. COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel.	Max: 141 Min: 42	Max: Min:

Soil Map ID: 4

Soil Component Name: Tujunga

Soil Surface Texture: loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	14 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 5.6
2	14 inches	27 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 5.6
3	27 inches	59 inches	stratified very gravelly sand to very cobbly loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean Gravels, Well-graded gravel.	Max: 141 Min: 42	Max: 7.3 Min: 5.6

Soil Map ID: 5

Soil Component Name: Water

Soil Surface Texture: loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class:
Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 6

Soil Component Name: Churn

Soil Surface Texture: gravelly loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	12 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Clean Gravels, Well-graded gravel.	Max: 14 Min: 4	Max: 6 Min: 5.1
2	12 inches	59 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 4 Min: 1.4	Max: 6 Min: 5.1

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
2	USGS40000194509	1/4 - 1/2 Mile NE
3	USGS40000194501	1/2 - 1 Mile ESE
4	USGS40000194522	1/2 - 1 Mile NNE
5	USGS40000194503	1/2 - 1 Mile East

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

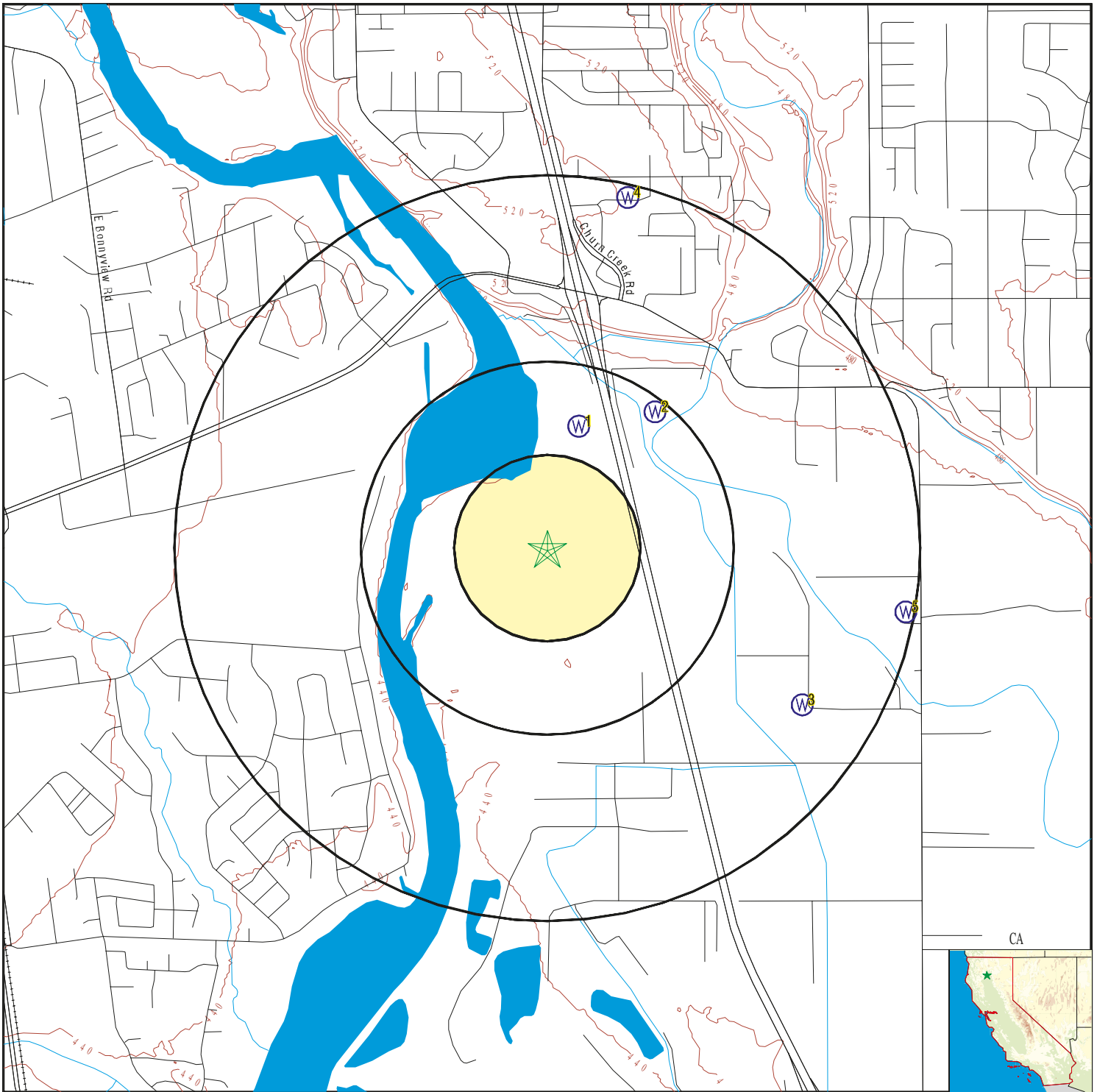
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	17769	1/4 - 1/2 Mile NNE

PHYSICAL SETTING SOURCE MAP - 4738518.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells



SITE NAME: Strawberry Fields
 ADDRESS: Not Reported
 Redding CA 96002
 LAT/LONG: 40.528467 / 122.352724

CLIENT: Analytical Environmental Serv.
 CONTACT: Katherine Green
 INQUIRY #: 4738518.2s
 DATE: September 27, 2016 8:39 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

1
NNE
 1/4 - 1/2 Mile
 Higher
CA WELLS **17769**

Water System Information:

Prime Station Code:	31N/04W-18R02 M	User ID:	ATT
FRDS Number:	4510005016	County:	Shasta
District Number:	01	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Destroyed
Source Lat/Long:	403200.0 1222100.0	Precision:	0.5 Mile (30 Seconds)
Source Name:	ENTERPRISE WELL 02 - DESTROYED		
System Number:	4510005		
System Name:	City of Redding		
Organization That Operates System:	760 PARKVIEW REDDING, CA 96001		
Pop Served:	80000	Connections:	23469
Area Served:	CITY OF REDDING		

2
NE
 1/4 - 1/2 Mile
 Higher
FED USGS **USGS40000194509**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-403202122204601		
Monloc name:	031N004W20C001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18020101	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.5337625
Longitude:	-122.3472288	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	451.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Pacific Northwest basin-fill aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19761213	Welldepth:	136
Welldepth units:	ft	Wellholedepth:	136
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 3

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1980-04-01	13.9		1979-06-27	16.44	
1976-12-13	25.00				

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

3
ESE
1/2 - 1 Mile
Higher

FED USGS USGS40000194501

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-403121122201901		
Monloc name:	031N004W20Q001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18020101	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.5223737
Longitude:	-122.3397284	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	453.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Pacific Northwest basin-fill aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19770901	Welldepth:	101
Welldepth units:	ft	Wellholedepth:	102
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 3

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1980-04-02	31.3		1979-06-28	35.06	
1977-09-01	31.00				

4
NNE
1/2 - 1 Mile
Higher

FED USGS USGS40000194522

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-403232122205101		
Monloc name:	031N004W17F001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18020101	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.5420958
Longitude:	-122.3486178	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	511.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Pacific Northwest basin-fill aquifers		
Formation type:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type:	Not Reported	Welldepth:	160
Construction date:	19720922	Wellholedepth:	172
Welldepth units:	ft		
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1972-09-22	100.00	

**5
East
1/2 - 1 Mile
Higher**

FED USGS USGS40000194503

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-403134122200001		
Monloc name:	031N004W20J001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18020101	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.5259849
Longitude:	-122.3344504	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	452.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Pacific Northwest basin-fill aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19680826	Welldepth:	80
Welldepth units:	ft	Wellholedepth:	80
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
-----			-----		
1979-06-28	38.22		1968-08-26	28.00	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
96002	23	0

Federal EPA Radon Zone for SHASTA County: 3

- Note: Zone 1 indoor average level > 4 pCi/L.
 : Zone 2 indoor average level \geq 2 pCi/L and \leq 4 pCi/L.
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 96002

Number of sites tested: 10

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.190 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Department of Fish & Game

Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database

Source: Department of Water Resources

Telephone: 916-651-9648

California Drinking Water Quality Database

Source: Department of Public Health

Telephone: 916-324-2319

The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations

Source: Department of Conservation

Telephone: 916-323-1779

Oil and Gas well locations in the state.

RADON

State Database: CA Radon

Source: Department of Health Services

Telephone: 916-324-2208

Radon Database for California

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

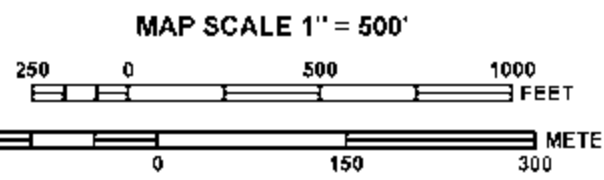
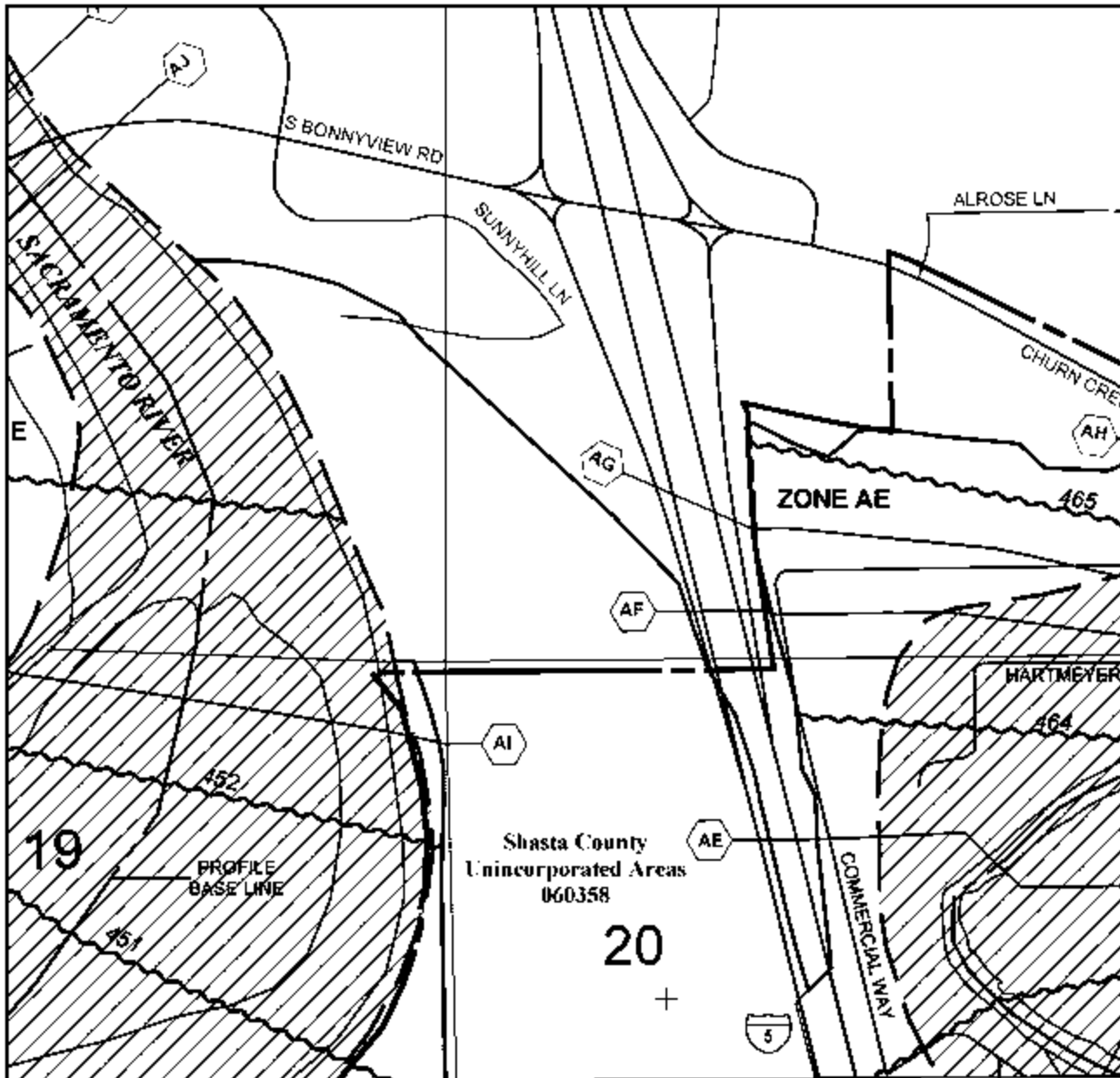
California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX F

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) MAP



PANEL 1561G

FIRM

FLOOD INSURANCE RATE MAP
SHASTA COUNTY,
CALIFORNIA
AND INCORPORATED AREAS

PANEL 1561 OF 2325

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS

COMMUNITY	NUMBER	PANEL	SUFFIX
SHASTA COUNTY	060358	1561	G
SHASTA COUNTY	060358	1561	G

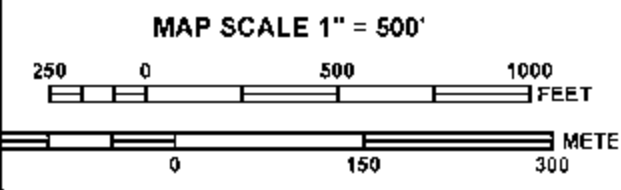
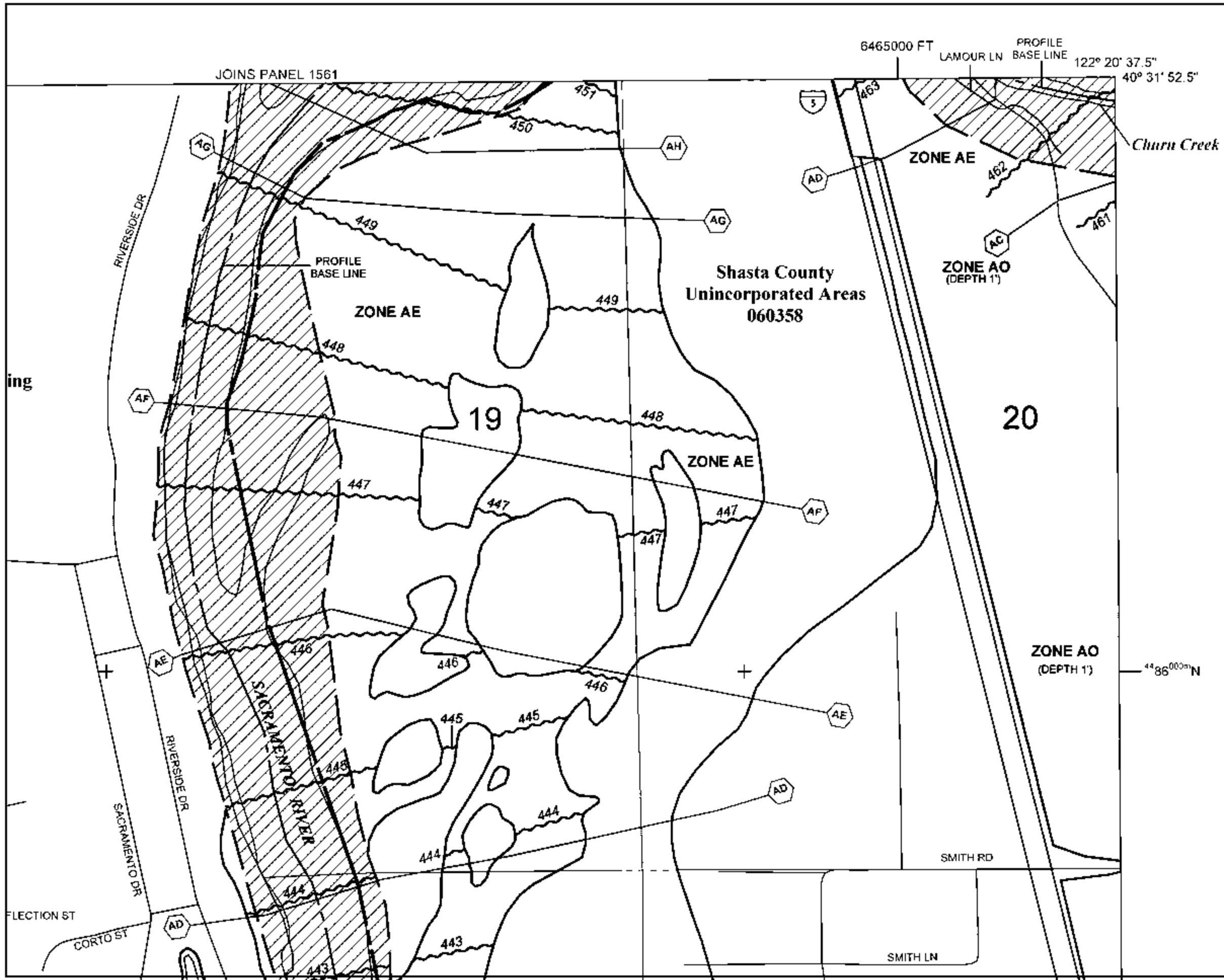
Notes: Use the Map Number shown above for use when placing map orders. The Community Number shown above is to be used on all correspondence for the subject community.

MAP NUMBER
06089C1561G

EFFECTIVE DATE
MARCH 17, 2011

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using FIRM OnLine. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov.



PANEL 1563G

FIRM

FLOOD INSURANCE RATE MAP

SHASTA COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 1563 OF 2325

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS

COMMUNITY	NUMBER	PANEL	SUFFIX
SHASTA COUNTY	060358	1563	G
UNINCORPORATED AREAS	060358	1563	G

Notwithstanding to the Map Number shown hereon, the Flood Insurance Rate Map shall be the Community Number of the applicable Flood Insurance Rate Map for the community.

MAP NUMBER 06089C1563G

EFFECTIVE DATE MARCH 17, 2011

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using FIRM OnLine. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.fema.gov

APPENDIX G

QUESTIONNAIRES

Analytical Environmental Services
CLIENT QUESTIONNAIRE

Strawberry Fields Site Phase I Environmental Site Assessment

Per ASTM Standard Practice E 1527-13, Section 6, User Responsibilities, the User of an ESA has specific obligations for performing tasks during the ESA that will help identify the possibility of *recognized environmental conditions* in connection with the Site. Failure by the User to fully comply with the requirements may result in a *data gap* being identified in the report and may impact the ability to use the report to help qualify for *Landowner Liability Protections* (LLPs) under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). If this questionnaire is not returned to Analytical Environmental Services (AES) prior to issuance of the draft Phase I report, then AES assumes that the User does not have any information or actual knowledge pursuant to ASTM Standard Practice E 1527-13, Section 6, User Responsibilities. AES makes no representations or warranties regarding a User's qualification for protection under any federal, state or local laws, rules or regulations.

Please complete the following and return immediately via email or fax to the attention of:

Analise Rivero

E-mail: arivero@analyticalcorp.com

Fax: (916) 447-1665

If other parties are intending to be the Users of the ESA report, then please forward a copy of this questionnaire for them to complete and return to AES.

Please provide the following information (if available) per the requirements of ASTM E 1527-13.

1. Environmental cleanup liens that are filed or recorded against the site (40 CFR 312.25)

Are you aware of any environmental cleanup liens against the site that are filed or recorded under federal, tribal, state or local law? Yes or No

If yes, please provide a description of the lien(s).

2. Activity and land use limitations (AULs) that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26)

Are you aware of any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law? Yes or No If yes, please provide.

3. Specialized knowledge or experience of the person seeking to qualify for the Landowner Liability Protections (40 CFR 312.28)

As the user of this ESA do you have any specialized knowledge or experience related to the site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the site or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

Yes or No If yes, please explain.

4. Relationship of the purchase price to the fair market value of the site if it were not contaminated (40 CFR 312.29)

a. Does the purchase price being paid for this site reasonably reflect the fair market value of the site? Yes or No

b. If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the site?

Yes or No If yes, please explain.

**5. Commonly known or reasonably ascertainable information about the site
(40 CFR 312.30)**

Are you aware of commonly known or reasonably ascertainable information about the site that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user,

- a. Do you know the past uses of the site? Yes or No If yes, please state.

- b. Do you know of specific chemicals that are present or once were present at the site? Yes or No If yes, please state.

- c. Do you know of spills or other chemical releases that have taken place at the site? Yes or No If yes, please state.

6. Do you know of any environmental cleanups that have taken place at the site?
Yes or No If yes, please state.

7. The degree of obviousness of the presence or likely presence of contamination at the site, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31)

As the user of this ESA, based on your knowledge and experience related to the site are there any obvious indicators that point to the presence or likely presence of contamination at the site?

Yes or No If yes, please explain.

This questionnaire was completed by:

Name _____

Title _____

Signature _____

Company of User _____

Address of User _____

Date _____



Analytical Environmental Services

August 8, 2017

RE: Strawberry Fields Site Phase I Environmental Site Assessment

Please complete the questionnaire below with regard to the indicated property. You are being asked to provide this information and insight to assist in the preparation of an environmental site assessment for this property. Please provide as much information as you can to assist in this effort and feel free to attach extra sheets/reports if the space provided is insufficient.

Please fax/send the completed form to:

Analytical Environmental Services
Attn: Analise Rivero
1801 7th Street, Suite 100
Sacramento, CA 95814

Telephone (916) 447-3479
Fax (916) 447-1665
Email arivero@analyticalcorp.com

Thank you for your help and cooperation.

ENVIRONMENTAL QUESTIONNAIRE

Strawberry Fields Site Phase I Environmental Site Assessment

Question	Answer	Responses to “Yes” Questions
1. Is the property or any adjoining property currently used for industrial purposes?	Property: NO UNK YES Adjoining: NO UNK YES	
2. To the best of your knowledge, has the property or any adjoining property been used for industrial purposes in the past?	Property: NO UNK YES Adjoining: NO UNK YES	
3. Is the property or any adjoining property used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility?	Property: NO UNK YES Adjoining: NO UNK YES	
4. To the best of your knowledge, has the property or any adjoining property been used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility?	Property: NO UNK YES Adjoining: NO UNK YES	
5. Has fill dirt been brought onto the property that originated from a contaminated site or that is of an unknown origin?	NO UNK YES	

ENVIRONMENTAL QUESTIONNAIRE

<p>6. Are there currently, or to the best of your knowledge have there been previously, any damaged or discarded automotive or industrial batteries, or pesticides, paints, or other chemicals in individual containers of greater than five gallons (19 liters) in the aggregate, stored on or used at the property or at the facility?</p>	<p>New?: NO UNK YES Past?: NO UNK YES</p>	
<p>7. Are there currently, or to the best of your knowledge have there been previously, any industrial drums (typically 55 gallon [208 liters]) or sacks of chemicals located on the property or at the facility?</p>	<p>New?: NO UNK YES Past?: NO UNK YES</p>	
<p>8. Are there currently, or to the best of your knowledge have there been previously, any pits, ponds, or lagoons located on the property in connection with waste treatment or waste disposal?</p>	<p>New?: NO UNK YES Past?: NO UNK YES</p>	
<p>9. Is there currently, or to the best of your knowledge has there been previously, any areas of stained soil on the property?</p>	<p>New?: NO UNK YES Past?: NO UNK YES</p>	
<p>10. Are there currently, or to the best of your knowledge have there been previously, any registered or unregistered storage tanks (above or underground) located on the property?</p>	<p>New?: NO UNK YES Past?: NO UNK YES</p>	

ENVIRONMENTAL QUESTIONNAIRE

<p>11. Are there currently, or to the best of your knowledge have there been previously, any vent pipes, fill pipes, or access ways indicating a fill pipe protruding from the ground on the property or adjacent to any structure located on the property?</p>	<p>New?: NO UNK YES Past?: NO UNK YES</p>	
<p>12. Are there currently, or to the best of your knowledge have there been previously, any flooring, drains, or walls located within the facility that are stained by substances other than water or are emitting foul odors?</p>	<p>New?: NO UNK YES Past?: NO UNK YES</p>	
<p>13. If the property is served by a private well or non-public water system, have contaminants been identified in the well or system that exceed guidelines applicable to the water system or has the well been designated as contaminated by any government environment/health agency?</p>	<p style="text-align: center;">NO UNK YES</p>	
<p>14. Does the owner or occupant of the property have any knowledge of environmental liens or governmental notification relating to past or recurrent violations of environmental laws with respect to the property or any facility located on the property?</p>	<p style="text-align: center;">NO UNK YES</p>	

ENVIRONMENTAL QUESTIONNAIRE

<p>15. Has the owner or occupant of the property been informed of the past or current existence of hazardous substances or petroleum products or environmental violations with respect to the property or any facility located on the property?</p>	<p style="text-align: center;">NO UNK YES</p>	
<p>16. Does the owner or occupant of the property have any knowledge of any environmental site assessment of the property or facility that indicated the presence of hazardous substances or petroleum products on, or contamination of, the property or recommended further assessment of the property?</p>	<p style="text-align: center;">NO UNK YES</p>	
<p>17. Does the owner or occupant of the property know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release or threatened release of any hazardous substance or petroleum products involving the property by any owner or occupant of the property?</p>	<p style="text-align: center;">NO UNK YES</p>	
<p>18. Does the property discharge waste water on or adjacent to the property other than storm water into a sanitary sewer system?</p>	<p style="text-align: center;">NO UNK YES</p>	

ENVIRONMENTAL QUESTIONNAIRE

19. To the best of your knowledge, have any hazardous substances or petroleum products, unidentified waste materials, tires, automotive or industrial batteries or any other waste materials been dumped above grade, buried, and/or burned on the property?	NO UNK YES	
20. Is there a transformer, capacitor, or any hydraulic equipment for which there are any records indicating the presence of PCBs?	NO UNK YES	

21. How do you currently use the property and how have you used the property in the past (please be specific).

22. What is your understanding of how the property was used before your ownership/occupancy?

ENVIRONMENTAL QUESTIONNAIRE

I hereby certify that to the best of my knowledge all of the information provided in this environmental questionnaire is true and correct.

Signature: _____

Print Name/Address: _____

Phone: _____

Date complete: _____

Relation to property: owner _____ operator _____ manager _____ tenant _____

APPENDIX H

RESUMES

David Zweig, PE, President

Education: B.S., Civil Engineering, University of California, Berkeley

Registration: California P.E. License #C048031; Washington P.E. License #28181

Mr. Zweig is experienced in preparing both routine and complex Phase I and Phase II Environmental Site Assessments, water rights permitting and regulatory compliance, and conducting water quality monitoring. Mr. Zweig has provided technical oversight and completed numerous Phase I and Phase II hazardous materials investigations for public agencies and private parties throughout California and the U.S. Mr. Zweig is very familiar with the regulatory issues faced by private industry and public agencies, and is adept at facilitating compliance with local, state and federal environmental laws. A partial listing of recent Phase I and Phase II reports completed by AES is provided below.

- 15th Street 0.40± acre **Phase I ESA**, Sacramento County, CA
- 1811 12th Street **Phase I ESA**, Sacramento County, CA
- 2000 O Street 3 Parcel **Phase I ESA**, Sacramento County, CA
- 2020 W El Camino 16-acre **Phase I ESA**, Sacramento County, CA
- 2327 L Street 0.22-acre Parcel **Phase I ESA**, Sacramento County, CA
- 2401 J Street 0.45-acre **Phase I ESA**, Sacramento County, CA
- 2816 D Street Dwellings 2 Parcel **Phase I ESA**, Sacramento County, CA
- 3031 F Street 0.44-acre **Phase I ESA**, Sacramento County, CA
- 730 Howe Avenue **Phase I ESA**, Sacramento County, CA
- 825 15th Street 0.40± acre **Phase I ESA**, Sacramento County, CA
- City of Sacramento - McKinley Village Residential Infill **EIR/Phase I/II ESA**, Sacramento County, CA
- MJL Properties - 3516 Fair Oaks Boulevard 0.36 acre **Phase I ESA**, Sacramento County, CA
- Overnite Transportation - 10000 Waterman Road 54.7-acre **Phase I ESA**, Sacramento County, CA
- Shirland Tract 41-acre **Phase I ESA**, Sacramento County, CA
- Clover Valley Reservoir 35-acre **Phase I ESA**, Placer County, CA
- Thunder Valley Casino **Phase I ESA**, Placer County, CA
- UAIC 1,100-acre Housing Project Fee-to-Trust **EA, Phase I ESA**, Placer County, CA
- Shingle Springs Rancheria Casino **Phase I ESA**, El Dorado County, CA
- 210 N East Road Woodland **Phase I ESA**, Yolo County, CA
- Sugarloaf Ranch **Phase I ESA**, Yolo County, CA
- 2050 Nut Tree 4.15-acre **Phase I ESA**, Solano County, CA
- 1144 Starr View Road **Phase I ESA**, Sonoma County, CA
- 1398 Gumview Road **Phase I ESA**, Sonoma County, CA
- 1486 Gumview Road **Phase I ESA**, Sonoma County, CA
- 18 East Fulton Road **Phase I ESA**, Sonoma County, CA
- 437 Aviation Boulevard 1.74-acre **Phase I ESA**, Sonoma County, CA
- Cloverdale Rancheria Casino Lease **Phase I ESA**, Sonoma County, CA
- Ernst Property **Phase I ESA**, Sonoma County, CA
- Graton Rancheria Casino 300-acre **Phase I/II ESA**, Sonoma County, CA
- Jordan Vineyard **Phase I ESA**, Sonoma County, CA
- SLAC **Phase I ESA**, Sonoma County, CA
- Colusa Residential Development **Phase I ESA**, Colusa County, CA
- Point Molate Casino and Resort **Phase I ESA**, Contra Costa County, CA
- San Pablo Lytton Casino **Phase I ESA**, Contra Costa County, CA
- Scotts Valley 2 Parcel-155 Parr Boulevard **Phase I ESA**, Contra Costa County, CA
- Enterprise Rancheria 40-acre Property **Phase I ESA**, Butte County, CA

- Mechoopda Casino 650-acre Casino **Phase I ESA**, Butte County, CA
- Amador Water Agency - 44.6-acre **Phase I ESA**, Amador County, CA
- Lone Band of Miwok Indians 228.04-acre **Phase I ESA**, Amador County, CA
- Lower Lake Rancheria Koi Nation Casino **Phase I ESA**, Alameda County, CA
- Elk Valley Rancheria Tribal Office **Phase I ESA**, Del Norte County, CA
- Bear River Band Casino 18-acre Property **Phase I ESA**, Humboldt County, CA
- Big Lagoon Rancheria Casino 11-acres **Phase I ESA**, Humboldt County, CA
- Blue Lake Rancheria Casino **Phase I ESA**, Humboldt County, CA
- Fearrian 125-acre Property **Phase I ESA**, Humboldt County, CA
- Hoopa Valley Tribe Saw Mill Site (Portions of Lots 283-298) **Phase I ESA**, Humboldt County, CA
- Alturas Indian Rancheria Shasta Mountain Facility 160-acre **Phase I ESA**, Siskiyou County, CA
- Ewiiapaayp Walker Parcel 16.69-acre **Phase I ESA**, Alpine County, CA
- Grindstone Rancheria Casino 109-acre **Phase I ESA**, Glenn County, CA
- Coyote Valley **Phase I ESA**, Mendocino County, CA
- Pinoleville Casino **Phase I ESA**, Mendocino County, CA
- Upper Lake Casino and Resort **Phase I ESA**, Lake County, CA
- Paskenta Property **Phase I ESA**, Tehama County, CA
- 1001 Van Ness Avenue +0.75-acre **Phase I ESA**, San Francisco County, CA
- Milbanks **Phase I ESA**, San Francisco County, CA
- Federico's Restaurant 15,000 square foot **Phase I ESA**, Santa Barbara County, CA
- Santa Ynez Band of Chumash Indians Casino Expansion **Phase I ESA**, Santa Barbara County, CA
- Royal Scandinavian Inn 3.87-acre **Phase I ESA**, Santa Barbara County, CA
- Table Mountain Rancheria 170-acre **Phase I ESA**, Fresno County, CA
- North Fork Casino 305-acre Property **Phase I ESA**, Madera County, CA
- North Fork Rancheria 80-acre Property **Phase I ESA**, Madera County, CA
- 180 Litton Drive 4.5-acre **Phase I ESA**, Nevada County, CA
- Barstow Casino and Resort **Phase I ESA**, San Bernardino County, CA
- Timbisha Shoshone 58.08-acre Property **Phase I ESA**, San Bernardino County, CA
- Desert Mobile Home Park (Duroville) **Phase I/Phase II ESA**, Riverside County, CA
- Jamul Tribe Casino **Phase I ESA**, San Diego County, CA
- La Jolla Casino **Phase I ESA**, San Diego County, CA
- Pauma Band of Luiseno Indians **Phase I ESA**, San Diego County, CA
- San Pasqual 3.25-acre Property Overview/**Phase I ESA**, San Diego County, CA
- Sycuan Property 1,357-acres **Phase I ESA**, San Diego County, CA
- Torrez Martinez 20-acre Property **Phase I ESA**, Imperial County, CA
- Chicken Ranch Rancheria 47.25-acre **Phase I ESA**, Tuolumne County, CA
- Samish Indian Nation **Phase I ESA**, City of Anacortes, Skagit County, WA
- Ho-Chunk Beloit Casino **Phase I ESA**, City of Beloit, Rock County, WI



Analise Rivero, Analyst I (Environmental Specialist)

Education: B.A., Environmental Studies, The George Washington University, Washington D.C.;
Minor: Geographic Information Systems

Ms. Rivero is an environmental specialist with expertise in state and federal environmental policy, alternatives analysis, and analyzing potential impacts to geology, air quality, hydrology, and soils. She is experienced in the preparation of CEQA and NEPA compliance documents for government agencies as well as private enterprises. Additionally, she has experience with a range of tribal clients, preparing applications and related technical studies for the Bureau of Indian Affairs. Ms. Rivero currently serves as an environmental analyst on various CEQA/NEPA documents for a variety of local, state, and federal agencies, as well as an array of private clients.

- Davis Friesen Timber to Vineyard Conversion Project **EIR**, Napa County, CA
- Davis Lommel Timber to Vineyard Conversion Project **EIR**, Napa County, CA
- Ewiiapaayp Reservation Walker Property Health Clinic Fee-to-Trust **EA**, San Diego County, CA
- Lytton Rancheria - (Historic Rancheria) **EO**, Sonoma County, CA
- Lytton Rancheria - (Kidd Creek Ranch) **EO**, Sonoma County, CA
- Lytton Rancheria - (Lytton Windsor Property) **EO**, Sonoma County, CA
- Lytton Rancheria – (Artesa Property) **EO**, Sonoma County, CA
- Walt Ranch Erosion Control Plan **EIR** and **Technical Studies**, Napa County, CA
- Yorkville Vineyards Water Right Project **IS/MND** and **Technical Studies**, Mendocino County, CA
- Stagecoach North Vineyard **EIR**, Napa County CA
- McGehee Water Rights Project **IS/MND** and **Technical Studies**, Mendocino County, CA
- Rogina Water Company - Water Right Project **CEQA Documentation**, Mendocino County, CA
- North Fork Rancheria **EIS**, Madera County, CA
- Ciminelli Vineyard Conversion, **EIR**, Napa County, CA
- Osage Nation Revised **Environmental Assessments**, Osage County, OK
- Le Colline Timber to Vineyard Conversion Project **EIR**, Napa County, CA



Katherine Green, Environmental Specialist

Education: B.S., Environmental Science and Management, University of California, Davis;
B.S., English, University of California, Davis

Ms. Green is an environmental analyst with experience in many diverse areas, including CEQA/NEPA documents, environmental law, urban planning, public lands management, and GIS. She is experienced in preparing Phase I Environmental Site Assessments both in and out of the State of California. She has previously worked in both city government and academic research, and currently serves as an analyst and technical editor on a variety of environmental compliance documents, including environmental assessments, environmental impact statements, constraints reports, and technical memorandums. Specific project experience is listed below.

- 10th and Broadway **Phase I ESA**, Sacramento County, CA
- 1724 10th Street **Phase I ESA**, Sacramento, CA
- 17th and Q **Phase I ESA**, Sacramento CA
- 1811 12th Street **Phase I ESA**, Sacramento County, CA
- 1827 J Street **Phase I ESA**, Sacramento County, CA
- 1930 H Street **Phase I ESA**, Sacramento County, CA
- Buena Vista Rancheria - **Fee-to-Trust Application**, Buena Vista Rancheria, Amador County, CA
- Cahto - Gas Station **EA**, City of Laytonville, CA
- City of Roseville - Placer Ranch Specific Plan **EIR**, City of Roseville, CA
- City of Sacramento - Pacifica Senior Living Facility Project **IS**, City of Sacramento, CA
- Coquille Indian Tribe - Casino Development Project **EIS**, Medford, OR
- Coyote Valley - Pine Crest Parcel **Technical Memorandum**, Mendocino County, CA
- Graton Rancheria - **Mitigation/Monitoring Plan Quarterly Reports**, Sonoma County, CA
- Graton Rancheria - NW Specific Plan Parcels **Constraints Analysis**, Sonoma County, CA
- Ho-Chunk Nation - Beloit Casino **Alternatives Evaluation**, City of Beloit, WI
- Jena - Fee-to-Trust **EO**, Grant and La Salle Parishes, LA
- Barstow Casino and Resort Two-Part Determination Fee-to-Trust **EIS/TEIR**, Los Coyotes, San Bernardino County, CA
- Lytton Rancheria – Multiple – **Phase I ESA**, Sonoma County, CA
- Lytton Rancheria - (Starr Road) **EA**, Sonoma County, CA
- Natomas Park Drive **Phase I ESA**, Sacramento County, CA
- Paskenta Property **Phase I ESA**, Tehama County, CA
- Placer County - Bickford Ranch **Specific Plan EIR**, Placer County, CA
- Samish Indian Nation - Casino **EIS**, Skagit County, WA
- Scotts Valley **Phase I ESA**, Solano County, CA
- Seminole Fee-to-Trust Project **EIS**, Seminole Tribe of Florida, Broward County, FL
- Shawnee Tribe - 2-Part Determination **EA**, Texas County, OK
- Spokane West Plains Casino Development Project **EIS**, Spokane County, WA
- Turner Ranch 41,000 Acre **Phase I ESA**, Osage County, OK
- Washoe Tribe of Nevada and California - Pinenut Road **Phase I ESA**, Douglas County, NV
- Wilton Rancheria - Casino **EIS**, Sacramento County, CA

ANDERSON SITE – EDR REPORT

Anderson

Not Reported

Anderson, CA 96007

Inquiry Number: 4738590.2s

September 27, 2016

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

NOT REPORTED
ANDERSON, CA 96007

COORDINATES

Latitude (North): 40.4554760 - 40° 27' 19.71"
Longitude (West): 122.2997050 - 122° 17' 58.93"
Universal Transverse Mercator: Zone 10
UTM X (Meters): 559379.8
UTM Y (Meters): 4478337.0
Elevation: 421 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 5605366 COTTONWOOD, CA
Version Date: 2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20140726
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:
 NOT REPORTED
 ANDERSON, CA 96007

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1		2374 NORTH ST	EDR Hist Auto	Higher	148, 0.028, East
A2	R.V.'S UNLIMITED	2374 NORTH STREET	Notify 65	Higher	148, 0.028, East
A3	RVS UNLIMITED ANDERS	2374 NORTH ST	LUST, HIST CORTESE	Higher	148, 0.028, East
A4	UNOCAL SS #5690 ANDE	2411 NORTH ST	LUST	Higher	149, 0.028, East
A5	UNOCAL SS #5690 ANDE	2411 NORTH	HIST CORTESE	Higher	149, 0.028, East
A6	UNOCAL	2411 NORTH STREET	Notify 65	Higher	149, 0.028, East
7		2417 NORTH ST	EDR Hist Auto	Higher	163, 0.031, East
B8	CAMPING WORLD RV SAL	3700 AUTO MALL DR	AST	Lower	167, 0.032, NNW
B9	CAMPING WORLD REDDIN	3700 AUTOMALL DR	CUPA Listings	Lower	167, 0.032, NNW
A10	MORTONS TEXACO	2350 NORTH ST	LUST, HIST CORTESE	Higher	363, 0.069, ESE
A11		2350 NORTH ST	EDR Hist Auto	Higher	363, 0.069, ESE
C12	J P FOOD MART	2298 NORTH ST	CUPA Listings	Higher	378, 0.072, SE
C13		2298 NORTH ST	EDR Hist Auto	Higher	378, 0.072, SE
C14	ANDERSON CHEVRON	2298 NORTH STREET	LUST	Higher	378, 0.072, SE
C15	ANDERSON CHEVRON	2298 NORTH ST	SWEEPS UST, HIST UST	Higher	378, 0.072, SE
C16	CRAIG JASPER	2298 NORTH ST.	UST	Higher	378, 0.072, SE
D17	REGAL STATION 346	2142 NORTH ST	SWEEPS UST, HIST UST, CUPA Listings	Higher	523, 0.099, South
D18	REGAL SS ANDERSON	2142 NORTH ST	LUST, HIST CORTESE	Higher	523, 0.099, South
D19		2142 NORTH ST	EDR Hist Auto	Higher	523, 0.099, South
D20		2191 NORTH ST	EDR Hist Cleaner	Higher	655, 0.124, SSE
21	GUARANTEED AUTO SALE	2598 NORTH ST	LUST, SWEEPS UST, HIST CORTESE	Lower	697, 0.132, ENE
E22	SHELL SS ANDERSON DO	2030 NORTH	HIST CORTESE	Higher	699, 0.132, SSW
E23	SHELL SS ANDERSON DO	2030 NORTH ST	LUST	Higher	699, 0.132, SSW
E24	DOTZENROD SHELL STAT	2030 NORTH ST	SWEEPS UST, CUPA Listings	Higher	699, 0.132, SSW
F25	RITE AID NO 6100	3095 MCMURRAY DR	RCRA-LQG	Higher	754, 0.143, East
F26	RITE AID # 6100	3095 MCMURRAY DR	CUPA Listings	Higher	754, 0.143, East
G27	BEACON SS #521 ANDER	2071 NORTH	LUST, HIST CORTESE	Higher	766, 0.145, South
G28	BEACON STATION #521/	2071 NORTH ST	SWEEPS UST	Higher	766, 0.145, South
G29	ALLIANCE FOOD & GAS	2071 NORTH ST	CUPA Listings	Higher	766, 0.145, South
G30	BEACON # 521 (FORMER	2071 NORTH ST	LUST	Higher	766, 0.145, South
31	HANDI SPOT MARKET	2700 NORTH WAY	LUST, HIST CORTESE	Lower	843, 0.160, NE
32	EAGAN PROPERTY	3110 WEST CENTER STR	LUST	Higher	870, 0.165, SW
H33	HANDI SPOT MARKET	2700 NORTHWAY ST	SWEEPS UST	Lower	878, 0.166, ENE
H34	HANDI SPOT MARKET	2700 NORTHWAY ST	CUPA Listings	Lower	878, 0.166, ENE
35	CITY RADIATOR SERVIC	3260 W CENTER ST	HIST UST	Higher	916, 0.173, SW
I36	PACIFIC BELL	2955 OAK STREET	RCRA-SQG, LUST, SWEEPS UST, FINDS, CUPA Listings,...	Higher	966, 0.183, SE
I37	PACIFIC BELL (TA-002	2955 OAK STREET	LUST, HIST UST	Higher	966, 0.183, SE
38	METRIC MOTORS	3046 W CENTER ST	CUPA Listings	Higher	1059, 0.201, SSW
J39	CHEAPER #92	3480 CENTER ST W	LUST, HIST CORTESE	Higher	1193, 0.226, WSW

MAPPED SITES SUMMARY

Target Property Address:
 NOT REPORTED
 ANDERSON, CA 96007

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
J40	MORE FOR LESS	3480 W CENTER ST	CUPA Listings, HAZNET	Higher	1193, 0.226, WSW
J41	FOOD & LIQUOR #92	3480 W CENTER ST	SWEEPS UST	Higher	1193, 0.226, WSW
42	B & B RV INC	3750 AUTOMALL DR	CUPA Listings	Lower	1197, 0.227, NNW
43	CHEVRON SS ANDERSON	2900 CENTER ST W	LUST, HIST CORTESE	Higher	1685, 0.319, South
44	MARTINS AUTO REPAIR	2805 CENTER ST E	LUST, HIST CORTESE	Higher	1894, 0.359, SSE
45	ANDERSON CITY OF	1887 HOWARD ST	LUST, HIST UST, HIST CORTESE, NPDES	Higher	1910, 0.362, South
K46	BEACON #572 (FORMER)	2700 GATEWAY RD	LUST	Lower	2123, 0.402, ESE
K47	FORMER USA SERVICE S	2700 GATEWAY DRIVE	LUST, HAZNET	Lower	2123, 0.402, ESE
K48	BEACON SS #572 ANDER	2700 GATEWAY	LUST, HIST UST, CUPA Listings, HIST CORTESE	Lower	2123, 0.402, ESE
49	CASCADE UNION SCHOOL	1645 MILL ST W	LUST, CUPA Listings, HIST CORTESE	Higher	2358, 0.447, SW
50	ANDERSON EXXON	2470 BALLS FERRY RD.	Notify 65	Lower	4145, 0.785, East

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System
US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

EXECUTIVE SUMMARY

State- and tribal - equivalent NPL

RESPONSE..... State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR..... EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

SLIC..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing

INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

VCP..... Voluntary Cleanup Program Properties

INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Considered Brownfields Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT..... Waste Management Unit Database

SWRCY..... Recycler Database

HAULERS..... Registered Waste Tire Haulers Listing

INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

ODI..... Open Dump Inventory

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register

HIST Cal-Sites..... Historical Calsites Database

SCH..... School Property Evaluation Program

CDL..... Clandestine Drug Labs

Toxic Pits..... Toxic Pits Cleanup Act Sites

EXECUTIVE SUMMARY

US CDL..... National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST..... Facility Inventory Database

Local Land Records

LIENS..... Environmental Liens Listing

LIENS 2..... CERCLA Lien Information

DEED..... Deed Restriction Listing

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System

CHMIRS..... California Hazardous Material Incident Report System

LDS..... Land Disposal Sites Listing

MCS..... Military Cleanup Sites Listing

SPILLS 90..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR..... RCRA - Non Generators / No Longer Regulated

FUDS..... Formerly Used Defense Sites

DOD..... Department of Defense Sites

SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing

US FIN ASSUR..... Financial Assurance Information

EPA WATCH LIST..... EPA WATCH LIST

2020 COR ACTION..... 2020 Corrective Action Program List

TSCA..... Toxic Substances Control Act

TRIS..... Toxic Chemical Release Inventory System

SSTS..... Section 7 Tracking Systems

ROD..... Records Of Decision

RMP..... Risk Management Plans

RAATS..... RCRA Administrative Action Tracking System

PRP..... Potentially Responsible Parties

PADS..... PCB Activity Database System

ICIS..... Integrated Compliance Information System

FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

MLTS..... Material Licensing Tracking System

COAL ASH DOE..... Steam-Electric Plant Operation Data

COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List

PCB TRANSFORMER..... PCB Transformer Registration Database

RADINFO..... Radiation Information Database

HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing

DOT OPS..... Incident and Accident Data

CONSENT..... Superfund (CERCLA) Consent Decrees

INDIAN RESERV..... Indian Reservations

FUSRAP..... Formerly Utilized Sites Remedial Action Program

UMTRA..... Uranium Mill Tailings Sites

LEAD SMELTERS..... Lead Smelter Sites

US AIRS..... Aerometric Information Retrieval System Facility Subsystem

US MINES..... Mines Master Index File

FINDS..... Facility Index System/Facility Registry System

EXECUTIVE SUMMARY

UXO.....	Unexploded Ordnance Sites
DOCKET HWC.....	Hazardous Waste Compliance Docket Listing
CA BOND EXP. PLAN.....	Bond Expenditure Plan
Cortese.....	"Cortese" Hazardous Waste & Substances Sites List
DRYCLEANERS.....	Cleaner Facilities
EMI.....	Emissions Inventory Data
ENF.....	Enforcement Action Listing
Financial Assurance.....	Financial Assurance Information Listing
HAZNET.....	Facility and Manifest Data
HWP.....	EnviroStor Permitted Facilities Listing
HWT.....	Registered Hazardous Waste Transporter Database
MINES.....	Mines Site Location Listing
MWMP.....	Medical Waste Management Program Listing
NPDES.....	NPDES Permits Listing
PEST LIC.....	Pesticide Regulation Licenses Listing
PROC.....	Certified Processors Database
UIC.....	UIC Listing
WASTEWATER PITS.....	Oil Wastewater Pits Listing
WDS.....	Waste Discharge System
WIP.....	Well Investigation Program Case List
ICE.....	ICE
ECHO.....	Enforcement & Compliance History Information
FUELS PROGRAM.....	EPA Fuels Program Registered Listing

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP..... EDR Proprietary Manufactured Gas Plants

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF..... Recovered Government Archive Solid Waste Facilities List
RGA LUST..... Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property. Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 06/21/2016 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
RITE AID NO 6100	3095 MCMURRAY DR	E 1/8 - 1/4 (0.143 mi.)	F25	52

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 06/21/2016 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
PACIFIC BELL	2955 OAK STREET	SE 1/8 - 1/4 (0.183 mi.)	I36	73

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, has revealed that there are 21 LUST sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
RVS UNLIMITED ANDERS Database: LUST, Date of Government Version: 06/13/2016 Database: LUST REG 5, Date of Government Version: 07/01/2008 Status: Completed - Case Closed Status: Case Closed Global Id: T0608900022	2374 NORTH ST	E 0 - 1/8 (0.028 mi.)	A3	9
UNOCAL SS #5690 ANDE Database: LUST, Date of Government Version: 06/13/2016 Database: LUST REG 5, Date of Government Version: 07/01/2008 Status: Completed - Case Closed	2411 NORTH ST	E 0 - 1/8 (0.028 mi.)	A4	11

EXECUTIVE SUMMARY

Status: Case Closed
Global Id: T0608900048

MORTONS TEXACO	2350 NORTH ST	ESE 0 - 1/8 (0.069 mi.)	A10	14
Database: LUST, Date of Government Version: 06/13/2016				
Database: LUST REG 5, Date of Government Version: 07/01/2008				
Status: Open - Assessment & Interim Remedial Action				
Status: Remediation Plan				
Global Id: T0608900291				
ANDERSON CHEVRON	2298 NORTH STREET	SE 0 - 1/8 (0.072 mi.)	C14	25
Database: LUST, Date of Government Version: 06/13/2016				
Database: LUST REG 5, Date of Government Version: 07/01/2008				
Status: Open - Verification Monitoring				
Status: Remediation Plan				
Global Id: T0608900318				
REGAL SS ANDERSON	2142 NORTH ST	S 0 - 1/8 (0.099 mi.)	D18	35
Database: LUST, Date of Government Version: 06/13/2016				
Database: LUST REG 5, Date of Government Version: 07/01/2008				
Status: Completed - Case Closed				
Status: Case Closed				
Global Id: T0608900005				
SHELL SS ANDERSON DO	2030 NORTH ST	SSW 1/8 - 1/4 (0.132 mi.)	E23	41
Database: LUST, Date of Government Version: 06/13/2016				
Database: LUST REG 5, Date of Government Version: 07/01/2008				
Status: Open - Eligible for Closure				
Status: Remedial action (cleanup) Underway				
Global Id: T0608900077				
BEACON SS #521 ANDER	2071 NORTH	S 1/8 - 1/4 (0.145 mi.)	G27	55
Database: LUST REG 5, Date of Government Version: 07/01/2008				
Status: Pollution Characterization				
BEACON # 521 (FORMER)	2071 NORTH ST	S 1/8 - 1/4 (0.145 mi.)	G30	57
Database: LUST, Date of Government Version: 06/13/2016				
Status: Completed - Case Closed				
Global Id: T0608900053				
EAGAN PROPERTY	3110 WEST CENTER STR	SW 1/8 - 1/4 (0.165 mi.)	32	69
Database: LUST, Date of Government Version: 06/13/2016				
Status: Open - Site Assessment				
Global Id: T10000004971				
PACIFIC BELL	2955 OAK STREET	SE 1/8 - 1/4 (0.183 mi.)	I36	73
Database: LUST, Date of Government Version: 06/13/2016				
Status: Completed - Case Closed				
Global Id: T0608900220				
PACIFIC BELL (TA-002)	2955 OAK STREET	SE 1/8 - 1/4 (0.183 mi.)	I37	77
Database: LUST REG 5, Date of Government Version: 07/01/2008				
Status: Case Closed				
CHEAPER #92	3480 CENTER ST W	WSW 1/8 - 1/4 (0.226 mi.)	J39	78
Database: LUST, Date of Government Version: 06/13/2016				
Database: LUST REG 5, Date of Government Version: 07/01/2008				
Status: Completed - Case Closed				
Status: Case Closed				
Global Id: T0608900184				
CHEVRON SS ANDERSON	2900 CENTER ST W	S 1/4 - 1/2 (0.319 mi.)	43	85
Database: LUST, Date of Government Version: 06/13/2016				
Database: LUST REG 5, Date of Government Version: 07/01/2008				

EXECUTIVE SUMMARY

Status: Completed - Case Closed

Status: Case Closed

Global Id: T0608900150

MARTINS AUTO REPAIR **2805 CENTER ST E** **SSE 1/4 - 1/2 (0.359 mi.)** **44** **86**

Database: LUST, Date of Government Version: 06/13/2016

Database: LUST REG 5, Date of Government Version: 07/01/2008

Status: Completed - Case Closed

Status: Case Closed

Global Id: T0608900081

ANDERSON CITY OF **1887 HOWARD ST** **S 1/4 - 1/2 (0.362 mi.)** **45** **88**

Database: LUST, Date of Government Version: 06/13/2016

Database: LUST REG 5, Date of Government Version: 07/01/2008

Status: Completed - Case Closed

Status: Case Closed

Global Id: T0608900012

CASCADE UNION SCHOOL **1645 MILL ST W** **SW 1/4 - 1/2 (0.447 mi.)** **49** **99**

Database: LUST, Date of Government Version: 06/13/2016

Database: LUST REG 5, Date of Government Version: 07/01/2008

Status: Completed - Case Closed

Status: Case Closed

Global Id: T0608900196

Lower Elevation	Address	Direction / Distance	Map ID	Page
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GUARANTEED AUTO SALE	2598 NORTH ST	ENE 1/8 - 1/4 (0.132 mi.)	21	38
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Database: LUST, Date of Government Version: 06/13/2016

Database: LUST REG 5, Date of Government Version: 07/01/2008

Status: Completed - Case Closed

Status: Case Closed

Global Id: T0608900104

HANDI SPOT MARKET	2700 NORTH WAY	NE 1/8 - 1/4 (0.160 mi.)	31	64
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Database: LUST, Date of Government Version: 06/13/2016

Database: LUST REG 5, Date of Government Version: 07/01/2008

Status: Completed - Case Closed

Status: Pollution Characterization

Global Id: T0608900299

BEACON #572 (FORMER)	2700 GATEWAY RD	ESE 1/4 - 1/2 (0.402 mi.)	K46	92
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Database: LUST REG 5, Date of Government Version: 07/01/2008

Status: Case Closed

FORMER USA SERVICE S	2700 GATEWAY DRIVE	ESE 1/4 - 1/2 (0.402 mi.)	K47	92
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Database: LUST, Date of Government Version: 06/13/2016

Status: Open - Remediation

Global Id: T10000007299

BEACON SS #572 ANDER	2700 GATEWAY	ESE 1/4 - 1/2 (0.402 mi.)	K48	96
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Database: LUST, Date of Government Version: 06/13/2016

Status: Completed - Case Closed

Global Id: T0608900147

EXECUTIVE SUMMARY

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, has revealed that there is 1 UST site within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CRAIG JASPER Database: UST, Date of Government Version: 06/13/2016 Facility Id: 45-000-000096	2298 NORTH ST.	SE 0 - 1/8 (0.072 mi.)	C16	33

AST: A listing of aboveground storage tank petroleum storage tank locations.

A review of the AST list, as provided by EDR, and dated 07/06/2016 has revealed that there is 1 AST site within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CAMPING WORLD RV SAL	3700 AUTO MALL DR	NNW 0 - 1/8 (0.032 mi.)	B8	13

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Registered Storage Tanks

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 8 SWEEPS UST sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
ANDERSON CHEVRON Status: A Tank Status: A Comp Number: 96	2298 NORTH ST	SE 0 - 1/8 (0.072 mi.)	C15	30
REGAL STATION 346 Status: A Tank Status: A Comp Number: 284	2142 NORTH ST	S 0 - 1/8 (0.099 mi.)	D17	33
DOTZENROD SHELL STAT Status: A Tank Status: A Comp Number: 330	2030 NORTH ST	SSW 1/8 - 1/4 (0.132 mi.)	E24	50
BEACON STATION #521/	2071 NORTH ST	S 1/8 - 1/4 (0.145 mi.)	G28	55

EXECUTIVE SUMMARY

Status: A
 Tank Status: A
 Comp Number: 31

PACIFIC BELL	2955 OAK STREET	SE 1/8 - 1/4 (0.183 mi.)	I36	73
Status: A Tank Status: A Comp Number: 295				
FOOD & LIQUOR #92	3480 W CENTER ST	WSW 1/8 - 1/4 (0.226 mi.)	J41	83
Status: A Tank Status: A Comp Number: 121				

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
GUARANTEED AUTO SALE	2598 NORTH ST	ENE 1/8 - 1/4 (0.132 mi.)	21	38
Status: A Tank Status: A Comp Number: 12				
HANDI SPOT MARKET	2700 NORTHWAY ST	ENE 1/8 - 1/4 (0.166 mi.)	H33	70
Status: A Tank Status: A Comp Number: 159				

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 4 HIST UST sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
ANDERSON CHEVRON	2298 NORTH ST	SE 0 - 1/8 (0.072 mi.)	C15	30
Facility Id: 00000062801				
REGAL STATION 346	2142 NORTH ST	S 0 - 1/8 (0.099 mi.)	D17	33
Facility Id: 00000012471				
CITY RADIATOR SERVIC	3260 W CENTER ST	SW 1/8 - 1/4 (0.173 mi.)	35	72
Facility Id: 00000002283				
PACIFIC BELL (TA-002)	2955 OAK STREET	SE 1/8 - 1/4 (0.183 mi.)	I37	77

Other Ascertainable Records

CUPA Listings: A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

A review of the CUPA Listings list, as provided by EDR, has revealed that there are 11 CUPA Listings sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
J P FOOD MART	2298 NORTH ST	SE 0 - 1/8 (0.072 mi.)	C12	23
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				

EXECUTIVE SUMMARY

Facility Status: True				
Site Id: 53				
REGAL STATION 346	2142 NORTH ST	S 0 - 1/8 (0.099 mi.)	D17	33
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: True				
Site Id: 60				
DOTZENROD SHELL STAT	2030 NORTH ST	SSW 1/8 - 1/4 (0.132 mi.)	E24	50
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: False				
Site Id: 78				
RITE AID # 6100	3095 MCMURRAY DR	E 1/8 - 1/4 (0.143 mi.)	F26	55
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: True				
Site Id: 1509				
ALLIANCE FOOD & GAS	2071 NORTH ST	S 1/8 - 1/4 (0.145 mi.)	G29	57
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: True				
Site Id: 40				
PACIFIC BELL	2955 OAK STREET	SE 1/8 - 1/4 (0.183 mi.)	I36	73
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: True				
Site Id: 73				
METRIC MOTORS	3046 W CENTER ST	SSW 1/8 - 1/4 (0.201 mi.)	38	78
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: True				
Site Id: 332				
MORE FOR LESS	3480 W CENTER ST	WSW 1/8 - 1/4 (0.226 mi.)	J40	82
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: True				
Site Id: 52				
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CAMPING WORLD REDDIN	3700 AUTOMALL DR	NNW 0 - 1/8 (0.032 mi.)	B9	13
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: True				
Site Id: 2006				
HANDI SPOT MARKET	2700 NORTHWAY ST	ENE 1/8 - 1/4 (0.166 mi.)	H34	71
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: True				
Site Id: 64				
B & B RV INC	3750 AUTOMALL DR	NNW 1/8 - 1/4 (0.227 mi.)	42	84
Database: CUPA SHASTA, Date of Government Version: 06/14/2016				
Facility Status: True				
Site Id: 1754				

EXECUTIVE SUMMARY

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSTATES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 15 HIST CORTESE sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
RVS UNLIMITED ANDERS Reg Id: 450022	2374 NORTH ST	E 0 - 1/8 (0.028 mi.)	A3	9
UNOCAL SS #5690 ANDE Reg Id: 450048	2411 NORTH	E 0 - 1/8 (0.028 mi.)	A5	12
MORTONS TEXACO Reg Id: 450299	2350 NORTH ST	ESE 0 - 1/8 (0.069 mi.)	A10	14
REGAL SS ANDERSON Reg Id: 450005	2142 NORTH ST	S 0 - 1/8 (0.099 mi.)	D18	35
SHELL SS ANDERSON DO Reg Id: 450077	2030 NORTH	SSW 1/8 - 1/4 (0.132 mi.)	E22	41
BEACON SS #521 ANDER Reg Id: 450053	2071 NORTH	S 1/8 - 1/4 (0.145 mi.)	G27	55
PACIFIC BELL Reg Id: 450225	2955 OAK STREET	SE 1/8 - 1/4 (0.183 mi.)	I36	73
CHEAPER #92 Reg Id: 450189	3480 CENTER ST W	WSW 1/8 - 1/4 (0.226 mi.)	J39	78
CHEVRON SS ANDERSON Reg Id: 450153	2900 CENTER ST W	S 1/4 - 1/2 (0.319 mi.)	43	85
MARTINS AUTO REPAIR Reg Id: 450081	2805 CENTER ST E	SSE 1/4 - 1/2 (0.359 mi.)	44	86
ANDERSON CITY OF Reg Id: 450012	1887 HOWARD ST	S 1/4 - 1/2 (0.362 mi.)	45	88
CASCADE UNION SCHOOL Reg Id: 450201	1645 MILL ST W	SW 1/4 - 1/2 (0.447 mi.)	49	99
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
GUARANTEED AUTO SALE Reg Id: 450105	2598 NORTH ST	ENE 1/8 - 1/4 (0.132 mi.)	21	38
HANDI SPOT MARKET Reg Id: 450307	2700 NORTH WAY	NE 1/8 - 1/4 (0.160 mi.)	31	64
BEACON SS #572 ANDER Reg Id: 450150	2700 GATEWAY	ESE 1/4 - 1/2 (0.402 mi.)	K48	96

Notify 65: Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

A review of the Notify 65 list, as provided by EDR, and dated 09/10/2015 has revealed that there are 3 Notify 65 sites within approximately 1 mile of the target property.

EXECUTIVE SUMMARY

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
R.V.'S UNLIMITED	2374 NORTH STREET	E 0 - 1/8 (0.028 mi.)	A2	8
UNOCAL	2411 NORTH STREET	E 0 - 1/8 (0.028 mi.)	A6	12

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
ANDERSON EXXON	2470 BALLS FERRY RD.	E 1/2 - 1 (0.785 mi.)	50	101

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there are 5 EDR Hist Auto sites within approximately 0.125 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	2374 NORTH ST	E 0 - 1/8 (0.028 mi.)	A1	8
Not reported	2417 NORTH ST	E 0 - 1/8 (0.031 mi.)	7	13
Not reported	2350 NORTH ST	ESE 0 - 1/8 (0.069 mi.)	A11	23
Not reported	2298 NORTH ST	SE 0 - 1/8 (0.072 mi.)	C13	24
Not reported	2142 NORTH ST	S 0 - 1/8 (0.099 mi.)	D19	38

EDR Hist Cleaner: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Cleaner list, as provided by EDR, has revealed that there is 1 EDR Hist Cleaner site within approximately 0.125 miles of the target property.

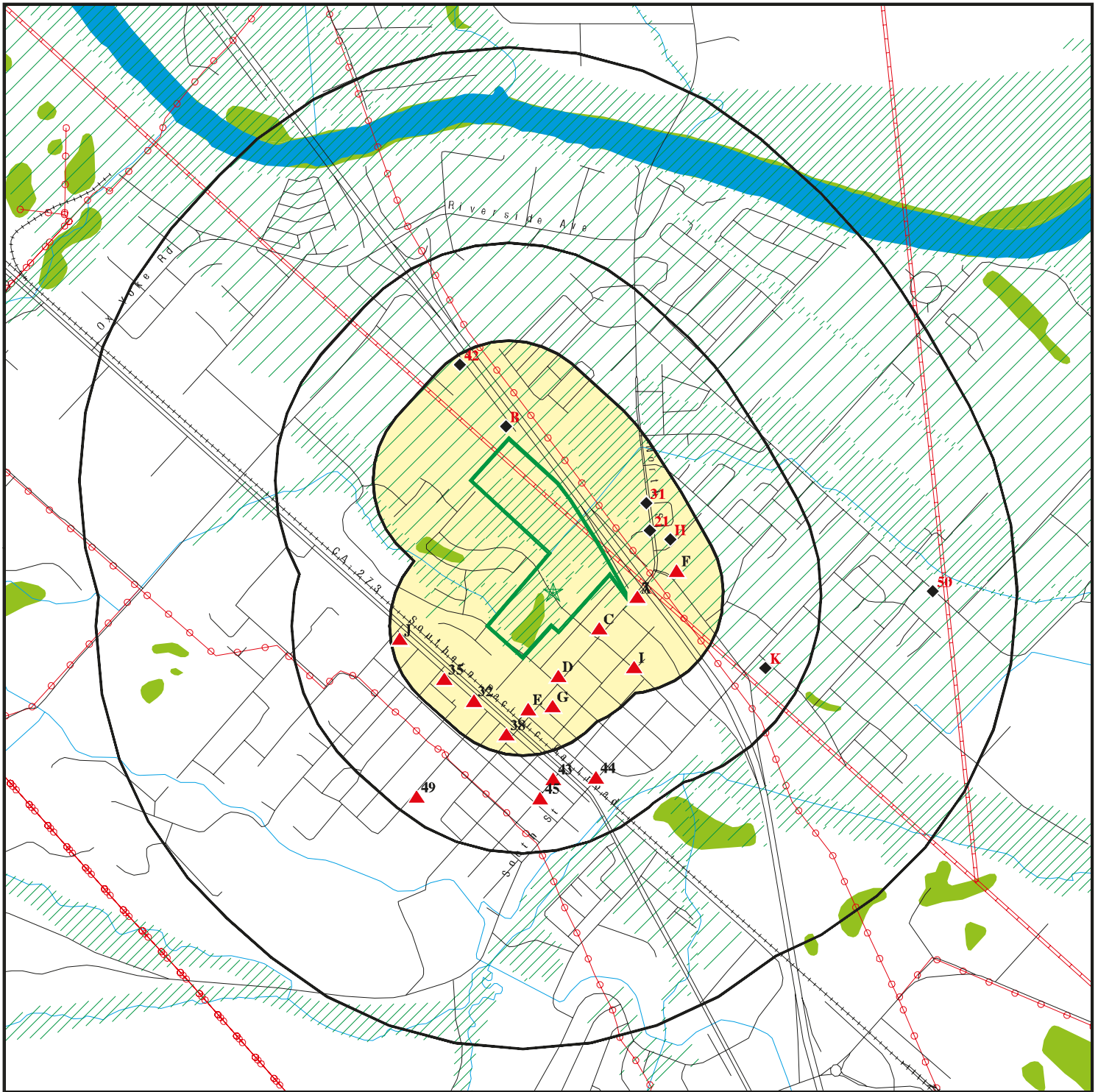
<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	2191 NORTH ST	SSE 0 - 1/8 (0.124 mi.)	D20	38

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 6 records.

<u>Site Name</u>	<u>Database(s)</u>
MAMMOTH MINE	CDL
ISRINGHAUSEN	CA BOND EXP. PLAN
BAUGH TRUCKING COMPANY	ENVIROSTOR
SIMPSON-SHASTA RANCH	ENVIROSTOR
CHAMPION INTERNATIONAL	ENVIROSTOR

OVERVIEW MAP - 4738590.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

Pipelines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

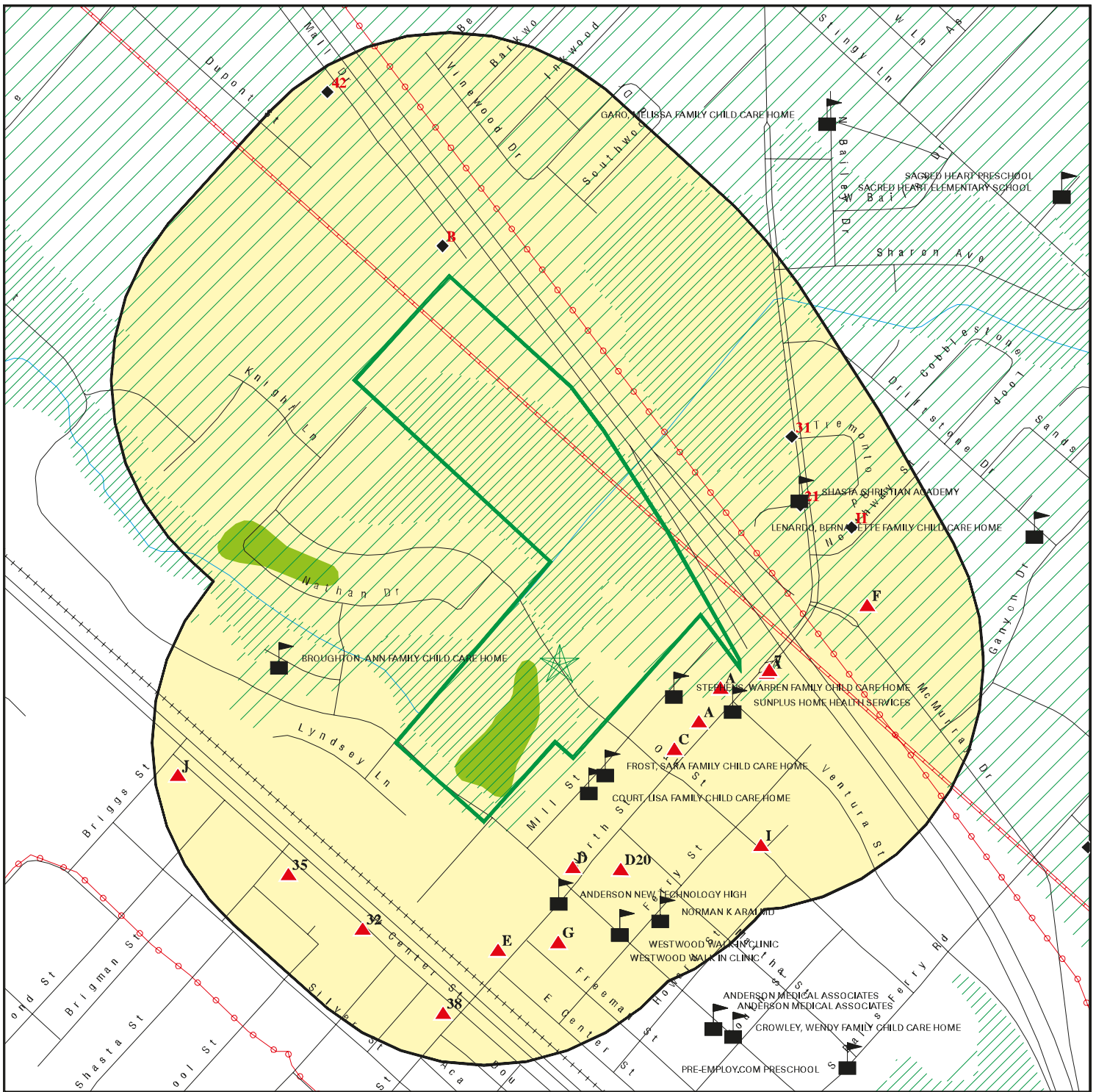

















This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Anderson
 ADDRESS: Not Reported
 Anderson CA 96007
 LAT/LONG: 40.455476 / 122.299705

CLIENT: Analytical Environmental Serv.
 CONTACT: Katherine Green
 INQUIRY #: 4738590.2s
 DATE: September 27, 2016 8:42 pm

DETAIL MAP - 4738590.2S



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  Sensitive Receptors
-  National Priority List Sites
-  Dept. Defense Sites
-  Indian Reservations BIA
-  Power transmission lines
-  Pipelines
-  100-year flood zone
-  500-year flood zone
-  National Wetland Inventory
-  State Wetlands
-  Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

<p>SITE NAME: Anderson ADDRESS: Not Reported Anderson CA 96007 LAT/LONG: 40.455476 / 122.299705</p>	<p>CLIENT: Analytical Environmental Serv. CONTACT: Katherine Green INQUIRY #: 4738590.2s DATE: September 27, 2016 8:43 pm</p>
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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	1	NR	NR	NR	1
RCRA-SQG	0.250		0	1	NR	NR	NR	1
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	0.001		0	NR	NR	NR	NR	0
<i>State- and tribal - equivalent NPL RESPONSE</i>								
RESPONSE	1.000		0	0	0	0	NR	0
<i>State- and tribal - equivalent CERCLIS ENVIROSTOR</i>								
ENVIROSTOR	1.000		0	0	0	0	NR	0
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
LUST	0.500		5	9	7	NR	NR	21

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
SLIC	0.500		0	0	0	NR	NR	0
<i>State and tribal registered storage tank lists</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		1	0	NR	NR	NR	1
AST	0.250		1	0	NR	NR	NR	1
INDIAN UST	0.250		0	0	NR	NR	NR	0
<i>State and tribal voluntary cleanup sites</i>								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
<i>State and tribal Brownfields sites</i>								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
<i>Local Brownfield lists</i>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Landfill / Solid Waste Disposal Sites</i>								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
<i>Local Lists of Hazardous waste / Contaminated Sites</i>								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
<i>Local Lists of Registered Storage Tanks</i>								
SWEEPS UST	0.250		2	6	NR	NR	NR	8
HIST UST	0.250		2	2	NR	NR	NR	4
CA FID UST	0.250		0	0	NR	NR	NR	0
<i>Local Land Records</i>								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
<i>Records of Emergency Release Reports</i>								
HMIRS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		3	8	NR	NR	NR	11
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		4	6	5	NR	NR	15
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		2	0	0	1	NR	3
UIC	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
ICE	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
<u>EDR HIGH RISK HISTORICAL RECORDS</u>								
<i>EDR Exclusive Records</i>								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		5	NR	NR	NR	NR	5
EDR Hist Cleaner	0.125		1	NR	NR	NR	NR	1
<u>EDR RECOVERED GOVERNMENT ARCHIVES</u>								
<i>Exclusive Recovered Govt. Archives</i>								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	26	33	12	1	0	72

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

A1
East
< 1/8
0.028 mi.
148 ft.

2374 NORTH ST
ANDERSON, CA 96007
Site 1 of 8 in cluster A

EDR Hist Auto **1015351555**
N/A

Relative:
Higher

EDR Historical Auto Stations:

Actual:
422 ft.

- Name: WEST AUTOMOTIVE
Year: 2001
Address: 2374 NORTH ST
- Name: BURESH AUTOMOTIVE
Year: 2003
Address: 2374 NORTH ST
- Name: BURESH AUTOMOTIVE
Year: 2004
Address: 2374 NORTH ST
- Name: BURESH AUTOMOTIVE
Year: 2005
Address: 2374 NORTH ST
- Name: EXPLICIT TRUCK RV & AUTOMOTIVE
Year: 2006
Address: 2374 NORTH ST
- Name: XPPLICIT TRUCK RV & AUTOMOTIVE
Year: 2007
Address: 2374 NORTH ST
- Name: NORTH STREET AUTOMOTIVE
Year: 2009
Address: 2374 NORTH ST

A2
East
< 1/8
0.028 mi.
148 ft.

R.V.'S UNLIMITED
2374 NORTH STREET
ANDERSON, CA 94952
Site 2 of 8 in cluster A

Notify 65 **S100178780**
N/A

Relative:
Higher

NOTIFY 65:

Actual:
422 ft.

- Date Reported: Not reported
- Staff Initials: Not reported
- Board File Number: Not reported
- Facility Type: Not reported
- Discharge Date: Not reported
- Issue Date: Not reported
- Incident Description: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

A3
East
< 1/8
0.028 mi.
148 ft.

RVS UNLIMITED ANDERSON
2374 NORTH ST
ANDERSON, CA 96007

LUST **S101304486**
HIST CORTESE **N/A**

Site 3 of 8 in cluster A

Relative:
Higher

LUST:

Actual:
422 ft.

Region: STATE
Global Id: T0608900022
Latitude: 40.4537976
Longitude: -122.2977099
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 01/29/1998
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: Not reported
Local Agency: SHASTA COUNTY
RB Case Number: 450022
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Well used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0608900022
Contact Type: Regional Board Caseworker
Contact Name: RECEPTIONIST, REGION 5 REDDING
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 415 KNOLLCREST DR., SUITE 100
City: REDDING
Email: Not reported
Phone Number: Not reported

Global Id: T0608900022
Contact Type: Local Agency Caseworker
Contact Name: NEIL SULLIVAN
Organization Name: SHASTA COUNTY
Address: 1855 PLACER ST.
City: REDDING
Email: nsullivan@co.shasta.ca.us
Phone Number: 5302255405

Status History:

Global Id: T0608900022
Status: Completed - Case Closed
Status Date: 01/29/1998

Global Id: T0608900022
Status: Open - Case Begin Date
Status Date: 09/12/1988

Global Id: T0608900022
Status: Open - Site Assessment
Status Date: 12/05/1988

Global Id: T0608900022

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

RVS UNLIMITED ANDERSON (Continued)

S101304486

Status: Open - Site Assessment
Status Date: 03/31/1989

Global Id: T0608900022
Status: Open - Site Assessment
Status Date: 04/10/1989

Global Id: T0608900022
Status: Open - Verification Monitoring
Status Date: 06/12/1989

Regulatory Activities:

Global Id: T0608900022
Action Type: Other
Date: 09/12/1988
Action: Leak Discovery

Global Id: T0608900022
Action Type: Other
Date: 09/23/1988
Action: Leak Reported

Global Id: T0608900022
Action Type: ENFORCEMENT
Date: 01/29/1998
Action: Closure/No Further Action Letter

Global Id: T0608900022
Action Type: Other
Date: 09/12/1988
Action: Leak Stopped

LUST REG 5:

Region: 5
Status: Case Closed
Case Number: 450022
Case Type: Drinking water wells have been affected
Substance: MISC MVF
Staff Initials: CMB
Lead Agency: Regional
Program: LUST
MTBE Code: 2

HIST CORTESE:

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450022

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

A4 **UNOCAL SS #5690 ANDERSON**
East **2411 NORTH ST**
< 1/8 **ANDERSON, CA 96007**
0.028 mi.
149 ft. **Site 4 of 8 in cluster A**

LUST **S101309596**
 N/A

Relative:
Higher

LUST:

Actual:
422 ft.

Region:	STATE
Global Id:	T0608900048
Latitude:	40.4550329017946
Longitude:	-122.295820795631
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	11/02/1995
Lead Agency:	CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker:	Not reported
Local Agency:	SHASTA COUNTY
RB Case Number:	450048
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0608900048
Contact Type:	Regional Board Caseworker
Contact Name:	RECEPTIONIST, REGION 5 REDDING
Organization Name:	CENTRAL VALLEY RWQCB (REGION 5R)
Address:	415 KNOLLCREST DR., SUITE 100
City:	REDDING
Email:	Not reported
Phone Number:	Not reported

Global Id:	T0608900048
Contact Type:	Local Agency Caseworker
Contact Name:	MARK CRAMER
Organization Name:	SHASTA COUNTY
Address:	1855 PLACER STREET
City:	REDDING
Email:	mcramer@co.shasta.ca.us
Phone Number:	Not reported

Status History:

Global Id:	T0608900048
Status:	Completed - Case Closed
Status Date:	11/02/1995

Global Id:	T0608900048
Status:	Open - Case Begin Date
Status Date:	01/27/1989

Regulatory Activities:

Global Id:	T0608900048
Action Type:	Other
Date:	11/02/1995
Action:	Leak Discovery

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

UNOCAL SS #5690 ANDERSON (Continued)

S101309596

Global Id:	T0608900048
Action Type:	Other
Date:	01/27/1989
Action:	Leak Reported
Global Id:	T0608900048
Action Type:	ENFORCEMENT
Date:	11/02/1995
Action:	Closure/No Further Action Letter
Global Id:	T0608900048
Action Type:	Other
Date:	11/02/1995
Action:	Leak Stopped

LUST REG 5:

Region:	5
Status:	Case Closed
Case Number:	450048
Case Type:	Drinking Water Aquifer affected
Substance:	GASOLINE
Staff Initials:	CMB
Lead Agency:	Regional
Program:	LUST
MTBE Code:	N/A

A5
 East
 < 1/8
 0.028 mi.
 149 ft.

UNOCAL SS #5690 ANDERSON
2411 NORTH
ANDERSON, CA

HIST CORTESE **S103972187**
 N/A

Site 5 of 8 in cluster A

Relative:
Higher

HIST CORTESE:	
Region:	CORTESE
Facility County Code:	45
Reg By:	LTNKA
Reg Id:	450048

Actual:
422 ft.

A6
 East
 < 1/8
 0.028 mi.
 149 ft.

UNOCAL
2411 NORTH STREET
ANDERSON, CA 94952

Notify 65 **S100225592**
 N/A

Site 6 of 8 in cluster A

Relative:
Higher

NOTIFY 65:	
Date Reported:	Not reported
Staff Initials:	Not reported
Board File Number:	Not reported
Facility Type:	Not reported
Discharge Date:	Not reported
Issue Date:	Not reported
Incident Description:	Not reported

Actual:
422 ft.

MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Site

Database(s)

EDR ID Number
 EPA ID Number

7
East
< 1/8
0.031 mi.
163 ft.

2417 NORTH ST
ANDERSON, CA 96007

EDR Hist Auto **1015356143**
N/A

Relative:
Higher

Actual:
422 ft.

EDR Historical Auto Stations:
 Name: SUNRISE AUTOMOTIVE
 Year: 2009
 Address: 2417 NORTH ST

B8
NNW
< 1/8
0.032 mi.
167 ft.

CAMPING WORLD RV SALES - REDDING
3700 AUTO MALL DR
ANDERSON, CA 96007

Site 1 of 2 in cluster B

AST **A100418432**
N/A

Relative:
Lower

Actual:
419 ft.

AST:
 Certified Unified Program Agencies: Not reported
 Owner: Camping World LCC
 Total Gallons: Not reported
 CERSID: 10478776
 Facility ID: 45-000-001188
 Business Name: CAMPING WORLD - DISTRIBUTION CENTER
 Phone: 530-776-5704
 Fax: 2704956194
 Mailing Address: 3700 Automall Dr.
 Mailing Address City: Anderson
 Mailing Address State: CA
 Mailing Address Zip Code: 96007
 Operator Name: Richard Villegas
 Operator Phone: 916-224-4397
 Owner Phone: 530-776-5704
 Owner Mail Address: 3700 Auto Mall Dr
 Owner State: CA
 Owner Zip Code: 96007
 Owner Country: United States
 Property Owner Name: Not reported
 Property Owner Phone: Not reported
 Property Owner Mailing Address: Not reported
 Property Owner City: Not reported
 Property Owner Stat : Not reported
 Property Owner Zip Code: Not reported
 Property Owner Country: Not reported
 EPAID: CAL000373553

B9
NNW
< 1/8
0.032 mi.
167 ft.

CAMPING WORLD REDDING
3700 AUTOMALL DR
ANDERSON, CA

Site 2 of 2 in cluster B

CUPA Listings **S112135784**
N/A

Relative:
Lower

Actual:
419 ft.

CUPA SHASTA:
 Site Id: 2006
 CersID: 10478776
 Facility Status: True
 Attn: RICK THOMPSON
 Mail Addr: 3700 AUTOMALL DR

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

CAMPING WORLD REDDING (Continued)

S112135784

Mail City: ANDERSON
 Mail State: CA
 Mail Zip: 96007
 EDR Link ID: 2006

Detail:

Facid: 2006
 Facility Name: CAMPING WORLD REDDING
 File Type: Hazardous Material Business Plan Site

Facid: 2006
 Facility Name: CAMPING WORLD REDDING
 File Type: Hazardous Waste Generator

Facid: 2006
 Facility Name: CAMPING WORLD REDDING
 File Type: Aboveground Petroleum Storage Act

A10
ESE
< 1/8
0.069 mi.
363 ft.

MORTONS TEXACO
2350 NORTH ST
ANDERSON, CA 96007
Site 7 of 8 in cluster A

LUST **S104403724**
HIST CORTESE **N/A**

Relative:
Higher

LUST:

Actual:
422 ft.

Region: STATE
 Global Id: T0608900291
 Latitude: 40.4546567961981
 Longitude: -122.297017746067
 Case Type: LUST Cleanup Site
 Status: Open - Assessment & Interim Remedial Action
 Status Date: 01/02/2008
 Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
 Case Worker: BB
 Local Agency: SHASTA COUNTY
 RB Case Number: 450299
 LOC Case Number: Not reported
 File Location: Regional Board
 Potential Media Affect: Aquifer used for drinking water supply
 Potential Contaminants of Concern: Gasoline
 Site History: The case was opened following an unauthorized release from an underground storage tank system at the subject site. Corrective action is underway as directed by the CVRWQCB. Corrective action may consist of preliminary site investigation, planning and implementation of remedial action, verification monitoring, or a combination thereof. A summary of the site history is available by clicking on either the "Cleanup Status History", "Regulatory Activities" or the "Site Maps/Documents" tab. For a complete site history the case file at the CVRWQCB should be consulted.

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id: T0608900291
 Contact Type: Regional Board Caseworker
 Contact Name: BILL BERGMANN
 Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
 Address: 364 Knollcrest Drive, Suite 205

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORTONS TEXACO (Continued)

S104403724

City: REDDING
Email: william.bergmann@waterboards.ca.gov
Phone Number: 5302244852

Global Id: T0608900291
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Status History:

Global Id: T0608900291
Status: Open - Assessment & Interim Remedial Action
Status Date: 01/02/2008

Global Id: T0608900291
Status: Open - Case Begin Date
Status Date: 11/12/1999

Global Id: T0608900291
Status: Open - Remediation
Status Date: 04/15/2002

Global Id: T0608900291
Status: Open - Remediation
Status Date: 07/23/2004

Global Id: T0608900291
Status: Open - Remediation
Status Date: 07/26/2004

Global Id: T0608900291
Status: Open - Remediation
Status Date: 03/08/2006

Global Id: T0608900291
Status: Open - Site Assessment
Status Date: 12/09/1999

Global Id: T0608900291
Status: Open - Site Assessment
Status Date: 09/26/2003

Global Id: T0608900291
Status: Open - Site Assessment
Status Date: 11/09/2003

Global Id: T0608900291
Status: Open - Site Assessment
Status Date: 03/08/2004

Regulatory Activities:

Global Id: T0608900291

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORTONS TEXACO (Continued)

S104403724

Action Type: RESPONSE
Date: 07/13/2010
Action: Clean Up Fund - 5-Year Review Summary

Global Id: T0608900291
Action Type: RESPONSE
Date: 04/23/2009
Action: Clean Up Fund - 5-Year Review Summary

Global Id: T0608900291
Action Type: ENFORCEMENT
Date: 04/04/2001
Action: Staff Letter

Global Id: T0608900291
Action Type: RESPONSE
Date: 03/05/2004
Action: Soil and Water Investigation Workplan

Global Id: T0608900291
Action Type: RESPONSE
Date: 03/05/2004
Action: Sensitive Receptor Survey Report

Global Id: T0608900291
Action Type: RESPONSE
Date: 06/18/2004
Action: Corrective Action Plan / Remedial Action Plan

Global Id: T0608900291
Action Type: RESPONSE
Date: 04/20/2004
Action: Other Report / Document

Global Id: T0608900291
Action Type: RESPONSE
Date: 10/30/2004
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: RESPONSE
Date: 03/05/2004
Action: Sensitive Receptor Survey Report

Global Id: T0608900291
Action Type: RESPONSE
Date: 11/09/2003
Action: Soil and Water Investigation Workplan

Global Id: T0608900291
Action Type: RESPONSE
Date: 07/31/2004
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: RESPONSE
Date: 10/30/2003

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORTONS TEXACO (Continued)

S104403724

Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: ENFORCEMENT
Date: 04/15/2002
Action: Staff Letter

Global Id: T0608900291
Action Type: ENFORCEMENT
Date: 08/14/2012
Action: Staff Letter

Global Id: T0608900291
Action Type: RESPONSE
Date: 04/30/2009
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: RESPONSE
Date: 05/23/2003
Action: Soil and Water Investigation Workplan

Global Id: T0608900291
Action Type: RESPONSE
Date: 07/30/2005
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: RESPONSE
Date: 04/30/2004
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: ENFORCEMENT
Date: 02/29/2012
Action: Staff Letter

Global Id: T0608900291
Action Type: RESPONSE
Date: 08/31/2006
Action: Other Workplan

Global Id: T0608900291
Action Type: ENFORCEMENT
Date: 08/09/2004
Action: Staff Letter

Global Id: T0608900291
Action Type: ENFORCEMENT
Date: 02/04/2004
Action: Staff Letter

Global Id: T0608900291
Action Type: RESPONSE
Date: 07/31/2002
Action: Monitoring Report - Quarterly

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORTONS TEXACO (Continued)

S104403724

Global Id:	T0608900291
Action Type:	RESPONSE
Date:	08/27/2004
Action:	Soil and Water Investigation Report
Global Id:	T0608900291
Action Type:	RESPONSE
Date:	01/30/2009
Action:	Monitoring Report - Quarterly
Global Id:	T0608900291
Action Type:	RESPONSE
Date:	05/28/2004
Action:	Soil and Water Investigation Report
Global Id:	T0608900291
Action Type:	RESPONSE
Date:	12/17/2004
Action:	Other Report / Document
Global Id:	T0608900291
Action Type:	RESPONSE
Date:	11/11/2005
Action:	Corrective Action Plan / Remedial Action Plan
Global Id:	T0608900291
Action Type:	ENFORCEMENT
Date:	04/30/2012
Action:	Staff Letter
Global Id:	T0608900291
Action Type:	ENFORCEMENT
Date:	05/10/2012
Action:	Staff Letter
Global Id:	T0608900291
Action Type:	RESPONSE
Date:	10/10/2004
Action:	Interim Remedial Action Plan
Global Id:	T0608900291
Action Type:	ENFORCEMENT
Date:	03/19/2004
Action:	Staff Letter
Global Id:	T0608900291
Action Type:	ENFORCEMENT
Date:	08/09/2004
Action:	Staff Letter
Global Id:	T0608900291
Action Type:	ENFORCEMENT
Date:	09/21/2004
Action:	Staff Letter
Global Id:	T0608900291
Action Type:	RESPONSE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORTONS TEXACO (Continued)

S104403724

Date: 05/24/2011
Action: Clean Up Fund - 5-Year Review Summary

Global Id: T0608900291
Action Type: ENFORCEMENT
Date: 05/17/2004
Action: Staff Letter

Global Id: T0608900291
Action Type: RESPONSE
Date: 04/30/2008
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: RESPONSE
Date: 12/15/2011
Action: Other Report / Document

Global Id: T0608900291
Action Type: RESPONSE
Date: 06/18/2004
Action: Interim Remedial Action Plan

Global Id: T0608900291
Action Type: RESPONSE
Date: 04/30/2005
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: RESPONSE
Date: 01/30/2008
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: RESPONSE
Date: 10/30/2006
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: RESPONSE
Date: 04/30/2007
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: ENFORCEMENT
Date: 10/22/2014
Action: Technical Correspondence / Assistance / Other

Global Id: T0608900291
Action Type: ENFORCEMENT
Date: 06/25/2015
Action: Staff Letter

Global Id: T0608900291
Action Type: RESPONSE
Date: 04/26/2012
Action: Other Report / Document

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORTONS TEXACO (Continued)

S104403724

Global Id:	T0608900291
Action Type:	RESPONSE
Date:	10/31/2002
Action:	Monitoring Report - Quarterly
Global Id:	T0608900291
Action Type:	ENFORCEMENT
Date:	09/28/2009
Action:	Staff Letter
Global Id:	T0608900291
Action Type:	RESPONSE
Date:	10/30/2005
Action:	Monitoring Report - Quarterly
Global Id:	T0608900291
Action Type:	ENFORCEMENT
Date:	08/25/2005
Action:	Staff Letter
Global Id:	T0608900291
Action Type:	RESPONSE
Date:	05/08/2012
Action:	Monitoring Report - Semi-Annually
Global Id:	T0608900291
Action Type:	Other
Date:	11/12/1999
Action:	Leak Discovery
Global Id:	T0608900291
Action Type:	RESPONSE
Date:	08/20/2012
Action:	Site Assessment Report
Global Id:	T0608900291
Action Type:	RESPONSE
Date:	01/31/2013
Action:	Other Report / Document
Global Id:	T0608900291
Action Type:	Other
Date:	11/18/1999
Action:	Leak Reported
Global Id:	T0608900291
Action Type:	RESPONSE
Date:	04/20/2004
Action:	Corrective Action Plan / Remedial Action Plan
Global Id:	T0608900291
Action Type:	RESPONSE
Date:	01/30/2006
Action:	Monitoring Report - Quarterly
Global Id:	T0608900291
Action Type:	RESPONSE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORTONS TEXACO (Continued)

S104403724

Date: 10/31/2007
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: RESPONSE
Date: 07/30/2006
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: ENFORCEMENT
Date: 03/20/2003
Action: Staff Letter

Global Id: T0608900291
Action Type: ENFORCEMENT
Date: 10/08/2003
Action: Staff Letter

Global Id: T0608900291
Action Type: RESPONSE
Date: 01/31/2003
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: RESPONSE
Date: 04/30/2003
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: RESPONSE
Date: 01/30/2007
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: RESPONSE
Date: 04/30/2006
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: ENFORCEMENT
Date: 02/06/2013
Action: Staff Letter

Global Id: T0608900291
Action Type: RESPONSE
Date: 06/14/2013
Action: Clean Up Fund - 5-Year Review Summary

Global Id: T0608900291
Action Type: RESPONSE
Date: 07/31/2003
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: RESPONSE
Date: 01/30/2005
Action: Monitoring Report - Quarterly

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORTONS TEXACO (Continued)

S104403724

Global Id: T0608900291
Action Type: ENFORCEMENT
Date: 07/28/2006
Action: Staff Letter

Global Id: T0608900291
Action Type: Other
Date: 11/12/1999
Action: Leak Stopped

Global Id: T0608900291
Action Type: RESPONSE
Date: 07/30/2008
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: RESPONSE
Date: 10/30/2008
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: RESPONSE
Date: 01/30/2004
Action: Monitoring Report - Quarterly

Global Id: T0608900291
Action Type: RESPONSE
Date: 11/11/2005
Action: Corrective Action Plan / Remedial Action Plan

Global Id: T0608900291
Action Type: RESPONSE
Date: 07/30/2007
Action: Monitoring Report - Quarterly

LUST REG 5:

Region: 5
Status: Remediation Plan
Case Number: 450299
Case Type: Drinking Water Aquifer affected
Substance: GASOLINE
Staff Initials: RDJ
Lead Agency: Regional
Program: LUST
MTBE Code: 1

HIST CORTESE:

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450299

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

A11
ESE
< 1/8
0.069 mi.
363 ft.

2350 NORTH ST
ANDERSON, CA 96007
Site 8 of 8 in cluster A

EDR Hist Auto **1015350053**
N/A

Relative:
Higher

Actual:
422 ft.

EDR Historical Auto Stations:

Name:	TEXACO SERVICE STATION MORTONS TEXACO
Year:	1999
Address:	2350 NORTH ST
Name:	MORTONS RADIATOR SHOP
Year:	2001
Address:	2350 NORTH ST
Name:	MORTONS AUTOMOTIVE & RDTR SHOP
Year:	2002
Address:	2350 NORTH ST
Name:	MORTONS AUTOMOTIVE & RADIATOR
Year:	2010
Address:	2350 NORTH ST

C12
SE
< 1/8
0.072 mi.
378 ft.

J P FOOD MART
2298 NORTH ST
ANDERSON, CA
Site 1 of 5 in cluster C

CUPA Listings **S110744535**
N/A

Relative:
Higher

Actual:
423 ft.

CUPA SHASTA:

Site Id:	53
CersID:	10486939
Facility Status:	True
Attn:	JAGDEEP SINGH
Mail Addr:	2298 NORTH ST
Mail City:	ANDERSON
Mail State:	CA
Mail Zip:	96007
EDR Link ID:	53

Detail:

Facid:	53
Facility Name:	J P FOOD MART
File Type:	Hazardous Waste Generator
Facid:	53
Facility Name:	J P FOOD MART
File Type:	Hazardous Material Business Plan Site
Facid:	53
Facility Name:	J P FOOD MART
File Type:	Underground Tank

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

C13
SE
< 1/8
0.072 mi.
378 ft.

2298 NORTH ST
ANDERSON, CA 96007

Site 2 of 5 in cluster C

EDR Hist Auto **1015343180**
N/A

Relative:
Higher

EDR Historical Auto Stations:

Actual:
423 ft.

Name: CHEVRON ANDERSON CHEVRON
Year: 1999
Address: 2298 NORTH ST

Name: ANDERSON CHEVRON
Year: 2000
Address: 2298 NORTH ST

Name: ANDERSON CHEVRON
Year: 2001
Address: 2298 NORTH ST

Name: ANDERSON CHEVRON
Year: 2002
Address: 2298 NORTH ST

Name: ANDERSON CHEVRON
Year: 2003
Address: 2298 NORTH ST

Name: ANDERSON CHEVRON
Year: 2004
Address: 2298 NORTH ST

Name: ANDERSON CHEVRON
Year: 2005
Address: 2298 NORTH ST

Name: ANDERSON CHEVRON
Year: 2006
Address: 2298 NORTH ST

Name: ANDERSON CHEVRON
Year: 2007
Address: 2298 NORTH ST

Name: ANDERSON CHEVRON
Year: 2008
Address: 2298 NORTH ST

Name: ANDERSON CHEVRON
Year: 2009
Address: 2298 NORTH ST

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

C14
SE
< 1/8
0.072 mi.
378 ft.

ANDERSON CHEVRON
2298 NORTH STREET
ANDERSON, CA 96007

Site 3 of 5 in cluster C

LUST **S106567321**
N/A

Relative:
Higher

LUST:

Actual:
423 ft.

Region: STATE
Global Id: T0608900318
Latitude: 40.454229879
Longitude: -122.297554214
Case Type: LUST Cleanup Site
Status: Open - Verification Monitoring
Status Date: 01/22/2015
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: BB
Local Agency: SHASTA COUNTY
RB Case Number: 450322
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: The case was opened following an unauthorized release from an underground storage tank system at the subject site. Corrective action is underway as directed by the CVRWQCB. Corrective action may consist of preliminary site investigation, planning and implementation of remedial action, verification monitoring, or a combination thereof. A summary of the site history is available by clicking on either the "Cleanup Status History", "Regulatory Activities" or the "Site Maps/Documents" tab. For a complete site history the case file at the CVRWQCB should be consulted.

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0608900318
Contact Type: Regional Board Caseworker
Contact Name: BILL BERGMANN
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 364 Knollcrest Drive, Suite 205
City: REDDING
Email: william.bergmann@waterboards.ca.gov
Phone Number: 5302244852

Global Id: T0608900318
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Status History:

Global Id: T0608900318
Status: Open - Case Begin Date
Status Date: 07/15/2004

Global Id: T0608900318

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ANDERSON CHEVRON (Continued)

S106567321

Status: Open - Remediation
Status Date: 03/02/2007

Global Id: T0608900318
Status: Open - Remediation
Status Date: 05/30/2007

Global Id: T0608900318
Status: Open - Remediation
Status Date: 12/21/2007

Global Id: T0608900318
Status: Open - Site Assessment
Status Date: 07/16/2004

Global Id: T0608900318
Status: Open - Site Assessment
Status Date: 12/20/2007

Global Id: T0608900318
Status: Open - Verification Monitoring
Status Date: 01/22/2015

Regulatory Activities:

Global Id: T0608900318
Action Type: RESPONSE
Date: 04/30/2009
Action: Monitoring Report - Quarterly

Global Id: T0608900318
Action Type: RESPONSE
Date: 03/11/2005
Action: Monitoring Report - Quarterly

Global Id: T0608900318
Action Type: RESPONSE
Date: 04/30/2008
Action: Monitoring Report - Quarterly

Global Id: T0608900318
Action Type: RESPONSE
Date: 09/12/2008
Action: Interim Remedial Action Report

Global Id: T0608900318
Action Type: RESPONSE
Date: 01/30/2009
Action: Monitoring Report - Quarterly

Global Id: T0608900318
Action Type: ENFORCEMENT
Date: 04/23/2009
Action: Staff Letter

Global Id: T0608900318
Action Type: ENFORCEMENT
Date: 09/20/2013

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ANDERSON CHEVRON (Continued)

S106567321

Action: Staff Letter

Global Id: T0608900318
Action Type: ENFORCEMENT
Date: 06/15/2007
Action: Staff Letter

Global Id: T0608900318
Action Type: RESPONSE
Date: 07/30/2008
Action: Monitoring Report - Quarterly

Global Id: T0608900318
Action Type: ENFORCEMENT
Date: 07/22/2004
Action: Staff Letter

Global Id: T0608900318
Action Type: RESPONSE
Date: 09/17/2010
Action: Other Report / Document

Global Id: T0608900318
Action Type: RESPONSE
Date: 10/30/2010
Action: Monitoring Report - Quarterly

Global Id: T0608900318
Action Type: ENFORCEMENT
Date: 05/28/2015
Action: Other Report

Global Id: T0608900318
Action Type: ENFORCEMENT
Date: 05/23/2014
Action: Technical Correspondence / Assistance / Other

Global Id: T0608900318
Action Type: ENFORCEMENT
Date: 03/21/2007
Action: Staff Letter

Global Id: T0608900318
Action Type: ENFORCEMENT
Date: 03/12/2008
Action: Staff Letter

Global Id: T0608900318
Action Type: ENFORCEMENT
Date: 07/01/2010
Action: Staff Letter

Global Id: T0608900318
Action Type: RESPONSE
Date: 06/19/2006
Action: Corrective Action Plan / Remedial Action Plan

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ANDERSON CHEVRON (Continued)

S106567321

Global Id:	T0608900318
Action Type:	ENFORCEMENT
Date:	01/19/2005
Action:	Staff Letter
Global Id:	T0608900318
Action Type:	ENFORCEMENT
Date:	05/06/2015
Action:	Email Correspondence
Global Id:	T0608900318
Action Type:	RESPONSE
Date:	01/15/2012
Action:	Monitoring Report - Semi-Annually
Global Id:	T0608900318
Action Type:	RESPONSE
Date:	03/26/2010
Action:	CAP/RAP - Final Remediation / Design Plan
Global Id:	T0608900318
Action Type:	REMEDIATION
Date:	08/13/2008
Action:	In Situ Physical/Chemical Treatment (other than SVE)
Global Id:	T0608900318
Action Type:	RESPONSE
Date:	04/30/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0608900318
Action Type:	RESPONSE
Date:	06/04/2007
Action:	CAP/RAP - Final Remediation / Design Plan
Global Id:	T0608900318
Action Type:	ENFORCEMENT
Date:	04/10/2013
Action:	Staff Letter
Global Id:	T0608900318
Action Type:	ENFORCEMENT
Date:	07/05/2012
Action:	Staff Letter
Global Id:	T0608900318
Action Type:	ENFORCEMENT
Date:	10/21/2014
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0608900318
Action Type:	ENFORCEMENT
Date:	03/22/2006
Action:	13267 Requirement
Global Id:	T0608900318
Action Type:	ENFORCEMENT

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ANDERSON CHEVRON (Continued)

S106567321

Date: 11/18/2005
Action: Staff Letter

Global Id: T0608900318
Action Type: RESPONSE
Date: 07/30/2012
Action: Monitoring Report - Semi-Annually

Global Id: T0608900318
Action Type: Other
Date: 07/15/2004
Action: Leak Discovery

Global Id: T0608900318
Action Type: RESPONSE
Date: 09/15/2012
Action: Other Report / Document

Global Id: T0608900318
Action Type: Other
Date: 07/15/2004
Action: Leak Reported

Global Id: T0608900318
Action Type: RESPONSE
Date: 03/11/2005
Action: Monitoring Report - Quarterly

Global Id: T0608900318
Action Type: RESPONSE
Date: 01/30/2006
Action: Monitoring Report - Quarterly

Global Id: T0608900318
Action Type: ENFORCEMENT
Date: 06/13/2014
Action: Technical Correspondence / Assistance / Other

Global Id: T0608900318
Action Type: ENFORCEMENT
Date: 09/28/2009
Action: Staff Letter

Global Id: T0608900318
Action Type: ENFORCEMENT
Date: 01/19/2010
Action: Staff Letter

Global Id: T0608900318
Action Type: ENFORCEMENT
Date: 11/13/2012
Action: Staff Letter

Global Id: T0608900318
Action Type: RESPONSE
Date: 07/31/2007
Action: Monitoring Report - Quarterly

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ANDERSON CHEVRON (Continued)

S106567321

Global Id: T0608900318
Action Type: RESPONSE
Date: 10/31/2007
Action: Monitoring Report - Quarterly

Global Id: T0608900318
Action Type: RESPONSE
Date: 10/30/2008
Action: Monitoring Report - Quarterly

Global Id: T0608900318
Action Type: RESPONSE
Date: 06/19/2006
Action: Corrective Action Plan / Remedial Action Plan

Global Id: T0608900318
Action Type: RESPONSE
Date: 01/30/2008
Action: Monitoring Report - Quarterly

Global Id: T0608900318
Action Type: RESPONSE
Date: 11/16/2007
Action: CAP/RAP - Feasibility Study Report

Global Id: T0608900318
Action Type: RESPONSE
Date: 11/16/2007
Action: Soil and Water Investigation Report

Global Id: T0608900318
Action Type: RESPONSE
Date: 11/16/2007
Action: CAP/RAP - Final Remediation / Design Plan

LUST REG 5:

Region: 5
Status: Remediation Plan
Case Number: 450322
Case Type: Drinking Water Aquifer affected
Substance: GASOLINE
Staff Initials: RDJ
Lead Agency: Regional
Program: LUST
MTBE Code: N/A

**C15
SE
< 1/8
0.072 mi.
378 ft.**

**ANDERSON CHEVRON
2298 NORTH ST
ANDERSON, CA 96007
Site 4 of 5 in cluster C**

**SWEEPS UST U001618694
HIST UST N/A**

**Relative:
Higher
Actual:
423 ft.**

**SWEEPS UST:
Status: Active
Comp Number: 96
Number: 2**

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ANDERSON CHEVRON (Continued)

U001618694

Board Of Equalization: 44-032081
Referral Date: 07-10-92
Action Date: 07-10-92
Created Date: 07-10-92
Owner Tank Id: Not reported
SWRCB Tank Id: 45-000-000096-000001
Tank Status: A
Capacity: 10000
Active Date: 01-07-91
Tank Use: M.V. FUEL
STG: P
Content: LEADED
Number Of Tanks: 4

Status: Active
Comp Number: 96
Number: 2
Board Of Equalization: 44-032081
Referral Date: 07-10-92
Action Date: 07-10-92
Created Date: 07-10-92
Owner Tank Id: Not reported
SWRCB Tank Id: 45-000-000096-000002
Tank Status: A
Capacity: 10000
Active Date: 01-07-91
Tank Use: M.V. FUEL
STG: P
Content: PRM UNLEADED
Number Of Tanks: Not reported

Status: Active
Comp Number: 96
Number: 2
Board Of Equalization: 44-032081
Referral Date: 07-10-92
Action Date: 07-10-92
Created Date: 07-10-92
Owner Tank Id: Not reported
SWRCB Tank Id: 45-000-000096-000003
Tank Status: A
Capacity: 10000
Active Date: 01-07-91
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Active
Comp Number: 96
Number: 2
Board Of Equalization: 44-032081
Referral Date: 07-10-92
Action Date: 07-10-92
Created Date: 07-10-92
Owner Tank Id: Not reported
SWRCB Tank Id: 45-000-000096-000004

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ANDERSON CHEVRON (Continued)

U001618694

Tank Status: A
Capacity: 1000
Active Date: 01-07-91
Tank Use: OIL
STG: W
Content: WASTE OIL
Number Of Tanks: Not reported

HIST UST:

File Number: 00020D9D
URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020D9D.pdf>
Region: STATE
Facility ID: 00000062801
Facility Type: Gas Station
Other Type: Not reported
Contact Name: NELSON, JEFFREY J
Telephone: 9163651254
Owner Name: CHEVRON U.S.A. INC.
Owner Address: 575 MARKET
Owner City,St,Zip: SAN FRANCISCO, CA 94105
Total Tanks: 0004

Tank Num: 001
Container Num: 1
Year Installed: 1967
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: 0000250
Leak Detection: Stock Inventor

Tank Num: 002
Container Num: 2
Year Installed: 1967
Tank Capacity: 00004000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: 0000170
Leak Detection: Stock Inventor

Tank Num: 003
Container Num: 3
Year Installed: 1967
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: 0000250
Leak Detection: Stock Inventor

Tank Num: 004
Container Num: 4
Year Installed: 1967
Tank Capacity: 00000550
Tank Used for: WASTE
Type of Fuel: Not reported
Container Construction Thickness: 0000100
Leak Detection: Stock Inventor

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ANDERSON CHEVRON (Continued)

U001618694

[Click here for Geo Tracker PDF:](#)

C16
SE
< 1/8
0.072 mi.
378 ft.

CRAIG JASPER
2298 NORTH ST.
ANDERSON, CA 96007

Site 5 of 5 in cluster C

UST U003782862
N/A

Relative:
Higher

UST:
Facility ID: 45-000-000096
Permitting Agency: SHASTA COUNTY
Latitude: 40.455578
Longitude: -122.296166

Actual:
423 ft.

D17
South
< 1/8
0.099 mi.
523 ft.

REGAL STATION 346
2142 NORTH ST
ANDERSON, CA 96007

Site 1 of 4 in cluster D

SWEEPS UST U001618742
HIST UST N/A
CUPA Listings

Relative:
Higher

SWEEPS UST:
Status: Active
Comp Number: 284
Number: 2
Board Of Equalization: Not reported
Referral Date: 06-11-91
Action Date: 06-11-91
Created Date: 06-11-91
Owner Tank Id: A-5710-3
SWRCB Tank Id: 45-000-000284-000001
Tank Status: A
Capacity: 10000
Active Date: 06-11-91
Tank Use: M.V. FUEL
STG: P
Content: LEADED
Number Of Tanks: 3

Actual:
423 ft.

Status: Active
Comp Number: 284
Number: 2
Board Of Equalization: Not reported
Referral Date: 06-11-91
Action Date: 06-11-91
Created Date: 06-11-91
Owner Tank Id: A-5710-2
SWRCB Tank Id: 45-000-000284-000002
Tank Status: A
Capacity: 10000
Active Date: 06-11-91
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Active

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

REGAL STATION 346 (Continued)

U001618742

Comp Number: 284
Number: 2
Board Of Equalization: Not reported
Referral Date: 06-11-91
Action Date: 06-11-91
Created Date: 06-11-91
Owner Tank Id: A-5710-1
SWRCB Tank Id: 45-000-000284-000003
Tank Status: A
Capacity: 10000
Active Date: 06-11-91
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

HIST UST:

File Number: 00020FAC
URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020FAC.pdf>
Region: STATE
Facility ID: 00000012471
Facility Type: Gas Station
Other Type: Not reported
Contact Name: WALT SNELLING
Telephone: 9169211100
Owner Name: WICKLAND OIL CO.
Owner Address: 1765 CHALLENGE WAY
Owner City,St,Zip: SACRAMENTO, CA 95815
Total Tanks: 0004

Tank Num: 001
Container Num: 346 - U1
Year Installed: Not reported
Tank Capacity: 00006000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Container Construction Thickness: 1/4
Leak Detection: Stock Inventor

Tank Num: 002
Container Num: 346 - R1
Year Installed: Not reported
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Container Construction Thickness: 1/4
Leak Detection: Stock Inventor

Tank Num: 003
Container Num: 346 - P1
Year Installed: Not reported
Tank Capacity: 00006000
Tank Used for: PRODUCT
Type of Fuel: PREMIUM
Container Construction Thickness: 1/4
Leak Detection: Stock Inventor

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

REGAL STATION 346 (Continued)

U001618742

Tank Num: 004
Container Num: 346 - W1
Year Installed: Not reported
Tank Capacity: 00000000
Tank Used for: WASTE
Type of Fuel: WASTE OIL
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Click here for Geo Tracker PDF:

CUPA SHASTA:

Site Id: 60
CersID: 10483771
Facility Status: True
Attn: PRABHJOT S RANDHAWA
Mail Addr: 2142 NORTH ST
Mail City: ANDERSON
Mail State: CA
Mail Zip: 96007
EDR Link ID: 60

Detail:

Facid: 60
Facility Name: MARUTI'S SERVICE STATION #2
File Type: Hazardous Material Business Plan Site

Facid: 60
Facility Name: MARUTI'S SERVICE STATION #2
File Type: Underground Tank

Facid: 60
Facility Name: MARUTI'S SERVICE STATION #2
File Type: Hazardous Waste Generator

D18
South
< 1/8
0.099 mi.
523 ft.

REGAL SS ANDERSON
2142 NORTH ST
ANDERSON, CA 96007

LUST S104163864
HIST CORTESE N/A

Site 2 of 4 in cluster D

Relative:
Higher

LUST:

Actual:
423 ft.

Region: STATE
Global Id: T0608900005
Latitude: 40.45249
Longitude: -122.299546
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 06/25/1998
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: Not reported
Local Agency: SHASTA COUNTY
RB Case Number: 450005
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Gasoline

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

REGAL SS ANDERSON (Continued)

S104163864

Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0608900005
Contact Type: Regional Board Caseworker
Contact Name: RECEPTIONIST, REGION 5 REDDING
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 415 KNOLLCREST DR., SUITE 100
City: REDDING
Email: Not reported
Phone Number: Not reported

Global Id: T0608900005
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Status History:

Global Id: T0608900005
Status: Completed - Case Closed
Status Date: 06/25/1998

Global Id: T0608900005
Status: Open - Case Begin Date
Status Date: 06/30/1987

Global Id: T0608900005
Status: Open - Remediation
Status Date: 11/04/1988

Global Id: T0608900005
Status: Open - Remediation
Status Date: 11/07/1988

Global Id: T0608900005
Status: Open - Site Assessment
Status Date: 10/21/1987

Global Id: T0608900005
Status: Open - Site Assessment
Status Date: 12/09/1987

Global Id: T0608900005
Status: Open - Site Assessment
Status Date: 02/02/1988

Global Id: T0608900005
Status: Open - Site Assessment
Status Date: 10/19/1988

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

REGAL SS ANDERSON (Continued)

S104163864

Regulatory Activities:

Global Id:	T0608900005
Action Type:	ENFORCEMENT
Date:	02/06/2012
Action:	Notice of Termination
Global Id:	T0608900005
Action Type:	RESPONSE
Date:	06/29/2011
Action:	Preliminary Site Assessment Report
Global Id:	T0608900005
Action Type:	Other
Date:	06/30/1987
Action:	Leak Discovery
Global Id:	T0608900005
Action Type:	Other
Date:	06/30/1987
Action:	Leak Reported
Global Id:	T0608900005
Action Type:	ENFORCEMENT
Date:	06/25/1998
Action:	Closure/No Further Action Letter
Global Id:	T0608900005
Action Type:	Other
Date:	10/24/1988
Action:	Leak Stopped

LUST REG 5:

Region:	5
Status:	Case Closed
Case Number:	450005
Case Type:	Drinking Water Aquifer affected
Substance:	GASOLINE
Staff Initials:	CMB
Lead Agency:	Regional
Program:	LUST
MTBE Code:	7

HIST CORTESE:

Region:	CORTESE
Facility County Code:	45
Reg By:	LTNKA
Reg Id:	450005

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

D19
South
< 1/8
0.099 mi.
523 ft.

2142 NORTH ST
ANDERSON, CA 96007

Site 3 of 4 in cluster D

EDR Hist Auto **1015326523**
N/A

Relative:
Higher

Actual:
423 ft.

- EDR Historical Auto Stations:
- Name: SARCO GAS & FOOD MART
 - Year: 2006
 - Address: 2142 NORTH ST

 - Name: SARCO GAS & FOOD MART
 - Year: 2007
 - Address: 2142 NORTH ST

 - Name: SARCO GAS & FOOD MART
 - Year: 2008
 - Address: 2142 NORTH ST

 - Name: SARCO GAS & FOOD MART
 - Year: 2009
 - Address: 2142 NORTH ST

 - Name: GAS & FOOD MARKET
 - Year: 2010
 - Address: 2142 NORTH ST

 - Name: SARCO GAS & FOOD MARKET
 - Year: 2011
 - Address: 2142 NORTH ST

D20
SSE
< 1/8
0.124 mi.
655 ft.

2191 NORTH ST
ANDERSON, CA 96007

Site 4 of 4 in cluster D

EDR Hist Cleaner **1015019790**
N/A

Relative:
Higher

Actual:
425 ft.

- EDR Historical Cleaners:
- Name: CUSTOM CLEANERS
 - Year: 2008
 - Address: 2191 NORTH ST

 - Name: CUSTOM CLEANERS
 - Year: 2012
 - Address: 2191 NORTH ST

21
ENE
1/8-1/4
0.132 mi.
697 ft.

GUARANTEED AUTO SALES
2598 NORTH ST
ANDERSON, CA 96007

LUST **S102431075**
SWEEPS UST **N/A**
HIST CORTESE

Relative:
Lower

Actual:
419 ft.

- LUST:
- Region: STATE
 - Global Id: T0608900104
 - Latitude: 40.4566693
 - Longitude: -122.2947384
 - Case Type: LUST Cleanup Site

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

GUARANTEED AUTO SALES (Continued)

S102431075

Status: Completed - Case Closed
Status Date: 04/29/1992
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: Not reported
Local Agency: SHASTA COUNTY
RB Case Number: 450105
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0608900104
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Status History:

Global Id: T0608900104
Status: Completed - Case Closed
Status Date: 04/29/1992

Global Id: T0608900104
Status: Open - Case Begin Date
Status Date: 06/01/1991

Global Id: T0608900104
Status: Open - Site Assessment
Status Date: 02/11/1992

Regulatory Activities:

Global Id: T0608900104
Action Type: Other
Date: 06/01/1991
Action: Leak Discovery

Global Id: T0608900104
Action Type: Other
Date: 02/03/1992
Action: Leak Reported

Global Id: T0608900104
Action Type: ENFORCEMENT
Date: 04/29/1992
Action: Closure/No Further Action Letter

Global Id: T0608900104
Action Type: Other
Date: 06/01/1991
Action: Leak Stopped

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

GUARANTEED AUTO SALES (Continued)

S102431075

LUST REG 5:

Region: 5
Status: Case Closed
Case Number: 450105
Case Type: Drinking Water Aquifer affected
Substance: GASOLINE
Staff Initials: RSD
Lead Agency: Regional
Program: LUST
MTBE Code: N/A

SWEEPS UST:

Status: Active
Comp Number: 12
Number: 1
Board Of Equalization: 44-027243
Referral Date: 05-30-90
Action Date: 05-30-90
Created Date: 08-22-89
Owner Tank Id: 1
SWRCB Tank Id: 45-000-000012-000001
Tank Status: A
Capacity: 10000
Active Date: 05-30-90
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: 3

Status: Active
Comp Number: 12
Number: 1
Board Of Equalization: 44-027243
Referral Date: 05-30-90
Action Date: 05-30-90
Created Date: 08-22-89
Owner Tank Id: 2
SWRCB Tank Id: 45-000-000012-000002
Tank Status: A
Capacity: 12000
Active Date: 05-30-90
Tank Use: M.V. FUEL
STG: P
Content: LEADED
Number Of Tanks: Not reported

Status: Active
Comp Number: 12
Number: 1
Board Of Equalization: 44-027243
Referral Date: 05-30-90
Action Date: 05-30-90
Created Date: 08-22-89
Owner Tank Id: 3
SWRCB Tank Id: 45-000-000012-000003
Tank Status: A

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

GUARANTEED AUTO SALES (Continued)

S102431075

Capacity: 10000
 Active Date: 05-30-90
 Tank Use: M.V. FUEL
 STG: P
 Content: REG UNLEADED
 Number Of Tanks: Not reported

HIST CORTESE:

Region: CORTESE
 Facility County Code: 45
 Reg By: LTNKA
 Reg Id: 450105

E22
SSW
 1/8-1/4
 0.132 mi.
 699 ft.

SHELL SS ANDERSON DOTZE
2030 NORTH
ANDERSON, CA 96007

HIST CORTESE **S101304483**
N/A

Site 1 of 3 in cluster E

Relative:
Higher

HIST CORTESE:

Region: CORTESE
 Facility County Code: 45
 Reg By: LTNKA
 Reg Id: 450077

Actual:
424 ft.

E23
SSW
 1/8-1/4
 0.132 mi.
 699 ft.

SHELL SS ANDERSON DOTZENROD
2030 NORTH ST
ANDERSON, CA 96007

LUST **S102437368**
N/A

Site 2 of 3 in cluster E

Relative:
Higher

LUST:

Region: STATE
 Global Id: T0608900077
 Latitude: 40.451174484
 Longitude: -122.300883721
 Case Type: LUST Cleanup Site
 Status: Open - Eligible for Closure
 Status Date: 06/18/2015
 Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
 Case Worker: BB
 Local Agency: SHASTA COUNTY
 RB Case Number: 450077
 LOC Case Number: Not reported
 File Location: Regional Board
 Potential Media Affect: Aquifer used for drinking water supply
 Potential Contaminants of Concern: Waste Oil / Motor / Hydraulic / Lubricating
 Site History: The case was opened following an unauthorized release from an underground storage tank system at the subject site. Corrective action is underway as directed by the CVRWQCB. Corrective action may consist of preliminary site investigation, planning and implementation of remedial action, verification monitoring, or a combination thereof. A summary of the site history is available by clicking on either the "Cleanup Status History", "Regulatory Activities" or the "Site Maps/Documents" tab. For a complete site history the case file at the CVRWQCB should be consulted.

Actual:
424 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHELL SS ANDERSON DOTZENROD (Continued)

S102437368

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0608900077
Contact Type: Regional Board Caseworker
Contact Name: BILL BERGMANN
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 364 Knollcrest Drive, Suite 205
City: REDDING
Email: william.bergmann@waterboards.ca.gov
Phone Number: 5302244852

Global Id: T0608900077
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Status History:

Global Id: T0608900077
Status: Open - Case Begin Date
Status Date: 11/29/1990

Global Id: T0608900077
Status: Open - Eligible for Closure
Status Date: 06/18/2015

Global Id: T0608900077
Status: Open - Remediation
Status Date: 12/09/2002

Global Id: T0608900077
Status: Open - Remediation
Status Date: 07/16/2004

Global Id: T0608900077
Status: Open - Remediation
Status Date: 10/22/2004

Global Id: T0608900077
Status: Open - Remediation
Status Date: 02/19/2006

Global Id: T0608900077
Status: Open - Site Assessment
Status Date: 03/07/1991

Global Id: T0608900077
Status: Open - Site Assessment
Status Date: 07/03/2001

Global Id: T0608900077
Status: Open - Site Assessment

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHELL SS ANDERSON DOTZENROD (Continued)

S102437368

Status Date: 07/07/2001

Global Id: T0608900077
Status: Open - Site Assessment
Status Date: 11/25/2003

Global Id: T0608900077
Status: Open - Site Assessment
Status Date: 03/07/2005

Global Id: T0608900077
Status: Open - Site Assessment
Status Date: 01/22/2015

Regulatory Activities:

Global Id: T0608900077
Action Type: RESPONSE
Date: 12/05/2003
Action: Soil and Water Investigation Workplan

Global Id: T0608900077
Action Type: RESPONSE
Date: 10/30/2003
Action: Monitoring Report - Quarterly

Global Id: T0608900077
Action Type: RESPONSE
Date: 01/30/2004
Action: Monitoring Report - Quarterly

Global Id: T0608900077
Action Type: RESPONSE
Date: 09/01/2015
Action: Preliminary Site Assessment Workplan - Addendum - Regulator Responded

Global Id: T0608900077
Action Type: ENFORCEMENT
Date: 02/24/2011
Action: Staff Letter

Global Id: T0608900077
Action Type: ENFORCEMENT
Date: 09/24/2012
Action: Staff Letter

Global Id: T0608900077
Action Type: RESPONSE
Date: 04/30/2008
Action: Monitoring Report - Quarterly

Global Id: T0608900077
Action Type: RESPONSE
Date: 04/30/2005
Action: Monitoring Report - Quarterly

Global Id: T0608900077
Action Type: ENFORCEMENT

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHELL SS ANDERSON DOTZENROD (Continued)

S102437368

Date:	02/27/2009
Action:	Staff Letter
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	06/23/2004
Action:	Phase I Assessment Report
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	07/31/2003
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	07/30/2004
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	ENFORCEMENT
Date:	03/22/2012
Action:	Staff Letter
Global Id:	T0608900077
Action Type:	ENFORCEMENT
Date:	08/23/2004
Action:	Staff Letter
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	10/31/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	ENFORCEMENT
Date:	10/26/2007
Action:	Staff Letter
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	05/17/2011
Action:	Other Report / Document
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	06/16/2011
Action:	Clean Up Fund - 5-Year Review Summary
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	01/29/2010
Action:	Corrective Action Plan / Remedial Action Plan - Addendum
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	06/30/2009
Action:	Other Report / Document

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHELL SS ANDERSON DOTZENROD (Continued)

S102437368

Global Id:	T0608900077
Action Type:	RESPONSE
Date:	09/30/2003
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	04/12/2006
Action:	Interim Remedial Action Report
Global Id:	T0608900077
Action Type:	ENFORCEMENT
Date:	02/09/2005
Action:	Staff Letter
Global Id:	T0608900077
Action Type:	ENFORCEMENT
Date:	03/21/2005
Action:	Staff Letter
Global Id:	T0608900077
Action Type:	ENFORCEMENT
Date:	12/31/2002
Action:	Staff Letter
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	03/27/2009
Action:	Other Workplan
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	08/11/2003
Action:	Pilot Study / Treatability Workplan
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	01/30/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	ENFORCEMENT
Date:	11/05/2004
Action:	Staff Letter
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	01/30/2006
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	ENFORCEMENT
Date:	12/24/2003
Action:	Staff Letter
Global Id:	T0608900077
Action Type:	RESPONSE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHELL SS ANDERSON DOTZENROD (Continued)

S102437368

Date:	08/15/2011
Action:	Other Report / Document
Global Id:	T0608900077
Action Type:	ENFORCEMENT
Date:	04/27/2009
Action:	Site Visit / Inspection / Sampling
Global Id:	T0608900077
Action Type:	ENFORCEMENT
Date:	04/27/2009
Action:	Staff Letter
Global Id:	T0608900077
Action Type:	ENFORCEMENT
Date:	07/27/2009
Action:	Staff Letter
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	10/30/2004
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	07/30/2005
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	04/30/2004
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	10/03/2006
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	ENFORCEMENT
Date:	08/01/2002
Action:	Staff Letter
Global Id:	T0608900077
Action Type:	ENFORCEMENT
Date:	07/08/1998
Action:	Staff Letter
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	05/21/2004
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	02/09/2004
Action:	Soil and Water Investigation Workplan - Addendum

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHELL SS ANDERSON DOTZENROD (Continued)

S102437368

Global Id:	T0608900077
Action Type:	RESPONSE
Date:	03/25/2005
Action:	Soil and Water Investigation Workplan
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	10/22/2004
Action:	CAP/RAP - Final Remediation / Design Plan
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	04/30/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	07/30/2006
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	04/30/2006
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	01/15/2012
Action:	Monitoring Report - Semi-Annually
Global Id:	T0608900077
Action Type:	Other
Date:	12/07/1990
Action:	Leak Discovery
Global Id:	T0608900077
Action Type:	Other
Date:	11/29/1990
Action:	Leak Reported
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	02/09/2004
Action:	Soil and Water Investigation Workplan - Addendum
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	10/30/2002
Action:	Other Workplan
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	10/30/2002
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	RESPONSE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHELL SS ANDERSON DOTZENROD (Continued)

S102437368

Date: 07/30/2002
Action: Monitoring Report - Quarterly

Global Id: T0608900077
Action Type: RESPONSE
Date: 05/17/2013
Action: Site Investigation Workplan - Regulator Responded

Global Id: T0608900077
Action Type: RESPONSE
Date: 06/02/2013
Action: Soil and Water Investigation Workplan - Addendum - Regulator Responded

Global Id: T0608900077
Action Type: RESPONSE
Date: 01/31/2008
Action: Monitoring Report - Quarterly

Global Id: T0608900077
Action Type: REMEDIATION
Date: 02/19/2006
Action: In Situ Physical/Chemical Treatment (other than SVE)

Global Id: T0608900077
Action Type: ENFORCEMENT
Date: 09/24/2003
Action: Staff Letter

Global Id: T0608900077
Action Type: ENFORCEMENT
Date: 09/24/2003
Action: Staff Letter

Global Id: T0608900077
Action Type: ENFORCEMENT
Date: 06/02/2015
Action: Staff Letter

Global Id: T0608900077
Action Type: RESPONSE
Date: 04/18/2003
Action: Other Report / Document

Global Id: T0608900077
Action Type: RESPONSE
Date: 01/31/2003
Action: Monitoring Report - Quarterly

Global Id: T0608900077
Action Type: RESPONSE
Date: 04/16/2004
Action: Soil and Water Investigation Report

Global Id: T0608900077
Action Type: RESPONSE
Date: 07/16/2004
Action: Corrective Action Plan / Remedial Action Plan

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHELL SS ANDERSON DOTZENROD (Continued)

S102437368

Global Id:	T0608900077
Action Type:	RESPONSE
Date:	01/21/2004
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	03/18/2015
Action:	Pilot Study / Treatability Workplan - Regulator Responded
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	04/30/2003
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	11/23/2007
Action:	Soil and Water Investigation Workplan
Global Id:	T0608900077
Action Type:	Other
Date:	12/07/1990
Action:	Leak Stopped
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	04/23/2009
Action:	Other Workplan
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	05/12/2004
Action:	Well Installation Report
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	10/30/2005
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	01/30/2005
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	12/05/2003
Action:	Soil and Water Investigation Workplan - Addendum - Regulator Responded
Global Id:	T0608900077
Action Type:	RESPONSE
Date:	07/31/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0608900077
Action Type:	ENFORCEMENT

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHELL SS ANDERSON DOTZENROD (Continued)

S102437368

Date: 12/24/2003
Action: Staff Letter

LUST REG 5:

Region: 5
Status: Remedial action (cleanup) Underway
Case Number: 450077
Case Type: Drinking Water Aquifer affected
Substance: WASTE OIL
Staff Initials: EJR
Lead Agency: Regional
Program: LUST
MTBE Code: 6

**E24
SSW
1/8-1/4
0.132 mi.
699 ft.**

**DOTZENROD SHELL STATION
2030 NORTH ST
ANDERSON, CA 96007**

**SWEEPS UST U001618719
CUPA Listings N/A**

Site 3 of 3 in cluster E

**Relative:
Higher**

SWEEPS UST:

Status: Active
Comp Number: 330
Number: 2
Board Of Equalization: Not reported
Referral Date: 06-10-91
Action Date: 06-10-91
Created Date: 06-10-91
Owner Tank Id: Not reported
SWRCB Tank Id: 45-000-000330-000001
Tank Status: A
Capacity: 5000
Active Date: 06-10-91
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: 4

**Actual:
424 ft.**

Status: Active
Comp Number: 330
Number: 2
Board Of Equalization: Not reported
Referral Date: 06-10-91
Action Date: 06-10-91
Created Date: 06-10-91
Owner Tank Id: Not reported
SWRCB Tank Id: 45-000-000330-000002
Tank Status: A
Capacity: 5000
Active Date: 06-10-91
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Active

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

DOTZENROD SHELL STATION (Continued)

U001618719

Comp Number: 330
Number: 2
Board Of Equalization: Not reported
Referral Date: 06-10-91
Action Date: 06-10-91
Created Date: 06-10-91
Owner Tank Id: Not reported
SWRCB Tank Id: 45-000-000330-000003
Tank Status: A
Capacity: 8000
Active Date: 06-10-91
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Active
Comp Number: 330
Number: 2
Board Of Equalization: Not reported
Referral Date: 06-10-91
Action Date: 06-10-91
Created Date: 06-10-91
Owner Tank Id: Not reported
SWRCB Tank Id: 45-000-000330-000004
Tank Status: A
Capacity: 7500
Active Date: 06-10-91
Tank Use: M.V. FUEL
STG: P
Content: LEADED
Number Of Tanks: Not reported

CUPA SHASTA:

Site Id: 78
CersID: Not reported
Facility Status: False
Attn: JACK GINDER
Mail Addr: P O BOX 991867
Mail City: REDDING
Mail State: CA
Mail Zip: 96099-1867
EDR Link ID: 78

Detail:

Facid: 78
Facility Name: DOTZENROD SHELL / COTTONWOOD UPHOLSTERY
File Type: Hazardous Material Business Plan Site

Facid: 78
Facility Name: DOTZENROD SHELL / COTTONWOOD UPHOLSTERY
File Type: Closed underground tank site

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

F25
East
1/8-1/4
0.143 mi.
754 ft.

RITE AID NO 6100
3095 MCMURRAY DR
ANDERSON, CA 96007

RCRA-LQG **1014387811**
CAR000213868

Site 1 of 2 in cluster F

Relative:
Higher

RCRA-LQG:

Actual:
421 ft.

Date form received by agency: 07/15/2014
Facility name: RITE AID NO 6100
Facility address: 3095 MCMURRAY DR
ANDERSON, CA 96007
EPA ID: CAR000213868
Mailing address: 30 HUNTER LN
CAMP HILL, PA 17011
Contact: STEPHANIE A CAIATI
Contact address: 30 HUNTER LN
CAMP HILL, PA 17011
Contact country: US
Contact telephone: 717-730-8225
Contact email: SSCAIATI@RITEAID.COM
EPA Region: 09
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name: ANDERSON RETAIL LLC
Owner/operator address: 1916 PARK OAK DR
ROSEVILLE, 95661
Owner/operator country: US
Owner/operator telephone: 916-773-6489
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 07/15/2009
Owner/Op end date: Not reported

Owner/operator name: THRIFTY PAYLESS INC
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 10/08/2009
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

RITE AID NO 6100 (Continued)

1014387811

Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: 131
. Waste name: 131

. Waste code: 141
. Waste name: 141

. Waste code: 214
. Waste name: 214

. Waste code: 232
. Waste name: 232

. Waste code: 311
. Waste name: 311

. Waste code: 791
. Waste name: 791

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D011
. Waste name: SILVER

. Waste code: D024
. Waste name: M-CRESOL

. Waste code: D026
. Waste name: CRESOL

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

RITE AID NO 6100 (Continued)

1014387811

- . Waste code: P001
- . Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

- . Waste code: P075
- . Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-(S)-, & SALTS

Historical Generators:

Date form received by agency: 09/13/2010

Site name: RITE AID 6100

Classification: Conditionally Exempt Small Quantity Generator

- . Waste code: D001
- . Waste name: IGNITABLE WASTE

- . Waste code: D002
- . Waste name: CORROSIVE WASTE

- . Waste code: D005
- . Waste name: BARIUM

- . Waste code: D006
- . Waste name: CADMIUM

- . Waste code: D007
- . Waste name: CHROMIUM

- . Waste code: D008
- . Waste name: LEAD

- . Waste code: D016
- . Waste name: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

- . Waste code: D035
- . Waste name: METHYL ETHYL KETONE

- . Waste code: U002
- . Waste name: 2-PROPANONE (I) (OR) ACETONE (I)

- . Waste code: U080
- . Waste name: METHANE, DICHLORO- (OR) METHYLENE CHLORIDE

- . Waste code: U160
- . Waste name: 2-BUTANONE, PEROXIDE (R,T) (OR) METHYL ETHYL KETONE PEROXIDE (R,T)

Violation Status: No violations found

MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Site

Database(s)

EDR ID Number
 EPA ID Number

F26
East
1/8-1/4
0.143 mi.
754 ft.

RITE AID # 6100
3095 MCMURRAY DR
ANDERSON, CA
Site 2 of 2 in cluster F

CUPA Listings **S111842174**
 N/A

Relative:
Higher

CUPA SHASTA:
 Site Id: 1509
 CersID: 10440538
 Facility Status: True
 Attn: RITE AID CORPORATION ATTN EH&S
 Mail Addr: 30 HUNTER LN
 Mail City: CAMP HILL
 Mail State: PA
 Mail Zip: 17011
 EDR Link ID: 1509

Actual:
421 ft.

Detail:
 Facid: 1509
 Facility Name: RITE AID # 6100
 File Type: Hazardous Waste Generator

G27
South
1/8-1/4
0.145 mi.
766 ft.

BEACON SS #521 ANDERSON
2071 NORTH
ANDERSON, CA 96007
Site 1 of 4 in cluster G

LUST **S104163862**
HIST CORTESE **N/A**

Relative:
Higher

LUST REG 5:
 Region: 5
 Status: Pollution Characterization
 Case Number: 450053
 Case Type: Drinking Water Aquifer affected
 Substance: GASOLINE
 Staff Initials: RF
 Lead Agency: Regional
 Program: LUST
 MTBE Code: N/A

Actual:
425 ft.

HIST CORTESE:
 Region: CORTESE
 Facility County Code: 45
 Reg By: LTNKA
 Reg Id: 450053

G28
South
1/8-1/4
0.145 mi.
766 ft.

BEACON STATION #521/ULTRAMAR INC.
2071 NORTH ST
ANDERSON, CA 96007
Site 2 of 4 in cluster G

SWEEPS UST **U001618705**
 N/A

Relative:
Higher

SWEEPS UST:
 Status: Active
 Comp Number: 31
 Number: 1
 Board Of Equalization: 44-000030
 Referral Date: 10-12-89

Actual:
425 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BEACON STATION #521/ULTRAMAR INC. (Continued)

U001618705

Action Date: 10-12-89
Created Date: 09-11-89
Owner Tank Id: 521-2
SWRCB Tank Id: 45-000-000031-000001
Tank Status: A
Capacity: 10000
Active Date: 09-14-89
Tank Use: M.V. FUEL
STG: P
Content: LEADED
Number Of Tanks: 3

Status: Active
Comp Number: 31
Number: 1
Board Of Equalization: 44-000030
Referral Date: 10-12-89
Action Date: 10-12-89
Created Date: 09-11-89
Owner Tank Id: 521-3
SWRCB Tank Id: 45-000-000031-000002
Tank Status: A
Capacity: 8000
Active Date: 09-14-89
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Active
Comp Number: 31
Number: 1
Board Of Equalization: 44-000030
Referral Date: 10-12-89
Action Date: 10-12-89
Created Date: 09-11-89
Owner Tank Id: 521-4
SWRCB Tank Id: 45-000-000031-000003
Tank Status: A
Capacity: 8000
Active Date: 09-14-89
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 31
Number: Not reported
Board Of Equalization: 44-000030
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: 45-000-000031-000004
Tank Status: Not reported
Capacity: 550

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BEACON STATION #521/ULTRAMAR INC. (Continued)

U001618705

Active Date: Not reported
Tank Use: EMPTY
STG: WASTE
Content: WASTE OIL
Number Of Tanks: 1

G29
South
1/8-1/4
0.145 mi.
766 ft.

ALLIANCE FOOD & GAS
2071 NORTH ST
ANDERSON, CA

CUPA Listings S110744507
N/A

Site 3 of 4 in cluster G

Relative:
Higher

CUPA SHASTA:

Site Id: 40
CersID: 10474711
Facility Status: True
Attn: RAJEEV VASUDEVA
Mail Addr: 2071 NORTH ST
Mail City: ANDERSON
Mail State: CA
Mail Zip: 96007
EDR Link ID: 40

Actual:
425 ft.

Detail:

Facid: 40
Facility Name: ALLIANCE FOOD & GAS
File Type: Hazardous Material Business Plan Site

Facid: 40
Facility Name: ALLIANCE FOOD & GAS
File Type: Underground Tank

Facid: 40
Facility Name: ALLIANCE FOOD & GAS
File Type: Hazardous Waste Generator

G30
South
1/8-1/4
0.145 mi.
766 ft.

BEACON # 521 (FORMER)
2071 NORTH ST
ANDERSON, CA 96007

LUST S109285999
N/A

Site 4 of 4 in cluster G

Relative:
Higher

LUST:

Region: STATE
Global Id: T0608900053
Latitude: 40.4513885201311
Longitude: -122.299887835979
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 09/18/2012
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: BB
Local Agency: SHASTA COUNTY
RB Case Number: 450053
LOC Case Number: Not reported
File Location: Not reported

Actual:
425 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BEACON # 521 (FORMER) (Continued)

S109285999

Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: The case was opened following an unauthorized release from an underground storage tank system at the subject site. Corrective action is underway as directed by the CVRWQCB. Corrective action may consist of preliminary site investigation, planning and implementation of remedial action, verification monitoring, or a combination thereof. A summary of the site history is available by clicking on either the "Cleanup Status History", "Regulatory Activities" or the "Site Maps/Documents" tab. For a complete site history the case file at the CVRWQCB should be consulted.

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0608900053
Contact Type: Regional Board Caseworker
Contact Name: BILL BERGMANN
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 364 Knollcrest Drive, Suite 205
City: REDDING
Email: william.bergmann@waterboards.ca.gov
Phone Number: 5302244852

Global Id: T0608900053
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Status History:

Global Id: T0608900053
Status: Completed - Case Closed
Status Date: 11/20/1996

Global Id: T0608900053
Status: Completed - Case Closed
Status Date: 09/18/2012

Global Id: T0608900053
Status: Open - Case Begin Date
Status Date: 04/17/1990

Global Id: T0608900053
Status: Open - Remediation
Status Date: 04/18/1994

Global Id: T0608900053
Status: Open - Remediation
Status Date: 08/21/2004

Global Id: T0608900053
Status: Open - Remediation
Status Date: 02/22/2012

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BEACON # 521 (FORMER) (Continued)

S109285999

Global Id: T0608900053
Status: Open - Reopen Case
Status Date: 06/15/2004

Global Id: T0608900053
Status: Open - Site Assessment
Status Date: 04/17/1990

Global Id: T0608900053
Status: Open - Site Assessment
Status Date: 09/13/1991

Global Id: T0608900053
Status: Open - Site Assessment
Status Date: 08/28/1992

Global Id: T0608900053
Status: Open - Site Assessment
Status Date: 08/21/2004

Global Id: T0608900053
Status: Open - Verification Monitoring
Status Date: 03/25/1996

Regulatory Activities:

Global Id: T0608900053
Action Type: RESPONSE
Date: 04/30/2009
Action: Monitoring Report - Quarterly

Global Id: T0608900053
Action Type: ENFORCEMENT
Date: 01/20/2012
Action: Staff Letter

Global Id: T0608900053
Action Type: ENFORCEMENT
Date: 09/18/2012
Action: Closure/No Further Action Letter

Global Id: T0608900053
Action Type: RESPONSE
Date: 10/30/2010
Action: Monitoring Report - Quarterly

Global Id: T0608900053
Action Type: RESPONSE
Date: 07/30/2010
Action: Monitoring Report - Quarterly

Global Id: T0608900053
Action Type: RESPONSE
Date: 01/30/2011
Action: Monitoring Report - Quarterly

Global Id: T0608900053
Action Type: RESPONSE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BEACON # 521 (FORMER) (Continued)

S109285999

Date: 07/30/2009
Action: Monitoring Report - Quarterly

Global Id: T0608900053
Action Type: ENFORCEMENT
Date: 03/09/2009
Action: Staff Letter

Global Id: T0608900053
Action Type: RESPONSE
Date: 09/10/2004
Action: Soil and Water Investigation Workplan

Global Id: T0608900053
Action Type: RESPONSE
Date: 07/30/2006
Action: Monitoring Report - Quarterly

Global Id: T0608900053
Action Type: RESPONSE
Date: 01/30/2008
Action: Monitoring Report - Quarterly

Global Id: T0608900053
Action Type: RESPONSE
Date: 02/28/2005
Action: Sensitive Receptor Survey Report

Global Id: T0608900053
Action Type: RESPONSE
Date: 10/30/2007
Action: Monitoring Report - Quarterly

Global Id: T0608900053
Action Type: RESPONSE
Date: 01/30/2010
Action: Monitoring Report - Quarterly

Global Id: T0608900053
Action Type: RESPONSE
Date: 04/21/2011
Action: Monitoring Report - Quarterly

Global Id: T0608900053
Action Type: RESPONSE
Date: 07/12/2011
Action: Monitoring Report - Quarterly

Global Id: T0608900053
Action Type: RESPONSE
Date: 10/30/2009
Action: Other Report / Document

Global Id: T0608900053
Action Type: RESPONSE
Date: 01/01/2009
Action: Other Report / Document

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BEACON # 521 (FORMER) (Continued)

S109285999

Global Id:	T0608900053
Action Type:	RESPONSE
Date:	08/06/2004
Action:	Other Report / Document
Global Id:	T0608900053
Action Type:	RESPONSE
Date:	04/30/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0608900053
Action Type:	RESPONSE
Date:	04/30/2006
Action:	Monitoring Report - Quarterly
Global Id:	T0608900053
Action Type:	ENFORCEMENT
Date:	01/12/2005
Action:	Staff Letter
Global Id:	T0608900053
Action Type:	RESPONSE
Date:	04/30/2010
Action:	Monitoring Report - Quarterly
Global Id:	T0608900053
Action Type:	RESPONSE
Date:	01/30/2009
Action:	Monitoring Report - Quarterly
Global Id:	T0608900053
Action Type:	RESPONSE
Date:	07/30/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0608900053
Action Type:	RESPONSE
Date:	10/30/2009
Action:	Monitoring Report - Quarterly
Global Id:	T0608900053
Action Type:	ENFORCEMENT
Date:	06/15/2004
Action:	Staff Letter
Global Id:	T0608900053
Action Type:	RESPONSE
Date:	10/15/2011
Action:	Monitoring Report - Quarterly
Global Id:	T0608900053
Action Type:	RESPONSE
Date:	04/30/2005
Action:	Monitoring Report - Quarterly
Global Id:	T0608900053
Action Type:	ENFORCEMENT

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BEACON # 521 (FORMER) (Continued)

S109285999

Date: 05/23/2011
Action: Staff Letter

Global Id: T0608900053
Action Type: RESPONSE
Date: 01/30/2006
Action: Monitoring Report - Quarterly

Global Id: T0608900053
Action Type: RESPONSE
Date: 07/30/2005
Action: Monitoring Report - Quarterly

Global Id: T0608900053
Action Type: RESPONSE
Date: 04/30/2007
Action: Monitoring Report - Quarterly

Global Id: T0608900053
Action Type: ENFORCEMENT
Date: 04/19/2012
Action: Staff Letter

Global Id: T0608900053
Action Type: RESPONSE
Date: 03/30/2012
Action: Request for Closure

Global Id: T0608900053
Action Type: Other
Date: 04/17/1990
Action: Leak Discovery

Global Id: T0608900053
Action Type: Other
Date: 06/12/1990
Action: Leak Reported

Global Id: T0608900053
Action Type: ENFORCEMENT
Date: 09/15/2009
Action: Staff Letter

Global Id: T0608900053
Action Type: ENFORCEMENT
Date: 12/01/2009
Action: Staff Letter

Global Id: T0608900053
Action Type: ENFORCEMENT
Date: 06/14/2004
Action: Staff Letter

Global Id: T0608900053
Action Type: RESPONSE
Date: 10/30/2006
Action: Monitoring Report - Quarterly

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BEACON # 521 (FORMER) (Continued)

S109285999

Global Id:	T0608900053
Action Type:	RESPONSE
Date:	01/30/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0608900053
Action Type:	ENFORCEMENT
Date:	08/25/2004
Action:	Staff Letter
Global Id:	T0608900053
Action Type:	RESPONSE
Date:	09/12/2012
Action:	Well Destruction Report
Global Id:	T0608900053
Action Type:	RESPONSE
Date:	12/03/2004
Action:	Soil and Water Investigation Report
Global Id:	T0608900053
Action Type:	RESPONSE
Date:	12/03/2004
Action:	Sensitive Receptor Survey Report
Global Id:	T0608900053
Action Type:	ENFORCEMENT
Date:	09/17/2008
Action:	Staff Letter
Global Id:	T0608900053
Action Type:	RESPONSE
Date:	10/30/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0608900053
Action Type:	RESPONSE
Date:	08/28/2008
Action:	Other Workplan
Global Id:	T0608900053
Action Type:	RESPONSE
Date:	01/30/2005
Action:	Monitoring Report - Quarterly
Global Id:	T0608900053
Action Type:	RESPONSE
Date:	07/30/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0608900053
Action Type:	Other
Date:	04/17/1990
Action:	Leak Stopped
Global Id:	T0608900053
Action Type:	RESPONSE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BEACON # 521 (FORMER) (Continued)

S109285999

Date: 06/01/2009
Action: Other Report / Document

Global Id: T0608900053
Action Type: RESPONSE
Date: 10/30/2005
Action: Monitoring Report - Quarterly

**31
NE
1/8-1/4
0.160 mi.
843 ft.**

**HANDI SPOT MARKET
2700 NORTH WAY
ANDERSON, CA 96007**

**LUST S104403730
HIST CORTESE N/A**

**Relative:
Lower

Actual:
419 ft.**

LUST:
Region: STATE
Global Id: T0608900299
Latitude: 40.457328961
Longitude: -122.29434255
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 04/11/2012
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: GCS
Local Agency: SHASTA COUNTY
RB Case Number: 450307
LOC Case Number: Not reported
File Location: Regional Board
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: The case was opened following an unauthorized release from an underground storage tank system at the subject site. Corrective action is underway as directed by the CVRWQCB. Corrective action may consist of preliminary site investigation, planning and implementation of remedial action, verification monitoring, or a combination thereof. A summary of the site history is available by clicking on either the "Cleanup Status History", "Regulatory Activities" or the "Site Maps/Documents" tab. For a complete site history the case file at the CVRWQCB should be consulted.

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0608900299
Contact Type: Regional Board Caseworker
Contact Name: GRANT STEIN
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 364 Knollcrest Dr, Suite 200
City: REDDING
Email: gstein@waterboards.ca.gov
Phone Number: 5302244788

Global Id: T0608900299
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HANDI SPOT MARKET (Continued)

S104403730

City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Status History:

Global Id: T0608900299
Status: Completed - Case Closed
Status Date: 04/11/2012

Global Id: T0608900299
Status: Open - Case Begin Date
Status Date: 12/13/1999

Global Id: T0608900299
Status: Open - Site Assessment
Status Date: 02/08/2000

Global Id: T0608900299
Status: Open - Site Assessment
Status Date: 03/04/2005

Global Id: T0608900299
Status: Open - Site Assessment
Status Date: 05/12/2005

Global Id: T0608900299
Status: Open - Site Assessment
Status Date: 09/13/2006

Global Id: T0608900299
Status: Open - Site Assessment
Status Date: 01/07/2010

Regulatory Activities:

Global Id: T0608900299
Action Type: RESPONSE
Date: 10/30/2009
Action: Other Report / Document

Global Id: T0608900299
Action Type: RESPONSE
Date: 10/31/2003
Action: Other Workplan

Global Id: T0608900299
Action Type: RESPONSE
Date: 08/18/2006
Action: Soil and Water Investigation Workplan

Global Id: T0608900299
Action Type: RESPONSE
Date: 10/30/2006
Action: Monitoring Report - Quarterly

Global Id: T0608900299
Action Type: ENFORCEMENT

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HANDI SPOT MARKET (Continued)

S104403730

Date: 04/11/2012
Action: Staff Letter

Global Id: T0608900299
Action Type: ENFORCEMENT
Date: 04/11/2012
Action: Closure/No Further Action Letter

Global Id: T0608900299
Action Type: ENFORCEMENT
Date: 01/24/2005
Action: Staff Letter

Global Id: T0608900299
Action Type: ENFORCEMENT
Date: 05/13/2005
Action: Staff Letter

Global Id: T0608900299
Action Type: ENFORCEMENT
Date: 05/27/2011
Action: Staff Letter

Global Id: T0608900299
Action Type: ENFORCEMENT
Date: 01/10/2006
Action: Staff Letter

Global Id: T0608900299
Action Type: ENFORCEMENT
Date: 12/21/2004
Action: * Verbal Communication

Global Id: T0608900299
Action Type: ENFORCEMENT
Date: 03/19/2004
Action: Staff Letter

Global Id: T0608900299
Action Type: RESPONSE
Date: 01/31/2008
Action: Monitoring Report - Quarterly

Global Id: T0608900299
Action Type: ENFORCEMENT
Date: 08/30/2005
Action: * Verbal Communication

Global Id: T0608900299
Action Type: RESPONSE
Date: 02/15/2007
Action: Other Report / Document

Global Id: T0608900299
Action Type: ENFORCEMENT
Date: 03/09/2005
Action: Staff Letter

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HANDI SPOT MARKET (Continued)

S104403730

Global Id:	T0608900299
Action Type:	RESPONSE
Date:	06/30/2005
Action:	Other Workplan
Global Id:	T0608900299
Action Type:	ENFORCEMENT
Date:	09/02/2010
Action:	Staff Letter
Global Id:	T0608900299
Action Type:	RESPONSE
Date:	02/28/2007
Action:	Electronic Reporting Submittal Due
Global Id:	T0608900299
Action Type:	ENFORCEMENT
Date:	11/17/2005
Action:	Site Visit / Inspection / Sampling
Global Id:	T0608900299
Action Type:	ENFORCEMENT
Date:	06/19/2006
Action:	13267 Requirement
Global Id:	T0608900299
Action Type:	RESPONSE
Date:	11/23/2010
Action:	Request for Closure
Global Id:	T0608900299
Action Type:	RESPONSE
Date:	02/07/2012
Action:	Well Destruction Report
Global Id:	T0608900299
Action Type:	Other
Date:	12/13/1999
Action:	Leak Discovery
Global Id:	T0608900299
Action Type:	Other
Date:	12/13/1999
Action:	Leak Reported
Global Id:	T0608900299
Action Type:	ENFORCEMENT
Date:	09/24/2009
Action:	Staff Letter
Global Id:	T0608900299
Action Type:	ENFORCEMENT
Date:	12/07/2006
Action:	Site Visit / Inspection / Sampling
Global Id:	T0608900299
Action Type:	RESPONSE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HANDI SPOT MARKET (Continued)

S104403730

Date:	04/30/2007
Action:	Monitoring Report - Quarterly
Global Id:	T0608900299
Action Type:	ENFORCEMENT
Date:	09/16/2003
Action:	Staff Letter
Global Id:	T0608900299
Action Type:	ENFORCEMENT
Date:	09/29/2006
Action:	Staff Letter
Global Id:	T0608900299
Action Type:	ENFORCEMENT
Date:	08/03/2005
Action:	Staff Letter
Global Id:	T0608900299
Action Type:	ENFORCEMENT
Date:	02/08/2000
Action:	Staff Letter
Global Id:	T0608900299
Action Type:	RESPONSE
Date:	04/28/2006
Action:	Other Workplan
Global Id:	T0608900299
Action Type:	RESPONSE
Date:	12/01/2010
Action:	Other Report / Document
Global Id:	T0608900299
Action Type:	ENFORCEMENT
Date:	02/12/2008
Action:	Staff Letter
Global Id:	T0608900299
Action Type:	ENFORCEMENT
Date:	12/12/2006
Action:	Staff Letter
Global Id:	T0608900299
Action Type:	Other
Date:	12/13/1999
Action:	Leak Stopped
Global Id:	T0608900299
Action Type:	RESPONSE
Date:	03/01/2005
Action:	Preliminary Site Assessment Workplan
Global Id:	T0608900299
Action Type:	RESPONSE
Date:	05/15/2005
Action:	Preliminary Site Assessment Report

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HANDI SPOT MARKET (Continued)

S104403730

Global Id: T0608900299
Action Type: RESPONSE
Date: 09/30/2005
Action: Other Report / Document

LUST REG 5:

Region: 5
Status: Pollution Characterization
Case Number: 450307
Case Type: Drinking Water Aquifer affected
Substance: GASOLINE
Staff Initials: RF
Lead Agency: Regional
Program: LUST
MTBE Code: N/A

HIST CORTESE:

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450307

32
SW
1/8-1/4
0.165 mi.
870 ft.

**EAGAN PROPERTY
3110 WEST CENTER STREET
ANDERSON, CA 96007**

**LUST S113804541
N/A**

**Relative:
Higher**

LUST:

Region: STATE
Global Id: T10000004971
Latitude: 40.4510216935929
Longitude: -122.30288127791
Case Type: LUST Cleanup Site
Status: Open - Site Assessment
Status Date: 08/25/2015
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: MG
Local Agency: Not reported
RB Case Number: 450351
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Not reported
Potential Contaminants of Concern: Not reported
Site History: The case was opened following an unauthorized release from an underground storage tank system at the subject site. Corrective action is underway as directed by the CVRWQCB. Corrective action may consist of preliminary site investigation, planning and implementation of remedial action, verification monitoring, or a combination thereof. A summary of the site history is available by clicking on either the "Cleanup Status History", "Regulatory Activities" or the "Site Maps/Documents" tab. For a complete site history the case file at the CVRWQCB should be consulted.

**Actual:
424 ft.**

Click here to access the California GeoTracker records for this facility:

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

EAGAN PROPERTY (Continued)

S113804541

Contact:

Global Id: T10000004971
Contact Type: Regional Board Caseworker
Contact Name: MUSTAPHA GUERBAZ
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 364 KNOLLCREST DR., SUITE 205
City: REDDING
Email: mustapha.guerbaz@waterboards.ca.gov
Phone Number: Not reported

Status History:

Global Id: T10000004971
Status: Open - Case Begin Date
Status Date: 05/04/1995

Global Id: T10000004971
Status: Open - Inactive
Status Date: 07/24/2013

Global Id: T10000004971
Status: Open - Site Assessment
Status Date: 08/25/2015

Regulatory Activities:

Global Id: T10000004971
Action Type: Other
Date: 05/04/1995
Action: Leak Began

Global Id: T10000004971
Action Type: Other
Date: 05/04/1995
Action: Leak Discovery

Global Id: T10000004971
Action Type: Other
Date: 05/04/1995
Action: Leak Reported

H33 **HANDI SPOT MARKET**
ENE **2700 NORTHWAY ST**
1/8-1/4 **ANDERSON, CA 96007**
0.166 mi.
878 ft. **Site 1 of 2 in cluster H**

SWEEPS UST **S106927047**
N/A

Relative:
Lower

SWEEPS UST:
Status: Active
Comp Number: 159
Number: 9
Board Of Equalization: Not reported
Referral Date: 12-17-90
Action Date: 12-17-90
Created Date: 12-17-90
Owner Tank Id: 1
SWRCB Tank Id: 45-000-000159-000001

Actual:
419 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HANDI SPOT MARKET (Continued)

S106927047

Tank Status: A
Capacity: 6000
Active Date: 12-17-90
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: 3

Status: Active
Comp Number: 159
Number: 9
Board Of Equalization: Not reported
Referral Date: 12-17-90
Action Date: 12-17-90
Created Date: 12-17-90
Owner Tank Id: 2
SWRCB Tank Id: 45-000-000159-000002
Tank Status: A
Capacity: 6000
Active Date: 12-17-90
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Active
Comp Number: 159
Number: 9
Board Of Equalization: Not reported
Referral Date: 12-17-90
Action Date: 12-17-90
Created Date: 12-17-90
Owner Tank Id: 3
SWRCB Tank Id: 45-000-000159-000003
Tank Status: A
Capacity: 10000
Active Date: 12-17-90
Tank Use: M.V. FUEL
STG: P
Content: LEADED
Number Of Tanks: Not reported

**H34
ENE
1/8-1/4
0.166 mi.
878 ft.**

**HANDI SPOT MARKET
2700 NORTHWAY ST
ANDERSON, CA**

**CUPA Listings S105082565
N/A**

Site 2 of 2 in cluster H

**Relative:
Lower**

CUPA SHASTA:
Site Id: 64
CersID: 10485991
Facility Status: True
Attn: KIRPA RETAILS INC
Mail Addr: 2700 NORTHWAY ST
Mail City: ANDERSON
Mail State: CA
Mail Zip: 96007
EDR Link ID: 64

**Actual:
419 ft.**

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HANDI SPOT MARKET (Continued)

S105082565

Detail:

Facid: 64
Facility Name: HANDI SPOT MARKET
File Type: Hazardous Material Business Plan Site

Facid: 64
Facility Name: HANDI SPOT MARKET
File Type: Underground Tank

Facid: 64
Facility Name: HANDI SPOT MARKET
File Type: Hazardous Waste Generator

35
SW
1/8-1/4
0.173 mi.
916 ft.

CITY RADIATOR SERVICE
3260 W CENTER ST
ANDERSON, CA 96007

HIST UST U001618712
N/A

Relative:
Higher

HIST UST:

File Number: 00020E88
URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020E88.pdf>
Region: STATE
Facility ID: 00000002283
Facility Type: Gas Station
Other Type: Not reported
Contact Name: A. E. ALLEN
Telephone: 9163650261
Owner Name: LEO A. VEVE SCHEGIN
Owner Address: 225 LASSEN ST
Owner City,St,Zip: ORLAND, CA 95963
Total Tanks: 0003

Actual:
424 ft.

Tank Num: 001
Container Num: 3
Year Installed: 1949
Tank Capacity: 00003860
Tank Used for: PRODUCT
Type of Fuel: PREMIUM
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Tank Num: 002
Container Num: 2
Year Installed: 1949
Tank Capacity: 00003860
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Container Construction Thickness: Not reported
Leak Detection: None

Tank Num: 003
Container Num: 1
Year Installed: 1949
Tank Capacity: 00008000
Tank Used for: PRODUCT

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CITY RADIATOR SERVICE (Continued)

U001618712

Type of Fuel: REGULAR
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

[Click here for Geo Tracker PDF:](#)

**I36
SE
1/8-1/4
0.183 mi.
966 ft.**

**PACIFIC BELL
2955 OAK STREET
ANDERSON, CA 96007**

Site 1 of 2 in cluster I

**RCRA-SQG 1000252017
LUST CAT080028699
SWEEPS UST
FINDS
CUPA Listings
HIST CORTESE
ECHO**

**Relative:
Higher**

**Actual:
423 ft.**

RCRA-SQG:

Date form received by agency: 09/01/1996
Facility name: PACIFIC BELL
Facility address: 2955 OAK STREET
ANDERSON, CA 96007
EPA ID: CAT080028699
Mailing address: 3707 KINGS WAY SEC A-6
SACRAMENTO, CA 95821
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: Not reported
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name: THE PACIFIC TELEPHONE AND TELEGRAPH CO
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PACIFIC BELL (Continued)

1000252017

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:

Date form received by agency: 02/05/1981
Site name: PACIFIC BELL
Classification: Large Quantity Generator

Violation Status: No violations found

LUST:

Region: STATE
Global Id: T0608900220
Latitude: 40.4527055
Longitude: -122.2958482
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 10/09/1995
Lead Agency: SHASTA COUNTY
Case Worker: MAR
Local Agency: SHASTA COUNTY
RB Case Number: 450225
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Soil
Potential Contaminants of Concern: Diesel
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0608900220
Contact Type: Regional Board Caseworker
Contact Name: RECEPTIONIST, REGION 5 REDDING
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 415 KNOLLCREST DR., SUITE 100
City: REDDING
Email: Not reported
Phone Number: Not reported

Global Id: T0608900220
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PACIFIC BELL (Continued)

1000252017

Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Status History:

Global Id: T0608900220
Status: Completed - Case Closed
Status Date: 10/09/1995

Global Id: T0608900220
Status: Open - Case Begin Date
Status Date: 07/21/1995

Global Id: T0608900220
Status: Open - Site Assessment
Status Date: 07/21/1995

Regulatory Activities:

Global Id: T0608900220
Action Type: Other
Date: 07/21/1995
Action: Leak Discovery

Global Id: T0608900220
Action Type: Other
Date: 08/25/1997
Action: Leak Reported

Global Id: T0608900220
Action Type: ENFORCEMENT
Date: 10/09/1995
Action: Closure/No Further Action Letter

Global Id: T0608900220
Action Type: Other
Date: 07/21/1995
Action: Leak Stopped

SWEEPS UST:

Status: Active
Comp Number: 295
Number: 1
Board Of Equalization: 44-031914
Referral Date: 05-20-92
Action Date: 03-09-93
Created Date: 01-24-90
Owner Tank Id: 909
SWRCB Tank Id: 45-000-000295-000001
Tank Status: A
Capacity: 1000
Active Date: 05-19-92
Tank Use: M.V. FUEL
STG: P

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PACIFIC BELL (Continued)

1000252017

Content: DIESEL
Number Of Tanks: 1

FINDS:

Registry ID: 110055796018

Environmental Interest/Information System
STATE MASTER

Registry ID: 110002954722

Environmental Interest/Information System
California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART)
provides California with information on hazardous waste shipments for
generators, transporters, and treatment, storage, and disposal
facilities.

RCRAInfo is a national information system that supports the Resource
Conservation and Recovery Act (RCRA) program through the tracking of
events and activities related to facilities that generate, transport,
and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA
program staff to track the notification, permit, compliance, and
corrective action activities required under RCRA.

CUPA SHASTA:

Site Id: 73
CersID: 10448224
Facility Status: True
Attn: AT&T EH&S
Mail Addr: 5001 EXECUTIVE PARKWAY, ROOM 4W200W
Mail City: SAN RAMON
Mail State: CA
Mail Zip: 94583
EDR Link ID: 73

Detail:

Facid: 73
Facility Name: AT&T - TA002
File Type: Hazardous Material Business Plan Site

Facid: 73
Facility Name: AT&T - TA002
File Type: Closed underground tank site

Facid: 73
Facility Name: AT&T - TA002
File Type: Hazardous Waste Generator

HIST CORTESE:

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450225

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PACIFIC BELL (Continued)

1000252017

ECHO:

Envid: 1000252017
Registry ID: 110055796018
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110055796018

Envid: 1000252017
Registry ID: 110002954722
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110002954722

**I37
SE
1/8-1/4
0.183 mi.
966 ft.**

**PACIFIC BELL (TA-002)
2955 OAK STREET
ANDERSON, CA 96007**

**LUST S102859562
HIST UST N/A**

Site 2 of 2 in cluster I

**Relative:
Higher**

LUST REG 5:
Region: 5
Status: Case Closed
Case Number: 450225
Case Type: Soil only
Substance: DIESEL
Staff Initials: CMB
Lead Agency: Local
Program: LUST
MTBE Code: N/A

**Actual:
423 ft.**

HIST UST:

File Number: 00020ED7
URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020ED7.pdf>
Region: Not reported
Facility ID: Not reported
Facility Type: Not reported
Other Type: Not reported
Contact Name: Not reported
Telephone: Not reported
Owner Name: Not reported
Owner Address: Not reported
Owner City,St,Zip: Not reported
Total Tanks: Not reported

Tank Num: Not reported
Container Num: Not reported
Year Installed: Not reported
Tank Capacity: Not reported
Tank Used for: Not reported
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Not reported

Click here for Geo Tracker PDF:

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

38
SSW
1/8-1/4
0.201 mi.
1059 ft.

METRIC MOTORS
3046 W CENTER ST
ANDERSON, CA

CUPA Listings **S110744574**
N/A

Relative:
Higher

CUPA SHASTA:
Site Id: 332
CersID: 10187965
Facility Status: True
Attn: LISA BURRIS
Mail Addr: 3046 W CENTER ST
Mail City: ANDERSON
Mail State: CA
Mail Zip: 96007
EDR Link ID: 332

Actual:
426 ft.

Detail:
Facid: 332
Facility Name: METRIC MOTORS
File Type: Hazardous Material Business Plan Site

Facid: 332
Facility Name: METRIC MOTORS
File Type: Hazardous Waste Generator

J39
WSW
1/8-1/4
0.226 mi.
1193 ft.

CHEAPER #92
3480 CENTER ST W
ANDERSON, CA 96007
Site 1 of 3 in cluster J

LUST **S104403704**
HIST CORTESE **N/A**

Relative:
Higher

LUST:
Region: STATE
Global Id: T0608900184
Latitude: 40.4539809
Longitude: -122.3070415
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 01/08/2008
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: RDJ
Local Agency: SHASTA COUNTY
RB Case Number: 450189
LOC Case Number: Not reported
File Location: Regional Board
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Actual:
424 ft.

[Click here to access the California GeoTracker records for this facility:](#)

Contact:
Global Id: T0608900184
Contact Type: Regional Board Caseworker
Contact Name: RANDY JUDGE
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 415 KNOLLCREST DR. STE. 100
City: REDDING
Email: rjudge@waterboards.ca.gov

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHEAPER #92 (Continued)

S104403704

Phone Number: Not reported

Global Id: T0608900184
Contact Type: Local Agency Caseworker
Contact Name: NEIL SULLIVAN
Organization Name: SHASTA COUNTY
Address: 1855 PLACER ST.
City: REDDING
Email: nsullivan@co.shasta.ca.us
Phone Number: 5302255405

Status History:

Global Id: T0608900184
Status: Completed - Case Closed
Status Date: 01/08/2008

Global Id: T0608900184
Status: Open - Case Begin Date
Status Date: 12/06/1988

Global Id: T0608900184
Status: Open - Site Assessment
Status Date: 12/08/1988

Global Id: T0608900184
Status: Open - Site Assessment
Status Date: 05/28/1999

Regulatory Activities:

Global Id: T0608900184
Action Type: RESPONSE
Date: 02/17/2004
Action: Other Workplan

Global Id: T0608900184
Action Type: ENFORCEMENT
Date: 01/09/2007
Action: Staff Letter

Global Id: T0608900184
Action Type: ENFORCEMENT
Date: 02/16/2007
Action: Staff Letter

Global Id: T0608900184
Action Type: ENFORCEMENT
Date: 07/14/2005
Action: Staff Letter

Global Id: T0608900184
Action Type: ENFORCEMENT
Date: 12/21/2004
Action: Staff Letter

Global Id: T0608900184
Action Type: ENFORCEMENT

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHEAPER #92 (Continued)

S104403704

Date: 01/08/2008
Action: Closure/No Further Action Letter

Global Id: T0608900184
Action Type: RESPONSE
Date: 07/30/2006
Action: Monitoring Report - Quarterly

Global Id: T0608900184
Action Type: ENFORCEMENT
Date: 02/26/2004
Action: Staff Letter

Global Id: T0608900184
Action Type: ENFORCEMENT
Date: 05/18/2005
Action: Staff Letter

Global Id: T0608900184
Action Type: ENFORCEMENT
Date: 04/06/2005
Action: Staff Letter

Global Id: T0608900184
Action Type: RESPONSE
Date: 06/30/2005
Action: Other Workplan

Global Id: T0608900184
Action Type: RESPONSE
Date: 02/28/2007
Action: Electronic Reporting Submittal Due

Global Id: T0608900184
Action Type: RESPONSE
Date: 06/15/2007
Action: Unknown

Global Id: T0608900184
Action Type: ENFORCEMENT
Date: 11/28/2005
Action: Staff Letter

Global Id: T0608900184
Action Type: Other
Date: 12/06/1988
Action: Leak Discovery

Global Id: T0608900184
Action Type: Other
Date: 07/26/1995
Action: Leak Reported

Global Id: T0608900184
Action Type: RESPONSE
Date: 03/31/2005
Action: Other Report / Document

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHEAPER #92 (Continued)

S104403704

Global Id: T0608900184
Action Type: RESPONSE
Date: 03/30/2004
Action: Other Workplan

Global Id: T0608900184
Action Type: RESPONSE
Date: 03/31/2005
Action: Sensitive Receptor Survey Report

Global Id: T0608900184
Action Type: RESPONSE
Date: 01/30/2006
Action: Monitoring Report - Quarterly

Global Id: T0608900184
Action Type: ENFORCEMENT
Date: 10/03/2003
Action: Staff Letter

Global Id: T0608900184
Action Type: Other
Date: 12/06/1988
Action: Leak Stopped

Global Id: T0608900184
Action Type: RESPONSE
Date: 07/30/2005
Action: Monitoring Report - Quarterly

LUST REG 5:

Region: 5
Status: Case Closed
Case Number: 450189
Case Type: Drinking Water Aquifer affected
Substance: GASOLINE
Staff Initials: RDJ
Lead Agency: Regional
Program: LUST
MTBE Code: N/A

HIST CORTESE:

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450189

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

J40
WSW
1/8-1/4
0.226 mi.
1193 ft.
MORE FOR LESS
3480 W CENTER ST
ANDERSON, CA 96007
Site 2 of 3 in cluster J

CUPA Listings **S113117274**
HAZNET **N/A**

Relative:
Higher

CUPA SHASTA:
Site Id: 52
CersID: 10169751
Facility Status: True
Attn: VICTOR HASSAN
Mail Addr: 2860 N SANTIAGO BLVD 2ND FLOOR
Mail City: ORANGE
Mail State: CA
Mail Zip: 92867
EDR Link ID: 52

Actual:
424 ft.

Detail:

Facid: 52
Facility Name: COLONIAL ENERGY CE 20113
File Type: Hazardous Material Business Plan Site

Facid: 52
Facility Name: COLONIAL ENERGY CE 20113
File Type: Underground Tank

Facid: 52
Facility Name: COLONIAL ENERGY CE 20113
File Type: Hazardous Waste Generator

HAZNET:

envid: S113117274
Year: 2004
GEPaid: CAL000241590
Contact: CYNDA PELOTT-A/P
Telephone: 9163699740
Mailing Name: Not reported
Mailing Address: 3336 BRADSHAW RD STE 260
Mailing City,St,Zip: SACRAMENTO, CA 958270000
Gen County: Not reported
TSD EPA ID: CAD044003556
TSD County: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Transfer Station
Tons: 2.29
Cat Decode: Unspecified oil-containing waste
Method Decode: Transfer Station
Facility County: Shasta

envid: S113117274
Year: 2004
GEPaid: CAL000241590
Contact: CYNDA PELOTT-A/P
Telephone: 9163699740
Mailing Name: Not reported
Mailing Address: 3336 BRADSHAW RD STE 260
Mailing City,St,Zip: SACRAMENTO, CA 958270000
Gen County: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORE FOR LESS (Continued)

S113117274

TSD EPA ID: CAD009466392
TSD County: Not reported
Waste Category: Other empty containers 30 gallons or more
Disposal Method: Recycler
Tons: 0.5
Cat Decode: Other empty containers 30 gallons or more
Method Decode: Recycler
Facility County: Shasta

J41
WSW
1/8-1/4
0.226 mi.
1193 ft.

FOOD & LIQUOR #92
3480 W CENTER ST
ANDERSON, CA 96007
Site 3 of 3 in cluster J

SWEEPS UST **U001618721**
N/A

Relative:
Higher

SWEEPS UST:
Status: Active
Comp Number: 121
Number: 1
Board Of Equalization: Not reported
Referral Date: 06-10-91
Action Date: 06-10-91
Created Date: 06-10-91
Owner Tank Id: 92-R
SWRCB Tank Id: 45-000-000121-000001
Tank Status: A
Capacity: 20000
Active Date: 06-10-91
Tank Use: M.V. FUEL
STG: P
Content: LEADED
Number Of Tanks: 4

Actual:
424 ft.

Status: Active
Comp Number: 121
Number: 1
Board Of Equalization: Not reported
Referral Date: 06-10-91
Action Date: 06-10-91
Created Date: 06-10-91
Owner Tank Id: 92-U
SWRCB Tank Id: 45-000-000121-000002
Tank Status: A
Capacity: 20000
Active Date: 06-10-91
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Active
Comp Number: 121
Number: 1
Board Of Equalization: Not reported
Referral Date: 06-10-91
Action Date: 06-10-91
Created Date: 06-10-91
Owner Tank Id: 92-P

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FOOD & LIQUOR #92 (Continued)

U001618721

SWRCB Tank Id: 45-000-000121-000003
Tank Status: A
Capacity: 20000
Active Date: 06-10-91
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Active
Comp Number: 121
Number: 1
Board Of Equalization: Not reported
Referral Date: 06-10-91
Action Date: 06-10-91
Created Date: 06-10-91
Owner Tank Id: Not reported
SWRCB Tank Id: 45-000-000121-000004
Tank Status: A
Capacity: 520
Active Date: 06-10-91
Tank Use: OIL
STG: W
Content: WASTE OIL
Number Of Tanks: Not reported

42
NNW
1/8-1/4
0.227 mi.
1197 ft.

B & B RV INC
3750 AUTOMALL DR
ANDERSON, CA

CUPA Listings S110744369
N/A

Relative:
Lower

CUPA SHASTA:
Site Id: 1754
CersID: 10501321
Facility Status: True
Attn: WAYNE BARNES
Mail Addr: 3750 AUTO MALL DR
Mail City: ANDERSON
Mail State: CA
Mail Zip: 96007
EDR Link ID: 1754

Actual:
420 ft.

Detail:
Facid: 1754
Facility Name: B & B RV INC
File Type: Hazardous Material Business Plan Site

Facid: 1754
Facility Name: B & B RV INC
File Type: Hazardous Waste Generator

MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Site

Database(s)

EDR ID Number
 EPA ID Number

43
South
1/4-1/2
0.319 mi.
1685 ft.

CHEVRON SS ANDERSON
2900 CENTER ST W
ANDERSON, CA 96007

LUST **S104403692**
HIST CORTESE **N/A**

Relative:
Higher

LUST:

Actual:
432 ft.

Region: STATE
 Global Id: T0608900150
 Latitude: 40.4474987
 Longitude: -122.302688
 Case Type: LUST Cleanup Site
 Status: Completed - Case Closed
 Status Date: 05/25/1994
 Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
 Case Worker: Not reported
 Local Agency: SHASTA COUNTY
 RB Case Number: 450153
 LOC Case Number: Not reported
 File Location: Not reported
 Potential Media Affect: Soil
 Potential Contaminants of Concern: Gasoline
 Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id: T0608900150
 Contact Type: Regional Board Caseworker
 Contact Name: RECEPTIONIST, REGION 5 REDDING
 Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
 Address: 415 KNOLLCREST DR., SUITE 100
 City: REDDING
 Email: Not reported
 Phone Number: Not reported

Global Id: T0608900150
 Contact Type: Local Agency Caseworker
 Contact Name: MARK CRAMER
 Organization Name: SHASTA COUNTY
 Address: 1855 PLACER STREET
 City: REDDING
 Email: mcramer@co.shasta.ca.us
 Phone Number: Not reported

Status History:

Global Id: T0608900150
 Status: Completed - Case Closed
 Status Date: 05/25/1994

Global Id: T0608900150
 Status: Open - Case Begin Date
 Status Date: 11/02/1993

Global Id: T0608900150
 Status: Open - Site Assessment
 Status Date: 11/02/1993

Global Id: T0608900150

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHEVRON SS ANDERSON (Continued)

S104403692

Status: Open - Site Assessment
Status Date: 05/03/1994

Regulatory Activities:

Global Id: T0608900150
Action Type: Other
Date: 11/02/1993
Action: Leak Discovery

Global Id: T0608900150
Action Type: Other
Date: 12/08/1993
Action: Leak Reported

Global Id: T0608900150
Action Type: ENFORCEMENT
Date: 06/17/1994
Action: Closure/No Further Action Letter

Global Id: T0608900150
Action Type: Other
Date: 11/02/1993
Action: Leak Stopped

LUST REG 5:

Region: 5
Status: Case Closed
Case Number: 450153
Case Type: Soil only
Substance: GASOLINE
Staff Initials: CMB
Lead Agency: Regional
Program: LUST
MTBE Code: N/A

HIST CORTESE:

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450153

44
SSE
1/4-1/2
0.359 mi.
1894 ft.

MARTINS AUTO REPAIR
2805 CENTER ST E
ANDERSON, CA 96007

LUST **S104403670**
HIST CORTESE **N/A**

Relative:
Higher

LUST:

Region: STATE
Global Id: T0608900081
Latitude: 40.4486667
Longitude: -122.2976305
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 03/30/1992

Actual:
432 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MARTINS AUTO REPAIR (Continued)

S104403670

Lead Agency: SHASTA COUNTY
Case Worker: MAR
Local Agency: SHASTA COUNTY
RB Case Number: 450081
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Soil
Potential Contaminants of Concern: Waste Oil / Motor / Hydraulic / Lubricating
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0608900081
Contact Type: Regional Board Caseworker
Contact Name: RECEPTIONIST, REGION 5 REDDING
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 415 KNOLLCREST DR., SUITE 100
City: REDDING
Email: Not reported
Phone Number: Not reported

Global Id: T0608900081
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Status History:

Global Id: T0608900081
Status: Completed - Case Closed
Status Date: 03/30/1992

Global Id: T0608900081
Status: Open - Case Begin Date
Status Date: 04/01/1991

Global Id: T0608900081
Status: Open - Site Assessment
Status Date: 05/09/1991

Regulatory Activities:

Global Id: T0608900081
Action Type: Other
Date: 04/01/1991
Action: Leak Discovery

Global Id: T0608900081
Action Type: Other
Date: 04/19/1991
Action: Leak Reported

Global Id: T0608900081
Action Type: ENFORCEMENT

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MARTINS AUTO REPAIR (Continued)

S104403670

Date: 03/30/1992
Action: Closure/No Further Action Letter

Global Id: T0608900081
Action Type: Other
Date: 04/01/1991
Action: Leak Stopped

LUST REG 5:

Region: 5
Status: Case Closed
Case Number: 450081
Case Type: Soil only
Substance: WASTE OIL
Staff Initials: KLC
Lead Agency: Local
Program: LUST
MTBE Code: N/A

HIST CORTESE:

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450081

45
South
1/4-1/2
0.362 mi.
1910 ft.

ANDERSON CITY OF
1887 HOWARD ST
ANDERSON, CA 96007

LUST **S104403650**
HIST UST **N/A**
HIST CORTESE
NPDES

Relative:
Higher

LUST:

Actual:
434 ft.

Region: STATE
Global Id: T0608900012
Latitude: 40.4480788
Longitude: -122.3002211
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 04/10/1992
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: Not reported
Local Agency: SHASTA COUNTY
RB Case Number: 450012
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id: T0608900012
Contact Type: Regional Board Caseworker
Contact Name: RECEPTIONIST, REGION 5 REDDING
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ANDERSON CITY OF (Continued)

S104403650

Address: 415 KNOLLCREST DR., SUITE 100
City: REDDING
Email: Not reported
Phone Number: Not reported

Global Id: T0608900012
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Status History:

Global Id: T0608900012
Status: Completed - Case Closed
Status Date: 04/10/1992

Global Id: T0608900012
Status: Open - Case Begin Date
Status Date: 02/24/1988

Global Id: T0608900012
Status: Open - Site Assessment
Status Date: 03/17/1988

Regulatory Activities:

Global Id: T0608900012
Action Type: Other
Date: 02/24/1988
Action: Leak Discovery

Global Id: T0608900012
Action Type: Other
Date: 02/26/1988
Action: Leak Reported

Global Id: T0608900012
Action Type: ENFORCEMENT
Date: 04/10/1992
Action: Closure/No Further Action Letter

Global Id: T0608900012
Action Type: Other
Date: 02/24/1988
Action: Leak Stopped

LUST REG 5:

Region: 5
Status: Case Closed
Case Number: 450012
Case Type: Drinking Water Aquifer affected
Substance: REGULR GASOLINE
Staff Initials: KLC

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ANDERSON CITY OF (Continued)

S104403650

Lead Agency: Regional
Program: LUST
MTBE Code: N/A

HIST UST:

File Number: 00020D3E
URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020D3E.pdf>
Region: Not reported
Facility ID: Not reported
Facility Type: Not reported
Other Type: Not reported
Contact Name: Not reported
Telephone: Not reported
Owner Name: Not reported
Owner Address: Not reported
Owner City,St,Zip: Not reported
Total Tanks: Not reported

Tank Num: Not reported
Container Num: Not reported
Year Installed: Not reported
Tank Capacity: Not reported
Tank Used for: Not reported
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Not reported

[Click here for Geo Tracker PDF:](#)

HIST CORTESE:

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450012

NPDES:

Npdes Number: Not reported
Facility Status: Active
Agency Id: 0
Region: 5R
Regulatory Measure Id: 439264
Order No: Not reported
Regulatory Measure Type: Enrollee
Place Id: Not reported
WDID: 5R45M2000140
Program Type: Phase II Small MS4
Adoption Date Of Regulatory Measure: Not reported
Effective Date Of Regulatory Measure: 08/12/2013
Expiration Date Of Regulatory Measure: Not reported
Termination Date Of Regulatory Measure: Not reported
Discharge Name: City of Anderson
Discharge Address: 1887 Howard Street
Discharge City: Anderson
Discharge State: California
Discharge Zip: 96007
RECEIVED DATE: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ANDERSON CITY OF (Continued)

S104403650

PROCESSED DATE:	Not reported
STATUS CODE NAME:	Not reported
STATUS DATE:	Not reported
PLACE SIZE:	Not reported
PLACE SIZE UNIT:	Not reported
FACILITY CONTACT NAME:	Not reported
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	Not reported
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Not reported
OPERATOR ADDRESS:	Not reported
OPERATOR CITY:	Not reported
OPERATOR STATE:	Not reported
OPERATOR ZIP:	Not reported
OPERATOR CONTACT NAME:	Not reported
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	Not reported
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Not reported
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	Not reported
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	Not reported
RECEIVING WATER NAME:	Not reported
CERTIFIER NAME:	Not reported
CERTIFIER TITLE:	Not reported
CERTIFICATION DATE:	Not reported
PRIMARY SIC:	Not reported
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

K46
ESE
1/4-1/2
0.402 mi.
2123 ft.

BEACON #572 (FORMER)
2700 GATEWAY RD
ANDERSON, CA 96007

LUST **S109117791**
N/A

Site 1 of 3 in cluster K

Relative:
Lower

LUST REG 5:

Region: 5
 Status: Case Closed
 Case Number: 450150
 Case Type: Drinking Water Aquifer affected
 Substance: GASOLINE
 Staff Initials: KLC
 Lead Agency: Regional
 Program: LUST
 MTBE Code: N/A

Actual:
420 ft.

K47
ESE
1/4-1/2
0.402 mi.
2123 ft.

FORMER USA SERVICE STATION #3572
2700 GATEWAY DRIVE
ANDERSON, CA 96007

LUST **S113177156**
HAZNET **N/A**

Site 2 of 3 in cluster K

Relative:
Lower

LUST:

Region: STATE
 Global Id: T10000007299
 Latitude: 40.4528
 Longitude: -122.28963
 Case Type: LUST Cleanup Site
 Status: Open - Remediation
 Status Date: 12/08/2015
 Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
 Case Worker: MAB
 Local Agency: SHASTA COUNTY
 RB Case Number: 450366
 LOC Case Number: Not reported
 File Location: All Files are on GeoTracker or in the Local Agency Database
 Potential Media Affect: Aquifer used for drinking water supply
 Potential Contaminants of Concern: Benzene, Gasoline, MTBE / TBA / Other Fuel Oxygenates
 Site History: The Site is an active commercial petroleum fueling facility. An unauthorized release was discovered at the Site in October 1993 during the removal of three USTs. The tanks were replaced by a double walled system. Subsequently a case was opened with the Central Valley Water Board (Beacon Station No. 572 Case #450150). Approximately 900 cubic yards of impacted soil was removed during UST removal activities. Maximum soil concentrations of toluene, ethylbenzene, total xylenes, and gasoline were detected at 51, 38, 210, and 2,100 mg/kg, respectively. During 1993 and 1994, four shallow monitoring wells and one recovery well were installed and sampled. Low levels of gasoline were detected in the vicinity of the former tank basin. The Beacon Station No. 572 Case #450150 was closed in August 1995. In September 2006, five direct push soil borings were advanced as part of a site assessment for a pending real estate transaction. Groundwater impacts were detected in two borings therefore a second unauthorized release report was submitted to Shasta County. In 2015, a limited subsurface investigation is proposed to determine the full extent of groundwater impacts beneath the Site.

Actual:
420 ft.

[Click here to access the California GeoTracker records for this facility:](#)

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FORMER USA SERVICE STATION #3572 (Continued)

S113177156

Contact:

Global Id: T10000007299
Contact Type: Regional Board Caseworker
Contact Name: MELISSA BUCIAK
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 364 Knollcrest Dr. Suite 200
City: REDDING
Email: mbuciak@waterboards.ca.gov
Phone Number: 5302244854

Status History:

Global Id: T10000007299
Status: Open - Case Begin Date
Status Date: 09/19/2006

Global Id: T10000007299
Status: Open - Remediation
Status Date: 12/08/2015

Global Id: T10000007299
Status: Open - Site Assessment
Status Date: 08/20/2015

Regulatory Activities:

Global Id: T10000007299
Action Type: RESPONSE
Date: 12/31/2015
Action: Site Assessment Report

Global Id: T10000007299
Action Type: RESPONSE
Date: 09/29/2014
Action: Soil and Water Investigation Workplan - Regulator Responded

Global Id: T10000007299
Action Type: RESPONSE
Date: 11/07/2006
Action: Unauthorized Release Form

Global Id: T10000007299
Action Type: RESPONSE
Date: 03/10/2016
Action: Monitoring Report - Semi-Annually

Global Id: T10000007299
Action Type: RESPONSE
Date: 09/29/2014
Action: Soil and Water Investigation Workplan

Global Id: T10000007299
Action Type: RESPONSE
Date: 03/09/2015
Action: Email Correspondence

Global Id: T10000007299
Action Type: Other

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FORMER USA SERVICE STATION #3572 (Continued)

S113177156

Date: 09/19/2006
Action: Leak Discovery

Global Id: T10000007299
Action Type: Other
Date: 11/07/2006
Action: Leak Reported

Global Id: T10000007299
Action Type: ENFORCEMENT
Date: 12/08/2015
Action: Staff Letter

HAZNET:

envid: S113177156
Year: 2014
GEPaid: CAR000142356
Contact: LISA GOMEZ
Telephone: 2106264994
Mailing Name: Not reported
Mailing Address: 19100 RIDGEWOOD PKWY
Mailing City,St,Zip: SAN ANTONIO, TX 782590000
Gen County: Shasta
TSD EPA ID: NVT330010000
TSD County: 99
Waste Category: Other organic solids
Disposal Method: Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons: 0.1125
Cat Decode: Other organic solids
Method Decode: Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Facility County: Shasta

envid: S113177156
Year: 2014
GEPaid: CAR000142356
Contact: LISA GOMEZ
Telephone: 2106264994
Mailing Name: Not reported
Mailing Address: 19100 RIDGEWOOD PKWY
Mailing City,St,Zip: SAN ANTONIO, TX 782590000
Gen County: Shasta
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Waste Category: Aqueous solution with total organic residues less than 10 percent
Disposal Method: Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons: 0.525
Cat Decode: Aqueous solution with total organic residues less than 10 percent
Method Decode: Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Facility County: Shasta

envid: S113177156
Year: 2013

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FORMER USA SERVICE STATION #3572 (Continued)

S113177156

GEPaid: CAR000142356
Contact: Lisa Gomez
Telephone: 2106264994
Mailing Name: Not reported
Mailing Address: 19100 RIDGEWOOD PKWY
Mailing City,St,Zip: SAN ANTONIO, TX 782590000
Gen County: Shasta
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Waste Category: Not reported
Disposal Method: Other Recovery Of Reclamation For Reuse Including Acid Regeneration,
Organics Recovery Ect
Tons: 0.147
Cat Decode: Not reported
Method Decode: Other Recovery Of Reclamation For Reuse Including Acid Regeneration,
Organics Recovery Ect
Facility County: Not reported

envid: S113177156
Year: 2013
GEPaid: CAR000142356
Contact: Lisa Gomez
Telephone: 2106264994
Mailing Name: Not reported
Mailing Address: 19100 RIDGEWOOD PKWY
Mailing City,St,Zip: SAN ANTONIO, TX 782590000
Gen County: Shasta
TSD EPA ID: NVT330010000
TSD County: 99
Waste Category: Not reported
Disposal Method: Landfill Or Surface Impoundment That Will Be Closed As Landfill(To
Include On-Site Treatment And/Or Stabilization)
Tons: 0.0875
Cat Decode: Not reported
Method Decode: Landfill Or Surface Impoundment That Will Be Closed As Landfill(To
Include On-Site Treatment And/Or Stabilization)
Facility County: Not reported

envid: S113177156
Year: 2012
GEPaid: CAR000142356
Contact: LISA GARCIA
Telephone: 2106264994
Mailing Name: Not reported
Mailing Address: 19100 RIDGEWOOD PKWY
Mailing City,St,Zip: SAN ANTONIO, TX 782590000
Gen County: Shasta
TSD EPA ID: NVT330010000
TSD County: 99
Waste Category: Not reported
Disposal Method: Landfill Or Surface Impoundment That Will Be Closed As Landfill(To
Include On-Site Treatment And/Or Stabilization)
Tons: 0.05
Cat Decode: Not reported
Method Decode: Landfill Or Surface Impoundment That Will Be Closed As Landfill(To
Include On-Site Treatment And/Or Stabilization)
Facility County: Shasta

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FORMER USA SERVICE STATION #3572 (Continued)

S113177156

[Click this hyperlink](#) while viewing on your computer to access 33 additional CA_HAZNET: record(s) in the EDR Site Report.

**K48
ESE
1/4-1/2
0.402 mi.
2123 ft.**

**BEACON SS #572 ANDERSON
2700 GATEWAY
ANDERSON, CA 96007
Site 3 of 3 in cluster K**

**LUST
HIST UST
CUPA Listings
HIST CORTESE**

**S104163863
N/A**

**Relative:
Lower**

LUST:

Region: STATE
Global Id: T0608900147
Latitude: 40.4521067
Longitude: -122.2887665
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 07/08/2004
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: Not reported
Local Agency: SHASTA COUNTY
RB Case Number: 450150
LOC Case Number: Not reported
File Location: Archived
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: Not reported

**Actual:
420 ft.**

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id: T0608900147
Contact Type: Regional Board Caseworker
Contact Name: RECEPTIONIST, REGION 5 REDDING
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 415 KNOLLCREST DR., SUITE 100
City: REDDING
Email: Not reported
Phone Number: Not reported

Global Id: T0608900147
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Status History:

Global Id: T0608900147
Status: Completed - Case Closed
Status Date: 08/08/1995

Global Id: T0608900147
Status: Completed - Case Closed
Status Date: 07/08/2004

Global Id: T0608900147

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BEACON SS #572 ANDERSON (Continued)

S104163863

Status: Completed - Case Closed
Status Date: 07/08/2004

Global Id: T0608900147
Status: Open - Case Begin Date
Status Date: 10/04/1993

Global Id: T0608900147
Status: Open - Remediation
Status Date: 10/21/1993

Global Id: T0608900147
Status: Open - Reopen Case
Status Date: 02/13/2004

Global Id: T0608900147
Status: Open - Site Assessment
Status Date: 10/04/1993

Global Id: T0608900147
Status: Open - Site Assessment
Status Date: 10/08/1993

Global Id: T0608900147
Status: Open - Site Assessment
Status Date: 02/15/1994

Global Id: T0608900147
Status: Open - Verification Monitoring
Status Date: 10/22/1993

Regulatory Activities:

Global Id: T0608900147
Action Type: Other
Date: 10/04/1993
Action: Leak Discovery

Global Id: T0608900147
Action Type: Other
Date: 10/05/1993
Action: Leak Reported

Global Id: T0608900147
Action Type: ENFORCEMENT
Date: 07/08/2004
Action: Closure/No Further Action Letter

Global Id: T0608900147
Action Type: ENFORCEMENT
Date: 08/08/1995
Action: Closure/No Further Action Letter

Global Id: T0608900147
Action Type: REMEDIATION
Date: 10/04/1993
Action: Excavation

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BEACON SS #572 ANDERSON (Continued)

S104163863

Global Id: T0608900147
Action Type: Other
Date: 10/04/1993
Action: Leak Stopped

HIST UST:

File Number: 00020D55
URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020D55.pdf>
Region: Not reported
Facility ID: Not reported
Facility Type: Not reported
Other Type: Not reported
Contact Name: Not reported
Telephone: Not reported
Owner Name: Not reported
Owner Address: Not reported
Owner City,St,Zip: Not reported
Total Tanks: Not reported

Tank Num: Not reported
Container Num: Not reported
Year Installed: Not reported
Tank Capacity: Not reported
Tank Used for: Not reported
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Not reported

Click here for Geo Tracker PDF:

CUPA SHASTA:

Site Id: 41
CersID: 10481743
Facility Status: True
Attn: TESORO SIERRA PROPERTIES MS TX1-022
Mail Addr: 19100 RIDGEWOOD PARKWAY
Mail City: SAN ANTONIO
Mail State: TX
Mail Zip: 78259
EDR Link ID: 41

Detail:

Facid: 41
Facility Name: TESORO / SHELL # 68102
File Type: Hazardous Material Business Plan Site

Facid: 41
Facility Name: TESORO / SHELL # 68102
File Type: Underground Tank

Facid: 41
Facility Name: TESORO / SHELL # 68102
File Type: Hazardous Waste Generator

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BEACON SS #572 ANDERSON (Continued)

S104163863

HIST CORTESE:
Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450150

**49
SW
1/4-1/2
0.447 mi.
2358 ft.**

**CASCADE UNION SCHOOL DISTRICT
1645 MILL ST W
ANDERSON, CA 96007**

**LUST 1000166118
CUPA Listings N/A
HIST CORTESE**

**Relative:
Higher**

LUST:
Region: STATE
Global Id: T0608900196
Latitude: 40.4478456
Longitude: -122.3065612
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 10/07/1996
Lead Agency: SHASTA COUNTY
Case Worker: MAR
Local Agency: SHASTA COUNTY
RB Case Number: 450201
LOC Case Number: Not reported
File Location: Archived
Potential Media Affect: Soil
Potential Contaminants of Concern: Benzene
Site History: Not reported

**Actual:
431 ft.**

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0608900196
Contact Type: Regional Board Caseworker
Contact Name: RECEPTIONIST, REGION 5 REDDING
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 415 KNOLLCREST DR., SUITE 100
City: REDDING
Email: Not reported
Phone Number: Not reported

Global Id: T0608900196
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Status History:
Global Id: T0608900196
Status: Completed - Case Closed
Status Date: 10/07/1996

Global Id: T0608900196

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CASCADE UNION SCHOOL DISTRICT (Continued)

1000166118

Status: Open - Case Begin Date
Status Date: 06/18/1996

Global Id: T0608900196
Status: Open - Site Assessment
Status Date: 06/18/1996

Regulatory Activities:

Global Id: T0608900196
Action Type: ENFORCEMENT
Date: 10/07/1996
Action: Closure/No Further Action Letter

Global Id: T0608900196
Action Type: Other
Date: 06/18/1996
Action: Leak Discovery

Global Id: T0608900196
Action Type: Other
Date: 07/01/1996
Action: Leak Reported

Global Id: T0608900196
Action Type: Other
Date: 06/18/1996
Action: Leak Stopped

LUST REG 5:

Region: 5
Status: Case Closed
Case Number: 450201
Case Type: Soil only
Substance: Not reported
Staff Initials: KLC
Lead Agency: Local
Program: LUST
MTBE Code: N/A

CUPA SHASTA:

Site Id: 50
CersID: 10589665
Facility Status: True
Attn: DR. BALJINDER DHILLON
Mail Addr: 1645 MILL ST
Mail City: ANDERSON
Mail State: CA
Mail Zip: 96007
EDR Link ID: 50

Detail:

Facid: 50
Facility Name: CASCADE UNION ELEM SCHOOL DISTRICT
File Type: Hazardous Material Business Plan Site

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CASCADE UNION SCHOOL DISTRICT (Continued)

1000166118

Facid: 50
Facility Name: CASCADE UNION ELEM SCHOOL DISTRICT
File Type: Closed underground tank site

HIST CORTESE:

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450201

50
East
1/2-1
0.785 mi.
4145 ft.

ANDERSON EXXON
2470 BALLS FERRY RD.
ANDERSON, CA 94952

Notify 65 **U000076819**
N/A

Relative:
Lower

NOTIFY 65:

Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Issue Date: Not reported
Incident Description: Not reported

Actual:
413 ft.

Count: 6 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ANDERSON	S100183240	ISRINGHAUSEN	HIGHWAY 99 NORTH	96007	ENVIROSTOR
ANDERSON	S100183229	BAUGH TRUCKING COMPANY	NORTH END OF LLOYD LANE	96007	ENVIROSTOR
ANDERSON	1000349923	SIMPSON-SHASTA RANCH	RIVERLAND DR EXTN, 4 MI SE OF	96007	ENVIROSTOR
ANDERSON	S100714755	CHAMPION INTERNATIONAL	RIVERSIDE AVE 1 MI W OF I-5 OF	96007	ENVIROSTOR
SHASTA COUNTY	S107538641		HAPPY VALLEY CEMETARY - OAK ST		CDL
SHASTA COUNTY	S105960399	MAMMOTH MINE	KLAMATH MOUNTAINS, 13 MILES NO		CA BOND EXP. PLAN

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: N/A
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: N/A
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: N/A
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/13/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/06/2016	Telephone: 703-603-8704
Date Made Active in Reports: 05/20/2016	Last EDR Contact: 07/06/2016
Number of Days to Update: 135	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: 800-424-9346
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/22/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: 800-424-9346
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/22/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/27/2016	Source: EPA
Date Data Arrived at EDR: 06/30/2016	Telephone: 800-424-9346
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/10/2016
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/21/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/30/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/21/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/30/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/21/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/30/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/21/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/30/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015	Source: Department of the Navy
Date Data Arrived at EDR: 05/29/2015	Telephone: 843-820-7326
Date Made Active in Reports: 06/11/2015	Last EDR Contact: 08/12/2016
Number of Days to Update: 13	Next Scheduled EDR Contact: 11/28/2016
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 05/09/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/01/2016	Telephone: 703-603-0695
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 08/31/2016
Number of Days to Update: 93	Next Scheduled EDR Contact: 12/12/2016
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 05/09/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/01/2016	Telephone: 703-603-0695
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 08/31/2016
Number of Days to Update: 93	Next Scheduled EDR Contact: 12/12/2016
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/28/2016
Date Data Arrived at EDR: 03/30/2016
Date Made Active in Reports: 05/20/2016
Number of Days to Update: 51

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 05/02/2016
Date Data Arrived at EDR: 05/04/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/02/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 05/02/2016
Date Data Arrived at EDR: 05/04/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/02/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/16/2016
Date Data Arrived at EDR: 05/18/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 34

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 08/16/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008	Source: California Regional Water Quality Control Board Central Valley Region (5)
Date Data Arrived at EDR: 07/22/2008	Telephone: 916-464-4834
Date Made Active in Reports: 07/31/2008	Last EDR Contact: 07/01/2011
Number of Days to Update: 9	Next Scheduled EDR Contact: 10/17/2011
	Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001	Source: California Regional Water Quality Control Board San Diego Region (9)
Date Data Arrived at EDR: 04/23/2001	Telephone: 858-637-5595
Date Made Active in Reports: 05/21/2001	Last EDR Contact: 09/26/2011
Number of Days to Update: 28	Next Scheduled EDR Contact: 01/09/2012
	Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005	Source: California Regional Water Quality Control Board Santa Ana Region (8)
Date Data Arrived at EDR: 02/15/2005	Telephone: 909-782-4496
Date Made Active in Reports: 03/28/2005	Last EDR Contact: 08/15/2011
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: Varies

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004	Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Date Data Arrived at EDR: 02/26/2004	Telephone: 760-776-8943
Date Made Active in Reports: 03/24/2004	Last EDR Contact: 08/01/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 11/14/2011
	Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005	Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Date Data Arrived at EDR: 06/07/2005	Telephone: 760-241-7365
Date Made Active in Reports: 06/29/2005	Last EDR Contact: 09/12/2011
Number of Days to Update: 22	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003	Source: California Regional Water Quality Control Board Lahontan Region (6)
Date Data Arrived at EDR: 09/10/2003	Telephone: 530-542-5572
Date Made Active in Reports: 10/07/2003	Last EDR Contact: 09/12/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/13/2016
Date Data Arrived at EDR: 06/14/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 56

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 09/13/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 12/11/2015
Date Data Arrived at EDR: 02/19/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 105

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/09/2015
Date Data Arrived at EDR: 02/12/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 112

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/13/2015	Source: EPA Region 8
Date Data Arrived at EDR: 10/23/2015	Telephone: 303-312-6271
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 118	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 02/25/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/27/2016	Telephone: 415-972-3372
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 01/07/2016	Source: EPA Region 10
Date Data Arrived at EDR: 01/08/2016	Telephone: 206-553-2857
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/27/2015	Source: EPA Region 1
Date Data Arrived at EDR: 10/29/2015	Telephone: 617-918-1313
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 07/29/2016
Number of Days to Update: 67	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 02/17/2016	Source: EPA, Region 5
Date Data Arrived at EDR: 04/27/2016	Telephone: 312-886-7439
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/05/2016	Source: EPA Region 4
Date Data Arrived at EDR: 04/29/2016	Telephone: 404-562-8677
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/26/2016
Number of Days to Update: 35	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Semi-Annually

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 06/13/2016	Source: State Water Resources Control Board
Date Data Arrived at EDR: 06/14/2016	Telephone: 866-480-1028
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 09/13/2016
Number of Days to Update: 56	Next Scheduled EDR Contact: 12/26/2016
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/13/2016
Date Data Arrived at EDR: 06/14/2016
Date Made Active in Reports: 08/08/2016
Number of Days to Update: 55

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 09/14/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 07/12/2016	Telephone: 916-327-5092
Date Made Active in Reports: 09/19/2016	Last EDR Contact: 09/26/2016
Number of Days to Update: 69	Next Scheduled EDR Contact: 01/09/2017
	Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2015	Source: EPA Region 5
Date Data Arrived at EDR: 11/13/2015	Telephone: 312-886-6136
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 52	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 01/07/2016	Source: EPA Region 10
Date Data Arrived at EDR: 01/08/2016	Telephone: 206-553-2857
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/25/2016	Source: EPA Region 9
Date Data Arrived at EDR: 04/27/2016	Telephone: 415-972-3368
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/26/2016	Source: EPA Region 8
Date Data Arrived at EDR: 02/05/2016	Telephone: 303-312-6137
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 119	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/20/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 10/29/2015	Telephone: 617-918-1313
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 07/29/2016
Number of Days to Update: 67	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/05/2016	Source: EPA Region 4
Date Data Arrived at EDR: 04/29/2016	Telephone: 404-562-9424
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/26/2016
Number of Days to Update: 35	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Semi-Annually

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 12/03/2015	Source: EPA Region 6
Date Data Arrived at EDR: 02/04/2016	Telephone: 214-665-7591
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 120	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014	Source: EPA Region 7
Date Data Arrived at EDR: 11/25/2014	Telephone: 913-551-7003
Date Made Active in Reports: 01/29/2015	Last EDR Contact: 07/27/2016
Number of Days to Update: 65	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 09/29/2015	Telephone: 617-918-1102
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 09/26/2016
Number of Days to Update: 142	Next Scheduled EDR Contact: 01/09/2017
	Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 05/02/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 05/04/2016	Telephone: 916-323-3400
Date Made Active in Reports: 06/21/2016	Last EDR Contact: 08/02/2016
Number of Days to Update: 48	Next Scheduled EDR Contact: 11/14/2016
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfields Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 02/29/2016
Date Data Arrived at EDR: 03/07/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 58

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/21/2016
Date Data Arrived at EDR: 06/22/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/21/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 06/13/2016
Date Data Arrived at EDR: 06/14/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 56

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/14/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/16/2016
Date Data Arrived at EDR: 06/16/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 54

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 08/10/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 08/05/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/20/2016
Next Scheduled EDR Contact: 10/07/2016
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 08/31/2016
Date Data Arrived at EDR: 09/06/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 17

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/31/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/02/2016
Date Data Arrived at EDR: 05/04/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/02/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 05/10/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 08/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/06/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 17

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/31/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 06/07/2016
Date Data Arrived at EDR: 06/09/2016
Date Made Active in Reports: 06/23/2016
Number of Days to Update: 14

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 09/12/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990	Source: State Water Resources Control Board
Date Data Arrived at EDR: 01/25/1991	Telephone: 916-341-5851
Date Made Active in Reports: 02/12/1991	Last EDR Contact: 07/26/2001
Number of Days to Update: 18	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 09/05/1995	Telephone: 916-341-5851
Date Made Active in Reports: 09/29/1995	Last EDR Contact: 12/28/1998
Number of Days to Update: 24	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 06/02/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 06/07/2016	Telephone: 916-323-3400
Date Made Active in Reports: 07/20/2016	Last EDR Contact: 09/02/2016
Number of Days to Update: 43	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/18/2014	Telephone: 202-564-6023
Date Made Active in Reports: 04/24/2014	Last EDR Contact: 07/29/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 06/06/2016	Source: DTSC and SWRCB
Date Data Arrived at EDR: 06/07/2016	Telephone: 916-323-3400
Date Made Active in Reports: 07/20/2016	Last EDR Contact: 09/07/2016
Number of Days to Update: 43	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/27/2016	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 06/28/2016	Telephone: 202-366-4555
Date Made Active in Reports: 09/23/2016	Last EDR Contact: 06/28/2016
Number of Days to Update: 87	Next Scheduled EDR Contact: 10/10/2016
	Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 06/03/2016	Source: Office of Emergency Services
Date Data Arrived at EDR: 07/26/2016	Telephone: 916-845-8400
Date Made Active in Reports: 09/23/2016	Last EDR Contact: 07/26/2016
Number of Days to Update: 59	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 06/13/2016	Source: State Water Quality Control Board
Date Data Arrived at EDR: 06/14/2016	Telephone: 866-480-1028
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 09/13/2016
Number of Days to Update: 56	Next Scheduled EDR Contact: 12/26/2016
	Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 06/13/2016	Source: State Water Resources Control Board
Date Data Arrived at EDR: 06/14/2016	Telephone: 866-480-1028
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 09/13/2016
Number of Days to Update: 56	Next Scheduled EDR Contact: 12/26/2016
	Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 02/22/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 50	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/21/2016
Date Data Arrived at EDR: 06/30/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/09/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/15/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 05/08/2016
Date Data Arrived at EDR: 05/18/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 107

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/21/2014	Telephone: 617-520-3000
Date Made Active in Reports: 06/17/2014	Last EDR Contact: 08/08/2016
Number of Days to Update: 88	Next Scheduled EDR Contact: 11/21/2016
	Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/03/2015	Telephone: 703-308-4044
Date Made Active in Reports: 03/09/2015	Last EDR Contact: 09/06/2016
Number of Days to Update: 6	Next Scheduled EDR Contact: 11/21/2016
	Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012	Source: EPA
Date Data Arrived at EDR: 01/15/2015	Telephone: 202-260-5521
Date Made Active in Reports: 01/29/2015	Last EDR Contact: 09/23/2016
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/02/2017
	Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2014	Source: EPA
Date Data Arrived at EDR: 11/24/2015	Telephone: 202-566-0250
Date Made Active in Reports: 04/05/2016	Last EDR Contact: 08/26/2016
Number of Days to Update: 133	Next Scheduled EDR Contact: 12/05/2016
	Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009	Source: EPA
Date Data Arrived at EDR: 12/10/2010	Telephone: 202-564-4203
Date Made Active in Reports: 02/25/2011	Last EDR Contact: 07/25/2016
Number of Days to Update: 77	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013	Source: EPA
Date Data Arrived at EDR: 12/12/2013	Telephone: 703-416-0223
Date Made Active in Reports: 02/24/2014	Last EDR Contact: 09/09/2016
Number of Days to Update: 74	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/01/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/26/2016	Telephone: 202-564-8600
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 07/25/2016
Number of Days to Update: 99	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 10/17/2014	Telephone: 202-564-6023
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 08/12/2016
Number of Days to Update: 3	Next Scheduled EDR Contact: 11/21/2016
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 01/20/2016	Source: EPA
Date Data Arrived at EDR: 04/28/2016	Telephone: 202-566-0500
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 07/15/2016
Number of Days to Update: 127	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/06/2015	Telephone: 202-564-5088
Date Made Active in Reports: 03/09/2015	Last EDR Contact: 07/07/2016
Number of Days to Update: 31	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/17/2016
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/05/2016
	Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/17/2016
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/05/2016
	Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/07/2016	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 03/18/2016	Telephone: 301-415-7169
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 09/05/2016
Number of Days to Update: 28	Next Scheduled EDR Contact: 11/21/2016
	Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005	Source: Department of Energy
Date Data Arrived at EDR: 08/07/2009	Telephone: 202-586-8719
Date Made Active in Reports: 10/22/2009	Last EDR Contact: 09/09/2016
Number of Days to Update: 76	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/10/2014	Telephone: N/A
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 09/06/2016
Number of Days to Update: 40	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/19/2011	Telephone: 202-566-0517
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 07/29/2016
Number of Days to Update: 83	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/07/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/09/2015	Telephone: 202-343-9775
Date Made Active in Reports: 09/16/2015	Last EDR Contact: 07/07/2016
Number of Days to Update: 69	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2008
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012	Source: Department of Transportation, Office of Pipeline Safety
Date Data Arrived at EDR: 08/07/2012	Telephone: 202-366-4595
Date Made Active in Reports: 09/18/2012	Last EDR Contact: 08/02/2016
Number of Days to Update: 42	Next Scheduled EDR Contact: 11/14/2016
	Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/31/2016
Date Data Arrived at EDR: 08/01/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 53

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 08/26/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 07/21/2016
Date Data Arrived at EDR: 07/26/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 59

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 07/26/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 09/09/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/07/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 148

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 07/08/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/05/2016
Date Data Arrived at EDR: 09/01/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 22

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/01/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/20/2015	Source: EPA
Date Data Arrived at EDR: 09/09/2015	Telephone: (415) 947-8000
Date Made Active in Reports: 11/03/2015	Last EDR Contact: 09/07/2016
Number of Days to Update: 55	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 06/02/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/03/2016	Telephone: 202-564-0527
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 08/24/2016
Number of Days to Update: 91	Next Scheduled EDR Contact: 12/12/2016
	Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2015	Source: Department of Defense
Date Data Arrived at EDR: 01/29/2016	Telephone: 571-373-0407
Date Made Active in Reports: 04/05/2016	Last EDR Contact: 09/19/2016
Number of Days to Update: 67	Next Scheduled EDR Contact: 01/02/2017
	Data Release Frequency: Varies

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989	Source: Department of Health Services
Date Data Arrived at EDR: 07/27/1994	Telephone: 916-255-2118
Date Made Active in Reports: 08/02/1994	Last EDR Contact: 05/31/1994
Number of Days to Update: 6	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 06/27/2016	Source: CAL EPA/Office of Emergency Information
Date Data Arrived at EDR: 06/28/2016	Telephone: 916-323-3400
Date Made Active in Reports: 08/18/2016	Last EDR Contact: 06/28/2016
Number of Days to Update: 51	Next Scheduled EDR Contact: 10/10/2016
	Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 06/02/2016	Source: Department of Toxic Substance Control
Date Data Arrived at EDR: 07/12/2016	Telephone: 916-327-4498
Date Made Active in Reports: 08/18/2016	Last EDR Contact: 09/02/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2015	Source: California Air Resources Board
Date Data Arrived at EDR: 06/22/2016	Telephone: 916-322-2990
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 09/23/2016
Number of Days to Update: 48	Next Scheduled EDR Contact: 01/02/2017
	Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 05/25/2016	Source: State Water Resources Control Board
Date Data Arrived at EDR: 05/27/2016	Telephone: 916-445-9379
Date Made Active in Reports: 07/20/2016	Last EDR Contact: 08/22/2016
Number of Days to Update: 54	Next Scheduled EDR Contact: 10/07/2016
	Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 04/25/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 04/29/2016	Telephone: 916-255-3628
Date Made Active in Reports: 06/21/2016	Last EDR Contact: 07/20/2016
Number of Days to Update: 53	Next Scheduled EDR Contact: 10/07/2016
	Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/25/2016	Source: California Integrated Waste Management Board
Date Data Arrived at EDR: 06/01/2016	Telephone: 916-341-6066
Date Made Active in Reports: 07/20/2016	Last EDR Contact: 08/10/2016
Number of Days to Update: 49	Next Scheduled EDR Contact: 11/28/2016
	Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2014	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 10/14/2015	Telephone: 916-255-1136
Date Made Active in Reports: 12/11/2015	Last EDR Contact: 07/15/2016
Number of Days to Update: 58	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Annually

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 01/22/2009	Telephone: 916-323-3400
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 01/22/2009
Number of Days to Update: 76	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 05/23/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 05/25/2016	Telephone: 916-323-3400
Date Made Active in Reports: 07/20/2016	Last EDR Contact: 08/23/2016
Number of Days to Update: 56	Next Scheduled EDR Contact: 12/05/2016
	Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 07/11/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 07/13/2016	Telephone: 916-440-7145
Date Made Active in Reports: 08/18/2016	Last EDR Contact: 07/13/2016
Number of Days to Update: 36	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 06/13/2016	Source: Department of Conservation
Date Data Arrived at EDR: 06/14/2016	Telephone: 916-322-1080
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 09/14/2016
Number of Days to Update: 56	Next Scheduled EDR Contact: 12/26/2016
	Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/25/2016	Source: Department of Public Health
Date Data Arrived at EDR: 06/07/2016	Telephone: 916-558-1784
Date Made Active in Reports: 07/20/2016	Last EDR Contact: 09/07/2016
Number of Days to Update: 43	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/16/2016	Source: State Water Resources Control Board
Date Data Arrived at EDR: 05/18/2016	Telephone: 916-445-9379
Date Made Active in Reports: 06/23/2016	Last EDR Contact: 08/16/2016
Number of Days to Update: 36	Next Scheduled EDR Contact: 11/28/2016
	Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 06/06/2016	Source: Department of Pesticide Regulation
Date Data Arrived at EDR: 06/07/2016	Telephone: 916-445-4038
Date Made Active in Reports: 07/20/2016	Last EDR Contact: 09/07/2016
Number of Days to Update: 43	Next Scheduled EDR Contact: 12/19/2016
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 06/13/2016
Date Data Arrived at EDR: 06/14/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 56

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/14/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 01/05/2016
Date Made Active in Reports: 02/12/2016
Number of Days to Update: 38

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 02/12/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 06/13/2016
Number of Days to Update: 89

Source: Department of Conservation
Telephone: 916-445-2408
Last EDR Contact: 09/14/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board's review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Varies

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 09/23/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/20/2015
Date Data Arrived at EDR: 09/23/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 103

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 09/20/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Quarterly

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 05/23/2016
Date Data Arrived at EDR: 05/25/2016
Date Made Active in Reports: 07/20/2016
Number of Days to Update: 56

Source: Department of Toxic Substances Control
Telephone: 877-786-9427
Last EDR Contact: 08/23/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 05/24/2016
Date Data Arrived at EDR: 05/25/2016
Date Made Active in Reports: 07/13/2016
Number of Days to Update: 49

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/23/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR Hist Cleaner: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A	Source: Department of Resources Recycling and Recovery
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/13/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 196	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A	Source: State Water Resources Control Board
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 12/30/2013	Last EDR Contact: 06/01/2012
Number of Days to Update: 182	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 07/07/2016	Source: Alameda County Environmental Health Services
Date Data Arrived at EDR: 07/12/2016	Telephone: 510-567-6700
Date Made Active in Reports: 08/18/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 07/07/2016	Source: Alameda County Environmental Health Services
Date Data Arrived at EDR: 07/12/2016	Telephone: 510-567-6700
Date Made Active in Reports: 08/08/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 27	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Semi-Annually

AMADOR COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

Cupa Facility List

Date of Government Version: 06/06/2016
Date Data Arrived at EDR: 06/09/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 12

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 06/02/2016
Date Data Arrived at EDR: 06/03/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 18

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing

Cupa Facility Listing

Date of Government Version: 07/20/2016
Date Data Arrived at EDR: 07/25/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 60

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 05/25/2016
Date Data Arrived at EDR: 05/26/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 22

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 09/06/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 05/24/2016
Date Data Arrived at EDR: 05/26/2016
Date Made Active in Reports: 07/20/2016
Number of Days to Update: 55

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 08/01/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

Cupa Facility list

Date of Government Version: 04/08/2016
Date Data Arrived at EDR: 05/03/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 50

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 05/24/2016
Date Data Arrived at EDR: 05/26/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 75

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 07/13/2016
Date Data Arrived at EDR: 07/19/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 21

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 07/13/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/08/2016
Date Made Active in Reports: 08/18/2016
Number of Days to Update: 41

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 08/22/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 07/25/2016
Date Data Arrived at EDR: 07/26/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 59

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 07/20/2016
Next Scheduled EDR Contact: 10/07/2016
Data Release Frequency: Varies

INYO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing Kern County Sites and Tanks Listing.

Date of Government Version: 05/16/2016
Date Data Arrived at EDR: 05/20/2016
Date Made Active in Reports: 08/08/2016
Number of Days to Update: 80

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/25/2016
Date Data Arrived at EDR: 05/27/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 26

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 04/26/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 51

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 08/19/2016
Next Scheduled EDR Contact: 10/31/2016
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 07/05/2016	Source: Department of Public Works
Date Data Arrived at EDR: 07/12/2016	Telephone: 626-458-3517
Date Made Active in Reports: 08/18/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/18/2016	Source: La County Department of Public Works
Date Data Arrived at EDR: 04/20/2016	Telephone: 818-458-5185
Date Made Active in Reports: 06/01/2016	Last EDR Contact: 07/19/2016
Number of Days to Update: 42	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2016	Source: Engineering & Construction Division
Date Data Arrived at EDR: 01/26/2016	Telephone: 213-473-7869
Date Made Active in Reports: 03/22/2016	Last EDR Contact: 07/18/2016
Number of Days to Update: 56	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/29/2016	Source: Community Health Services
Date Data Arrived at EDR: 04/06/2016	Telephone: 323-890-7806
Date Made Active in Reports: 06/13/2016	Last EDR Contact: 07/13/2016
Number of Days to Update: 68	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 03/30/2015	Source: City of El Segundo Fire Department
Date Data Arrived at EDR: 04/02/2015	Telephone: 310-524-2236
Date Made Active in Reports: 04/13/2015	Last EDR Contact: 07/13/2016
Number of Days to Update: 11	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 11/04/2015	Source: City of Long Beach Fire Department
Date Data Arrived at EDR: 11/13/2015	Telephone: 562-570-2563
Date Made Active in Reports: 12/17/2015	Last EDR Contact: 07/25/2016
Number of Days to Update: 34	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/23/2016	Source: City of Torrance Fire Department
Date Data Arrived at EDR: 07/12/2016	Telephone: 310-618-2973
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 28	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Semi-Annually

MADERA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/18/2016
Date Data Arrived at EDR: 08/22/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 32

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 04/07/2016
Date Data Arrived at EDR: 04/26/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 36

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 08/17/2016
Date Data Arrived at EDR: 08/22/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 32

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List

CUPA Facility List

Date of Government Version: 05/25/2016
Date Data Arrived at EDR: 06/01/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 21

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 08/24/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing

CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/24/2016
Date Data Arrived at EDR: 06/27/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 43

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 08/22/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

NAPA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Sites With Reported Contamination

A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/24/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/24/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 07/25/2016
Date Data Arrived at EDR: 08/01/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 33

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 05/01/2016
Date Data Arrived at EDR: 05/17/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 35

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/08/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/01/2016
Date Data Arrived at EDR: 05/17/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 35

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/08/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 05/01/2016
Date Data Arrived at EDR: 05/11/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 21

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/09/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

PLACER COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 06/16/2016
Date Data Arrived at EDR: 06/20/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 50

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites

Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/13/2016
Date Data Arrived at EDR: 04/15/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 24

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 07/13/2016
Date Data Arrived at EDR: 07/18/2016
Date Made Active in Reports: 08/08/2016
Number of Days to Update: 21

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 05/02/2016
Date Data Arrived at EDR: 07/06/2016
Date Made Active in Reports: 08/18/2016
Number of Days to Update: 43

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/06/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/02/2016
Date Data Arrived at EDR: 07/06/2016
Date Made Active in Reports: 08/18/2016
Number of Days to Update: 43

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/05/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/09/2016
Date Data Arrived at EDR: 06/10/2016
Date Made Active in Reports: 07/20/2016
Number of Days to Update: 40

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 08/08/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/02/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 07/20/2016
Next Scheduled EDR Contact: 10/07/2016
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversight Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/16/2016
Date Data Arrived at EDR: 06/20/2016
Date Made Active in Reports: 08/08/2016
Number of Days to Update: 49

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 05/23/2016
Date Data Arrived at EDR: 05/24/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 28

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 06/02/2016
Date Data Arrived at EDR: 06/07/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 15

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/12/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 06/09/2016
Date Data Arrived at EDR: 06/13/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 57

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/12/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List

Cupa facility list

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/25/2016
Date Data Arrived at EDR: 05/26/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 27

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 08/24/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Annually

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 05/26/2016
Date Data Arrived at EDR: 06/01/2016
Date Made Active in Reports: 07/20/2016
Number of Days to Update: 49

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List

CUPA facility listing.

Date of Government Version: 05/31/2016
Date Data Arrived at EDR: 06/02/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 19

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 06/14/2016
Date Data Arrived at EDR: 06/16/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 54

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 08/22/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

SOLANO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/09/2016
Date Data Arrived at EDR: 06/13/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 57

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 06/09/2016
Date Data Arrived at EDR: 06/14/2016
Date Made Active in Reports: 08/08/2016
Number of Days to Update: 55

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List

Cupa Facility list

Date of Government Version: 07/10/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 28

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/01/2016
Date Data Arrived at EDR: 07/05/2016
Date Made Active in Reports: 08/18/2016
Number of Days to Update: 44

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 06/02/2016
Date Data Arrived at EDR: 06/07/2016
Date Made Active in Reports: 06/23/2016
Number of Days to Update: 16

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 05/03/2016
Date Data Arrived at EDR: 05/10/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 38

Source: Division of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 10/07/2016
Data Release Frequency: Varies

VENTURA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 06/28/2016	Source: Ventura County Environmental Health Division
Date Data Arrived at EDR: 08/01/2016	Telephone: 805-654-2813
Date Made Active in Reports: 09/23/2016	Last EDR Contact: 07/25/2016
Number of Days to Update: 53	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011	Source: Environmental Health Division
Date Data Arrived at EDR: 12/01/2011	Telephone: 805-654-2813
Date Made Active in Reports: 01/19/2012	Last EDR Contact: 06/28/2016
Number of Days to Update: 49	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008	Source: Environmental Health Division
Date Data Arrived at EDR: 06/24/2008	Telephone: 805-654-2813
Date Made Active in Reports: 07/31/2008	Last EDR Contact: 08/10/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 11/28/2016
	Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 03/28/2016	Source: Ventura County Resource Management Agency
Date Data Arrived at EDR: 04/29/2016	Telephone: 805-654-2813
Date Made Active in Reports: 06/22/2016	Last EDR Contact: 07/25/2016
Number of Days to Update: 54	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 05/26/2016	Source: Environmental Health Division
Date Data Arrived at EDR: 06/16/2016	Telephone: 805-654-2813
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 09/14/2016
Number of Days to Update: 54	Next Scheduled EDR Contact: 12/26/2016
	Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 06/30/2016	Source: Yolo County Department of Health
Date Data Arrived at EDR: 07/05/2016	Telephone: 530-666-8646
Date Made Active in Reports: 08/09/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 35	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Annually

YUBA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

CUPA facility listing for Yuba County.

Date of Government Version: 04/29/2016
Date Data Arrived at EDR: 05/03/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 45

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/10/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/12/2015
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/11/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2016
Date Data Arrived at EDR: 08/03/2016
Date Made Active in Reports: 09/09/2016
Number of Days to Update: 37

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/24/2015
Date Made Active in Reports: 08/18/2015
Number of Days to Update: 25

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/18/2016
Next Scheduled EDR Contact: 10/31/2016
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 09/20/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 04/14/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 50

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/12/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health
Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities

Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK® - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

ANDERSON
NOT REPORTED
ANDERSON, CA 96007

TARGET PROPERTY COORDINATES

Latitude (North): 40.455476 - 40° 27' 19.71"
Longitude (West): 122.299705 - 122° 17' 58.94"
Universal Tranverse Mercator: Zone 10
UTM X (Meters): 559379.8
UTM Y (Meters): 4478337.0
Elevation: 421 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map: 5605366 COTTONWOOD, CA
Version Date: 2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

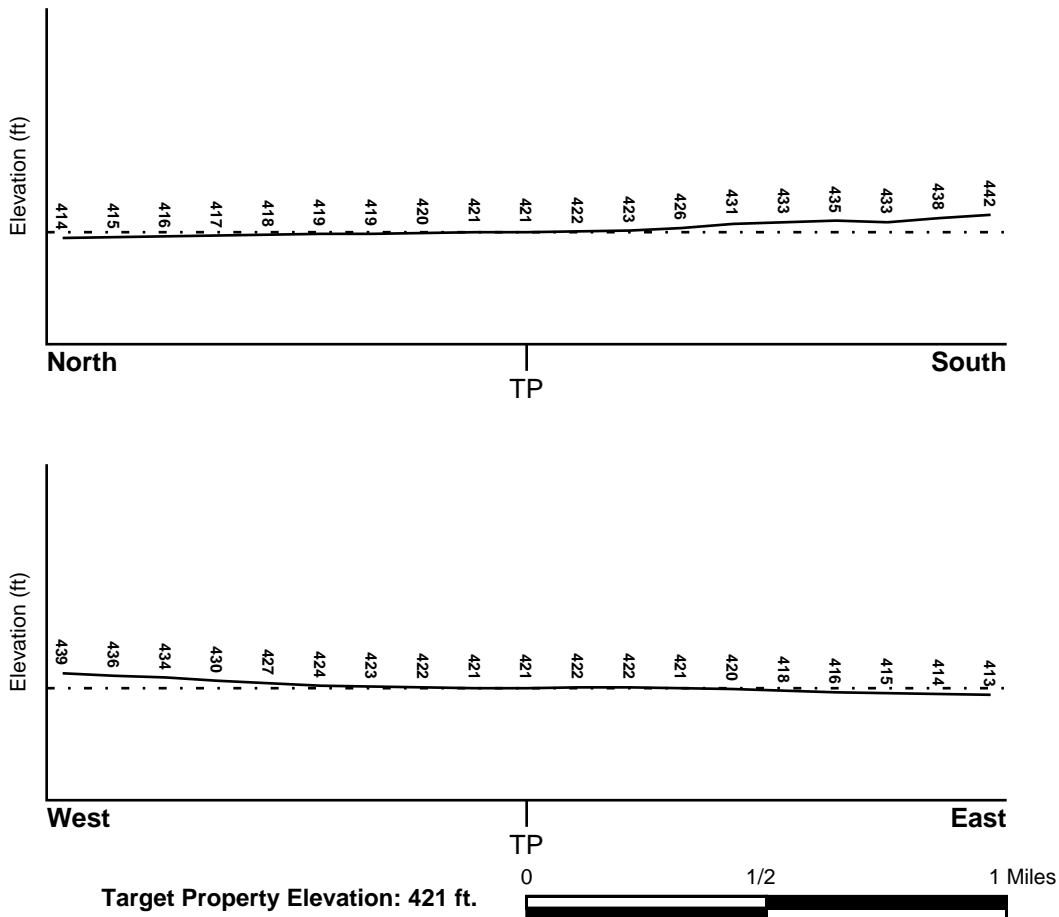
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General North

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
06089C1935G	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
06089C1930G	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
COTTONWOOD	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
7	1/2 - 1 Mile East	Not Reported

For additional site information, refer to Physical Setting Source Map Findings.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

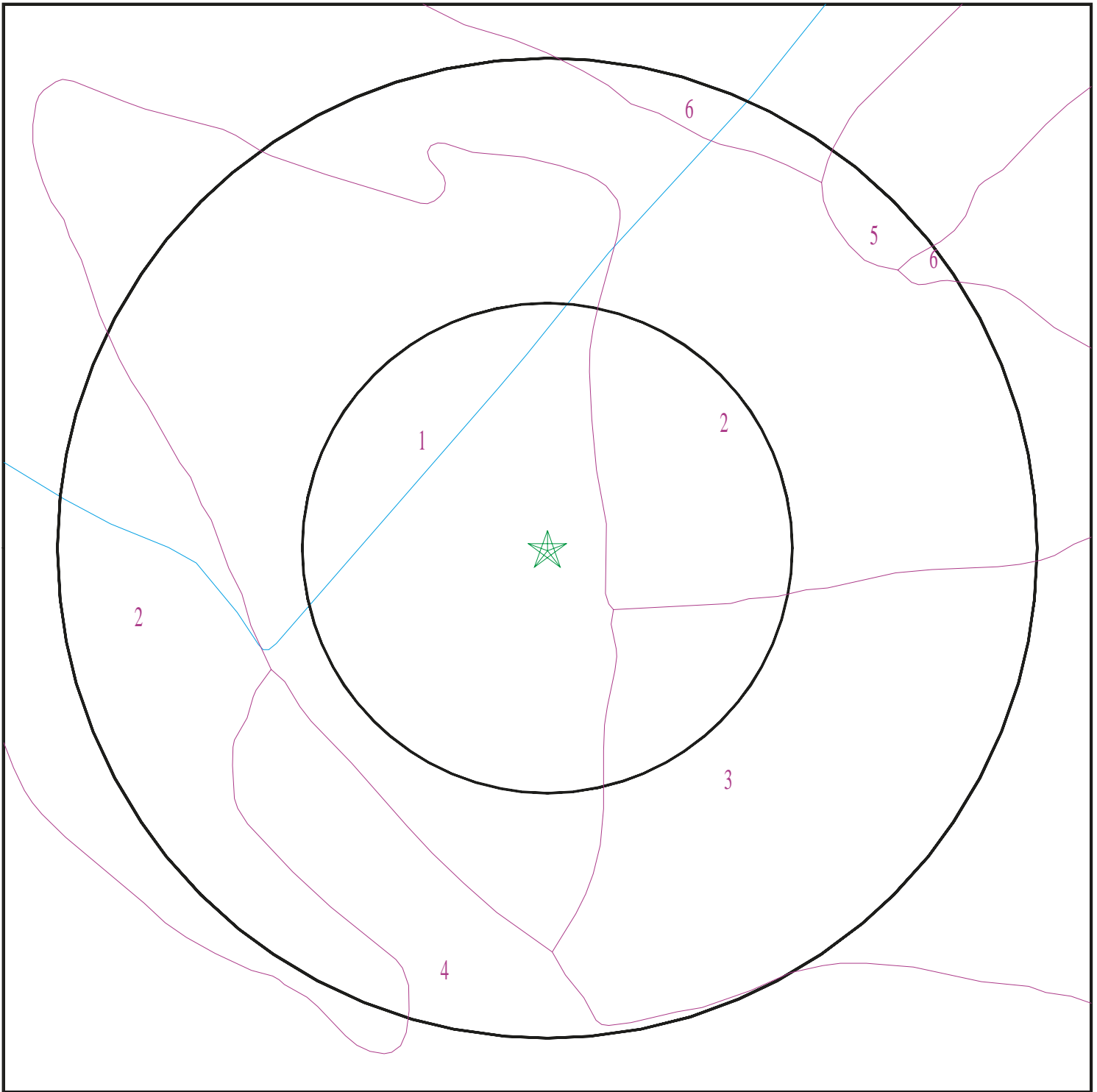
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q (<i>decoded above as Era, System & Series</i>)

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4738590.2s



- ★ Target Property
- SSURGO Soil
- Water



SITE NAME: Anderson
ADDRESS: Not Reported
Anderson CA 96007
LAT/LONG: 40.455476 / 122.299705

CLIENT: Analytical Environmental Serv.
CONTACT: Katherine Green
INQUIRY #: 4738590.2s
DATE: September 27, 2016 8:43 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Wet alluvial land

Soil Surface Texture: clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 107 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	9 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 4 Min: 1.4	Max: Min:
2	9 inches	59 inches	stratified loam to clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 4 Min: 1.4	Max: Min:

Soil Map ID: 2

Soil Component Name: Reiff

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Moderately well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	18 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 14	Max: 6.5 Min: 5.6
2	18 inches	61 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 14	Max: 7.3 Min: 6.1

Soil Map ID: 3

Soil Component Name: Reiff

Soil Surface Texture: gravelly loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	18 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 14	Max: 6.5 Min: 5.6
2	18 inches	59 inches	stratified gravelly sandy loam to gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 14	Max: 7.3 Min: 6.1

Soil Map ID: 4

Soil Component Name: Churn

Soil Surface Texture: gravelly loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	12 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.1
2	12 inches	40 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 4 Min: 1.4	Max: 6 Min: 5.1
3	40 inches	59 inches	stratified gravelly loam to gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 0.42 Min: 0.01	Max: 6 Min: 5.1

Soil Map ID: 5

Soil Component Name: Reiff

Soil Surface Texture: gravelly loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	18 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 42 Min: 14	Max: 6.5 Min: 5.6
2	18 inches	42 inches	stratified gravelly sandy loam to gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 42 Min: 14	Max: 7.3 Min: 6.1
3	42 inches	59 inches	stratified gravelly loamy sand to gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 42 Min: 14	Max: 7.3 Min: 6.1

Soil Map ID: 6

Soil Component Name: Reiff

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	18 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 14	Max: 6.5 Min: 5.6
2	18 inches	61 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 14	Max: 7.3 Min: 6.1

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
4	USGS40000194416	1/4 - 1/2 Mile SSE
6	USGS40000194419	1/2 - 1 Mile West
11	USGS40000194431	1/2 - 1 Mile NE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
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FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

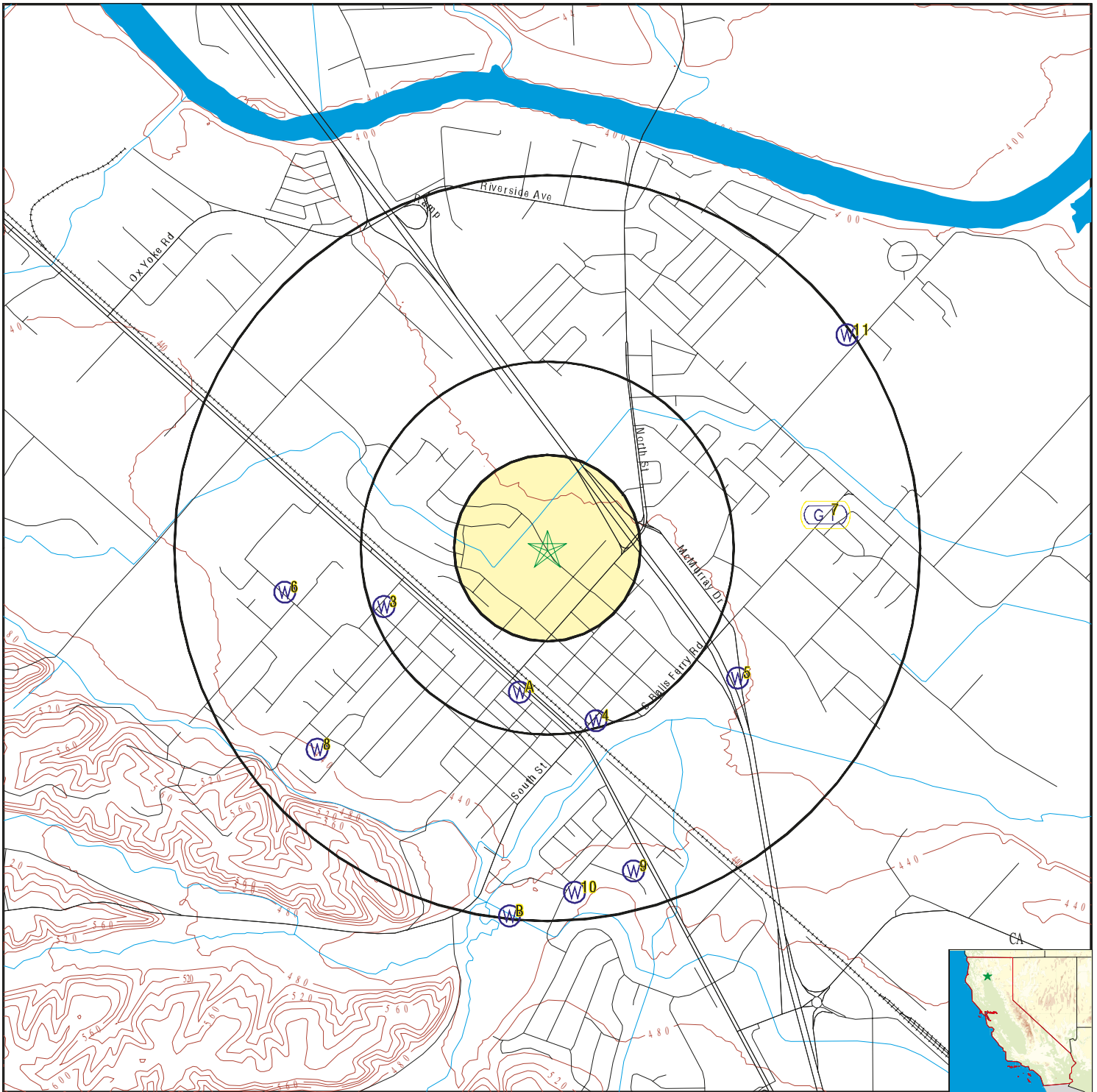
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
A1	17435	1/4 - 1/2 Mile South
A2	17406	1/4 - 1/2 Mile South
3	17431	1/4 - 1/2 Mile WSW
5	17432	1/2 - 1 Mile SE
8	17436	1/2 - 1 Mile SW
9	17439	1/2 - 1 Mile SSE
10	17438	1/2 - 1 Mile South
B12	CADW60000001132	1/2 - 1 Mile South
B13	CADW60000015710	1/2 - 1 Mile South
B14	CADW60000014973	1/2 - 1 Mile South

PHYSICAL SETTING SOURCE MAP - 4738590.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells



SITE NAME: Anderson
 ADDRESS: Not Reported
 Anderson CA 96007
 LAT/LONG: 40.455476 / 122.299705

CLIENT: Analytical Environmental Serv.
 CONTACT: Katherine Green
 INQUIRY #: 4738590.2s
 DATE: September 27, 2016 8:43 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

A1
South
1/4 - 1/2 Mile
Higher

CA WELLS 17435

Water System Information:

Prime Station Code:	30N/04W-16R01 M	User ID:	ATT
FRDS Number:	4510001006	County:	Shasta
District Number:	01	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Destroyed
Source Lat/Long:	402700.0 1221800.0	Precision:	1 Mile (One Minute)
Source Name:	WELL 03 DIAMOND STREET - DESTROYED 1991		
System Number:	4510001		
System Name:	City of Anderson		
Organization That Operates System:	1887 HOWARD ST ANDERSON, CA 96007		
Pop Served:	9381	Connections:	2420
Area Served:	ANDERSON & VICINITY		
Sample Collected:	15-JUN-12	Findings:	3.04 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	06-AUG-15	Findings:	5.e-002 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	06-AUG-15	Findings:	0.37 PCI/L
Chemical:	RADIUM 228 MDA95		
Sample Collected:	04-SEP-15	Findings:	0.72 MG/L
Chemical:	NITRATE (AS N)		

A2
South
1/4 - 1/2 Mile
Higher

CA WELLS 17406

Water System Information:

Prime Station Code:	30N/04W-03E01 M	User ID:	ATT
FRDS Number:	4510001009	County:	Shasta
District Number:	01	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	402700.0 1221800.0	Precision:	1 Mile (One Minute)
Source Name:	WELL 06 WOODED ACRES		
System Number:	4510001		
System Name:	City of Anderson		
Organization That Operates System:	1887 HOWARD ST ANDERSON, CA 96007		
Pop Served:	9381	Connections:	2420
Area Served:	ANDERSON & VICINITY		
Sample Collected:	11-AUG-11	Findings:	6.2 MG/L
Chemical:	NITRATE (AS NO3)		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	11-AUG-11	Findings:	1390. MG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	15-JUN-12	Findings:	5.82 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	24-SEP-12	Findings:	7.74
Chemical:	PH, LABORATORY		
Sample Collected:	24-SEP-12	Findings:	106. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	24-SEP-12	Findings:	20.7 MG/L
Chemical:	CALCIUM		
Sample Collected:	24-SEP-12	Findings:	14.7 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	24-SEP-12	Findings:	12.6 MG/L
Chemical:	SODIUM		
Sample Collected:	24-SEP-12	Findings:	151. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	09-AUG-13	Findings:	5.6 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	16-AUG-13	Findings:	0.668 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	16-AUG-13	Findings:	1.168 PCI/L
Chemical:	GROSS ALPHA MDA95		
Sample Collected:	15-AUG-14	Findings:	5.5 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	06-AUG-15	Findings:	9.e-002 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	06-AUG-15	Findings:	0.47 PCI/L
Chemical:	RADIUM 228 MDA95		
Sample Collected:	04-SEP-15	Findings:	1.24 MG/L
Chemical:	NITRATE (AS N)		
Sample Collected:	11-AUG-11	Findings:	244. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	11-AUG-11	Findings:	3.4 MG/L
Chemical:	CHLORIDE		
Sample Collected:	11-AUG-11	Findings:	6.8 MG/L
Chemical:	SULFATE		
Sample Collected:	11-AUG-11	Findings:	0.1 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		

3

WSW
1/4 - 1/2 Mile
Higher

CA WELLS 17431

Water System Information:

Prime Station Code:	30N/04W-15M03 M	User ID:	ATT
FRDS Number:	4500153001	County:	Shasta
District Number:	01	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	402712.0 1221825.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	WELL 01		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

System Number:	4500153		
System Name:	Shasta Fairgrounds		
Organization That Operates System:	Not Reported		
	ANDERSON, CA 96007		
Pop Served:	500	Connections:	15
Area Served:	Not Reported		
Sample Collected:	21-APR-11	Findings:	10.2 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	09-JUL-12	Findings:	10.1 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	16-MAY-13	Findings:	10.7 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	27-JAN-16	Findings:	2.45 MG/L
Chemical:	NITRATE (AS N)		

4
SSE
1/4 - 1/2 Mile
Higher

FED USGS USGS40000194416

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-402656122174601		
Monloc name:	030N004W15R003M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18020101	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.4487636
Longitude:	-122.2972259	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	426.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Pacific Northwest basin-fill aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	160
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1978-03-15	21.8	

5
SE
1/2 - 1 Mile
Higher

CA WELLS 17432

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Water System Information:

Prime Station Code:	30N/04W-15Q02 M	User ID:	45C
FRDS Number:	4500199001	County:	Shasta
District Number:	75	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	402702.0 1221720.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	WELL 01		
System Number:	4500199		
System Name:	FERRYS PHARMACY		
Organization That Operates System:			
	Not Reported		
Pop Served:	Unknown, Small System	Connections:	Unknown, Small System
Area Served:	Not Reported		

**6
West
1/2 - 1 Mile
Higher**

FED USGS USGS40000194419

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-402714122184301		
Monloc name:	030N004W15M003M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18020101	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.4537634
Longitude:	-122.3130599	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	431.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Pacific Northwest basin-fill aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19541224	Welldepth:	282
Welldepth units:	ft	Wellholeddepth:	285
Wellholeddepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below		Feet to	
	Surface	Sealevel	Surface	Sealevel
----- 1979-07-27	46.20			

**7
East
1/2 - 1 Mile
Lower**

Site ID:	450004	AQUIFLOW	65706
Groundwater Flow:	Not Reported		
Shallow Water Depth:	8.65		
Deep Water Depth:	15.25		
Average Water Depth:	Not Reported		
Date:	07/12/1995		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

8
SW
1/2 - 1 Mile
Higher

CA WELLS 17436

Water System Information:

Prime Station Code:	30N/04W-16R02 M	User ID:	ATT
FRDS Number:	4510001002	County:	Shasta
District Number:	01	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Untreated
Source Lat/Long:	402652.0 1221837.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	DIAMOND STREET WELL 03A		
System Number:	4510001		
System Name:	City of Anderson		
Organization That Operates System:	1887 HOWARD ST ANDERSON, CA 96007		
Pop Served:	9381	Connections:	2420
Area Served:	ANDERSON & VICINITY		
Sample Collected:	11-AUG-11	Findings:	161. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	11-AUG-11	Findings:	2.7 MG/L
Chemical:	CHLORIDE		
Sample Collected:	11-AUG-11	Findings:	3.1 MG/L
Chemical:	SULFATE		
Sample Collected:	11-AUG-11	Findings:	0.2 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	11-AUG-11	Findings:	2.9 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	11-AUG-11	Findings:	654. MG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	24-SEP-12	Findings:	7.6
Chemical:	PH, LABORATORY		
Sample Collected:	24-SEP-12	Findings:	54. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	24-SEP-12	Findings:	9.38 MG/L
Chemical:	CALCIUM		
Sample Collected:	24-SEP-12	Findings:	7.71 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	24-SEP-12	Findings:	13.9 MG/L
Chemical:	SODIUM		
Sample Collected:	24-SEP-12	Findings:	130. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	09-AUG-13	Findings:	3.2 MG/L
Chemical:	NITRATE (AS NO3)		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	20-JUN-14	Findings:	0.421 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	20-JUN-14	Findings:	0.718 PCI/L
Chemical:	GROSS ALPHA MDA95		
Sample Collected:	15-AUG-14	Findings:	3. MG/L
Chemical:	NITRATE (AS NO3)		

9
SSE
1/2 - 1 Mile
Higher

CA WELLS 17439

Water System Information:

Prime Station Code:	30N/04W-22H02 M	User ID:	45C
FRDS Number:	4500197001	County:	Shasta
District Number:	75	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	402635.0 1221739.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	WELL 01		
System Number:	4500197		
System Name:	WHITE CENTER		
Organization That Operates System:	Not Reported		
Pop Served:	Unknown, Small System	Connections:	Unknown, Small System
Area Served:	Not Reported		

10
South
1/2 - 1 Mile
Higher

CA WELLS 17438

Water System Information:

Prime Station Code:	30N/04W-22G01 M	User ID:	45C
FRDS Number:	4500254001	County:	Shasta
District Number:	75	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	402632.0 1221750.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	WELL 01		
System Number:	4500254		
System Name:	ANDERSON PARK VILLAGE APT.		
Organization That Operates System:	Not Reported		
Pop Served:	Unknown, Small System	Connections:	Unknown, Small System
Area Served:	Not Reported		
Sample Collected:	04-APR-11	Findings:	4.7 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	01-SEP-11	Findings:	18.5 C
Chemical:	SOURCE TEMPERATURE C		
Sample Collected:	01-SEP-11	Findings:	95. US
Chemical:	SPECIFIC CONDUCTANCE		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	01-SEP-11	Findings:	7.65
Chemical:	PH, LABORATORY		
Sample Collected:	01-SEP-11	Findings:	38. MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO ₃		
Sample Collected:	01-SEP-11	Findings:	46. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	01-SEP-11	Findings:	34. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO ₃		
Sample Collected:	01-SEP-11	Findings:	4.9 MG/L
Chemical:	CALCIUM		
Sample Collected:	01-SEP-11	Findings:	4.19 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	01-SEP-11	Findings:	9.8 MG/L
Chemical:	SODIUM		
Sample Collected:	01-SEP-11	Findings:	0.95 MG/L
Chemical:	POTASSIUM		
Sample Collected:	01-SEP-11	Findings:	2.2 MG/L
Chemical:	CHLORIDE		
Sample Collected:	01-SEP-11	Findings:	4.8 MG/L
Chemical:	SULFATE		
Sample Collected:	01-SEP-11	Findings:	0.2 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	01-SEP-11	Findings:	92. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	01-SEP-11	Findings:	4.4 MG/L
Chemical:	NITRATE (AS NO ₃)		
Sample Collected:	01-SEP-11	Findings:	10.3
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	04-FEB-13	Findings:	4.6 MG/L
Chemical:	NITRATE (AS NO ₃)		
Sample Collected:	20-FEB-13	Findings:	0.399 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	20-FEB-13	Findings:	0.675 PCI/L
Chemical:	GROSS ALPHA MDA95		
Sample Collected:	16-MAY-13	Findings:	0.399 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	16-MAY-13	Findings:	0.675 PCI/L
Chemical:	GROSS ALPHA MDA95		
Sample Collected:	18-AUG-13	Findings:	0.399 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	18-AUG-13	Findings:	0.675 PCI/L
Chemical:	GROSS ALPHA MDA95		
Sample Collected:	26-DEC-13	Findings:	0.399 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	26-DEC-13	Findings:	0.675 PCI/L
Chemical:	GROSS ALPHA MDA95		
Sample Collected:	03-JUN-14	Findings:	4.5 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	03-JUN-14	Findings:	0.7 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	02-SEP-14	Findings:	1.87 PCI/L
Chemical:	RADIUM 228		
Sample Collected:	02-SEP-14	Findings:	0.47 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	02-SEP-14	Findings:	0.6 PCI/L
Chemical:	RADIUM 228 MDA95		
Sample Collected:	02-DEC-14	Findings:	0.13 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	02-DEC-14	Findings:	0.43 PCI/L
Chemical:	RADIUM 228 MDA95		
Sample Collected:	03-MAR-15	Findings:	1.7 PCI/L
Chemical:	RADIUM 228		
Sample Collected:	03-MAR-15	Findings:	0.19 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	03-MAR-15	Findings:	0.97 PCI/L
Chemical:	RADIUM 228 MDA95		
Sample Collected:	07-APR-15	Findings:	4.79 MG/L
Chemical:	NITRATE (AS NO3)		

11
NE
1/2 - 1 Mile
Lower

FED USGS

USGS40000194431

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-402750122170001		
Monloc name:	030N004W11P001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18020101	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.4637635
Longitude:	-122.2844479	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	415.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Pacific Northwest basin-fill aquifers		
Formation type:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type:	Not Reported	Welldepth:	184
Construction date:	19780421	Wellholeddepth:	187
Welldepth units:	ft		
Wellholeddepth units:	ft		

Ground-water levels, Number of Measurements: 3

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1980-04-02	16.5		1979-07-26	22.40	
1978-04-21	35.00				

B12
South
1/2 - 1 Mile
Higher

CA WELLS CADW60000001132

Objectid:	1132
Latitude:	40.441232
Longitude:	-122.301776
Site code:	404412N1223018W001
State well numbe:	30N04W22F004M
Local well name:	'MW-08'
Well use id:	1
Well use descrip:	Observation
County id:	45
County name:	Shasta
Basin code:	'5-6.03'
Basin desc:	Anderson
Dwr region id:	80235
Dwr region:	Northern Region Office
Site id:	CADW60000001132

B13
South
1/2 - 1 Mile
Higher

CA WELLS CADW600000015710

Objectid:	15710
Latitude:	40.441175
Longitude:	-122.301553
Site code:	404412N1223015W001
State well numbe:	30N04W22F002M
Local well name:	'MW-01S'
Well use id:	1
Well use descrip:	Observation
County id:	45
County name:	Shasta
Basin code:	'5-6.03'
Basin desc:	Anderson
Dwr region id:	80235
Dwr region:	Northern Region Office
Site id:	CADW600000015710

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

B14
South
1/2 - 1 Mile
Higher

CA WELLS CADW60000014973

Objectid: 14973
 Latitude: 40.441123
 Longitude: -122.301538
 Site code: 404411N1223015W001
 State well numbe: 30N04W22F003M
 Local well name: 'MW-01D'
 Well use id: 1
 Well use descrip: Observation
 County id: 45
 County name: Shasta
 Basin code: '5-6.03'
 Basin desc: Anderson
 Dwr region id: 80235
 Dwr region: Northern Region Office
 Site id: CADW60000014973

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
96007	14	2

Federal EPA Radon Zone for SHASTA County: 3

- Note: Zone 1 indoor average level > 4 pCi/L.
 : Zone 2 indoor average level \geq 2 pCi/L and \leq 4 pCi/L.
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 96007

Number of sites tested: 9

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.956 pCi/L	89%	11%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Department of Fish & Game

Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database

Source: Department of Water Resources

Telephone: 916-651-9648

California Drinking Water Quality Database

Source: Department of Public Health

Telephone: 916-324-2319

The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations

Source: Department of Conservation

Telephone: 916-323-1779

Oil and Gas well locations in the state.

RADON

State Database: CA Radon

Source: Department of Health Services

Telephone: 916-324-2208

Radon Database for California

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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WIN RIVER CASINO SITE – EDR REPORT

Win-River Casino Site

2100 Redding Rancheria Rd
Redding, CA 96001

Inquiry Number: 4959072.2s
June 07, 2017

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
 Please contact EDR at 1-800-352-0050
 with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

2100 REDDING RANCHERIA RD
REDDING, CA 96001

COORDINATES

Latitude (North): 40.5066990 - 40° 30' 24.11"
Longitude (West): 122.3839810 - 122° 23' 2.33"
Universal Transverse Mercator: Zone 10
UTM X (Meters): 552194.0
UTM Y (Meters): 4483969.5
Elevation: 469 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 5605416 REDDING, CA
Version Date: 2012

Northeast Map: 5605372 ENTERPRISE, CA
Version Date: 2012

Southeast Map: 5605366 COTTONWOOD, CA
Version Date: 2012

Southwest Map: 5605396 OLINDA, CA
Version Date: 2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20140729, 20140726
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:
 2100 REDDING RANCHERIA RD
 REDDING, CA 96001

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	REDDING RANCHERIA	2000 REDDING RANCHER	FINDS, ECHO	Lower	1 ft.
2	CLEAR CREEK BANK		IHS OPEN DUMPS	Lower	60, 0.011, NNW
3	VERIZON WIRELESS - R	18041 CLEAR CREEK RD	CUPA Listings	Higher	937, 0.177, WNW
A4	BARNARD PIPELINE INC	8025 EASTSIDE RD	CUPA Listings	Higher	1096, 0.208, ESE
B5	SCHMITT, WILLIAM & S	1701 CLEAR CREEK	HIST CORTESE	Lower	1114, 0.211, WNW
B6	SCHMITT LOWBED SEV I	1701 CLEAR CREEK RD	RCRA NonGen / NLR, FINDS, ECHO	Lower	1114, 0.211, WNW
B7	MUSE, FRANK & KATHER	1701 CLEAR CREEK	HIST CORTESE	Lower	1114, 0.211, WNW
A8	SCHNITZER STEEL INDU	8031 EASTSIDE RD	CUPA Listings, NPDES	Higher	1114, 0.211, ESE
B9	APPLIED COMPOSITES	18094 CLEAR CREEK RD	CUPA Listings, HAZNET	Higher	1201, 0.227, WNW
10	EVERGREEN ENVIRONMEN	501 CLEAR CREEK RD	HWP	Lower	1450, 0.275, NW
C11	SHORT'S SCRAP IRON A	2041 GIRVAN ROAD	HIST Cal-Sites, HIST UST, EMI, WDS	Lower	1581, 0.299, NE
C12	NORTHSTATE RECYCLING	2041 GIRVAN RD	RESPONSE, ENVIROSTOR, LUST, SLIC, AST, SWRCY, HIST..	Lower	1581, 0.299, NE
C13	SHORT'S SCRAP IRON A	2041 GIRVAN RD	SEMS-ARCHIVE	Lower	1581, 0.299, NE
14	MORGAN EMULTECH INC	7200 PIT RD	LUST, AST, SWEEPS UST, HIST UST, CUPA Listings,...	Lower	1825, 0.346, ENE
15	CLEAR CREEK MARKET	7036 WESTSIDE RD	LUST, CUPA Listings, HIST CORTESE	Lower	1932, 0.366, NNE
16	CASEY VERN	6911 EASTSIDE RD	LUST, HIST CORTESE	Lower	2624, 0.497, NNE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System
US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

EXECUTIVE SUMMARY

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
UST..... Active UST Facilities
AST..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing
VCP..... Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS..... Considered Brownfields Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT..... Waste Management Unit Database
HAULERS..... Registered Waste Tire Haulers Listing
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
ODI..... Open Dump Inventory
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register
SCH..... School Property Evaluation Program
CDL..... Clandestine Drug Labs
Toxic Pits..... Toxic Pits Cleanup Act Sites
US CDL..... National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST..... SWEEPS UST Listing
HIST UST..... Hazardous Substance Storage Container Database
CA FID UST..... Facility Inventory Database

Local Land Records

LIENS..... Environmental Liens Listing

EXECUTIVE SUMMARY

LIENS 2..... CERCLA Lien Information
DEED..... Deed Restriction Listing

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
CHMIRS..... California Hazardous Material Incident Report System
LDS..... Land Disposal Sites Listing
MCS..... Military Cleanup Sites Listing
SPILLS 90..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

FUDS..... Formerly Used Defense Sites
DOD..... Department of Defense Sites
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR..... Financial Assurance Information
EPA WATCH LIST..... EPA WATCH LIST
2020 COR ACTION..... 2020 Corrective Action Program List
TSCA..... Toxic Substances Control Act
TRIS..... Toxic Chemical Release Inventory System
SSTS..... Section 7 Tracking Systems
ROD..... Records Of Decision
RMP..... Risk Management Plans
RAATS..... RCRA Administrative Action Tracking System
PRP..... Potentially Responsible Parties
PADS..... PCB Activity Database System
ICIS..... Integrated Compliance Information System
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS..... Material Licensing Tracking System
COAL ASH DOE..... Steam-Electric Plant Operation Data
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER..... PCB Transformer Registration Database
RADINFO..... Radiation Information Database
HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS..... Incident and Accident Data
CONSENT..... Superfund (CERCLA) Consent Decrees
INDIAN RESERV..... Indian Reservations
FUSRAP..... Formerly Utilized Sites Remedial Action Program
UMTRA..... Uranium Mill Tailings Sites
LEAD SMELTERS..... Lead Smelter Sites
US AIRS..... Aerometric Information Retrieval System Facility Subsystem
US MINES..... Mines Master Index File
ABANDONED MINES..... Abandoned Mines
UXO..... Unexploded Ordnance Sites
DOCKET HWC..... Hazardous Waste Compliance Docket Listing
FUELS PROGRAM..... EPA Fuels Program Registered Listing
CA BOND EXP. PLAN..... Bond Expenditure Plan
DRYCLEANERS..... Cleaner Facilities
EMI..... Emissions Inventory Data
ENF..... Enforcement Action Listing
Financial Assurance..... Financial Assurance Information Listing
HAZNET..... Facility and Manifest Data
ICE..... ICE

EXECUTIVE SUMMARY

HWT.....	Registered Hazardous Waste Transporter Database
MINES.....	Mines Site Location Listing
MWMP.....	Medical Waste Management Program Listing
NPDES.....	NPDES Permits Listing
PEST LIC.....	Pesticide Regulation Licenses Listing
Notify 65.....	Proposition 65 Records
UIC.....	UIC Listing
WASTEWATER PITS.....	Oil Wastewater Pits Listing
WDS.....	Waste Discharge System
WIP.....	Well Investigation Program Case List

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP.....	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto.....	EDR Exclusive Historic Gas Stations
EDR Hist Cleaner.....	EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF.....	Recovered Government Archive Solid Waste Facilities List
RGA LUST.....	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless

EXECUTIVE SUMMARY

information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

A review of the SEMS-ARCHIVE list, as provided by EDR, and dated 02/07/2017 has revealed that there is 1 SEMS-ARCHIVE site within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
SHORT'S SCRAP IRON A	2041 GIRVAN RD	NE 1/4 - 1/2 (0.299 mi.)	C13	38

State- and tribal - equivalent NPL

RESPONSE: Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

A review of the RESPONSE list, as provided by EDR, has revealed that there is 1 RESPONSE site within approximately 1 mile of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>NORTHSTATE RECYCLING</i> Database: RESPONSE, Date of Government Version: 01/30/2017 Status: Backlog Facility Id: 45500010	<i>2041 GIRVAN RD</i>	<i>NE 1/4 - 1/2 (0.299 mi.)</i>	<i>C12</i>	<i>26</i>

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 01/30/2017 has revealed that there is 1 ENVIROSTOR site within approximately 1 mile of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>NORTHSTATE RECYCLING</i> Facility Id: 45500010 Status: Backlog	<i>2041 GIRVAN RD</i>	<i>NE 1/4 - 1/2 (0.299 mi.)</i>	<i>C12</i>	<i>26</i>

EXECUTIVE SUMMARY

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the LUST list, as provided by EDR, has revealed that there are 4 LUST sites within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
NORTHSTATE RECYCLING Database: LUST REG 5, Date of Government Version: 07/01/2008 Database: LUST, Date of Government Version: 03/13/2017 Status: Completed - Case Closed Status: Case Closed Global Id: T0608900013	2041 GIRVAN RD	NE 1/4 - 1/2 (0.299 mi.)	C12	26
MORGAN EMULTECH INC Database: LUST REG 5, Date of Government Version: 07/01/2008 Database: LUST, Date of Government Version: 03/13/2017 Status: Completed - Case Closed Status: Case Closed Global Id: T0608900266	7200 PIT RD	ENE 1/4 - 1/2 (0.346 mi.)	14	39
CLEAR CREEK MARKET Database: LUST REG 5, Date of Government Version: 07/01/2008 Database: LUST, Date of Government Version: 03/13/2017 Status: Completed - Case Closed Status: Case Closed Global Id: T0608900264	7036 WESTSIDE RD	NNE 1/4 - 1/2 (0.366 mi.)	15	47
CASEY VERN Database: LUST REG 5, Date of Government Version: 07/01/2008 Database: LUST, Date of Government Version: 03/13/2017 Status: Completed - Case Closed Status: Case Closed Global Id: T0608900062	6911 EASTSIDE RD	NNE 1/4 - 1/2 (0.497 mi.)	16	49

SLIC: Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the SLIC list, as provided by EDR, has revealed that there is 1 SLIC site within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
NORTHSTATE RECYCLING Database: SLIC, Date of Government Version: 03/13/2017 Facility Status: Open - Remediation Global Id: T10000003519	2041 GIRVAN RD	NE 1/4 - 1/2 (0.299 mi.)	C12	26

EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: A listing of recycling facilities in California.

A review of the SWRCY list, as provided by EDR, and dated 03/13/2017 has revealed that there is 1 SWRCY site within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>NORTHSTATE RECYCLING</i> Cert Id: RC10540	<i>2041 GIRVAN RD</i>	<i>NE 1/4 - 1/2 (0.299 mi.)</i>	<i>C12</i>	<i>26</i>

IHS OPEN DUMPS: A listing of all open dumps located on Indian Land in the United States.

A review of the IHS OPEN DUMPS list, as provided by EDR, and dated 04/01/2014 has revealed that there is 1 IHS OPEN DUMPS site within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CLEAR CREEK BANK		NNW 0 - 1/8 (0.011 mi.)	2	8

Local Lists of Hazardous waste / Contaminated Sites

HIST Cal-Sites: Formerly known as ASPIS, this database contains both known and potential hazardous substance sites. The source is the California Department of Toxic Substance Control. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

A review of the HIST Cal-Sites list, as provided by EDR, and dated 08/08/2005 has revealed that there is 1 HIST Cal-Sites site within approximately 1 mile of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>SHORT'S SCRAP IRON A</i>	<i>2041 GIRVAN ROAD</i>	<i>NE 1/4 - 1/2 (0.299 mi.)</i>	<i>C11</i>	<i>17</i>

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 12/12/2016 has revealed that there is 1 RCRA NonGen / NLR site within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>SCHMITT LOWBED SEV I</i>	<i>1701 CLEAR CREEK RD</i>	<i>WNW 1/8 - 1/4 (0.211 mi.)</i>	<i>B6</i>	<i>10</i>

EXECUTIVE SUMMARY

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 04/04/2017 has revealed that there is 1 FINDS site within approximately 0.001 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
REDDING RANCHERIA	2000 REDDING RANCHER	0 - 1/8 (0.000 mi.)	1	8

ECHO: ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

A review of the ECHO list, as provided by EDR, and dated 03/19/2017 has revealed that there is 1 ECHO site within approximately 0.001 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
REDDING RANCHERIA	2000 REDDING RANCHER	0 - 1/8 (0.000 mi.)	1	8

Cortese: The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

A review of the Cortese list, as provided by EDR, and dated 12/28/2016 has revealed that there is 1 Cortese site within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
NORTHSTATE RECYCLING Envirostor Id: 45500010 Cleanup Status: BACKLOG	2041 GIRVAN RD	NE 1/4 - 1/2 (0.299 mi.)	C12	26

CUPA Listings: A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

A review of the CUPA Listings list, as provided by EDR, has revealed that there are 4 CUPA Listings sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
VERIZON WIRELESS - R Database: CUPA SHASTA, Date of Government Version: 03/14/2017 Facility Status: True Site Id: 1711	18041 CLEAR CREEK RD	WNW 1/8 - 1/4 (0.177 mi.)	3	8
BARNARD PIPELINE INC Database: CUPA SHASTA, Date of Government Version: 03/14/2017	8025 EASTSIDE RD	ESE 1/8 - 1/4 (0.208 mi.)	A4	9

EXECUTIVE SUMMARY

Facility Status: True
Site Id: 2274

SCHNITZER STEEL INDU	8031 EASTSIDE RD	ESE 1/8 - 1/4 (0.211 mi.)	A8	12
Database: CUPA SHASTA, Date of Government Version: 03/14/2017				
Facility Status: False				
Site Id: 1997				
APPLIED COMPOSITES	18094 CLEAR CREEK RD	WNW 1/8 - 1/4 (0.227 mi.)	B9	15
Database: CUPA SHASTA, Date of Government Version: 03/14/2017				
Facility Status: False				
Site Id: 1240				

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSTITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 6 HIST CORTESE sites within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
SCHMITT, WILLIAM & S Reg Id: 6A189103N54 Reg Id: 6A189103N55 Reg Id: 6A189103N56 Reg Id: 6A189103N58 Reg Id: 6A189103N59 <i>*Additional key fields are available in the Map Findings section</i>	1701 CLEAR CREEK	WNW 1/8 - 1/4 (0.211 mi.)	B5	9
MUSE, FRANK & KATHER Reg Id: 6A189102N69	1701 CLEAR CREEK	WNW 1/8 - 1/4 (0.211 mi.)	B7	12
NORTHSTATE RECYCLING Reg Id: 450013	2041 GIRVAN RD	NE 1/4 - 1/2 (0.299 mi.)	C12	26
MORGAN EMULTECH INC Reg Id: 450272	7200 PIT RD	ENE 1/4 - 1/2 (0.346 mi.)	14	39
CLEAR CREEK MARKET Reg Id: 450270	7036 WESTSIDE RD	NNE 1/4 - 1/2 (0.366 mi.)	15	47
CASEY VERN Reg Id: 450062	6911 EASTSIDE RD	NNE 1/4 - 1/2 (0.497 mi.)	16	49

HWP: Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

A review of the HWP list, as provided by EDR, and dated 11/21/2016 has revealed that there is 1 HWP site within approximately 1 mile of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
EVERGREEN ENVIRONMEN EPA Id: CAD982446908 Cleanup Status: CLOSED	501 CLEAR CREEK RD	NW 1/4 - 1/2 (0.275 mi.)	10	16

EXECUTIVE SUMMARY

PROC: A listing of certified processors.

A review of the PROC list, as provided by EDR, and dated 03/13/2017 has revealed that there is 1 PROC site within approximately 0.5 miles of the target property.

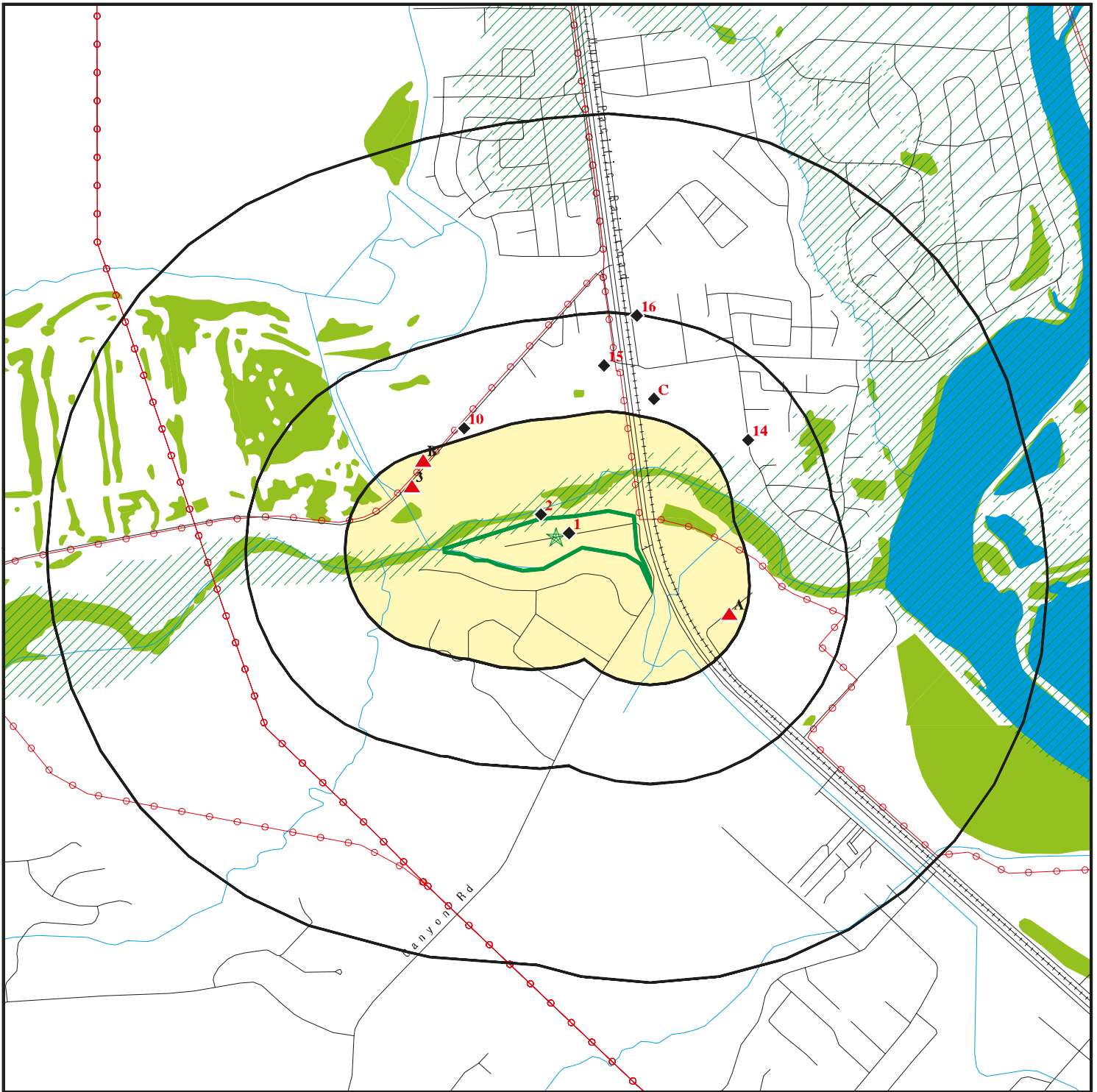
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
NORTHSTATE RECYCLING Cert Id: PR0330 Reg Id: 18568	2041 GIRVAN RD	NE 1/4 - 1/2 (0.299 mi.)	C12	26

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 6 records.

<u>Site Name</u>	<u>Database(s)</u>
IRON MOUNTAIN MINE - SHASTA COUNTY	CDL
MAMMOTH MINE	CA BOND EXP. PLAN
PACHECO NORTH	CA BOND EXP. PLAN
CHAMPION INTERNATIONAL	ENVIROSTOR, SCH
WILDWOOD MILL SITE	ENVIROSTOR
	ENVIROSTOR

OVERVIEW MAP - 4959072.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

Pipelines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

















This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Win-River Casino Site
 ADDRESS: 2100 Redding Rancheria Rd
 Redding CA 96001
 LAT/LONG: 40.506699 / 122.383981

CLIENT: Analytical Environmental Serv.
 CONTACT: Laura Zajac
 INQUIRY #: 4959072.2s
 DATE: June 07, 2017 4:34 pm

DETAIL MAP - 4959072.2S



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  Sensitive Receptors
-  National Priority List Sites
-  Dept. Defense Sites
-  Indian Reservations BIA
-  Power transmission lines
-  100-year flood zone
-  500-year flood zone
-  National Wetland Inventory
-  State Wetlands
-  Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Win-River Casino Site
 ADDRESS: 2100 Redding Rancheria Rd
 Redding CA 96001
 LAT/LONG: 40.506699 / 122.383981

CLIENT: Analytical Environmental Serv.
 CONTACT: Laura Zajac
 INQUIRY #: 4959072.2s
 DATE: June 07, 2017 4:42 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	1	NR	NR	1
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	0.001		0	NR	NR	NR	NR	0
<i>State- and tribal - equivalent NPL</i>								
RESPONSE	1.000		0	0	1	0	NR	1
<i>State- and tribal - equivalent CERCLIS</i>								
ENVIROSTOR	1.000		0	0	1	0	NR	1
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
LUST	0.500		0	0	4	NR	NR	4

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
SLIC	0.500		0	0	1	NR	NR	1
<i>State and tribal registered storage tank lists</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
<i>State and tribal voluntary cleanup sites</i>								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
<i>State and tribal Brownfields sites</i>								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
<i>Local Brownfield lists</i>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Landfill / Solid Waste Disposal Sites</i>								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	1	NR	NR	1
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		1	0	0	NR	NR	1
<i>Local Lists of Hazardous waste / Contaminated Sites</i>								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	1	0	NR	1
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
<i>Local Lists of Registered Storage Tanks</i>								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
<i>Local Land Records</i>								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
<i>Records of Emergency Release Reports</i>								
HMIRS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	1	NR	NR	NR	1
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.001		0	NR	NR	NR	NR	0
FINDS	0.001		1	NR	NR	NR	NR	1
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		1	NR	NR	NR	NR	1
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	1	NR	NR	1
CUPA Listings	0.250		0	4	NR	NR	NR	4
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	2	4	NR	NR	6
HWP	1.000		0	0	1	0	NR	1
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	1	NR	NR	1
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0

- Totals --		0	3	7	17	0	0	27
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NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID			EDR ID Number
Direction			
Distance			
Elevation	Site	Database(s)	EPA ID Number

1	REDDING RANCHERIA	FINDS	1008023931
	2000 REDDING RANCHERIA ROAD	ECHO	N/A
< 1/8	REDDING, CA 96001		
1 ft.			

FINDS:

Relative:
Lower

Registry ID: 110012938287

Actual:
465 ft.

Environmental Interest/Information System
COMMUNITY WATER SYSTEM

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1008023931
Registry ID: 110012938287
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110012938287>

2	CLEAR CREEK BANK	IHS OPEN DUMPS	1016946364
NNW			N/A
< 1/8	, CA		
0.011 mi.			
60 ft.			

Relative:
Lower

IHS OPEN DUMPS:

EPA Region: 9
IHS Area: CA
Tribe: REDDING RANCHERIA OF POMO INDIANS OF CALIFORNIA
System Type: Solid Waste Disposal Site
Status: Inactive
Condition: Open Dump - Closed
Condition Date: 2007-09-12 00:00:00
Health Threat: 1-Low
Health Threat Score: 200
Contents: D
Surface Area (acres): 5.999999999999998E-2
N Latitude: 40.507579999999997
W Longitude: 122.38471

3	VERIZON WIRELESS - REDDING RANCHERIA	CUPA Listings	S110744722
WNW	18041 CLEAR CREEK RD		N/A
1/8-1/4	REDDING, CA		
0.177 mi.			
937 ft.			

Relative:
Higher

CUPA SHASTA:

Site Id: 1711
CersID: 10144829
Facility Status: True
Attn: ENVIRONMENTAL COMPLIANCE
Mail Addr: 295 PARKSHORE DRIVE
Mail City: FOLSOM
Mail State: CA
Mail Zip: 95630
EDR Link ID: 1711

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

VERIZON WIRELESS - REDDING RANCHERIA (Continued)

S110744722

Detail:

Facid: 1711
 Facility Name: VERIZON WIRELESS - REDDING RANCHERIA
 File Type: Hazardous Material Business Plan Site

A4
ESE
1/8-1/4
0.208 mi.
1096 ft.

BARNARD PIPELINE INC
8025 EASTSIDE RD
REDDING, CA
Site 1 of 2 in cluster A

CUPA Listings S118671954
N/A

Relative:
Higher

CUPA SHASTA:
 Site Id: 2274
 CersID: 10670347
 Facility Status: True
 Attn: SHANE MEDLEY
 Mail Addr: 7211 SANDS LN
 Mail City: ANDERSON
 Mail State: CA
 Mail Zip: 96007
 EDR Link ID: 2274

Actual:
477 ft.

Detail:

Facid: 2274
 Facility Name: BARNARD PIPELINE INC
 File Type: Hazardous Material Business Plan Site

B5
WNW
1/8-1/4
0.211 mi.
1114 ft.

SCHMITT, WILLIAM & SYLVIA
1701 CLEAR CREEK
REDDING, CA 96001
Site 1 of 4 in cluster B

HIST CORTESE S105025692
N/A

Relative:
Lower

HIST CORTESE:
 Region: CORTESE
 Facility County Code: 18
 Reg By: WBC&D
 Reg Id: 6A189103N54

Actual:
468 ft.

Region: CORTESE
 Facility County Code: 18
 Reg By: WBC&D
 Reg Id: 6A189103N55

Region: CORTESE
 Facility County Code: 18
 Reg By: WBC&D
 Reg Id: 6A189103N56

Region: CORTESE
 Facility County Code: 18
 Reg By: WBC&D
 Reg Id: 6A189103N58

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHMITT, WILLIAM & SYLVIA (Continued)

S105025692

Region: CORTESE
Facility County Code: 18
Reg By: WBC&D
Reg Id: 6A189103N59

Region: CORTESE
Facility County Code: 18
Reg By: WBC&D
Reg Id: 6A189103N60

Region: CORTESE
Facility County Code: 18
Reg By: WBC&D
Reg Id: 6A189103N61

Region: CORTESE
Facility County Code: 18
Reg By: WBC&D
Reg Id: 6A189105N34

B6
WNW
1/8-1/4
0.211 mi.
1114 ft.

SCHMITT LOWBED SEV INC
1701 CLEAR CREEK RD
REDDING, CA 96001

RCRA NonGen / NLR **1000593259**
FINDS **CAD982437592**
ECHO

Site 2 of 4 in cluster B

Relative:
Lower

RCRA NonGen / NLR:

Date form received by agency: 03/11/1991

Facility name: SCHMITT LOWBED SEV INC
Facility address: 1701 CLEAR CREEK RD
REDDING, CA 96001

EPA ID: CAD982437592
Mailing address: CLEAR CREEK RD
REDDING, CA 96001

Contact: ENVIRONMENTAL MANAGER
Contact address: 1701 CLEAR CREEK RD
REDDING, CA 96001

Contact country: US
Contact telephone: (916) 243-5658
Contact email: Not reported

EPA Region: 09

Classification: Non-Generator

Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999

Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212

Legal status: Private

Owner/Operator Type: Operator

Owner/Op start date: Not reported

Owner/Op end date: Not reported

Owner/operator name: BILL SCHMITT
Owner/operator address: NOT REQUIRED

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHMITT LOWBED SEV INC (Continued)

1000593259

NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: Yes
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110002812145

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1000593259
Registry ID: 110002812145
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110002812145>

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

B7
WNW
1/8-1/4
0.211 mi.
1114 ft.

MUSE, FRANK & KATHERINE
1701 CLEAR CREEK
REDDING, CA 96001

Site 3 of 4 in cluster B

HIST CORTESE **S105025691**
N/A

Relative: HIST CORTESE:
Lower Region: CORTESE
 Facility County Code: 18
Actual: Reg By: WBC&D
468 ft. Reg Id: 6A189102N69

A8
ESE
1/8-1/4
0.211 mi.
1114 ft.

SCHNITZER STEEL INDUSTRIES INC
8031 EASTSIDE RD
REDDING, CA 96099

Site 2 of 2 in cluster A

CUPA Listings **S111459932**
NPDES **N/A**

Relative: CUPA SHASTA:
Higher Site Id: 1997
 CersID: 10448686
Actual: Facility Status: False
476 ft. Attn: CHRIS ORSOLINI
 Mail Addr: 1101 EMBARCADERO WEST
 Mail City: OAKLAND
 Mail State: CA
 Mail Zip: 94607
 EDR Link ID: 1997

Detail:

Facid: 1997
Facility Name: SCHNITZER STEEL
File Type: Hazardous Material Business Plan Site

Facid: 1997
Facility Name: SCHNITZER STEEL
File Type: Hazardous Waste Generator

NPDES:

Npdes Number: CAS000001
Facility Status: Terminated
Agency Id: 0
Region: 5R
Regulatory Measure Id: 423443
Order No: 97-03-DWQ
Regulatory Measure Type: Enrollee
Place Id: Not reported
WDID: 5R45I023470
Program Type: Industrial
Adoption Date Of Regulatory Measure: Not reported
Effective Date Of Regulatory Measure: 01/18/2012
Expiration Date Of Regulatory Measure: Not reported
Termination Date Of Regulatory Measure: 07/01/2014
Discharge Name: Schnitzer Steel Industries Inc
Discharge Address: 1101 Embarcadero West
Discharge City: Oakland
Discharge State: California
Discharge Zip: 94807
RECEIVED DATE: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHNITZER STEEL INDUSTRIES INC (Continued)

S111459932

PROCESSED DATE:	Not reported
STATUS CODE NAME:	Not reported
STATUS DATE:	Not reported
PLACE SIZE:	Not reported
PLACE SIZE UNIT:	Not reported
FACILITY CONTACT NAME:	Not reported
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	Not reported
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Not reported
OPERATOR ADDRESS:	Not reported
OPERATOR CITY:	Not reported
OPERATOR STATE:	Not reported
OPERATOR ZIP:	Not reported
OPERATOR CONTACT NAME:	Not reported
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	Not reported
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Not reported
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	Not reported
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	Not reported
RECEIVING WATER NAME:	Not reported
CERTIFIER NAME:	Not reported
CERTIFIER TITLE:	Not reported
CERTIFICATION DATE:	Not reported
PRIMARY SIC:	Not reported
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported
Npdes Number:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHNITZER STEEL INDUSTRIES INC (Continued)

S111459932

Facility Status:	Not reported
Agency Id:	Not reported
Region:	5R
Regulatory Measure Id:	423443
Order No:	Not reported
Regulatory Measure Type:	Industrial
Place Id:	Not reported
WDID:	5R45I023470
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	7/1/2014
Discharge Name:	Not reported
Discharge Address:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
RECEIVED DATE:	1/18/2012
PROCESSED DATE:	1/18/2012
STATUS CODE NAME:	Terminated
STATUS DATE:	7/9/2014
PLACE SIZE:	8
PLACE SIZE UNIT:	Acres
FACILITY CONTACT NAME:	Jim Morrison
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	530-242-6240
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Schnitzer Steel Industries Inc
OPERATOR ADDRESS:	1101 Embarcadero West
OPERATOR CITY:	Oakland
OPERATOR STATE:	California
OPERATOR ZIP:	94807
OPERATOR CONTACT NAME:	Melisa Cohen
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	510-452-6378
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Private Business
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	California
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHNITZER STEEL INDUSTRIES INC (Continued)

S111459932

CONSTYPE INDUSTRIAL IND: Not reported
CONSTYPE OTHER DESCRIPTION: Not reported
CONSTYPE OTHER IND: Not reported
CONSTYPE RECONS IND: Not reported
CONSTYPE RESIDENTIAL IND: Not reported
CONSTYPE TRANSPORT IND: Not reported
CONSTYPE UTILITY DESCRIPTION: Not reported
CONSTYPE UTILITY IND: Not reported
CONSTYPE WATER SEWER IND: Not reported
DIR DISCHARGE USWATER IND: N
RECEIVING WATER NAME: Clear Creek
CERTIFIER NAME: Not reported
CERTIFIER TITLE: Not reported
CERTIFICATION DATE: Not reported
PRIMARY SIC: 5093-Scrap and Waste Materials
SECONDARY SIC: Not reported
TERTIARY SIC: Not reported

B9
WNW
1/8-1/4
0.227 mi.
1201 ft.

APPLIED COMPOSITES
18094 CLEAR CREEK RD
REDDING, CA 96001

CUPA Listings **S112923618**
HAZNET **N/A**

Site 4 of 4 in cluster B

Relative:
Higher

CUPA SHASTA:
Site Id: 1240
CersID: Not reported
Facility Status: False
Attn: FRED NEWELL
Mail Addr: 18094 CLEAR CREEK RD
Mail City: REDDING
Mail State: CA
Mail Zip: 96001
EDR Link ID: 1240

Actual:
469 ft.

Detail:

Facid: 1240
Facility Name: APPLIED COMPOSITES INC
File Type: Hazardous Material Business Plan Site

HAZNET:

envid: S112923618
Year: 2002
GEPaid: CAC002554478
Contact: FRED NEWELL
Telephone: 5302410174
Mailing Name: Not reported
Mailing Address: 18094 CLEAR CREEK RD
Mailing City,St,Zip: REDDING, CA 96001
Gen County: Not reported
TSD EPA ID: WAD991281767
TSD County: Not reported
Waste Category: Other organic solids
Disposal Method: Treatment, Incineration
Tons: 0.5
Cat Decode: Not reported
Method Decode: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

APPLIED COMPOSITES (Continued)

S112923618

Facility County: Shasta

envid: S112923618
Year: 2002
GEPAID: CAC002554478
Contact: FRED NEWELL
Telephone: 5302410174
Mailing Name: Not reported
Mailing Address: 18094 CLEAR CREEK RD
Mailing City,St,Zip: REDDING, CA 96001
Gen County: Not reported
TSD EPA ID: WAD991281767
TSD County: Not reported
Waste Category: Other organic solids
Disposal Method: Recycler
Tons: 0.2
Cat Decode: Not reported
Method Decode: Not reported
Facility County: Shasta

envid: S112923618
Year: 2002
GEPAID: CAC002554478
Contact: FRED NEWELL
Telephone: 5302410174
Mailing Name: Not reported
Mailing Address: 18094 CLEAR CREEK RD
Mailing City,St,Zip: REDDING, CA 96001
Gen County: Not reported
TSD EPA ID: WAD991281767
TSD County: Not reported
Waste Category: Off-specification, aged or surplus organics
Disposal Method: Treatment, Tank
Tons: 0.41
Cat Decode: Not reported
Method Decode: Not reported
Facility County: Shasta

10
NW
1/4-1/2
0.275 mi.
1450 ft.

EVERGREEN ENVIRONMENTAL SERVICES REDDING
501 CLEAR CREEK RD
REDDING, CA 96001

HWP S103662459
N/A

Relative:
Lower

HWP:
EPA Id: CAD982446908
Cleanup Status: CLOSED
Latitude: 40.51072
Longitude: -122.3884
Facility Type: Historical - Non-Operating
Facility Size: Not reported
Team: Not reported
Supervisor: Not reported
Site Code: 100469
Assembly District: 01
Senate District: 01
Public Information Officer: Not reported
Public Information Officer: Not reported

Actual:
464 ft.

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

EVERGREEN ENVIRONMENTAL SERVICES REDDING (Continued)

S103662459

Closure:

EPA Id: CAD982446908
 Facility Type: Historical - Non-Operating
 Unit Names: STRTANK1
 Event Description: Closure Final - CLOSURE PLAN APPROVED
 Actual Date: 06/30/2000

EPA Id: CAD982446908
 Facility Type: Historical - Non-Operating
 Unit Names: STRTANK1
 Event Description: Closure Final - ISSUE CLOSURE VERIFICATION
 Actual Date: 07/31/2002

EPA Id: CAD982446908
 Facility Type: Historical - Non-Operating
 Unit Names: STRTANK1
 Event Description: Closure Final - RECEIVE CLOSURE CERTIFICATION
 Actual Date: 07/01/2002

Alias:

EPA Id: CAD982446908
 Facility Type: Historical - Non-Operating
 Alias Type: Project Code (Site Code)
 Alias: 100469

C11
NE
1/4-1/2
0.299 mi.
1581 ft.

SHORT'S SCRAP IRON AND METAL, INC
2041 GIRVAN ROAD
REDDING, CA 96001
Site 1 of 3 in cluster C

HIST Cal-Sites
HIST UST
EMI
WDS

1000369836
N/A

Relative:
Lower

Calsite:

Actual:
453 ft.

Region: SACRAMENTO
 Facility ID: 45500010
 Facility Type: RP
 Type: RESPONSIBLE PARTY
 Branch: CC
 Branch Name: CENTRAL CALIFORNIA
 File Name: Not reported
 State Senate District: 05092005
 Status: REMOVAL ACTION REQUIRED
 Status Name: REMOVAL ACTION REQUIRED-USED FOR NON-AWP SITES
 Lead Agency: N/A
 NPL: Not Listed
 SIC Code: 50
 SIC Name: WHOLESALE TRADE - DURABLE GOODS
 Access: Not reported
 Cortese: Not reported
 Hazardous Ranking Score: Not reported
 Date Site Hazard Ranked: Not reported
 Groundwater Contamination: Not reported
 Staff Member Responsible for Site: SROSS
 Supervisor Responsible for Site: Not reported
 Region Water Control Board: CV
 Region Water Control Board Name: CENTRAL VALLEY
 Lat/Long Direction: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHORT'S SCRAP IRON AND METAL, INC (Continued)

1000369836

Lat/Long (dms): 0 0 0 / 0 0 0
Lat/long Method: Not reported
Lat/Long Description: Not reported
State Assembly District Code: 02
State Senate District Code: 04
Facility ID: 45500010
Activity: DISC
Activity Name: DISCOVERY
AWP Code: Not reported
Proposed Budget: 0
AWP Completion Date: Not reported
Revised Due Date: Not reported
Comments Date: 12011987
Est Person-Yrs to complete: 0
Estimated Size: Not reported
Request to Delete Activity: Not reported
Activity Status: BKLG
Definition of Status: BACKLOG - POTENTIAL AWP SITE
Liquids Removed (Gals): 0
Liquids Treated (Gals): 0
Action Included Capping: Not reported
Well Decommissioned: Not reported
Action Included Fencing: Not reported
Removal Action Certification: Not reported
Activity Comments: Not reported
For Commercial Reuse: 0
For Industrial Reuse: 0
For Residential Reuse: 0
Unknown Type: 0
Facility ID: 45500010
Activity: SS
Activity Name: SITE SCREENING
AWP Code: Not reported
Proposed Budget: 0
AWP Completion Date: Not reported
Revised Due Date: Not reported
Comments Date: 05121988
Est Person-Yrs to complete: 0
Estimated Size: Not reported
Request to Delete Activity: Not reported
Activity Status: BKLG
Definition of Status: BACKLOG - POTENTIAL AWP SITE
Liquids Removed (Gals): 0
Liquids Treated (Gals): 0
Action Included Capping: Not reported
Well Decommissioned: Not reported
Action Included Fencing: Not reported
Removal Action Certification: Not reported
Activity Comments: Not reported
For Commercial Reuse: 0
For Industrial Reuse: 0
For Residential Reuse: 0
Unknown Type: 0
Facility ID: 45500010
Activity: SS
Activity Name: SITE SCREENING
AWP Code: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHORT'S SCRAP IRON AND METAL, INC (Continued)

1000369836

Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	03201990
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	BKLG
Definition of Status:	BACKLOG - POTENTIAL AWP SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	45500010
Activity:	ORDER
Activity Name:	I/SE, IORSE, FFA, FFSRA, VCA, EA
AWP Code:	VCA
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	04241996
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	BKLG
Definition of Status:	BACKLOG - POTENTIAL AWP SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	45500010
Activity:	PEA
Activity Name:	PRELIMINARY ENDANGERMENT ASSESSMENT
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	10311997
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	BKLG
Definition of Status:	BACKLOG - POTENTIAL AWP SITE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHORT'S SCRAP IRON AND METAL, INC (Continued)

1000369836

Liquids Removed (Gals): 0
Liquids Treated (Gals): 0
Action Included Capping: Not reported
Well Decommissioned: Not reported
Action Included Fencing: Not reported
Removal Action Certification: Not reported
Activity Comments: Not reported
For Commercial Reuse: 0
For Industrial Reuse: 0
For Residential Reuse: 0
Unknown Type: 0
Facility ID: 45500010
Activity: VCOMP
Activity Name: VCA - COMPLETION
AWP Code: Not reported
Proposed Budget: 0
AWP Completion Date: Not reported
Revised Due Date: Not reported
Comments Date: 06121998
Est Person-Yrs to complete: 0
Estimated Size: Not reported
Request to Delete Activity: Not reported
Activity Status: BKLG
Definition of Status: BACKLOG - POTENTIAL AWP SITE
Liquids Removed (Gals): 0
Liquids Treated (Gals): 0
Action Included Capping: Not reported
Well Decommissioned: Not reported
Action Included Fencing: Not reported
Removal Action Certification: Not reported
Activity Comments: Not reported
For Commercial Reuse: 0
For Industrial Reuse: 0
For Residential Reuse: 0
Unknown Type: 0
Alternate Address: 2041 GIRVAN ROAD
Alternate City,St,Zip: REDDING, CA 96001
Alternate Address: APN 050-500-009; T31N, R5W, SECTION 25 M
Alternate City,St,Zip: Not reported
Background Info: Since 1973, Short's Scrap Iron & Metal has performed aluminum and iron recycling, scrap metal salvaging, and until 1984, automobile crushing. The site consists of a 12-acre rectangular area south of Girvan Road, 4 miles south of Redding. There are a number of large warehouses, office buildings, and outbuildings. A rail spur transects the site from the northwest corner of the property to the middle of the east side of the site. A furnace is used to remelt scrap aluminum on the west side of the property just south of the rail spur. Aluminum waiting to be recycled is piled in the vicinity of the furnace, and ash from the furnace is currently stockpiled in the southeastern portion of the site. There are PG&E gas pipelines and water main pipeline rights-of-way along the east side of the facility. A sump, concrete-lined collection pond, and concrete wash pad are located near the center of the facility. In addition, there is a hazardous waste storage area, three tank storage areas, an aluminum ash pile, a lead contaminated soil pile, transfer storage area, and an historic battery shop area. In 1987, fuel contamination in the soil was

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHORT'S SCRAP IRON AND METAL, INC (Continued)

1000369836

discovered from an area around an underground storage tank (UST). The UST was removed and 8000 tons of soil with total petroleum hydrocarbon concentrations as high as 2000 ppm were excavated. Three groundwater monitoring wells were installed in April 1998 and tested for hydrocarbon constituents.

Low levels of toluene, total xylenes, and total petroleum hydrocarbons were detected in the shallow groundwater. These wells no longer remain onsite.

In August-September 1992, RWQCB recommended to the Shasta County Planning Department that the permit for the Automobile Shredder not be issued until the shredder pad area is fully investigated and necessary cleanup completed. In addition, RWQCB dictated that the investigation must encompass the entire facility, but may be incorporated in a phase approach beginning with the area planned for the new auto shredder.

In October 1992, Short submitted a Workplan as part of a phased approach to RWQCB. In February 1993, Short performed field work IAW workplan and addendums. Three groundwater monitoring wells were installed. In May 1993, a Phase I SI Report was submitted to RWQCB. In July 1993, RWQCB described to Short soils contaminated with lead, motor oil, and total phthalates at varying depths with instructions to submit a detailed workplan for remediation.

In October 1996, a PEA workplan was approved by DTSC. In January 1997, following a precipitation event, five stormwater samples were collected from runoff which is generally conveyed to Clear Creek approximately 200 feet south of the site. In March 1997, soil samples were collected across the site. In April 1997, eight wells, in addition to two of the three wells installed previously in 1993, were sampled in May and again in July 1997. Stormwater sample results detected the presence of TSS, TPH, and metals in the runoff. A Stormwater Pollution Plan was submitted to RWQCB in February 1997 outlining steps to be taken to reduce discharges to Clear Creek. Groundwater sampling results did not detect VOCs or SVOCs. Arsenic, chromium, copper, zinc, aluminum, barium, iron, and manganese were the metals detected in groundwater samples. The levels were below MCLs and the facility was directed to continue quarterly groundwater monitoring for a period of one year. Soil sample results revealed lead concentrations exceeding 130 mg/kg from two piles, scrap iron storage area, truck parking area, and the railroad spur. Highest level was 6500 mg/kg. TPH in excess of 1000 mg/kg were found in soil samples from the scrap iron, shop sump, and truck parking storage areas. In October 1997, a PEA report was approved. Short's was requested to enter into a Voluntary Cleanup Agreement for additional work in January 1998.

Comments Date: 03201990
Comments: SITE SCREENING DONE EPA COMPLETED PRELIMINARY ASSESSMENT AND
Comments Date: 03201990
Comments: RECOMMEND SCREENING SITE INSPECTION
Comments Date: 03201990
Comments: (MEDIUM PRIORITY).
Comments Date: 04241996
Comments: ORDER/VCA-Under the VCA, project proponent agrees to
Comments Date: 04241996
Comments: conduct a PEA at the Site and reimburse DTSC's
Comments Date: 04241996

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHORT'S SCRAP IRON AND METAL, INC (Continued)

1000369836

Comments: oversight costs.
Comments Date: 05092005
Comments: NO ADDITIONAL WORK HAS BEEN CONDUCTED SINCE THE PRELIMINARY
Comments Date: 05092005
Comments: ENDANGERMENT ASSESSMENT (PEA) WAS COMPLETED IN 1997. THE SITE
Comments Date: 05092005
Comments: STILL CONTAINS SOLUBLE METALS CONTAMINATION ABOVE HAZARDOUS
Comments Date: 05092005
Comments: WASTE LEVELS. FURTHER WORK IS NECESSARY TO ADDRESS THE
Comments Date: 05092005
Comments: CONTAMINATION.
Comments Date: 05121988
Comments: SITE SCREENING DONE RECOM PAH BASED ON BUSINESS TYPE, SIZE
Comments Date: 05121988
Comments: AND INTERVIEWS, SEND QUESTIONNAIRE
Comments Date: 07281993
Comments: An EPA "report of individual site" stated a Site
Comments Date: 07281993
Comments: Inspection was completed 2/9/93 and no further
Comments Date: 07281993
Comments: action recommended. Comments 10/22/92 stated
Comments Date: 07281993
Comments: strong RWQCB lead at the site. DTSC needs to do a
Comments Date: 07281993
Comments: site screening.
Comments Date: 10311997
Comments: PEA -- DTSC APPROVED THE PRELIMINARY ENDANGERMENT ASSESSMENT
Comments Date: 11181988
Comments: SUBMIT TO EPA POTENTIAL SITE SUBMITTED TO EPA FOR
Comments Date: 11181988
Comments: PRELIMINARY ASSESSMENT BY THEIR FIELD
Comments Date: 11181988
Comments: INVESTIGATION TEAM (FIT)
Comments Date: 12011987
Comments: FACILITY IDENTIFIED 1987 PHONEBOOK
Comments Date: 12291987
Comments: FACILITY DRIVE-BY LARGE OPERATION, RECYCLING AUTO CRUSHING
Comments Date: 10311997
Comments: FOR THE SITE. LEAD, ZINC, AND COPPER WERE FOUND ABOVE THE
Comments Date: 10311997
Comments: STLC. THE PEA RECOMMENDS FURTHER ACTION.
ID Name: CALSTARS CODE
ID Value: 100502
ID Name: EPA IDENTIFICATION NUMBER
ID Value: CAD982401002
Alternate Name: SHORT'S SCRAP IRON AND METAL, INC
Alternate Name: Not reported
Special Programs Code: RCSP
Special Programs Name: RURAL COUNTY SURVEY PROGRAM

HIST UST:

File Number: Not reported
URL: Not reported
Region: STATE
Facility ID: 00000066583
Facility Type: Other
Other Type: METALS RECYCLER

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHORT'S SCRAP IRON AND METAL, INC (Continued)

1000369836

Contact Name: JIM ATCHISON
Telephone: 9162434780
Owner Name: SHORT'S SCRAP IRON & METALS, I
Owner Address: 2041 GIRVAN ROAD
Owner City,St,Zip: REDDING, CA 96001
Total Tanks: 0001

Tank Num: 001
Container Num: 001
Year Installed: 1974
Tank Capacity: 00010000
Tank Used for: WASTE
Type of Fuel: 1
Container Construction Thickness: /4 2
Leak Detection: Visual

EMI:

Year: 1995
County Code: 45
Air Basin: SV
Facility ID: 60
Air District Name: SHA
SIC Code: 3341
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 1
NOX - Oxides of Nitrogen Tons/Yr: 3
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 1
Part. Matter 10 Micrometers and Smlr Tons/Yr:1

Year: 1996
County Code: 45
Air Basin: SV
Facility ID: 60
Air District Name: SHA
SIC Code: 3341
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Year: 1997
County Code: 45
Air Basin: SV
Facility ID: 60
Air District Name: SHA
SIC Code: 3341

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHORT'S SCRAP IRON AND METAL, INC (Continued)

1000369836

Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Year: 1998
County Code: 45
Air Basin: SV
Facility ID: 60
Air District Name: SHA
SIC Code: 3341
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Year: 1999
County Code: 45
Air Basin: SV
Facility ID: 60
Air District Name: SHA
SIC Code: 3341
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Year: 2000
County Code: 45
Air Basin: SV
Facility ID: 60
Air District Name: SHA
SIC Code: 3341
Air District Name: SHASTA COUNTY AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

SHORT'S SCRAP IRON AND METAL, INC (Continued)

1000369836

NOX - Oxides of Nitrogen Tons/Yr: 0
 SOX - Oxides of Sulphur Tons/Yr: 0
 Particulate Matter Tons/Yr: 0
 Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Year: 2001
 County Code: 45
 Air Basin: SV
 Facility ID: 60
 Air District Name: SHA
 SIC Code: 3341
 Air District Name: SHASTA COUNTY AQMD
 Community Health Air Pollution Info System: Not reported
 Consolidated Emission Reporting Rule: Not reported
 Total Organic Hydrocarbon Gases Tons/Yr: 0
 Reactive Organic Gases Tons/Yr: 0
 Carbon Monoxide Emissions Tons/Yr: 0
 NOX - Oxides of Nitrogen Tons/Yr: 0
 SOX - Oxides of Sulphur Tons/Yr: 0
 Particulate Matter Tons/Yr: 0
 Part. Matter 10 Micrometers and Smlr Tons/Yr:0

WDS:

Facility ID: 5R 45I016539
 Facility Type: Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.

Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.

NPDES Number: CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board

Subregion: 0
 Facility Telephone: 5302434780
 Facility Contact: WILLIAM R SHORT
 Agency Name: NORTHSTATE RECYCLING
 Agency Address: PO BOX 720350
 Agency City,St,Zip: REDDING 960997350
 Agency Contact: WILLIAM R SHORT
 Agency Telephone: 5302434780
 Agency Type: Private
 SIC Code: 5015
 SIC Code 2: 5093

Primary Waste Type: Inert/Influent or Solid Wastes that do not contain soluble pollutants or organic wastes and have little adverse impact on water quality. Such wastes could cause turbidity and siltation. Uncontaminated soils, rubble and concrete are examples of this category.

Primary Waste: STORMS
 Waste Type2: Not reported
 Waste2: Stormwater Runoff
 Primary Waste Type: Inert/Influent or Solid Wastes that do not contain soluble pollutants or organic wastes and have little adverse impact on water quality. Such wastes could cause turbidity and siltation. Uncontaminated soils, rubble and concrete are examples of this category.

Secondary Waste: Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

SHORT'S SCRAP IRON AND METAL, INC (Continued)

1000369836

Secondary Waste Type: Not reported
 Design Flow: 0
 Baseline Flow: 0
 Reclamation: No reclamation requirements associated with this facility.
 POTW: The POTW Does not have an approved pretreatment program. Some POTWs may have local pretreatment programs that have not been approved by the regional board and/or EPA.
 Treat To Water: Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
 Complexity: Category C - Facilities having no waste treatment systems, such as cooling water dischargers or those who must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

C12
NE
1/4-1/2
0.299 mi.
1581 ft.

Relative:
Lower

Actual:
453 ft.

NORTHSTATE RECYCLING
2041 GIRVAN RD
REDDING, CA 96001

Site 2 of 3 in cluster C

RESPONSE
ENVIROSTOR
LUST
SLIC
AST
SWRCY
HIST UST
Cortese
CUPA Listings
HIST CORTESE
NPDES
PROC

S104403651
N/A

RESPONSE:
 Facility ID: 45500010
 Site Type: State Response
 Site Type Detail: State Response or NPL
 Acres: 12
 National Priorities List: NO
 Cleanup Oversight Agencies: SMBRP
 Lead Agency Description: DTSC - Site Cleanup Program
 Project Manager: Not reported
 Supervisor: William Beckman
 Division Branch: Cleanup Sacramento
 Site Code: 100502
 Site Mgmt. Req.: NONE SPECIFIED
 Assembly: 01
 Senate: 01
 Special Program Status: Not reported
 Status: Backlog
 Status Date: 08/19/2011
 Restricted Use: NO
 Funding: Responsible Party
 Latitude: 40.51141
 Longitude: -122.3789
 APN: 050500009000
 Past Use: RECYCLING - SCRAP METAL
 Potential COC : Lead TPH-MOTOR OIL

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NORTHSTATE RECYCLING (Continued)

S104403651

Confirmed COC: Lead TPH-MOTOR OIL
Potential Description: SOIL
Alias Name: 050500009000
Alias Type: APN
Alias Name: CAD982401002
Alias Type: EPA Identification Number
Alias Name: 110013819662
Alias Type: EPA (FRS #)
Alias Name: T0608900013
Alias Type: GeoTracker Global ID
Alias Name: 100502
Alias Type: Project Code (Site Code)
Alias Name: 45500010
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 04/24/1996
Comments: Under the VCA, project proponent agrees to conduct a PEA at the Site and reimburse DTSC's oversight costs.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 12/01/1987
Comments: Facility identified from 1987 phone book.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: *Voluntary Cleanup Agreement Completion
Completed Date: 06/12/1998
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 10/31/1997
Comments: PEA -- DTSC APPROVED THE PRELIMINARY ENDANGERMENT ASSESSMENT FOR THE SITE. LEAD, ZINC, AND COPPER WERE FOUND ABOVE THE STLC. THE PEA RECOMMENDS FURTHER ACTION.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 01/14/1993
Comments: Site Inspection done by EPA. No further remedial action required under CERCLA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 06/07/1989
Comments: Further investigation necessary to completely evaluate the site to assess the relative threate associated with actual and potential releases of hazardous substances at the site.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NORTHSTATE RECYCLING (Continued)

S104403651

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ENVIROSTOR:

Facility ID: 45500010
Status: Backlog
Status Date: 08/19/2011
Site Code: 100502
Site Type: State Response
Site Type Detailed: State Response or NPL
Acres: 12
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: William Beckman
Division Branch: Cleanup Sacramento
Assembly: 01
Senate: 01
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 40.51141
Longitude: -122.3789
APN: 050500009000
Past Use: RECYCLING - SCRAP METAL
Potential COC: Lead TPH-MOTOR OIL
Confirmed COC: Lead TPH-MOTOR OIL
Potential Description: SOIL
Alias Name: 050500009000
Alias Type: APN
Alias Name: CAD982401002
Alias Type: EPA Identification Number
Alias Name: 110013819662
Alias Type: EPA (FRS #)
Alias Name: T0608900013
Alias Type: GeoTracker Global ID
Alias Name: 100502
Alias Type: Project Code (Site Code)
Alias Name: 45500010
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 04/24/1996
Comments: Under the VCA, project proponent agrees to conduct a PEA at the Site and reimburse DTSC's oversight costs.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NORTHSTATE RECYCLING (Continued)

S104403651

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 12/01/1987
Comments: Facility identified from 1987 phone book.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: *Voluntary Cleanup Agreement Completion
Completed Date: 06/12/1998
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 10/31/1997
Comments: PEA -- DTSC APPROVED THE PRELIMINARY ENDANGERMENT ASSESSMENT FOR THE SITE. LEAD, ZINC, AND COPPER WERE FOUND ABOVE THE STLC. THE PEA RECOMMENDS FURTHER ACTION.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 01/14/1993
Comments: Site Inspection done by EPA. No further remedial action required under CERCLA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 06/07/1989
Comments: Further investigation necessary to completely evaluate the site to assess the relative threate associated with actual and potential releases of hazardous substances at the site.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

LUST:

Region: STATE
Global Id: T0608900013
Latitude: 40.5114189
Longitude: -122.378983
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 03/04/1997
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: Not reported
Local Agency: SHASTA COUNTY
RB Case Number: 450013

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NORTHSTATE RECYCLING (Continued)

S104403651

LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0608900013
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Global Id: T0608900013
Contact Type: Regional Board Caseworker
Contact Name: RECEPTIONIST, REGION 5 REDDING
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 364 Knollcrest Drive, Suite 205
City: REDDING
Email: Not reported
Phone Number: Not reported

Status History:

Global Id: T0608900013
Status: Completed - Case Closed
Status Date: 03/04/1997

Global Id: T0608900013
Status: Open - Case Begin Date
Status Date: 02/24/1988

Global Id: T0608900013
Status: Open - Remediation
Status Date: 06/29/1988

Global Id: T0608900013
Status: Open - Site Assessment
Status Date: 02/24/1988

Global Id: T0608900013
Status: Open - Site Assessment
Status Date: 04/01/1988

Regulatory Activities:

Global Id: T0608900013
Action Type: ENFORCEMENT
Date: 01/01/1995
Action: File review

Global Id: T0608900013
Action Type: Other
Date: 03/23/1988

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NORTHSTATE RECYCLING (Continued)

S104403651

Action: Leak Stopped

Global Id: T0608900013
Action Type: Other
Date: 03/23/1988
Action: Leak Reported

Global Id: T0608900013
Action Type: ENFORCEMENT
Date: 03/04/1997
Action: Closure/No Further Action Letter

Global Id: T0608900013
Action Type: Other
Date: 02/24/1988
Action: Leak Discovery

LUST REG 5:

Region: 5
Status: Case Closed
Case Number: 450013
Case Type: Drinking Water Aquifer affected
Substance: GASOLINE
Staff Initials: KLC
Lead Agency: Regional
Program: LUST
MTBE Code: N/A

SLIC:

Region: STATE
Facility Status: **Open - Remediation**
Status Date: 06/04/2012
Global Id: T10000003519
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Lead Agency Case Number: Not reported
Latitude: 40.5110584839317
Longitude: -122.379198074341
Case Type: Cleanup Program Site
Case Worker: JZS
Local Agency: Not reported
RB Case Number: SLT5R1078
File Location: Regional Board
Potential Media Affected: Aquifer used for drinking water supply, Contaminated Surface / Structure, Sediments, Soil, Surface water, Under Investigation
Potential Contaminants of Concern: Copper, Lead, Other Metal, Diesel, Waste Oil / Motor / Hydraulic / Lubricating
Site History: The Discharger began shredding appliances in 2011. The appliance shredder waste (fluff and fines) was characterized and classified as hazardous waste due to elevated metal and PCB concentrations. Further investigation of this facility found that storm water discharges from the site contained high concentrations of metals, petroleum, and sediment. CAO No. R5-2012-0706 was issued to the Discharger on in April 2012 and required removal of stockpiled shredder waste, submittal of a PEA, submittal of a shredder waste operations plan, submittal of design and operations plan for upgrading the storm water

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NORTHSTATE RECYCLING (Continued)

S104403651

treatment system, and removal buried ash from the aluminum remelt furnace. During fall 2012, the Discharger installed a storm water advanced treatment system to treat storm water with flocculent before discharging it off-site. The Discharger is also proposing to excavated buried wastes that may pose a threat to water quality and to install a groundwater monitoring system around the facility.

[Click here to access the California GeoTracker records for this facility:](#)

AST:

Certified Unified Program Agencies: Not reported
Owner: WILLIAM SHORT
Total Gallons: Not reported
CERSID: 10625008
Facility ID: 45-000-000225
Business Name: NORTHSTATE RECYCLING
Phone: 5302434780
Fax: 5302438610
Mailing Address: 2041 GIRVAN RD
Mailing Address City: REDDING
Mailing Address State: CA
Mailing Address Zip Code: 96001
Operator Name: WILLIAM R SHORT
Operator Phone: 5302434780
Owner Phone: 5302434780
Owner Mail Address: PO BOX 720178
Owner State: CA
Owner Zip Code: 96099
Owner Country: United States
Property Owner Name: Not reported
Property Owner Phone: Not reported
Property Owner Mailing Address: Not reported
Property Owner City: Not reported
Property Owner Stat : Not reported
Property Owner Zip Code: Not reported
Property Owner Country: Not reported
EPAID: CAL000220676

Certified Unified Program Agencies: Shasta
Owner: Not reported
Total Gallons: 28,155
CERSID: Not reported
Facility ID: Not reported
Business Name: Not reported
Phone: Not reported
Fax: Not reported
Mailing Address: Not reported
Mailing Address City: Not reported
Mailing Address State: Not reported
Mailing Address Zip Code: Not reported
Operator Name: Not reported
Operator Phone: Not reported
Owner Phone: Not reported
Owner Mail Address: Not reported
Owner State: Not reported
Owner Zip Code: Not reported
Owner Country: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NORTHSTATE RECYCLING (Continued)

S104403651

Property Owner Name: Not reported
Property Owner Phone: Not reported
Property Owner Mailing Address: Not reported
Property Owner City: Not reported
Property Owner Stat : Not reported
Property Owner Zip Code: Not reported
Property Owner Country: Not reported
EPAID: Not reported

SWRCY:

Reg Id: 18568
Cert Id: RC10540
Mailing Address: P O Box 720350
Mailing City: Redding
Mailing State: CA
Mailing Zip Code: 96099
Website: Not reported
Email: nsrecycling@aol.com
Phone Number: (530) 243-4780
Grand Father: Y
Rural: N
Operation Begin Date: 09/16/2000
Aluminium: Y
Glass: Y
Plastic: Y
Bimetal: Y
Agency: N/A
Monday Hours Of Operation: 8:00 am - 4:00 pm
Tuesday Hours Of Operation: 8:00 am - 4:00 pm
Wednesday Hours Of Operation: 8:00 am - 4:00 pm
Thursday Hours Of Operation: 8:00 am - 4:00 pm
Friday Hours Of Operation: 8:00 am - 4:00 pm
Saturday Hours Of Operation: 9:00 am - 1:00 pm
Sunday Hours Of Operation: CLOSED
Organization ID: 18568
Organization Name: Northstate Recycling

HIST UST:

File Number: 00020F4A
URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020F4A.pdf>
Region: Not reported
Facility ID: Not reported
Facility Type: Not reported
Other Type: Not reported
Contact Name: Not reported
Telephone: Not reported
Owner Name: Not reported
Owner Address: Not reported
Owner City,St,Zip: Not reported
Total Tanks: Not reported

Tank Num: Not reported
Container Num: Not reported
Year Installed: Not reported
Tank Capacity: Not reported
Tank Used for: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NORTHSTATE RECYCLING (Continued)

S104403651

Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Not reported

[Click here for Geo Tracker PDF:](#)

CORTESE:

Region: CORTESE
Envirostor Id: 45500010
Site/Facility Type: STATE RESPONSE
Cleanup Status: BACKLOG
Status Date: 08/19/2011
Site Code: 100502
Latitude: 40.511418
Longitude: -122.37898
Owner: Not reported
Enf Type: Not reported
Swat R: Not reported
Flag: envirostor
Order No: Not reported
Waste Discharge System No: Not reported
Effective Date: Not reported
Region 2: Not reported
WID Id: Not reported
Solid Waste Id No: Not reported
Waste Management Uit Name: Not reported

CUPA SHASTA:

Site Id: 582
CersID: 10625008
Facility Status: True
Attn: WILLIAM R SHORT
Mail Addr: 2041 GIRVAN RD
Mail City: REDDING
Mail State: CA
Mail Zip: 96001-5309
EDR Link ID: 582

Detail:

Facid: 582
Facility Name: NORTHSTATE RECYCLING
File Type: Hazardous Material Business Plan Site

Facid: 582
Facility Name: NORTHSTATE RECYCLING
File Type: Hazardous Waste Generator

Facid: 582
Facility Name: NORTHSTATE RECYCLING
File Type: Closed underground tank site

Facid: 582
Facility Name: NORTHSTATE RECYCLING
File Type: Abovegrond Petroleum Storage Act

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NORTHSTATE RECYCLING (Continued)

S104403651

HIST CORTESE:

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450013

NPDES:

Npdes Number: Not reported
Facility Status: Not reported
Agency Id: Not reported
Region: 5R
Regulatory Measure Id: 197589
Order No: Not reported
Regulatory Measure Type: Industrial
Place Id: Not reported
WDID: 5R45I016539
Program Type: Not reported
Adoption Date Of Regulatory Measure: Not reported
Effective Date Of Regulatory Measure: Not reported
Expiration Date Of Regulatory Measure: Not reported
Termination Date Of Regulatory Measure: Not reported
Discharge Name: Not reported
Discharge Address: Not reported
Discharge City: Not reported
Discharge State: Not reported
Discharge Zip: Not reported
RECEIVED DATE: 5/9/2008
PROCESSED DATE: 5/24/2001
STATUS CODE NAME: Active
STATUS DATE: 5/24/2001
PLACE SIZE: 12
PLACE SIZE UNIT: Acres
FACILITY CONTACT NAME: William Short
FACILITY CONTACT TITLE: President
FACILITY CONTACT PHONE: 530-243-4780
FACILITY CONTACT PHONE EXT: Not reported
FACILITY CONTACT EMAIL: michellem@nsrredding.com
OPERATOR NAME: Northstate Recycling
OPERATOR ADDRESS: PO Box 720350
OPERATOR CITY: Redding
OPERATOR STATE: California
OPERATOR ZIP: 96099
OPERATOR CONTACT NAME: William Short
OPERATOR CONTACT TITLE: President
OPERATOR CONTACT PHONE: 530-243-4780
OPERATOR CONTACT PHONE EXT: Not reported
OPERATOR CONTACT EMAIL: WRShort@aol.com
OPERATOR TYPE: Private Business
DEVELOPER NAME: Not reported
DEVELOPER ADDRESS: Not reported
DEVELOPER CITY: Not reported
DEVELOPER STATE: California
DEVELOPER ZIP: Not reported
DEVELOPER CONTACT NAME: Not reported
DEVELOPER CONTACT TITLE: Not reported
CONSTYPE LINEAR UTILITY IND: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NORTHSTATE RECYCLING (Continued)

S104403651

EMERGENCY PHONE NO:	530-243-4780
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	N
RECEIVING WATER NAME:	Clear Creek
CERTIFIER NAME:	William Short
CERTIFIER TITLE:	President
CERTIFICATION DATE:	13-AUG-15
PRIMARY SIC:	5015-Motor Vehicle Parts, Used
SECONDARY SIC:	5093-Scrap and Waste Materials
TERTIARY SIC:	Not reported
Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0
Region:	5R
Regulatory Measure Id:	197589
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	5R45I016539
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	05/24/2001
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Northstate Recycling
Discharge Address:	PO Box 720350
Discharge City:	Redding
Discharge State:	California
Discharge Zip:	96099
RECEIVED DATE:	Not reported
PROCESSED DATE:	Not reported
STATUS CODE NAME:	Not reported
STATUS DATE:	Not reported
PLACE SIZE:	Not reported
PLACE SIZE UNIT:	Not reported
FACILITY CONTACT NAME:	Not reported
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	Not reported
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NORTHSTATE RECYCLING (Continued)

S104403651

OPERATOR NAME: Not reported
OPERATOR ADDRESS: Not reported
OPERATOR CITY: Not reported
OPERATOR STATE: Not reported
OPERATOR ZIP: Not reported
OPERATOR CONTACT NAME: Not reported
OPERATOR CONTACT TITLE: Not reported
OPERATOR CONTACT PHONE: Not reported
OPERATOR CONTACT PHONE EXT: Not reported
OPERATOR CONTACT EMAIL: Not reported
OPERATOR TYPE: Not reported
DEVELOPER NAME: Not reported
DEVELOPER ADDRESS: Not reported
DEVELOPER CITY: Not reported
DEVELOPER STATE: Not reported
DEVELOPER ZIP: Not reported
DEVELOPER CONTACT NAME: Not reported
DEVELOPER CONTACT TITLE: Not reported
CONSTYPE LINEAR UTILITY IND: Not reported
EMERGENCY PHONE NO: Not reported
EMERGENCY PHONE EXT: Not reported
CONSTYPE ABOVE GROUND IND: Not reported
CONSTYPE BELOW GROUND IND: Not reported
CONSTYPE CABLE LINE IND: Not reported
CONSTYPE COMM LINE IND: Not reported
CONSTYPE COMMERCIAL IND: Not reported
CONSTYPE ELECTRICAL LINE IND: Not reported
CONSTYPE GAS LINE IND: Not reported
CONSTYPE INDUSTRIAL IND: Not reported
CONSTYPE OTHER DESCRIPTION: Not reported
CONSTYPE OTHER IND: Not reported
CONSTYPE RECONS IND: Not reported
CONSTYPE RESIDENTIAL IND: Not reported
CONSTYPE TRANSPORT IND: Not reported
CONSTYPE UTILITY DESCRIPTION: Not reported
CONSTYPE UTILITY IND: Not reported
CONSTYPE WATER SEWER IND: Not reported
DIR DISCHARGE USWATER IND: Not reported
RECEIVING WATER NAME: Not reported
CERTIFIER NAME: Not reported
CERTIFIER TITLE: Not reported
CERTIFICATION DATE: Not reported
PRIMARY SIC: Not reported
SECONDARY SIC: Not reported
TERTIARY SIC: Not reported

PROC:

Reg Id: 18568
Cert Id: PR0330
Organization Id: 18568
Organization Name: Northstate Recycling
Mailing Address: P O Box 720350
Mailing City: Redding
Mailing State: CA
Mailing Zip Code: 96099
Website: Not reported
Email: nsrecycling@aol.com

Map ID
Direction
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Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NORTHSTATE RECYCLING (Continued)

S104403651

Phone Number: (530) 243-4780
Grand Father: N/A
Rural: N/A
Operation Begin Date: 09/20/2000
Aluminium: Y
Glass: Y
Plastic: Y
Bimetal: Y
Agency: N/A
Monday Hours Of Operation: 8:00 am - 4:00 pm
Tuesday Hours Of Operation: 8:00 am - 4:00 pm
Wednesday Hours Of Operation: 8:00 am - 4:00 pm
Thursday Hours Of Operation: 8:00 am - 4:00 pm
Friday Hours Of Operation: 8:00 am - 4:00 pm
Saturday Hours Of Operation: 9:00 am - 1:00 pm
Sunday Hours Of Operation: CLOSED

**C13
NE
1/4-1/2
0.299 mi.
1581 ft.**

**SHORT'S SCRAP IRON AND METAL, INC.
2041 GIRVAN RD
REDDING, CA 96001
Site 3 of 3 in cluster C**

**SEMS-ARCHIVE 1003879418
CAD982401002**

**Relative:
Lower**

SEMS-ARCHIVE:
Site ID: 903545
EPA ID: CAD982401002
Federal Facility: N
NPL: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

**Actual:
453 ft.**

Following information was gathered from the prior CERCLIS update completed in 10/2013:

Site ID: 0903545
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:

Contact Sequence ID: 13285273.00000
Person ID: 13003854.00000

Contact Sequence ID: 13290868.00000
Person ID: 13003858.00000

Contact Sequence ID: 13296726.00000
Person ID: 13004003.00000

CERCLIS-NFRAP Site Alias Name(s):

Alias Name: SHORT'S SCRAP IRON
Alias Address: Not reported
CA

CERCLIS-NFRAP Assessment History:

Action: DISCOVERY
Date Started: / /
Date Completed: 12/01/88
Priority Level: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHORT'S SCRAP IRON AND METAL, INC. (Continued)

1003879418

Action: ARCHIVE SITE
Date Started: / /
Date Completed: 02/09/93
Priority Level: Not reported

Action: SITE INSPECTION
Date Started: 10/21/92
Date Completed: 02/09/93
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

Action: PRELIMINARY ASSESSMENT
Date Started: / /
Date Completed: 03/20/90
Priority Level: Low priority for further assessment

14
ENE
1/4-1/2
0.346 mi.
1825 ft.

**MORGAN EMULTECH INC
7200 PIT RD
REDDING, CA 96001**

**LUST S103480315
AST N/A
SWEEPS UST
HIST UST
CUPA Listings
HIST CORTESE
NPDES
WDS**

Relative:
Lower

Actual:
445 ft.

LUST:
Region: STATE
Global Id: T0608900266
Latitude: 40.509834
Longitude: -122.375874
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 04/19/2001
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: EJR
Local Agency: SHASTA COUNTY
RB Case Number: 450272
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Diesel
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Contact:
Global Id: T0608900266
Contact Type: Regional Board Caseworker
Contact Name: ERIC RAPPORT
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 364 Knollcrest Drive, Suite 205
City: REDDING
Email: erapport@waterboards.ca.gov
Phone Number: 5302244998

Global Id: T0608900266
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORGAN EMULTECH INC (Continued)

S103480315

Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Status History:

Global Id: T0608900266
Status: Completed - Case Closed
Status Date: 04/19/2001

Global Id: T0608900266
Status: Open - Case Begin Date
Status Date: 11/17/1998

Global Id: T0608900266
Status: Open - Site Assessment
Status Date: 11/17/1998

Global Id: T0608900266
Status: Open - Site Assessment
Status Date: 06/25/1999

Global Id: T0608900266
Status: Open - Site Assessment
Status Date: 12/08/1999

Global Id: T0608900266
Status: Open - Site Assessment
Status Date: 03/21/2000

Regulatory Activities:

Global Id: T0608900266
Action Type: Other
Date: 11/17/1998
Action: Leak Discovery

Global Id: T0608900266
Action Type: Other
Date: 11/17/1998
Action: Leak Stopped

Global Id: T0608900266
Action Type: Other
Date: 12/02/1998
Action: Leak Reported

Global Id: T0608900266
Action Type: ENFORCEMENT
Date: 04/19/2001
Action: Closure/No Further Action Letter

LUST REG 5:

Region: 5
Status: Case Closed
Case Number: 450272

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORGAN EMULTECH INC (Continued)

S103480315

Case Type: Drinking Water Aquifer affected
Substance: DIESEL
Staff Initials: EJR
Lead Agency: Regional
Program: LUST
MTBE Code: 0

AST:

Certified Unified Program Agencies: Not reported
Owner: VSS Emultech
Total Gallons: Not reported
CERSID: 10405009
Facility ID: 45-000-000134
Business Name: Basic Resources, Inc.
Phone: 530-241-1364
Fax: 530-246-2912
Mailing Address: 7200 Pit Rd.
Mailing Address City: Redding
Mailing Address State: CA
Mailing Address Zip Code: 96001
Operator Name: Terry Uhler
Operator Phone: 530-241-1364
Owner Phone: 530-241-1364
Owner Mail Address: 7200 Pit Rd.
Owner State: CA
Owner Zip Code: 96001
Owner Country: United States
Property Owner Name: VSS Emultech
Property Owner Phone: 209-521-9771
Property Owner Mailing Address: PO Box 3191
Property Owner City: Modesto
Property Owner Stat : CA
Property Owner Zip Code: 95353
Property Owner Country: United States
EPAID: CAL000152142

SWEEPS UST:

Status: Active
Comp Number: 220
Number: 1
Board Of Equalization: Not reported
Referral Date: 12-13-90
Action Date: 12-13-90
Created Date: 12-13-90
Owner Tank Id: 2203
SWRCB Tank Id: 45-000-000220-000001
Tank Status: A
Capacity: 10000
Active Date: 12-13-90
Tank Use: M.V. FUEL
STG: P
Content: DIESEL
Number Of Tanks: 1

HIST UST:

File Number: 00020EB6

Map ID
Direction
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MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORGAN EMULTECH INC (Continued)

S103480315

URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020EB6.pdf>
Region: Not reported
Facility ID: Not reported
Facility Type: Not reported
Other Type: Not reported
Contact Name: Not reported
Telephone: Not reported
Owner Name: Not reported
Owner Address: Not reported
Owner City,St,Zip: Not reported
Total Tanks: Not reported

Tank Num: Not reported
Container Num: Not reported
Year Installed: Not reported
Tank Capacity: Not reported
Tank Used for: Not reported
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Not reported

Tank Num: Not reported
Container Num: Not reported
Year Installed: Not reported
Tank Capacity: Not reported
Tank Used for: Not reported
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Not reported

Tank Num: Not reported
Container Num: Not reported
Year Installed: Not reported
Tank Capacity: Not reported
Tank Used for: Not reported
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Not reported

Click here for Geo Tracker PDF:

CUPA SHASTA:

Site Id: 245
CersID: 10405009
Facility Status: True
Attn: HAZMAT COORDINATOR
Mail Addr: P O BOX 981150
Mail City: WEST SACRAMENTO
Mail State: CA
Mail Zip: 95798-1150
EDR Link ID: 245

Detail:

Facid: 245
Facility Name: VSS EMULTECH INC
File Type: Closed underground tank site

Map ID
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Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORGAN EMULTECH INC (Continued)

S103480315

Facid: 245
Facility Name: VSS EMULTECH INC
File Type: Hazardous Waste Generator

Facid: 245
Facility Name: VSS EMULTECH INC
File Type: Closed underground tank site

Facid: 245
Facility Name: VSS EMULTECH INC
File Type: Hazardous Material Business Plan Site

Facid: 245
Facility Name: VSS EMULTECH INC
File Type: Aboveground Petroleum Storage Act

HIST CORTESE:

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450272

NPDES:

Npdes Number: Not reported
Facility Status: Not reported
Agency Id: Not reported
Region: 5R
Regulatory Measure Id: 197565
Order No: Not reported
Regulatory Measure Type: Industrial
Place Id: Not reported
WDID: 5R45I012357
Program Type: Not reported
Adoption Date Of Regulatory Measure: Not reported
Effective Date Of Regulatory Measure: Not reported
Expiration Date Of Regulatory Measure: Not reported
Termination Date Of Regulatory Measure: Not reported
Discharge Name: Not reported
Discharge Address: Not reported
Discharge City: Not reported
Discharge State: Not reported
Discharge Zip: Not reported
RECEIVED DATE: 5/9/2008
PROCESSED DATE: 6/4/1996
STATUS CODE NAME: Active
STATUS DATE: 6/4/1996
PLACE SIZE: 23.35
PLACE SIZE UNIT: Acres
FACILITY CONTACT NAME: Terry Uhler
FACILITY CONTACT TITLE: Not reported
FACILITY CONTACT PHONE: 530-241-1364
FACILITY CONTACT PHONE EXT: Not reported
FACILITY CONTACT EMAIL: terry.uhler@emultech.com
OPERATOR NAME: Valley Slurry Seal
OPERATOR ADDRESS: 7200 Pit Rd

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORGAN EMULTECH INC (Continued)

S103480315

OPERATOR CITY:	Redding
OPERATOR STATE:	California
OPERATOR ZIP:	96001
OPERATOR CONTACT NAME:	Terry Uhler
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	530-241-1364
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	terry.uhler@emultech.com
OPERATOR TYPE:	Private Business
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	California
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	530-241-1364
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	N
RECEIVING WATER NAME:	Clear Creek
CERTIFIER NAME:	Jordan Reed
CERTIFIER TITLE:	Treasurer
CERTIFICATION DATE:	13-MAY-15
PRIMARY SIC:	2951-Asphalt Paving Mixtures and Blocks
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported
Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0
Region:	5R
Regulatory Measure Id:	197565
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	5R45I012357
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	06/04/1996
Expiration Date Of Regulatory Measure:	Not reported

Map ID
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Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORGAN EMULTECH INC (Continued)

S103480315

Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Valley Slurry Seal
Discharge Address:	7200 Pit Rd
Discharge City:	Redding
Discharge State:	California
Discharge Zip:	96001
RECEIVED DATE:	Not reported
PROCESSED DATE:	Not reported
STATUS CODE NAME:	Not reported
STATUS DATE:	Not reported
PLACE SIZE:	Not reported
PLACE SIZE UNIT:	Not reported
FACILITY CONTACT NAME:	Not reported
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	Not reported
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Not reported
OPERATOR ADDRESS:	Not reported
OPERATOR CITY:	Not reported
OPERATOR STATE:	Not reported
OPERATOR ZIP:	Not reported
OPERATOR CONTACT NAME:	Not reported
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	Not reported
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Not reported
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	Not reported
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	Not reported
RECEIVING WATER NAME:	Not reported
CERTIFIER NAME:	Not reported

Map ID
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MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORGAN EMULTECH INC (Continued)

S103480315

CERTIFIER TITLE: Not reported
CERTIFICATION DATE: Not reported
PRIMARY SIC: Not reported
SECONDARY SIC: Not reported
TERTIARY SIC: Not reported

WDS:

Facility ID: 5R 45I012357
Facility Type: Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number: CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion: 0
Facility Telephone: 5302411364
Facility Contact: JEFF NOWLIN
Agency Name: VSS EMULTECH
Agency Address: PO BOX 991866
Agency City,St,Zip: REDDING 960991866
Agency Contact: JEFF NOWLIN
Agency Telephone: 5302411364
Agency Type: Private
SIC Code: 2951
SIC Code 2: Not reported
Primary Waste Type: Inert/Influent or Solid Wastes that do not contain soluble pollutants or organic wastes and have little adverse impact on water quality. Such wastes could cause turbidity and siltation. Uncontaminated soils, rubble and concrete are examples of this category.
Primary Waste: STORMS
Waste Type2: Not reported
Waste2: Stormwater Runoff
Primary Waste Type: Inert/Influent or Solid Wastes that do not contain soluble pollutants or organic wastes and have little adverse impact on water quality. Such wastes could cause turbidity and siltation. Uncontaminated soils, rubble and concrete are examples of this category.
Secondary Waste: Not reported
Secondary Waste Type: Not reported
Design Flow: 0
Baseline Flow: 0
Reclamation: Not reported
POTW: Not reported
Treat To Water: Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity: Category C - Facilities having no waste treatment systems, such as cooling water dischargers or those who must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MORGAN EMULTECH INC (Continued)

S103480315

dairy waste ponds.

15
NNE
1/4-1/2
0.366 mi.
1932 ft.

CLEAR CREEK MARKET
7036 WESTSIDE RD
REDDING, CA 96001

LUST
CUPA Listings
HIST CORTESE

S103957747
N/A

Relative:
Lower

LUST:

Actual:
461 ft.

Region: STATE
Global Id: T0608900264
Latitude: 40.513044
Longitude: -122.381618
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 03/01/2001
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: RDJ
Local Agency: SHASTA COUNTY
RB Case Number: 450270
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id: T0608900264
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Global Id: T0608900264
Contact Type: Regional Board Caseworker
Contact Name: RANDY JUDGE
Organization Name: CENTRAL VALLEY RWQCB (REGION 5R)
Address: 364 Knollcrest Drive, Suite 205
City: REDDING
Email: rjudge@waterboards.ca.gov
Phone Number: Not reported

Status History:

Global Id: T0608900264
Status: Completed - Case Closed
Status Date: 03/01/2001

Global Id: T0608900264
Status: Open - Case Begin Date
Status Date: 11/05/1998

Global Id: T0608900264
Status: Open - Site Assessment

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CLEAR CREEK MARKET (Continued)

S103957747

Status Date: 11/05/1998

Global Id: T0608900264
Status: Open - Site Assessment
Status Date: 11/15/1998

Global Id: T0608900264
Status: Open - Site Assessment
Status Date: 03/01/1999

Global Id: T0608900264
Status: Open - Site Assessment
Status Date: 10/08/1999

Regulatory Activities:

Global Id: T0608900264
Action Type: ENFORCEMENT
Date: 03/01/2001
Action: Closure/No Further Action Letter

Global Id: T0608900264
Action Type: Other
Date: 11/05/1998
Action: Leak Discovery

Global Id: T0608900264
Action Type: Other
Date: 11/05/1998
Action: Leak Stopped

Global Id: T0608900264
Action Type: Other
Date: 11/12/1998
Action: Leak Reported

LUST REG 5:

Region: 5
Status: Case Closed
Case Number: 450270
Case Type: Drinking Water Aquifer affected
Substance: UNLEAD GASOLINE
Staff Initials: RDJ
Lead Agency: Regional
Program: LUST
MTBE Code: 6

CUPA SHASTA:

Site Id: 236
CersID: 10485136
Facility Status: True
Attn: BRUCE J HUDSON
Mail Addr: 7036 WESTSIDE RD STE 201
Mail City: REDDING
Mail State: CA
Mail Zip: 96001

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CLEAR CREEK MARKET (Continued)

S103957747

EDR Link ID: 236

Detail:

Facid: 236
Facility Name: CLEAR CREEK GROCERY & LOCKER
File Type: Hazardous Material Business Plan Site

Facid: 236
Facility Name: CLEAR CREEK GROCERY & LOCKER
File Type: Underground Tank

Facid: 236
Facility Name: CLEAR CREEK GROCERY & LOCKER
File Type: Hazardous Waste Generator

HIST CORTESE:

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450270

16
NNE
1/4-1/2
0.497 mi.
2624 ft.

**CASEY VERN
6911 EASTSIDE RD
REDDING, CA 96001**

**LUST S104403664
HIST CORTESE N/A**

Relative:
Lower

LUST:

Region: STATE
Global Id: T0608900062
Latitude: 40.514862
Longitude: -122.379931
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 04/02/1991
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5R)
Case Worker: Not reported
Local Agency: SHASTA COUNTY
RB Case Number: 450062
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Waste Oil / Motor / Hydraulic / Lubricating
Site History: Not reported

Actual:
466 ft.

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id: T0608900062
Contact Type: Local Agency Caseworker
Contact Name: MARK CRAMER
Organization Name: SHASTA COUNTY
Address: 1855 PLACER STREET
City: REDDING
Email: mcramer@co.shasta.ca.us
Phone Number: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CASEY VERN (Continued)

S104403664

Status History:

Global Id: T0608900062
Status: Completed - Case Closed
Status Date: 04/02/1991

Global Id: T0608900062
Status: Open - Case Begin Date
Status Date: 03/30/1990

Global Id: T0608900062
Status: Open - Site Assessment
Status Date: 09/25/1990

Regulatory Activities:

Global Id: T0608900062
Action Type: Other
Date: 03/30/1990
Action: Leak Discovery

Global Id: T0608900062
Action Type: Other
Date: 03/30/1990
Action: Leak Stopped

Global Id: T0608900062
Action Type: Other
Date: 09/25/1990
Action: Leak Reported

Global Id: T0608900062
Action Type: ENFORCEMENT
Date: 04/02/1991
Action: Closure/No Further Action Letter

LUST REG 5:

Region: 5
Status: Case Closed
Case Number: 450062
Case Type: Drinking Water Aquifer affected
Substance: WASTE OIL
Staff Initials: RSD
Lead Agency: Regional
Program: LUST
MTBE Code: N/A

HIST CORTESE:

Region: CORTESE
Facility County Code: 45
Reg By: LTNKA
Reg Id: 450062

Count: 6 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ANDERSON	S100714755	CHAMPION INTERNATIONAL	RIVERSIDE AVE 1 MI W OF I-5 OF	96007	ENVIROSTOR
REDDING	S100833428	IRON MOUNTAIN MINE - SHASTA COUNTY	NORTHWEST OF REDDING	96001	CA BOND EXP. PLAN
REDDING	S120052859	PACHECO NORTH	SOUTH OF RANCHO ROAD WITHIN TH	96002	ENVIROSTOR, SCH
REDDING	S107540380		REDDING LODGE 1135 MARKET ST,	96001	CDL
SHASTA COUNTY	S105960399	MAMMOTH MINE	KLAMATH MOUNTAINS, 13 MILES NO		CA BOND EXP. PLAN
WILDWOOD	S100351695	WILDWOOD MILL SITE	HAYFORK CREEK BRIDGE/HWY 36	96001	ENVIROSTOR

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/05/2017	Source: EPA
Date Data Arrived at EDR: 04/21/2017	Telephone: N/A
Date Made Active in Reports: 05/12/2017	Last EDR Contact: 04/21/2017
Number of Days to Update: 21	Next Scheduled EDR Contact: 07/17/2017
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/05/2017	Source: EPA
Date Data Arrived at EDR: 04/21/2017	Telephone: N/A
Date Made Active in Reports: 05/12/2017	Last EDR Contact: 04/21/2017
Number of Days to Update: 21	Next Scheduled EDR Contact: 07/17/2017
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/05/2017	Source: EPA
Date Data Arrived at EDR: 04/21/2017	Telephone: N/A
Date Made Active in Reports: 05/12/2017	Last EDR Contact: 04/21/2017
Number of Days to Update: 21	Next Scheduled EDR Contact: 07/17/2017
	Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/05/2017	Telephone: 703-603-8704
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 04/07/2017
Number of Days to Update: 92	Next Scheduled EDR Contact: 07/17/2017
	Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/07/2017	Source: EPA
Date Data Arrived at EDR: 04/19/2017	Telephone: 800-424-9346
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 04/21/2017
Number of Days to Update: 16	Next Scheduled EDR Contact: 07/31/2017
	Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 02/07/2017	Source: EPA
Date Data Arrived at EDR: 04/19/2017	Telephone: 800-424-9346
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 04/25/2017
Number of Days to Update: 16	Next Scheduled EDR Contact: 07/31/2017
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/12/2016	Source: EPA
Date Data Arrived at EDR: 12/28/2016	Telephone: 800-424-9346
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 05/02/2017
Number of Days to Update: 44	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/12/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/28/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 05/02/2017
Number of Days to Update: 44	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/12/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/28/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 05/02/2017
Number of Days to Update: 44	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/12/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/28/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 05/02/2017
Number of Days to Update: 44	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/12/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/28/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 05/02/2017
Number of Days to Update: 44	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/28/2016	Source: Department of the Navy
Date Data Arrived at EDR: 01/04/2017	Telephone: 843-820-7326
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 05/15/2017
Number of Days to Update: 93	Next Scheduled EDR Contact: 08/28/2017
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 11/15/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/29/2016	Telephone: 703-603-0695
Date Made Active in Reports: 02/03/2017	Last EDR Contact: 05/31/2017
Number of Days to Update: 66	Next Scheduled EDR Contact: 09/11/2017
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 11/15/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/29/2016	Telephone: 703-603-0695
Date Made Active in Reports: 02/03/2017	Last EDR Contact: 05/31/2017
Number of Days to Update: 66	Next Scheduled EDR Contact: 09/11/2017
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/26/2016

Date Data Arrived at EDR: 09/29/2016

Date Made Active in Reports: 11/11/2016

Number of Days to Update: 43

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180

Last EDR Contact: 03/29/2017

Next Scheduled EDR Contact: 07/10/2017

Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 01/30/2017

Date Data Arrived at EDR: 01/31/2017

Date Made Active in Reports: 05/23/2017

Number of Days to Update: 112

Source: Department of Toxic Substances Control

Telephone: 916-323-3400

Last EDR Contact: 05/02/2017

Next Scheduled EDR Contact: 08/14/2017

Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 01/30/2017

Date Data Arrived at EDR: 01/31/2017

Date Made Active in Reports: 05/23/2017

Number of Days to Update: 112

Source: Department of Toxic Substances Control

Telephone: 916-323-3400

Last EDR Contact: 05/02/2017

Next Scheduled EDR Contact: 08/14/2017

Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/13/2017

Date Data Arrived at EDR: 02/15/2017

Date Made Active in Reports: 05/02/2017

Number of Days to Update: 76

Source: Department of Resources Recycling and Recovery

Telephone: 916-341-6320

Last EDR Contact: 05/17/2017

Next Scheduled EDR Contact: 08/28/2017

Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/13/2017	Source: State Water Resources Control Board
Date Data Arrived at EDR: 03/14/2017	Telephone: see region list
Date Made Active in Reports: 05/02/2017	Last EDR Contact: 03/14/2017
Number of Days to Update: 49	Next Scheduled EDR Contact: 06/26/2017
	Data Release Frequency: Quarterly

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005	Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Date Data Arrived at EDR: 06/07/2005	Telephone: 760-241-7365
Date Made Active in Reports: 06/29/2005	Last EDR Contact: 09/12/2011
Number of Days to Update: 22	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004	Source: California Regional Water Quality Control Board Los Angeles Region (4)
Date Data Arrived at EDR: 09/07/2004	Telephone: 213-576-6710
Date Made Active in Reports: 10/12/2004	Last EDR Contact: 09/06/2011
Number of Days to Update: 35	Next Scheduled EDR Contact: 12/19/2011
	Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003	Source: California Regional Water Quality Control Board Central Coast Region (3)
Date Data Arrived at EDR: 05/19/2003	Telephone: 805-542-4786
Date Made Active in Reports: 06/02/2003	Last EDR Contact: 07/18/2011
Number of Days to Update: 14	Next Scheduled EDR Contact: 10/31/2011
	Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004	Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Date Data Arrived at EDR: 10/20/2004	Telephone: 510-622-2433
Date Made Active in Reports: 11/19/2004	Last EDR Contact: 09/19/2011
Number of Days to Update: 30	Next Scheduled EDR Contact: 01/02/2012
	Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001	Source: California Regional Water Quality Control Board North Coast (1)
Date Data Arrived at EDR: 02/28/2001	Telephone: 707-570-3769
Date Made Active in Reports: 03/29/2001	Last EDR Contact: 08/01/2011
Number of Days to Update: 29	Next Scheduled EDR Contact: 11/14/2011
	Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 11/14/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 98

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 10/07/2016	Source: EPA Region 10
Date Data Arrived at EDR: 01/26/2017	Telephone: 206-553-2857
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 04/28/2017
Number of Days to Update: 99	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/06/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/26/2017	Telephone: 415-972-3372
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 04/28/2017
Number of Days to Update: 99	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 10/01/2016	Source: EPA Region 6
Date Data Arrived at EDR: 01/26/2017	Telephone: 214-665-6597
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 04/28/2017
Number of Days to Update: 99	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 11/14/2016	Source: EPA, Region 5
Date Data Arrived at EDR: 01/26/2017	Telephone: 312-886-7439
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 04/28/2017
Number of Days to Update: 99	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/17/2016	Source: EPA Region 8
Date Data Arrived at EDR: 01/26/2017	Telephone: 303-312-6271
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 04/28/2017
Number of Days to Update: 99	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/01/2016	Source: EPA Region 7
Date Data Arrived at EDR: 01/26/2017	Telephone: 913-551-7003
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 04/28/2017
Number of Days to Update: 99	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Varies

SLIC: Statewide SLIC Cases (GEOTRACKER)

Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/13/2017	Source: State Water Resources Control Board
Date Data Arrived at EDR: 03/14/2017	Telephone: 866-480-1028
Date Made Active in Reports: 05/02/2017	Last EDR Contact: 03/14/2017
Number of Days to Update: 49	Next Scheduled EDR Contact: 06/26/2017
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/11/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/12/2017
Date Data Arrived at EDR: 03/16/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 57

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 03/16/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 07/12/2016	Telephone: 916-327-5092
Date Made Active in Reports: 09/19/2016	Last EDR Contact: 03/24/2017
Number of Days to Update: 69	Next Scheduled EDR Contact: 07/10/2017
	Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 01/14/2017	Source: EPA Region 5
Date Data Arrived at EDR: 01/26/2017	Telephone: 312-886-6136
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 04/28/2017
Number of Days to Update: 99	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 10/01/2016	Source: EPA Region 6
Date Data Arrived at EDR: 01/26/2017	Telephone: 214-665-7591
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 04/28/2017
Number of Days to Update: 99	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/01/2016	Source: EPA Region 7
Date Data Arrived at EDR: 01/26/2017	Telephone: 913-551-7003
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 04/28/2017
Number of Days to Update: 99	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/17/2016	Source: EPA Region 8
Date Data Arrived at EDR: 01/26/2017	Telephone: 303-312-6137
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 04/28/2017
Number of Days to Update: 99	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 10/06/2016	Source: EPA Region 9
Date Data Arrived at EDR: 01/26/2017	Telephone: 415-972-3368
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 04/28/2017
Number of Days to Update: 99	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 11/14/2016	Source: EPA, Region 1
Date Data Arrived at EDR: 01/26/2017	Telephone: 617-918-1313
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 04/28/2017
Number of Days to Update: 99	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/14/2016	Source: EPA Region 4
Date Data Arrived at EDR: 01/27/2017	Telephone: 404-562-9424
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 04/28/2017
Number of Days to Update: 98	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Semi-Annually

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 10/07/2016	Source: EPA Region 10
Date Data Arrived at EDR: 01/26/2017	Telephone: 206-553-2857
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 04/28/2017
Number of Days to Update: 99	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 09/29/2015	Telephone: 617-918-1102
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 03/27/2017
Number of Days to Update: 142	Next Scheduled EDR Contact: 07/10/2017
	Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 01/30/2017	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 01/31/2017	Telephone: 916-323-3400
Date Made Active in Reports: 05/23/2017	Last EDR Contact: 05/02/2017
Number of Days to Update: 112	Next Scheduled EDR Contact: 08/14/2017
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfields Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 01/03/2017
Date Data Arrived at EDR: 01/04/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 57

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 03/29/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/02/2017
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/02/2017
Next Scheduled EDR Contact: 07/03/2017
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 03/13/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 50

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/14/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/13/2017
Date Data Arrived at EDR: 01/17/2017
Date Made Active in Reports: 05/31/2017
Number of Days to Update: 134

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 05/15/2017
Next Scheduled EDR Contact: 08/28/2017
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 05/01/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 36

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/28/2017
Next Scheduled EDR Contact: 06/12/2017
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 01/30/2017
Date Data Arrived at EDR: 01/31/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 112

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 03/17/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 54

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 04/10/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 12/05/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 67

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/31/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/17/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 67

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 03/06/2017
Date Data Arrived at EDR: 03/07/2017
Date Made Active in Reports: 04/21/2017
Number of Days to Update: 45

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/21/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

DEED: Deed Restriction Listing

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 03/06/2017	Source: DTSC and SWRCB
Date Data Arrived at EDR: 03/07/2017	Telephone: 916-323-3400
Date Made Active in Reports: 05/23/2017	Last EDR Contact: 06/06/2017
Number of Days to Update: 77	Next Scheduled EDR Contact: 09/18/2017
	Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/28/2016	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 12/28/2016	Telephone: 202-366-4555
Date Made Active in Reports: 02/03/2017	Last EDR Contact: 03/29/2017
Number of Days to Update: 37	Next Scheduled EDR Contact: 07/10/2017
	Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/06/2016	Source: Office of Emergency Services
Date Data Arrived at EDR: 01/25/2017	Telephone: 916-845-8400
Date Made Active in Reports: 05/10/2017	Last EDR Contact: 04/28/2017
Number of Days to Update: 105	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Varies

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/13/2017	Source: State Water Quality Control Board
Date Data Arrived at EDR: 03/14/2017	Telephone: 866-480-1028
Date Made Active in Reports: 05/02/2017	Last EDR Contact: 03/14/2017
Number of Days to Update: 49	Next Scheduled EDR Contact: 06/26/2017
	Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/13/2017	Source: State Water Resources Control Board
Date Data Arrived at EDR: 03/14/2017	Telephone: 866-480-1028
Date Made Active in Reports: 05/02/2017	Last EDR Contact: 03/14/2017
Number of Days to Update: 49	Next Scheduled EDR Contact: 06/26/2017
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 02/22/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 50	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/12/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/28/2016	Telephone: (415) 495-8895
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 05/02/2017
Number of Days to Update: 44	Next Scheduled EDR Contact: 04/10/2017
	Data Release Frequency: Varies

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 07/08/2015	Telephone: 202-528-4285
Date Made Active in Reports: 10/13/2015	Last EDR Contact: 02/24/2017
Number of Days to Update: 97	Next Scheduled EDR Contact: 06/05/2017
	Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 04/14/2017
Number of Days to Update: 62	Next Scheduled EDR Contact: 07/24/2017
	Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005	Source: U.S. Geological Survey
Date Data Arrived at EDR: 02/06/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 04/14/2017
Number of Days to Update: 339	Next Scheduled EDR Contact: 07/24/2017
	Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/19/2017
Next Scheduled EDR Contact: 08/28/2017
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 02/13/2017
Date Data Arrived at EDR: 02/15/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 05/17/2017
Next Scheduled EDR Contact: 08/28/2017
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 05/08/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/24/2017
Next Scheduled EDR Contact: 07/03/2017
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 133

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/26/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/26/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/06/2017
Next Scheduled EDR Contact: 06/19/2017
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2017
Date Data Arrived at EDR: 02/09/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/21/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 10/17/2014	Telephone: 202-564-6023
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 06/06/2017
Number of Days to Update: 3	Next Scheduled EDR Contact: 08/21/2017
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 01/20/2016	Source: EPA
Date Data Arrived at EDR: 04/28/2016	Telephone: 202-566-0500
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 04/10/2017
Number of Days to Update: 127	Next Scheduled EDR Contact: 07/24/2017
	Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 04/10/2017
Number of Days to Update: 79	Next Scheduled EDR Contact: 07/24/2017
	Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 05/19/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 09/04/2017
	Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 05/19/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 09/04/2017
	Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 09/08/2016	Telephone: 301-415-7169
Date Made Active in Reports: 10/21/2016	Last EDR Contact: 05/08/2017
Number of Days to Update: 43	Next Scheduled EDR Contact: 08/21/2017
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005	Source: Department of Energy
Date Data Arrived at EDR: 08/07/2009	Telephone: 202-586-8719
Date Made Active in Reports: 10/22/2009	Last EDR Contact: 06/05/2017
Number of Days to Update: 76	Next Scheduled EDR Contact: 09/18/2017
	Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/10/2014	Telephone: N/A
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 06/05/2017
Number of Days to Update: 40	Next Scheduled EDR Contact: 09/18/2017
	Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/19/2011	Telephone: 202-566-0517
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 04/28/2017
Number of Days to Update: 83	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/04/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/06/2017	Telephone: 202-343-9775
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 04/06/2017
Number of Days to Update: 35	Next Scheduled EDR Contact: 07/17/2017
	Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/02/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 11/18/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 77

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/27/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/26/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/14/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/05/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/21/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/07/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/07/2017
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/08/2017
Date Data Arrived at EDR: 02/28/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 38

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/31/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/05/2005	Source: USGS
Date Data Arrived at EDR: 02/29/2008	Telephone: 703-648-7709
Date Made Active in Reports: 04/18/2008	Last EDR Contact: 05/31/2017
Number of Days to Update: 49	Next Scheduled EDR Contact: 09/11/2017
	Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011	Source: USGS
Date Data Arrived at EDR: 06/08/2011	Telephone: 703-648-7709
Date Made Active in Reports: 09/13/2011	Last EDR Contact: 06/02/2017
Number of Days to Update: 97	Next Scheduled EDR Contact: 09/11/2017
	Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 03/14/2017	Source: Department of Interior
Date Data Arrived at EDR: 03/17/2017	Telephone: 202-208-2609
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 03/13/2017
Number of Days to Update: 21	Next Scheduled EDR Contact: 06/26/2017
	Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/04/2017	Source: EPA
Date Data Arrived at EDR: 04/07/2017	Telephone: (415) 947-8000
Date Made Active in Reports: 05/12/2017	Last EDR Contact: 04/07/2017
Number of Days to Update: 35	Next Scheduled EDR Contact: 06/19/2017
	Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 03/19/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/21/2017	Telephone: 202-564-2280
Date Made Active in Reports: 05/12/2017	Last EDR Contact: 03/21/2017
Number of Days to Update: 52	Next Scheduled EDR Contact: 07/03/2017
	Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2015	Source: Department of Defense
Date Data Arrived at EDR: 01/29/2016	Telephone: 571-373-0407
Date Made Active in Reports: 04/05/2016	Last EDR Contact: 05/22/2017
Number of Days to Update: 67	Next Scheduled EDR Contact: 07/31/2017
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 06/02/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/03/2016	Telephone: 202-564-0527
Date Made Active in Reports: 09/02/2016	Last EDR Contact: 05/24/2017
Number of Days to Update: 91	Next Scheduled EDR Contact: 09/11/2017
	Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/22/2017	Source: EPA
Date Data Arrived at EDR: 02/22/2017	Telephone: 800-385-6164
Date Made Active in Reports: 05/12/2017	Last EDR Contact: 05/24/2017
Number of Days to Update: 79	Next Scheduled EDR Contact: 09/04/2017
	Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989	Source: Department of Health Services
Date Data Arrived at EDR: 07/27/1994	Telephone: 916-255-2118
Date Made Active in Reports: 08/02/1994	Last EDR Contact: 05/31/1994
Number of Days to Update: 6	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 12/28/2016	Source: CAL EPA/Office of Emergency Information
Date Data Arrived at EDR: 12/28/2016	Telephone: 916-323-3400
Date Made Active in Reports: 03/02/2017	Last EDR Contact: 03/29/2017
Number of Days to Update: 64	Next Scheduled EDR Contact: 07/10/2017
	Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 03/09/2017	Source: Department of Toxic Substance Control
Date Data Arrived at EDR: 04/11/2017	Telephone: 916-327-4498
Date Made Active in Reports: 05/23/2017	Last EDR Contact: 06/02/2017
Number of Days to Update: 42	Next Scheduled EDR Contact: 09/18/2017
	Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2014	Source: California Air Resources Board
Date Data Arrived at EDR: 09/23/2016	Telephone: 916-322-2990
Date Made Active in Reports: 10/24/2016	Last EDR Contact: 03/21/2017
Number of Days to Update: 31	Next Scheduled EDR Contact: 07/03/2017
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 01/23/2017	Source: State Water Resources Control Board
Date Data Arrived at EDR: 01/27/2017	Telephone: 916-445-9379
Date Made Active in Reports: 05/25/2017	Last EDR Contact: 04/24/2017
Number of Days to Update: 118	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 04/25/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 04/29/2016	Telephone: 916-255-3628
Date Made Active in Reports: 06/21/2016	Last EDR Contact: 06/02/2017
Number of Days to Update: 53	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/14/2017	Source: California Integrated Waste Management Board
Date Data Arrived at EDR: 02/17/2017	Telephone: 916-341-6066
Date Made Active in Reports: 05/25/2017	Last EDR Contact: 05/15/2017
Number of Days to Update: 97	Next Scheduled EDR Contact: 08/28/2017
	Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2015	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 10/12/2016	Telephone: 916-255-1136
Date Made Active in Reports: 12/15/2016	Last EDR Contact: 04/14/2017
Number of Days to Update: 64	Next Scheduled EDR Contact: 07/24/2017
	Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 11/21/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 11/22/2016	Telephone: 877-786-9427
Date Made Active in Reports: 01/23/2017	Last EDR Contact: 05/24/2017
Number of Days to Update: 62	Next Scheduled EDR Contact: 09/04/2017
	Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 01/22/2009	Telephone: 916-323-3400
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 01/22/2009
Number of Days to Update: 76	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 11/21/2016	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 11/22/2016	Telephone: 916-323-3400
Date Made Active in Reports: 01/23/2017	Last EDR Contact: 05/24/2017
Number of Days to Update: 62	Next Scheduled EDR Contact: 09/04/2017
	Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/11/2017	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 04/13/2017	Telephone: 916-440-7145
Date Made Active in Reports: 04/26/2017	Last EDR Contact: 04/13/2017
Number of Days to Update: 13	Next Scheduled EDR Contact: 07/24/2017
	Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 09/12/2016	Source: Department of Conservation
Date Data Arrived at EDR: 09/14/2016	Telephone: 916-322-1080
Date Made Active in Reports: 10/14/2016	Last EDR Contact: 03/13/2017
Number of Days to Update: 30	Next Scheduled EDR Contact: 06/26/2017
	Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 12/02/2016	Source: Department of Public Health
Date Data Arrived at EDR: 12/06/2016	Telephone: 916-558-1784
Date Made Active in Reports: 03/02/2017	Last EDR Contact: 06/06/2017
Number of Days to Update: 86	Next Scheduled EDR Contact: 09/18/2017
	Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 11/14/2016	Source: State Water Resources Control Board
Date Data Arrived at EDR: 11/15/2016	Telephone: 916-445-9379
Date Made Active in Reports: 03/02/2017	Last EDR Contact: 05/17/2017
Number of Days to Update: 107	Next Scheduled EDR Contact: 08/28/2017
	Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 12/06/2016	Source: Department of Pesticide Regulation
Date Data Arrived at EDR: 12/06/2016	Telephone: 916-445-4038
Date Made Active in Reports: 03/03/2017	Last EDR Contact: 03/07/2017
Number of Days to Update: 87	Next Scheduled EDR Contact: 06/19/2017
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 03/13/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 50

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/14/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 12/16/2016
Date Data Arrived at EDR: 12/22/2016
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 70

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 04/03/2017
Next Scheduled EDR Contact: 07/03/2017
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 01/20/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 50

Source: Department of Conservation
Telephone: 916-445-2408
Last EDR Contact: 03/14/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board's review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 04/14/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Varies

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 03/24/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 04/10/2017
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 31

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/10/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 04/10/2017
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 21

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/10/2017
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 03/06/2017
Date Data Arrived at EDR: 03/08/2017
Date Made Active in Reports: 04/14/2017
Number of Days to Update: 37

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/31/2017
Date Data Arrived at EDR: 02/07/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 94

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 04/10/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing Cupa Facility Listing

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 03/27/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List Cupa facility list.

Date of Government Version: 02/23/2017
Date Data Arrived at EDR: 02/24/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 77

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 11/17/2016
Date Data Arrived at EDR: 11/22/2016
Date Made Active in Reports: 01/26/2017
Number of Days to Update: 65

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 05/01/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List Cupa Facility list

Date of Government Version: 01/31/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/14/2017
Number of Days to Update: 70

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 05/01/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List CUPA facility list.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 02/24/2017
Date Data Arrived at EDR: 02/28/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 73

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 05/01/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 04/06/2017
Date Data Arrived at EDR: 04/07/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 40

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 03/31/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 12/02/2016
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 111

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 03/20/2017
Date Data Arrived at EDR: 03/21/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 57

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 01/23/2017
Date Data Arrived at EDR: 01/25/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 36

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

INYO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

Cupa facility list.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/09/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 77

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing Kern County Sites and Tanks Listing.

Date of Government Version: 02/07/2017
Date Data Arrived at EDR: 02/10/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 81

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 03/06/2017
Date Data Arrived at EDR: 03/07/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 71

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/18/2017
Date Data Arrived at EDR: 01/20/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 41

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/17/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 11/30/2016
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 111

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 11/30/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

LOS ANGELES COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 03/20/2017
Next Scheduled EDR Contact: 07/03/2017
Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 11/14/2016
Date Data Arrived at EDR: 11/18/2016
Date Made Active in Reports: 01/23/2017
Number of Days to Update: 66

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 04/10/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/17/2017
Date Data Arrived at EDR: 04/18/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 14

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/18/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2016
Date Data Arrived at EDR: 01/26/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 56

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/17/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/29/2016
Date Data Arrived at EDR: 04/06/2016
Date Made Active in Reports: 06/13/2016
Number of Days to Update: 68

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 04/17/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/17/2017
Date Data Arrived at EDR: 01/18/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 112

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/17/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/10/2017
Date Data Arrived at EDR: 01/13/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 110

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/10/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 03/03/2017
Date Data Arrived at EDR: 03/07/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 71

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 03/31/2017
Date Data Arrived at EDR: 04/06/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 27

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 03/31/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 02/22/2017
Date Data Arrived at EDR: 02/23/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 83

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List

CUPA Facility List

Date of Government Version: 02/21/2017
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 76

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Varies

MONTEREY COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility Listing

CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/24/2016
Date Data Arrived at EDR: 06/27/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 43

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination

A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

Date of Government Version: 03/15/2017
Date Data Arrived at EDR: 03/16/2017
Date Made Active in Reports: 05/09/2017
Number of Days to Update: 54

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 02/09/2017
Date Data Arrived at EDR: 02/10/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 96

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 05/01/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 02/06/2017
Date Data Arrived at EDR: 02/10/2017
Date Made Active in Reports: 04/21/2017
Number of Days to Update: 70

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/08/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 11/04/2016
Date Data Arrived at EDR: 11/11/2016
Date Made Active in Reports: 01/23/2017
Number of Days to Update: 73

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/08/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 02/06/2017	Source: Health Care Agency
Date Data Arrived at EDR: 02/07/2017	Telephone: 714-834-3446
Date Made Active in Reports: 05/03/2017	Last EDR Contact: 05/09/2017
Number of Days to Update: 85	Next Scheduled EDR Contact: 08/21/2017
	Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 09/02/2016	Source: Placer County Health and Human Services
Date Data Arrived at EDR: 09/06/2016	Telephone: 530-745-2363
Date Made Active in Reports: 10/14/2016	Last EDR Contact: 06/02/2017
Number of Days to Update: 38	Next Scheduled EDR Contact: 09/18/2017
	Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA Facility List

Plumas County CUPA Program facilities.

Date of Government Version: 01/31/2017	Source: Plumas County Environmental Health
Date Data Arrived at EDR: 02/03/2017	Telephone: 530-283-6355
Date Made Active in Reports: 05/25/2017	Last EDR Contact: 06/02/2017
Number of Days to Update: 111	Next Scheduled EDR Contact: 08/07/2017
	Data Release Frequency: Varies

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites

Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/18/2017	Source: Department of Environmental Health
Date Data Arrived at EDR: 04/20/2017	Telephone: 951-358-5055
Date Made Active in Reports: 04/21/2017	Last EDR Contact: 03/20/2017
Number of Days to Update: 1	Next Scheduled EDR Contact: 07/03/2017
	Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 01/19/2017	Source: Department of Environmental Health
Date Data Arrived at EDR: 01/25/2017	Telephone: 951-358-5055
Date Made Active in Reports: 05/03/2017	Last EDR Contact: 03/20/2017
Number of Days to Update: 98	Next Scheduled EDR Contact: 07/03/2017
	Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 56

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/04/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/08/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 56

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/04/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 11/30/2016
Date Data Arrived at EDR: 02/09/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 105

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 12/09/2016
Date Data Arrived at EDR: 12/13/2016
Date Made Active in Reports: 03/03/2017
Number of Days to Update: 80

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 05/08/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 10/05/2016
Date Data Arrived at EDR: 12/06/2016
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 86

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 03/10/2017
Next Scheduled EDR Contact: 06/19/2017
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 06/05/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversight Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 02/28/2017
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 62

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 03/21/2017
Date Data Arrived at EDR: 03/23/2017
Date Made Active in Reports: 05/09/2017
Number of Days to Update: 47

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 03/20/2017
Next Scheduled EDR Contact: 07/03/2017
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 02/21/2017
Date Data Arrived at EDR: 02/21/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 91

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

SAN MATEO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 03/15/2017
Date Data Arrived at EDR: 04/07/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 33

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/09/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/15/2017
Date Data Arrived at EDR: 04/07/2017
Date Made Active in Reports: 04/21/2017
Number of Days to Update: 14

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/27/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List

Cupa facility list

Date of Government Version: 02/22/2017
Date Data Arrived at EDR: 02/23/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 89

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 11/10/2016
Date Made Active in Reports: 01/24/2017
Number of Days to Update: 75

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List

CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 03/14/2017
Date Data Arrived at EDR: 03/17/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 67

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 11/29/2016
Date Data Arrived at EDR: 12/21/2016
Date Made Active in Reports: 12/22/2016
Number of Days to Update: 1

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 03/09/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Quarterly

Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 03/15/2017
Date Data Arrived at EDR: 03/17/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 47

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 03/09/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List

Cupa Facility list

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/01/2017
Date Data Arrived at EDR: 03/30/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 54

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 03/27/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 01/04/2017
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 55

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 03/27/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/20/2017
Date Data Arrived at EDR: 01/24/2017
Date Made Active in Reports: 05/18/2017
Number of Days to Update: 114

Source: Stanislaus County Department of Environmental Protection
Telephone: 209-525-6751
Last EDR Contact: 11/30/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Varies

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 12/02/2016
Date Data Arrived at EDR: 12/06/2016
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 35

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA Facility List

Cupa facilities

Date of Government Version: 01/05/2017
Date Data Arrived at EDR: 02/10/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 104

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/23/2017
Date Data Arrived at EDR: 01/25/2017
Date Made Active in Reports: 05/18/2017
Number of Days to Update: 113

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

TULARE COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

Cupa program facilities

Date of Government Version: 01/05/2017
Date Data Arrived at EDR: 02/10/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 104

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/25/2017
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 34

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/27/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 103

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/31/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/15/2017
Next Scheduled EDR Contact: 08/28/2017
Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 09/26/2016
Date Data Arrived at EDR: 10/27/2016
Date Made Active in Reports: 01/24/2017
Number of Days to Update: 89

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 02/27/2017	Source: Environmental Health Division
Date Data Arrived at EDR: 03/15/2017	Telephone: 805-654-2813
Date Made Active in Reports: 05/03/2017	Last EDR Contact: 03/15/2017
Number of Days to Update: 49	Next Scheduled EDR Contact: 06/26/2017
	Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 03/31/2017	Source: Yolo County Department of Health
Date Data Arrived at EDR: 04/06/2017	Telephone: 530-666-8646
Date Made Active in Reports: 05/03/2017	Last EDR Contact: 03/31/2017
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/17/2017
	Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List

CUPA facility listing for Yuba County.

Date of Government Version: 01/30/2017	Source: Yuba County Environmental Health Department
Date Data Arrived at EDR: 01/31/2017	Telephone: 530-749-7523
Date Made Active in Reports: 05/23/2017	Last EDR Contact: 05/01/2017
Number of Days to Update: 112	Next Scheduled EDR Contact: 08/14/2017
	Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013	Source: Department of Energy & Environmental Protection
Date Data Arrived at EDR: 08/19/2013	Telephone: 860-424-3375
Date Made Active in Reports: 10/03/2013	Last EDR Contact: 05/15/2017
Number of Days to Update: 45	Next Scheduled EDR Contact: 08/28/2017
	Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015	Source: Department of Environmental Protection
Date Data Arrived at EDR: 09/29/2016	Telephone: N/A
Date Made Active in Reports: 01/03/2017	Last EDR Contact: 04/11/2017
Number of Days to Update: 96	Next Scheduled EDR Contact: 07/24/2017
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/30/2017
Date Data Arrived at EDR: 02/01/2017
Date Made Active in Reports: 02/13/2017
Number of Days to Update: 12

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/03/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 07/22/2016
Date Made Active in Reports: 11/22/2016
Number of Days to Update: 123

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/18/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 04/14/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 50

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/13/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities

Source: Department of Social Services

Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Department of Fish & Game

Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

WIN-RIVER CASINO SITE
2100 REDDING RANCHERIA RD
REDDING, CA 96001

TARGET PROPERTY COORDINATES

Latitude (North): 40.506699 - 40° 30' 24.12"
Longitude (West): 122.383981 - 122° 23' 2.33"
Universal Transverse Mercator: Zone 10
UTM X (Meters): 552194.0
UTM Y (Meters): 4483969.5
Elevation: 469 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map: 5605416 REDDING, CA
Version Date: 2012

Northeast Map: 5605372 ENTERPRISE, CA
Version Date: 2012

Southeast Map: 5605366 COTTONWOOD, CA
Version Date: 2012

Southwest Map: 5605396 OLINDA, CA
Version Date: 2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

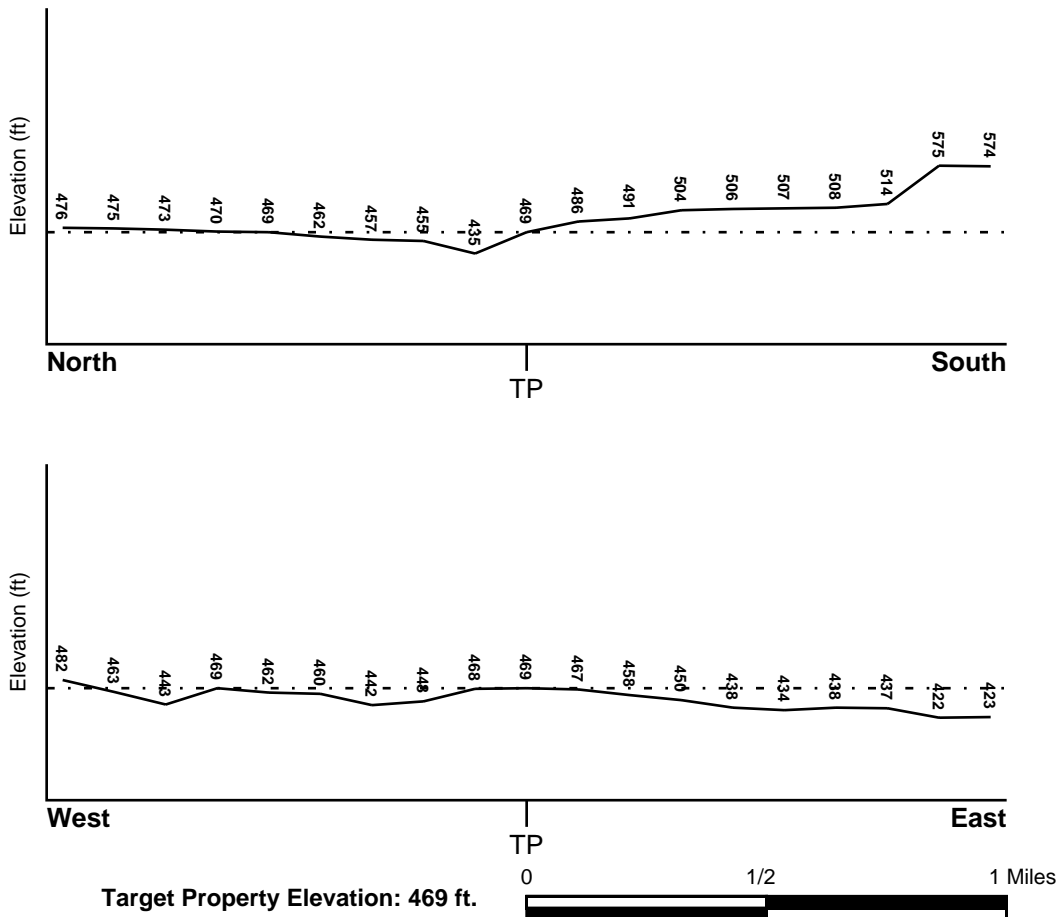
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NNW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
06089C1545G	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
06089C1563G	FEMA FIRM Flood data
06089C1930G	FEMA FIRM Flood data
06089C1910G	FEMA FIRM Flood data
06103C0050H	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u> REDDING	<u>NWI Electronic Data Coverage</u> YES - refer to the Overview Map and Detail Map
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HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

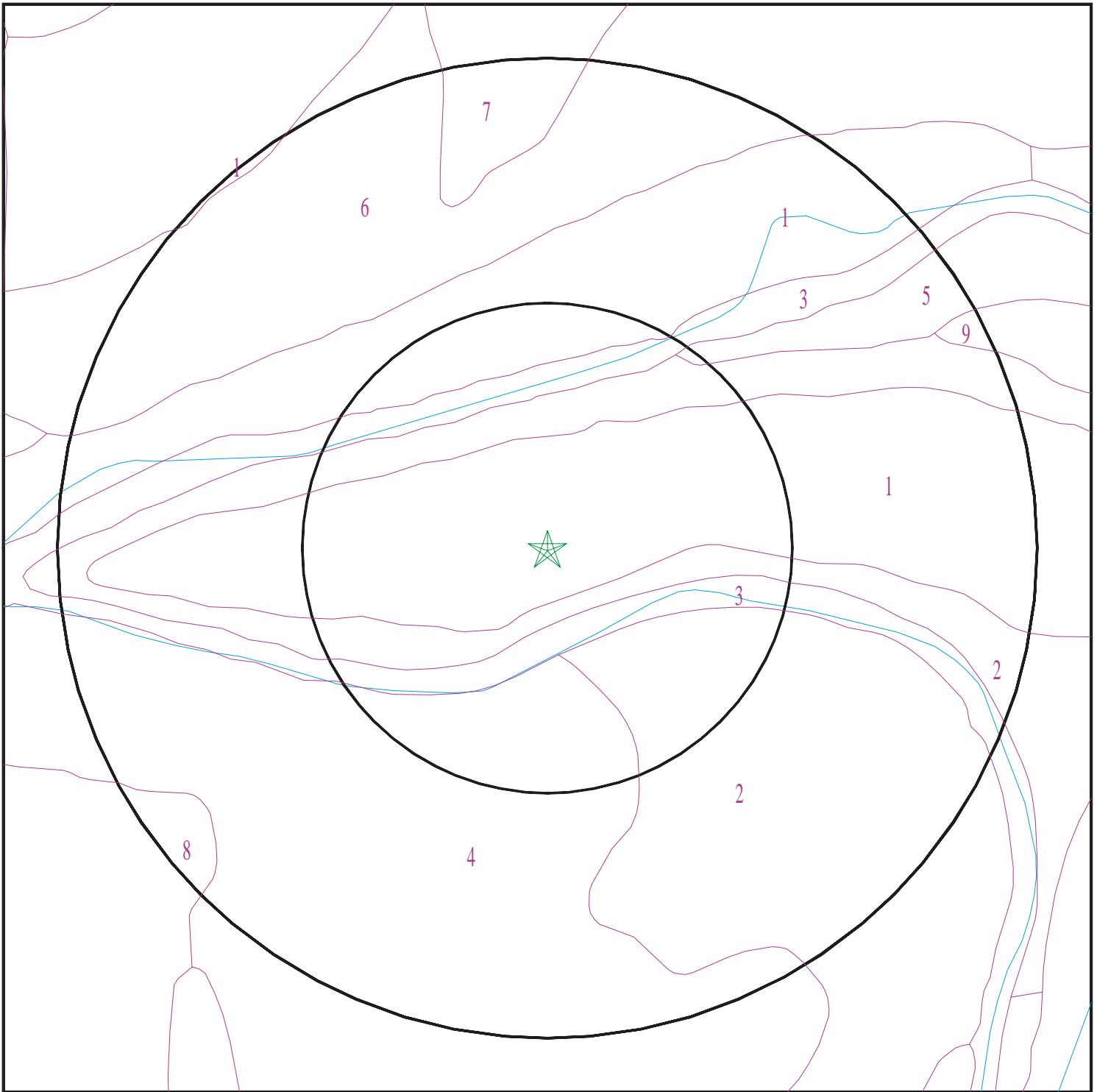
Era: Cenozoic
System: Quaternary
Series: Quaternary
Code: Q (*decoded above as Era, System & Series*)

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4959072.2s



- ★ Target Property
- SSURGO Soil
- Water



SITE NAME: Win-River Casino Site
ADDRESS: 2100 Redding Rancheria Rd
Redding CA 96001
LAT/LONG: 40.506699 / 122.383981

CLIENT: Analytical Environmental Serv.
CONTACT: Laura Zajac
INQUIRY #: 4959072.2s
DATE: June 07, 2017 4:42 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Reiff

Soil Surface Texture: gravelly fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	18 inches	gravelly fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 42 Min: 14	Max: 6.5 Min: 5.6
2	18 inches	42 inches	stratified sandy loam to loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
3	42 inches	59 inches	stratified loamy sand to sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 2

Soil Component Name: Churn

Soil Surface Texture: gravelly loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	12 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 6 Min: 5.1
2	12 inches	59 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 6 Min: 5.1

Soil Map ID: 3

Soil Component Name: Water

Soil Surface Texture: gravelly loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 4

Soil Component Name: Perkins

Soil Surface Texture: gravelly loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	9 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 14 Min: 4	Max: 6.5 Min: 5.6
2	9 inches	59 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 6.5 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 5

Soil Component Name: Gravel pits

Soil Surface Texture: extremely gravelly sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	extremely gravelly sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean Gravels, Well-graded gravel.	Max: 141 Min: 42	Max: Min:
2	5 inches	59 inches	extremely gravelly sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel.	Max: 141 Min: 42	Max: Min:

Soil Map ID: 6

Soil Component Name: Reiff

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	18 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 6.5 Min: 5.6
2	18 inches	42 inches	stratified sandy loam to loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
3	42 inches	59 inches	stratified loamy sand to sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1

Soil Map ID: 7

Soil Component Name: Anderson

Soil Surface Texture: gravelly sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	14 inches	gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 42 Min: 14	Max: 6.5 Min: 5.6
2	14 inches	24 inches	gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 42 Min: 14	Max: 6.5 Min: 5.6
3	24 inches	59 inches	very gravelly sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 141 Min: 42	Max: 6.5 Min: 5.6

Soil Map ID: 8

Soil Component Name: Newtown

Soil Surface Texture: gravelly loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 14 Min: 4	Max: 6.5 Min: 5.1
2	7 inches	18 inches	very gravelly clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 4 Min: 1.4	Max: 6.5 Min: 5.1
3	18 inches	35 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 6 Min: 5.1
4	35 inches	64 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 6.5 Min: 5.1
5	64 inches	72 inches	gravelly silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 6.1

Soil Map ID: 9

Soil Component Name: Cobbly alluvial land

Soil Surface Texture: very cobbly sand

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Excessively drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	very cobbly sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel. COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel.	Max: 141 Min: 42	Max: Min:
2	11 inches	59 inches	very cobbly loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel. COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel.	Max: 141 Min: 42	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
2	USGS40000194488	1/4 - 1/2 Mile NW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

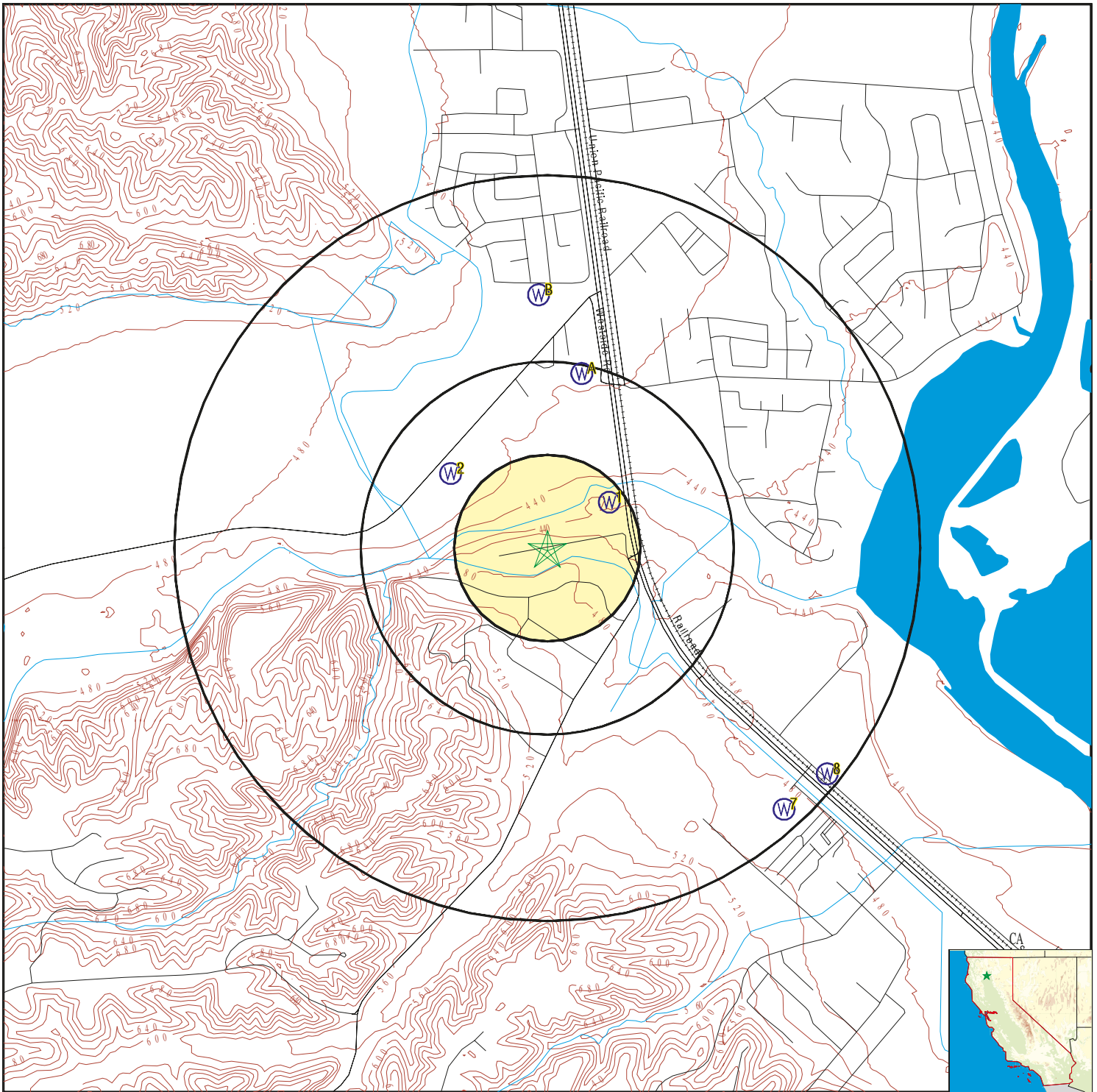
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		









Note: PWS System location is not always the same as well location.






STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	17780	1/8 - 1/4 Mile NE
A3	17791	1/4 - 1/2 Mile North
A4	17793	1/4 - 1/2 Mile NNE
B5	17792	1/2 - 1 Mile North
B6	17790	1/2 - 1 Mile North
7	17781	1/2 - 1 Mile SE
8	17782	1/2 - 1 Mile SE

PHYSICAL SETTING SOURCE MAP - 4959072.2s



-  County Boundary
-  Major Roads
-  Contour Lines
-  Earthquake Fault Lines
-  Earthquake epicenter, Richter 5 or greater
-  Water Wells
-  Public Water Supply Wells
-  Cluster of Multiple Icons

-  Groundwater Flow Direction
-  Indeterminate Groundwater Flow at Location
-  Groundwater Flow Varies at Location
-  Closest Hydrogeological Data
-  Oil, gas or related wells



SITE NAME: Win-River Casino Site
 ADDRESS: 2100 Redding Rancheria Rd
 Redding CA 96001
 LAT/LONG: 40.506699 / 122.383981

CLIENT: Analytical Environmental Serv.
 CONTACT: Laura Zajac
 INQUIRY #: 4959072.2s
 DATE: June 07, 2017 4:42 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

1
NE
1/8 - 1/4 Mile
Lower

CA WELLS 17780

Water System Information:

Prime Station Code:	31N/04W-31D01 M	User ID:	ATT
FRDS Number:	4510005009	County:	Shasta
District Number:	01	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Inactive Untreated
Source Lat/Long:	403031.0 1222247.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	CASCADE WELL 05 - INACTIVE		
System Number:	4510005		
System Name:	City of Redding		
Organization That Operates System:	760 PARKVIEW REDDING, CA 96001		
Pop Served:	80000	Connections:	23469
Area Served:	CITY OF REDDING		
Sample Collected:	23-JUL-10	Findings:	21.9 C
Chemical:	SOURCE TEMPERATURE C		

2
NW
1/4 - 1/2 Mile
Lower

FED USGS USGS40000194488

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-403035122231601		
Monloc name:	031N005W25M004M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18020101	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	40.5095957
Longitude:	-122.3888968	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	462.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Pacific Northwest basin-fill aquifers		
Formation type:	Quaternary Alluvium		
Aquifer type:	Not Reported		
Construction date:	19750105	Welldepth:	105
Welldepth units:	ft	Wellholedepth:	105
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 3

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1980-04-02	14.15		1979-06-12	14.85	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1975-01-08	18.00				

A3
North
1/4 - 1/2 Mile
Lower

CA WELLS 17791

Water System Information:

Prime Station Code:	31N/05W-25B01 M	User ID:	45C
FRDS Number:	4500066001	County:	Shasta
District Number:	75	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	403048.0 1222253.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	WELL 02 EAST		
System Number:	4500066		
System Name:	CLEAR CREEK TRAILER PARK		
Organization That Operates System:	Not Reported		
Pop Served:	Unknown, Small System	Connections:	Unknown, Small System
Area Served:	Not Reported		
Sample Collected:	04-APR-11	Findings:	6.1 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	07-MAY-12	Findings:	5. MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	05-NOV-12	Findings:	135. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	05-NOV-12	Findings:	7.36
Chemical:	PH, LABORATORY		
Sample Collected:	05-NOV-12	Findings:	58. MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO3		
Sample Collected:	05-NOV-12	Findings:	71. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	05-NOV-12	Findings:	58. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	05-NOV-12	Findings:	10.6 MG/L
Chemical:	CALCIUM		
Sample Collected:	05-NOV-12	Findings:	6.75 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	05-NOV-12	Findings:	7.42 MG/L
Chemical:	SODIUM		
Sample Collected:	05-NOV-12	Findings:	0.53 MG/L
Chemical:	POTASSIUM		
Sample Collected:	05-NOV-12	Findings:	2.2 MG/L
Chemical:	CHLORIDE		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	05-NOV-12	Findings:	3.5 MG/L
Chemical:	SULFATE		
Sample Collected:	05-NOV-12	Findings:	1660. UG/L
Chemical:	IRON		
Sample Collected:	05-NOV-12	Findings:	6.9 UG/L
Chemical:	LEAD		
Sample Collected:	05-NOV-12	Findings:	345.3 UG/L
Chemical:	ZINC		
Sample Collected:	05-NOV-12	Findings:	84. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	05-NOV-12	Findings:	4.8 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	05-MAY-15	Findings:	13.9 C
Chemical:	SOURCE TEMPERATURE C		
Sample Collected:	05-MAY-15	Findings:	25. UNITS
Chemical:	COLOR		
Sample Collected:	05-MAY-15	Findings:	138. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	05-MAY-15	Findings:	7.82
Chemical:	PH, LABORATORY		
Sample Collected:	05-MAY-15	Findings:	63. MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO3		
Sample Collected:	05-MAY-15	Findings:	77. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	05-MAY-15	Findings:	40. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	05-MAY-15	Findings:	9. MG/L
Chemical:	CALCIUM		
Sample Collected:	05-MAY-15	Findings:	4. MG/L
Chemical:	MAGNESIUM		
Sample Collected:	05-MAY-15	Findings:	13. MG/L
Chemical:	SODIUM		
Sample Collected:	05-MAY-15	Findings:	3.8 MG/L
Chemical:	CHLORIDE		
Sample Collected:	05-MAY-15	Findings:	2.3 MG/L
Chemical:	SULFATE		
Sample Collected:	05-MAY-15	Findings:	10. UG/L
Chemical:	ARSENIC		
Sample Collected:	05-MAY-15	Findings:	105. UG/L
Chemical:	BARIUM		
Sample Collected:	05-MAY-15	Findings:	3560. UG/L
Chemical:	IRON		
Sample Collected:	05-MAY-15	Findings:	281. UG/L
Chemical:	MANGANESE		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	05-MAY-15	Findings:	110. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	05-MAY-15	Findings:	8.7 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	05-MAY-15	Findings:	11.
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		

A4
NNE
 1/4 - 1/2 Mile
 Lower

CA WELLS 17793

Water System Information:

Prime Station Code:	31N/05W-25K01 M	User ID:	45C
FRDS Number:	4500111001	County:	Shasta
District Number:	75	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	403050.0 1222251.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	MAIN WELL		
System Number:	4500111		
System Name:	SOUTH CLEAR CREEK WATER ASSOC.		
Organization That Operates System:	Not Reported		
Pop Served:	Unknown, Small System	Connections:	Unknown, Small System
Area Served:	Not Reported		

B5
North
 1/2 - 1 Mile
 Higher

CA WELLS 17792

Water System Information:

Prime Station Code:	31N/05W-25D01 M	User ID:	ATT
FRDS Number:	4510005044	County:	Shasta
District Number:	01	Station Type:	WELL/AMBNT/MUN/INTAKE/GALERY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	403100.0 1222300.0	Precision:	0.5 Mile (30 Seconds)
Source Name:	WESTWOOD MANOR (PINAL) PUMP 03		
System Number:	4510005		
System Name:	City of Redding		
Organization That Operates System:	760 PARKVIEW REDDING, CA 96001		
Pop Served:	80000	Connections:	23469
Area Served:	CITY OF REDDING		

B6
North
 1/2 - 1 Mile
 Higher

CA WELLS 17790

Water System Information:

Prime Station Code:	31N/05W-24N03 M	User ID:	ATT
FRDS Number:	4510005043	County:	Shasta
District Number:	01	Station Type:	WELL/AMBNT/MUN/INTAKE/GALERY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	403100.0 1222300.0	Precision:	0.5 Mile (30 Seconds)
Source Name:	WESTWOOD MANOR (PINAL) PUMP 01-02		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

System Number: 4510005
 System Name: City of Redding
 Organization That Operates System:
 760 PARKVIEW
 REDDING, CA 96001
 Pop Served: 80000
 Area Served: CITY OF REDDING
 Connections: 23469

7
SE
1/2 - 1 Mile
Higher

CA WELLS 17781

Water System Information:

Prime Station Code: 31N/04W-31M01 M	User ID: 45C
FRDS Number: 4500056001	County: Shasta
District Number: 75	Station Type: WELL/AMBNT/MUN/INTAKE
Water Type: Well/Groundwater	Well Status: Active Raw
Source Lat/Long: 402948.0 1222215.0	Precision: 1,000 Feet (10 Seconds)
Source Name: WELL 01	
System Number: 4500056	
System Name: BIXBY KNOLLS MOBILEHOME PARK	
Organization That Operates System: Not Reported	
Pop Served: Unknown, Small System	Connections: Unknown, Small System
Area Served: Not Reported	

8
SE
1/2 - 1 Mile
Higher

CA WELLS 17782

Water System Information:

Prime Station Code: 31N/04W-31M04 M	User ID: ATT
FRDS Number: 4510005014	County: Shasta
District Number: 01	Station Type: WELL/AMBNT/MUN/INTAKE
Water Type: Well/Groundwater	Well Status: Destroyed
Source Lat/Long: 402953.0 1222207.0	Precision: 1,000 Feet (10 Seconds)
Source Name: CITY RENTAL WELL 03 - DESTROYED	
System Number: 4510005	
System Name: City of Redding	
Organization That Operates System: 760 PARKVIEW REDDING, CA 96001	
Pop Served: 80000	Connections: 23469
Area Served: CITY OF REDDING	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
96001	38	0

Federal EPA Radon Zone for SHASTA County: 3

- Note: Zone 1 indoor average level > 4 pCi/L.
 : Zone 2 indoor average level \geq 2 pCi/L and \leq 4 pCi/L.
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 96001

Number of sites tested: 11

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.536 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Department of Fish & Game

Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database

Source: Department of Water Resources

Telephone: 916-651-9648

California Drinking Water Quality Database

Source: Department of Public Health

Telephone: 916-324-2319

The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations

Source: Department of Conservation

Telephone: 916-323-1779

Oil and Gas well locations in the state.

RADON

State Database: CA Radon

Source: Department of Health Services

Telephone: 916-324-2208

Radon Database for California

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX I

AIR QUALITY MODELING OUTPUT FILES AND CALCULATION TABLES

CALEEMOD INPUT FILES

CalEEMod Inputs

Redding Rancheria Fee-to-Trust and Casino Project
Alternative A

Project-Specific Inputs for the Redding Rancheria Fee-to-Trust and Casino Project

Input	Type of Input	Project Specific Inputs	
		Inputs	Source/Notes
Project Name	Project Name	Redding Rancheria FTT and Casino Project – Alternative A	Project Description
Project Location	County	Shasta County	Modeler, based on location
Climate zone	Climate Zone Number	3	Appendix F Climate Zones Lookup
Land Use Setting	Urban or Rural	Urban	Modeler, based on location
Start of Construction	Date	July 1, 2019	Project Description
Operational Year	1st year of operation after full buildout.	2025	Project Description
Utility Company	Utility Company Name	PG&E	Project is served by Redding Electrical Utility (REU) which is not included as a power provider in CalEEMod. PG&E is used in place because REU sells power into the PG&E grid and vice versa.
Land Use Type and Subtype	Residential, Commercial, Recreation, etc.	See Table 1.	See Table 1.
Unit Amount	Size of Buildings or Number of units for each Land Use Type.	See Table 1.	See Table 1.
Lot Acreage	Acreage of each Land Use Type	See Table 1.	See Table 1.
Population	Population based on persons/household	0	No residential units are proposed therefore no population is associated with Alternative A.
Construction Phases	Type of construction phase (Demo, Site Prep, etc.) and beginning and ending dates	See Table 2.	See Table 2.
Off-Road Equipment	Type of equipment (Excavator, Dozer, etc.) and number of units per construction phase	See Table 2.	See Table 2.
Dust From Material Movement	Export/Import of Material (Tons or Cubic Yards)	0	Section 2 of the EIS
Demolition	Sq ft or tons of Demo	N/A	--
Construction Trips	Average number of one-way trips per day	--	---
Operational Trip Reductions	% reduction in trips.	See Table 3.	2017 KH Traffic Impact Analysis.

Input	Type of Input	Project Specific Inputs	
		Inputs	Source/Notes
Operational Trip Gen Rate and trip length	Trips and trip lengths	See Table 3.	See Table 3.
Area Sources	Hearths – # of wood-burning fireplaces, #of gas fireplaces, and # of units with no fireplace.	Not Applicable	No hearths are included in the project design.
	Landscape Equipment - % of equipment that is electric.	-	-
Energy Use	Project Specific Emission Factors.	See Table 4.	See Table 4.
Water and Wastewater	Indoor and outdoor water use for each Land Use Subtype in gallons per year.	See Table 6.	Water and Wastewater Feasibility Study Table 4
Solid waste	Tons of solid waste generated per year	1,292	CalRecycle, 2017
	Land Fill Gas Capture Rate	94%	CARB Mandatory Reporting Regulation Guidance
Operational off-road equipment	Excavator, Dozer, etc.	--	--
Stationary Sources	Emergency Generators/Fire Pumps	3 - 2,923 Horsepower	Based on like project emergency gen/set size and use.
	Generators/Fire Pumps EF	Default	Default
	Process Boilers	3 - 0.5 MMBtu/hr	Estimate from like projects
	Boilers EF	Default	Default
	User Defined	Default	Default
Land Use Change	Vegetation land use type (cropland, etc.) and initial and final acreage	Grassland Initial: 232 Acres Final: 139	Project Description
Sequestration	Type and net number of new trees added	--	--

Source: CalEEMod, 2016; EPA, 2017; Water and Wastewater Feasibility Study, Table 4.

Project-Mitigation Inputs for the Redding Rancheria Fee-to-Trust and Casino Project

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Off-Road Equipment	C-1	Yes	Engine Type, DPF Level, and Oxidation Catalyst	See Table 5.	See Table 5.
Soil Stabilizer for Unpaved Roads	N/A	Yes	PM10 (% Reduction)	10%	Default % Reduction.
	N/A		PM2.5 (% Reduction)	10%	Default % Reduction.
Water Exposed Area	N/A	Yes	Frequency (per day)	2 times per day	Default % Reduction
	N/A		PM10 (% Reduction)	55%	Default % Reduction.
	N/A		PM2.5 (% Reduction)	55%	Default % Reduction.
Replace Ground Cover of Area Disturbed	N/A	No	PM10 (% Reduction)	--	--
	N/A		PM2.5 (% Reduction)	--	--
Unpaved Road Mitigation	N/A	No	Moisture Content (%)	--	--
	N/A	Yes	Vehicle Speed (mph)	15 mph	Default Reduction
Type of Residential	N/A	No	Type of Residential	--	--
Increased Density	LUT-1	No	Dwelling Units/Acre	--	--
			Job/Job Acre	--	--
Increased Diversity	LUT-3	No	Yes or No	--	--
Improved Walkability Design	LUT-9	No	Intersections/Square Miles	--	--
Improve Destination Accessibility	LUT-4	No	Distance to Downtown/Job Ctr	--	--
Increased Transit Accessibility	LUT-5	No	Average Distance to Transit Station (miles)	--	--
Integrated Below Market Rate Housing	LUT-6	No	# Dwelling Units Below Market Rate	--	--
Improve Pedestrian Network	SDT-1	No	Yes or No; Project Site, Project Site and Connecting off-site, and Rural	--	--
Provide Traffic Calming Measures	SDT-2	No	% Streets with Improvement	--	--
		No	% Intersections with Improvement	--	--

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Implement Neighborhood Electric Vehicle (NEV) Network	SDT-3	No	% of streets equipped with NEV network.	--	--
Limit Parking Supply	PDT-1	No	% Reduction in Spaces	--	--
Unbundled Parking Costs	PDT-2	No	Monthly Parking Costs (\$)	--	--
On-Street Market Pricing	PDT-3	No	% Increase in Price	--	--
Provide a Bus Rapid Transit System	TST-1	No	% Lines BRT	--	Assuming no increase over existing shuttle services
Expand Transit Network	TST-3	Yes	% Increase Transit Coverage	--	--
Increase Transit Frequency	TST-4	No	Level of Implementation	--	--
		No	% Reduction in Headways	--	--
Implement Trip Reduction Program	TRT-1, TRT-2	No	% employee eligible	--	--
		No	Program Type	--	--
Transit Subsidy	TRT-4	No	% employee eligible	--	--
		No	Daily Transit Subsidy Amount (\$)	--	--
Implement Employee Parking "Cash-Out"	TRT-15	No	% employee eligible	--	--
Workplace Parking Charge	TRT-14	No	% employee eligible	--	--
		No	Daily Parking Charge (\$)	--	--
Encourage Telecommuting and Alternative Work Schedules	TRT-6	No	% employee work 9/80	--	--
		No	% employee work 4/40	--	--
		No	% employee telecommute 1.5 days	--	--
Market Commute Trip Reduction Option	TRT-7	No	% employee eligible	--	--

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Employee Vanpool/Shuttle	TRT-11	Yes	% employee eligible	--	--
		Yes	% vanpool mode share	--	--
Provide Ride Sharing Program	TRT-3	No	% employee eligible	--	--
Implement School Bus Program	TRT-13	No	% family using	--	--
Only Natural Gas Hearth	N/A	No	Yes or No	--	--
No hearth	N/A	No	Yes or No	--	--
Use of Low VOC Cleaning Supplies	N/A	No	Yes or No	--	--
Use low VOC Paint (Residential Interior)	N/A	No	Emission Factor (EF) grams per liter (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Residential Exterior)	N/A	No	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Non-residential Interior)	N/A	No	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Non-residential Exterior)	N/A	No	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Electric Lawnmower	A-1	No	Percent of equipment type that will be electric.	--	--
Electric Leafblower	A-1	No	Percent of equipment type that will be electric.	--	--
Electric Chainsaw	A-1	No	Percent of equipment type that will be electric.	--	--
Exceed Title 24	BE-1	No	Percentage improvement selected for the Project.	--	--
Install High Efficiently Lighting	LE-1	No	% Lighting Energy Reduction	--	--
On-site Renewable Energy	AE-1, AE-2, AE-3	No	kWh Generated	--	--
		No	% of Electricity Use Generated	--	--
Energy Efficient Appliances	BE-4	Yes	Appliance Type, Land Use Subtype, % Improvement	Use Default Values	Defaults

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Apply Water Conservation Strategy	WUW-2	No	% Reduction Indoor	--	--
		No	% Reduction Outdoor	--	--
Use Reclaimed Water	WSW-1	No	% Indoor Water Use	30%	Water and Wastewater Feasibility Study, Section 2.4.
		No	% Outdoor Water Use	30%	Water and Wastewater Feasibility Study, Section 2.4.
Use Grey Water	WSW-2	No	% Indoor Water Use	--	--
		No	% Outdoor Water USE	--	--
Install Low-Flow Bathroom Faucet	WUW-1	Yes	% Reduction in flow	32%	Default % reduction assuming implementation of Recommended Mitigation
Install Low-flow Kitchen Faucet	WUW-1	Yes	% Reduction in flow	18%	Default % reduction assuming implementation of Recommended Mitigation.
Install Low-flow Toilet	WUW-1	Yes	% Reduction in flow	20%	Default % reduction assuming implementation of Recommended Mitigation
Install Low-flow Shower	WUW-1	Yes	% Reduction in flow	20%	Default % reduction assuming implementation of Recommended Mitigation
Turf Reduction	WUW-5	No	Turf Reduction Area (sqft)	--	--
		No	% Reduction turf	--	--
Use Water-Efficient Irrigation Systems	WUW-4	No	% Reduction	--	--
Water Efficient Landscape	WUW-3	No	Maximum Applied Water Allowance (MAWA) (gal/yr)	--	--
		No	Estimated Total Water Use (ETWU) (gal/yr)	--	--
Institute Recycling and Composting Service	SW-1	No	% Reduction in Waste Disposal over State requirements	--	--

Source: AES, 2016; CalEEMod, 2016

Table 1 – Land Use Inputs Alternative A

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet	Population
Recreation (Casino)	User Defined	150.326	1,000 sq. ft.	4.25	150,326	0
Recreation	Movie Theater (Event Center and outdoor amphitheater)	3,300	seats	2.04	72,000	0
Recreation	Arena (Conference Center)	10.08	1,000 sq. ft.	0.29	10,080	0
Retail	Regional Shopping Center	130	1,000 sq. ft.	3.68	130,000	0
Recreational	Hotel	250	rooms	5.02	177,367	0
Parking	Enclosed Parking Structure	1,650	spaces	16.51	583,500	0
Parking/Water/Wastewater	Parking Lot	600	spaces	60.98	--	0
Total				92.76	1,123,273	

Notes: Population based on daily trips provided by Kimley-Horn. Event center includes 1,800 seats from the Event Cent and 1,500 seats from the outdoor Amphitheatre.

Source: Table 2-1, Section 2 of the EIS.

Table 2 – Construction Equipment Usage

Equipment	Total No.	Construction Phase Activities				
		Site Preparation	Grading	Construction	Paving	Architectural Coating
	Construction Phasing	7/1/2019 - 8/31/2019	9/1/2019 - 11/30/2019	12/1/2019 - 12/15/2020	5/1/2020 - 8/15/2020	3/15/2020 - 12/31/2020
All Construction Equipment	Default	Default	Default	Default	Default	Default
Worker Trips (one-way trips)	--	Default	Default	Default	Default	Default

Notes: Construction phase timing based on similar projects. Total time of construction from Project Description.

Table 3 - Trip Generation Rates

Land Use	Daily Trip Generation Rate		Trip Length (Miles)			Trip Percent			Primary Trip	Diverted
	Weekday (size/day)	Saturday (size/day)	Work Trips (C-W)	Work to Project Trips (C-C)	Home to Project Trips (C-NW)	Work Trips (C-W)	Work to Project Trips (C-C)	Home to Project Trips (C-NW)		
Casino	33.67	33.67	9.50	9.50	25.00	19.0	19.40	61.60	90	10
Events Center	0.23	0.23	9.50	9.50	25.00	1.80	79.20	19.00	100	0
Convention Center	67.01	67.01	9.50	9.50	25.00	0.00	81.00	19.00	100	0
Hotel	2.04	2.04	9.50	9.50	25.00	19.40	61.60	19.00	100	0
Retail	22.52	22.52	9.50	9.50	25.00	16.30	64.70	19.00	90	10

Notes: Kimley-Horn TIS, 2018.

Event and convention center 30 percent trip generation reduction implemented because facilities are anticipated to operate less than 256 days per year.

Table 4 - Energy Use

Land Use Subtype	Title-24 Electricity Energy Intensity (KWhr/size/yr)	Nontitle-24 Electricity Energy Intensity (KWhr/size/yr)	Lighting Energy Intensity (KWhr/size/yr)	Title-24 Natural Gas Intensity (KBtu/size/yr)	Non-title-24 Natural Gas Intensity (KBtu/size/yr)
All Land Uses	--	13.768	--	--	0.131

Notes: All other land uses energy is input under Casino the land use.

Electricity energy use is determined by the following equation: $15,465,000 \text{ kwh/yr} / 1,123,273 \text{ sqft} = 14.601 \text{ kwh/size/yr}$. Kwh/yr was provided in an email from HBG Design on July 10, 2017 and the sqft is provide in the DEIS, Section 2, Table 2-1.

Natural gas use is determined by the following equation: $(16,800 \text{ cf per hour} * 8,760 \text{ hours/yr} / 1,000) = 147,168 \text{ kcf/yr} / 1,123,273 \text{ sqft} = 0.139 \text{ kcf/size/yr}$, cf was provided in an email from HBG Design on July 11, 2017 and the sqft is provided in the DEIS, Section 2, Table 2-1.

Table 5 – Off-Road Equipment Mitigation Inputs

Equipment Type	Engine Tier	Number of Equipment Mitigated	Diesel Particulate Filter (DPF) Level 2014
All Equipment	Tier 3	Default	Level 3
Scrapers	No Change	Default	No Change

Table 6 – Water Use

Land Use Type	Indoor Water Demand (gallons per year)	Outdoor Water Demand (gallons per year)
Hotel	17,178,053	891,479
Casino	33,042,489	1,714,786
Events Center	11,317,305	587,327
Conference Center	4,698,703	243,846
Outdoor Sports Retail	10,559,450	547,997
Total	76,796,000	3,985,435

Notes: Based on Redding Rancheria Wastewater Management and Drinking Water Feasibility Study. Outdoor water demand based on Table 4 (landscape irrigation) and distributed to land uses based on indoor water demand percentages of the total indoor water demand.

CalEEMod Mitigation Measures

- The Tribe shall use Tier 3 construction equipment, using a minimum of 90 percent of the equipment’s total horsepower.
- The Tribe shall apply soil stabilizer on unpaved roads
- The Tribe shall apply water to exposed construction areas twice a day.
- The Tribe shall restrict vehicle speeds on the construction site to 15 miles per hour.
- The Tribe shall use at minimum 30 percent recycled water.

CalEEMod Inputs

Redding Rancheria Fee-to-Trust and Casino Project
Alternative B

Project-Specific Inputs for the Redding Rancheria Fee-to-Trust and Casino Project

Input	Type of Input	Project Specific Inputs	
		Inputs	Source/Notes
Project Name	Project Name	Redding Rancheria FTT and Casino Project – Alternative B	Project Description
Project Location	Air Quality District/ Air Basin	Shasta County	Modeler, based on location
Climate zone	Climate Zone Number	3	Appendix F Climate Zones Lookup
Land Use Setting	Urban or Rural	Urban	Modeler, based on location
Start of Construction	Date	July 1, 2019	Project Description
Operational Year	1st year of operation after full buildout.	2025	Project Description
Utility Company	Utility Company Name	PG&E	Project is served by Redding Electrical Utility (REU) which is not included as a power provider in CalEEMod. PG&E is used in place because REU sells power into the PG&E grid and vice versa.
Land Use Type and Subtype	Residential, Commercial, Recreation, etc.	See Table 1.	See Table 1.
Unit Amount	Size of Buildings or Number of units for each Land Use Type.	See Table 1.	See Table 1.
Lot Acreage	Acreage of each Land Use Type	See Table 1.	See Table 1.
Population	Population based on persons/household	0	No residential units are proposed therefore not population is associated with Alternative B.
Construction Phases	Type of construction phase (Demo, Site Prep, etc.) and beginning and ending dates	Alt B- 18 Months starting 6/1/2019	Project Description
Off-Road Equipment	Type of equipment (Excavator, Dozer, etc.) and number of units per construction phase	See Table 2.	See Table 2.
Dust From Material Movement	Export/Import of Material (Tons or Cubic Yards)	0	Section 2 of the EIS
Demolition	Sq ft or tons of Demo	N/A	--
Construction Trip Gen Rate	Average number of one-way trips per day	--	--
Operational Trip Reductions	% reduction in trips.	See Table 3.	2018 KH Traffic Impact Analysis.

Input	Type of Input	Project Specific Inputs	
		Inputs	Source/Notes
Operational Trip Gen Rate and trip length	Trips and trip lengths	See Tables 3.	See Tables 3.
Area Sources	Hearths – # of wood-burning fireplaces, #of gas fireplaces, and # of units with no fireplace.	Not Applicable	No hearths are included in the project design.
	Landscape Equipment - % of equipment that is electric.	--	--
Energy Use	Project Specific Emission Factors.	See Table 4.	See Table 4.
Water and Wastewater	Indoor and outdoor water use for each Land Use Subtype in gallons per year.	See Table 6.	Water and Wastewater Feasibility Study Table 4
Solid waste	Tons of solid waste generated per year	1,234	CalRecycle, 2017
	Land Fill Gas Capture Rate	94%	CARB Mandatory Reporting Regulation Guidance
Operational off-road equipment	Excavator, Dozer, etc.	--	--
Stationary Sources	Emergency Generators/Fire Pumps	3 - 2,923 Horsepower	Estimate from like projects
	Generators/Fire Pumps EF	Default	Default
	Process Boilers	3 - 0.5 MMBtu/hr	Estimate from like projects
	Boilers EF	Default	Default
	User Defined	--	--
Land Use Change	Vegetation land use type (cropland, etc.) and initial and final acreage	Grassland Initial: 232 Acres Final: 158	Project Description
Sequestration	Type and net number of new trees added	--	--

Source: CalEEMod, 2016; EPA, 2017; Water and Wastewater Feasibility Study, Table 4.

Project-Mitigation Inputs for the Redding Rancheria Fee-to-Trust and Casino Project

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Off-Road Equipment	C-1	Yes	Engine Type, DPF Level, and Oxidation Catalyst	See Table 5.	See Table 5.
Soil Stabilizer for Unpaved Roads	N/A	Yes	PM10 (% Reduction)	10%	Default % Reduction.
	N/A		PM2.5 (% Reduction)	10%	Default % Reduction.
Water Exposed Area	N/A	Yes	Frequency (per day)	2 times per day	Default % Reduction
	N/A		PM10 (% Reduction)	55%	Default % Reduction.
	N/A		PM2.5 (% Reduction)	55%	Default % Reduction.
Replace Ground Cover of Area Disturbed	N/A	No	PM10 (% Reduction)	--	--
	N/A		PM2.5 (% Reduction)	--	--
Unpaved Road Mitigation	N/A	No	Moisture Content (%)	--	--
	N/A	Yes	Vehicle Speed (mph)	15 mph	Default Reduction
Type of Residential	N/A	No	Type of Residential	--	--
Increased Density	LUT-1	No	Dwelling Units/Acre	--	--
			Job/Job Acre	--	--
Increased Diversity	LUT-3	No	Yes or No	--	--
Improved Walkability Design	LUT-9	No	Intersections/Square Miles	--	--
Improve Destination Accessibility	LUT-4	No	Distance to Downtown/Job Ctr	--	--
Increased Transit Accessibility	LUT-5	No	Average Distance to Transit Station (miles)	--	--
Integrated Below Market Rate Housing	LUT-6	No	# Dwelling Units Below Market Rate	--	--
Improve Pedestrian Network	SDT-1	No	Yes or No; Project Site, Project Site and Connecting off-site, and Rural	--	--
Provide Traffic Calming Measures	SDT-2	No	% Streets with Improvement	--	--
		No	% Intersections with Improvement	--	--

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Implement Neighborhood Electric Vehicle (NEV) Network	SDT-3	No	% of streets equipped with NEV network.	--	--
Limit Parking Supply	PDT-1	No	% Reduction in Spaces	--	--
Unbundled Parking Costs	PDT-2	No	Monthly Parking Costs (\$)	--	--
On-Street Market Pricing	PDT-3	No	% Increase in Price	--	--
Provide a Bus Rapid Transit System	TST-1	No	% Lines BRT	--	--
Expand Transit Network	TST-3	Yes	% Increase Transit Coverage	--	--
Increase Transit Frequency	TST-4	No	Level of Implementation	--	--
		No	% Reduction in Headways	--	--
Implement Trip Reduction Program	TRT-1, TRT-2	No	% employee eligible	--	--
		No	Program Type	--	--
Transit Subsidy	TRT-4	No	% employee eligible	--	--
		No	Daily Transit Subsidy Amount (\$)	--	--
Implement Employee Parking "Cash-Out"	TRT-15	No	% employee eligible	--	--
Workplace Parking Charge	TRT-14	No	% employee eligible	--	--
		No	Daily Parking Charge (\$)	--	--
Encourage Telecommuting and Alternative Work Schedules	TRT-6	No	% employee work 9/80	--	--
		No	% employee work 4/40	--	--
		No	% employee telecommute 1.5 days	--	--
Market Commute Trip Reduction Option	TRT-7	No	% employee eligible	--	--

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Employee Vanpool/Shuttle	TRT-11	Yes	% employee eligible	--	--
		Yes	% vanpool mode share	--	--
Provide Ride Sharing Program	TRT-3	No	% employee eligible	--	--
Implement School Bus Program	TRT-13	No	% family using	--	--
Only Natural Gas Hearth	N/A	No	Yes or No	--	--
No hearth	N/A	No	Yes or No	--	--
Use of Low VOC Cleaning Supplies	N/A	No	Yes or No	--	--
Use low VOC Paint (Residential Interior)	N/A	Yes	Emission Factor (EF) (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Residential Exterior)	N/A	Yes	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Non-residential Interior)	N/A	Yes	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Non-residential Exterior)	N/A	Yes	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Electric Lawnmower	A-1	Yes	Percent of equipment type that will be electric.	--	--
Electric Leafblower	A-1	Yes	Percent of equipment type that will be electric.	--	--
Electric Chainsaw	A-1	No	Percent of equipment type that will be electric.	--	--
Exceed Title 24	BE-1	Yes	Percentage improvement selected for the Project.	--	--
Install High Efficiently Lighting	LE-1	No	% Lighting Energy Reduction	--	--
On-site Renewable Energy	AE-1, AE-2, AE-3	No	kWh Generated	--	--
		No	% of Electricity Use Generated	--	--
Energy Efficient Appliances	BE-4	Yes	Appliance Type, Land Use Subtype, % Improvement	Use Default Values	Defaults

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Apply Water Conservation Strategy	WUW-2	No	% Reduction Indoor	--	--
		No	% Reduction Outdoor	--	--
Use Reclaimed Water	WSW-1	No	% Indoor Water Use	30%	Water and Wastewater Feasibility Study, Section 2.4.
		No	% Outdoor Water Use	30%	Water and Wastewater Feasibility Study, Section 2.4.
Use Grey Water	WSW-2	No	% Indoor Water Use	--	--
		No	% Outdoor Water Use	--	--
Install Low-Flow Bathroom Faucet	WUW-1	Yes	% Reduction in flow	32%	Default % reduction assuming implementation of Recommended Mitigation
Install Low-flow Kitchen Faucet	WUW-1	Yes	% Reduction in flow	18%	Default % reduction assuming implementation of Recommended Mitigation.
Install Low-flow Toilet	WUW-1	Yes	% Reduction in flow	20%	Default % reduction assuming implementation of Recommended Mitigation
Install Low-flow Shower	WUW-1	Yes	% Reduction in flow	20%	Default % reduction assuming implementation of Recommended Mitigation
Turf Reduction	WUW-5	No	Turf Reduction Area (sqft)	--	--
		No	% Reduction turf	--	--
Use Water-Efficient Irrigation Systems	WUW-4	No	% Reduction	--	--
Water Efficient Landscape	WUW-3	No	Maximum Applied Water Allowance (MAWA) (gal/yr)	--	--
		No	Estimated Total Water Use (ETWU) (gal/yr)	--	--
Institute Recycling and Composting Service	SW-1	Yes	% Reduction in Waste Disposal over State requirements	25	--

Source: AES, 2016; CalEEMod, 2016.

Table 1 – Land Use Inputs Alternative B

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet	Population
User Defined	Casino	150.326	1,000 sq. ft.	3.39	150,326	0
Recreation	Movie Theater (Event Center and outdoor amphitheater)	3,300	seats	1.62	72,000	0
Recreation	Arena (Conference Center)	10.08	1,000 sq. ft.	0.23	10,080	0
Recreational	Hotel	250	rooms	3.99	177,367	0
Parking	Enclosed Parking Structure	1,650	spaces	13.14	583,500	0
Parking/Water/Wastewater	Parking Lot	600	spaces	51.82	--	0
Total				74.196	993,273	0

Notes: Population based on daily trips provided by Kimley-Horn. Event center includes 1,800 seats from the Event Center and 1,500 seats from the Outdoor Amphitheatre.

Source: Table 2-1, Section 2 of the EIS.

Table 2 – Construction Equipment Usage

Equipment	Total No.	Construction Phase Activities				
		Site Preparation	Grading	Construction	Paving	Architectural Coating
	Construction Phasing	7/1/2019 - 8/31/2019	9/1/2019 - 11/30/2019	12/1/2019 - 12/15/2020	5/1/2020 - 8/15/2020	3/15/2020 - 12/31/2020
All Equipment	Default	Default	Default	Default	Default	Default
Worker Trips (one-way trips)	--	Default	Default	Default	Default	Default

Source: CalEEMod defaults used for equipment and phase time proportion. Total time from Project Description.

Table 3 – Trip Generation Rates

Land Use	Daily Trip Generation Rate		Trip Length (Miles)			Trip Percent			Primary Trip	Diverted
	Weekday (/size/day)	Saturday (size/day)	Work Trips (C-W)	Work to Project Trips (C-C)	Home to Project Trips (C-NW)	Work Trips (C-W)	Work to Project Trips (C-C)	Home to Project Trips (C-NW)		
Casino	33.67	33.67	9.50	9.50	25.00	19.0	19.4	61.6	90	10
Events Center	0.23	0.23	9.50	9.50	25.00	1.80	79.20	19.00	100	0
Convention Center	67.01	67.01	9.50	9.50	25.00	0.00	81.00	19.00	100	0
Hotel	2.04	2.04	9.50	9.50	25.00	19.40	61.60	19.00	100	0

Notes: Event and convention center 30 percent trip generation reduction implemented because facilities are anticipated to operate less than 256 days per year.
 Source: Kimley-Horn TIS, 2018.

Table 4 – Energy Use

Land Use Subtype	Title-24 Electricity Energy Intensity (KWhr/size/yr)	Nontitle-24 Electricity Energy Intensity (KWhr/size/yr)	Lighting Energy Intensity (KWhr/size/yr)	Title-24 Natural Gas Intensity (KBtu/size/yr)	Non-title-24 Natural Gas Intensity (KBtu/size/yr)
All Land Uses	--	12.174	--	--	0.116

Notes: All other land uses utilize default energy.
 Electricity energy use is determined by the following equation: $15,465,000 \text{ kwh/yr} / 993,273 \text{ sqft} = 14.601 \text{ kwh/size/yr}$. Kwh/yr was provided in an email from HBG Design on July 10, 2017 and the sqft is provide in the DEIS, Section 2, Table 2-1.
 Natural gas use is determined by the following equation: $(16,800 \text{ cf per hour} * 8,760 \text{ hours/yr} / 1,000) = 147,168 \text{ kcf/yr} / 993,273 \text{ sqft} = 0.139 \text{ kcf/size/yr}$, cf was provided in an email from HBG Design on July 11, 2017 and the sqft is provide in the DEIS, Section 2, Table 2-1.

Table 5 – Off-Road Equipment Mitigation Inputs

Equipment Type	Engine Tier	Number of Equipment Mitigated	Diesel Particulate Filter (DPF) Level 2014
All Equipment	Tier 3	Default	Level 3
Scrapers	No Change	Default	No Change

Table 6 – Water Use

Land Use Type	Indoor Water Demand (gallons per day)	Outdoor Water Demand (gallons per day)
Hotel	16,527,735	751,132
Casino	31,791,583	1,444,824
Events Center	10,888,860	494,863
Conference Center	4,520,822	205,457
Total	63,729,000	2,896,275

Notes: Based on Redding Rancheria Wastewater Management and Drinking Water Feasibility Study.
 Outdoor water demand based on Table 4 (landscape irrigation) and distributed to land uses based on indoor water demand percentages of the total indoor water demand.

CalEEMod Mitigation Measures

- The Tribe shall use Tier 3 construction equipment, using a minimum of 90 percent of the equipment’s total horsepower.
- The Tribe shall apply soil stabilizer on unpaved roads
- The Tribe shall apply water to exposed construction areas twice a day.
- The Tribe shall restrict vehicle speeds on the construction site to 15 miles per hour.
- The Tribe shall use at minimum 30 percent recycled water.

CalEEMod Inputs

Redding Rancheria Fee-to-Trust and Casino Project
Alternative C

Project-Specific Inputs for the Redding Rancheria Fee-to-Trust and Casino Project

Input	Type of Input	Project Specific Inputs	
		Inputs	Source/Notes
Project Name	Project Name	Redding Rancheria FTT and Casino Project - Alternative C	Project Description
Project Location	Air Quality District/ Air Basin	Shasta County	Modeler, based on location
Climate zone	Climate Zone Number	3	Appendix F Climate Zones Lookup
Land Use Setting	Urban or Rural	Urban	Modeler, based on location
Start of Construction	Date	July 1, 2019	Project Description
Operational Year	1st year of operation after full buildout.	2025	Project Description
Utility Company	Utility Company Name	PG&E	Project is served by Redding Electrical Utility (REU) which is not included as a power provider in CalEEMod. PG&E is used in place because REU sells power into the PG&E grid and vice versa.
Land Use Type and Subtype	Residential, Commercial, Recreation, etc.	See Table 1.	See Table 1.
Unit Amount	Size of Buildings or Number of units for each Land Use Type.	See Table 1.	See Table 1.
Lot Acreage	Acreage of each Land Use Type	See Table 1.	See Table 1.
Population	Population based on persons/household	0	No residential units are proposed therefore not population is associated with Alternative C.
Construction Phases	Type of construction phase (Demo, Site Prep, etc.) and beginning and ending dates	Alt C- 18 Months starting 6/1/2019	18 months of construction from project description
Off-Road Equipment	Type of equipment (Excavator, Dozer, etc.) and number of units per construction phase	See Table 2.	See Table 2.
Dust From Material Movement	Export/Import of Material (Tons or Cubic Yards)	0	Section 2 of the EIS
Demolition	Sq ft or tons of Demo	N/A	--
Construction Trip Gen Rate	Average number of one-way trips per day	--	--
Operational Trip Reductions	% reduction in trips.	See Table 3.	2017 KH Traffic Impact Analysis.

Input	Type of Input	Project Specific Inputs	
		Inputs	Source/Notes
Operational Trip Gen Rate and trip length	Trips and trip lengths	See Table 3.	See Table 3.
Area Sources	Hearths – # of wood-burning fireplaces, #of gas fireplaces, and # of units with no fireplace.	Not Applicable	No hearths are included in the project design.
	Landscape Equipment - % of equipment that is electric.	--	--
Energy Use	Project Specific Emission Factors.	--	--
Water and Wastewater	Indoor and outdoor water use for each Land Use Subtype in gallons per year.	See Table 6.	Water and Wastewater Feasibility Study Table 4
Solid waste	Tons of solid waste generated per year	1,176	CalRecycle, 2017
	Land Fill Gas Capture Rate	94%	CARB Mandatory Reporting Regulation Guidance
Operational off-road equipment	Excavator, Dozer, etc.	--	--
Stationary Sources	Emergency Generators/Fire Pumps	3 - 2,923 Horsepower	Based on like project emergency gen/set size and use.
	Generators/Fire Pumps EF	Default	Default
	Process Boilers	3 - 0.5 MMBtu/hr	Estimate from like projects
	Boilers EF	Default	Default
	User Defined	Default	Default
Land Use Change	Vegetation land use type (cropland, etc.) and initial and final acreage	Grassland Initial: 232 Acres Final: 142	--
Sequestration	Type and net number of new trees added	--	--

Source: AES, 2016; EPA 2017; CalEEMod, 2016.

Project-Mitigation Inputs for the Redding Rancheria Fee-to-Trust and Casino Project

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Off-Road Equipment	C-1	Yes	Engine Type, DPF Level, and Oxidation Catalyst	See Table 4.	See Table 4.
Soil Stabilizer for Unpaved Roads	N/A	Yes	PM10 (% Reduction)	10%	Default % Reduction.
	N/A		PM2.5 (% Reduction)	10%	Default % Reduction.
Water Exposed Area	N/A	Yes	Frequency (per day)	2 times per day	Default % Reduction
	N/A		PM10 (% Reduction)	55%	Default % Reduction.
	N/A		PM2.5 (% Reduction)	55%	Default % Reduction.
Replace Ground Cover of Area Disturbed	N/A	No	PM10 (% Reduction)	--	--
	N/A		PM2.5 (% Reduction)	--	--
Unpaved Road Mitigation	N/A	No	Moisture Content (%)	--	--
	N/A	Yes	Vehicle Speed (mph)	15 mph	Default Reduction
Type of Residential	N/A	No	Type of Residential	--	--
Increased Density	LUT-1	No	Dwelling Units/Acre	--	--
			Job/Job Acre	--	--
Increased Diversity	LUT-3	No	Yes or No	--	--
Improved Walkability Design	LUT-9	No	Intersections/Square Miles	--	--
Improve Destination Accessibility	LUT-4	No	Distance to Downtown/Job Ctr	--	--
Increased Transit Accessibility	LUT-5	No	Average Distance to Transit Station (miles)	--	--
Integrated Below Market Rate Housing	LUT-6	No	# Dwelling Units Below Market Rate	--	--
Improve Pedestrian Network	SDT-1	No	Yes or No; Project Site, Project Site and Connecting off-site, and Rural	--	--
Provide Traffic Calming Measures	SDT-2	No	% Streets with Improvement	--	--
		No	% Intersections with Improvement	--	--

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Implement Neighborhood Electric Vehicle (NEV) Network	SDT-3	No	% of streets equipped with NEV network.	--	--
Limit Parking Supply	PDT-1	No	% Reduction in Spaces	--	--
Unbundled Parking Costs	PDT-2	No	Monthly Parking Costs (\$)	--	--
On-Street Market Pricing	PDT-3	No	% Increase in Price	--	--
Provide a Bus Rapid Transit System	TST-1	No	% Lines BRT	--	Assuming no increase over existing shuttle services
Expand Transit Network	TST-3	Yes	% Increase Transit Coverage	--	--
Increase Transit Frequency	TST-4	No	Level of Implementation	--	--
		No	% Reduction in Headways	--	--
Implement Trip Reduction Program	TRT-1, TRT-2	No	% employee eligible	--	--
		No	Program Type	--	--
Transit Subsidy	TRT-4	No	% employee eligible	--	--
		No	Daily Transit Subsidy Amount (\$)	--	--
Implement Employee Parking "Cash-Out"	TRT-15	No	% employee eligible	--	--
Workplace Parking Charge	TRT-14	No	% employee eligible	--	--
		No	Daily Parking Charge (\$)	--	--
Encourage Telecommuting and Alternative Work Schedules	TRT-6	No	% employee work 9/80	--	--
		No	% employee work 4/40	--	--
		No	% employee telecommute 1.5 days	--	--
Market Commute Trip Reduction Option	TRT-7	No	% employee eligible	--	--

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Employee Vanpool/Shuttle	TRT-11	Yes	% employee eligible	--	--
		Yes	% vanpool mode share	--	--
Provide Ride Sharing Program	TRT-3	No	% employee eligible	--	--
Implement School Bus Program	TRT-13	No	% family using	--	--
Only Natural Gas Hearth	N/A	No	Yes or No	--	--
No hearth	N/A	No	Yes or No	--	--
Use of Low VOC Cleaning Supplies	N/A	No	Yes or No	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Residential Interior)	N/A	Yes	Emission Factor (EF) (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Residential Exterior)	N/A	Yes	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Non-residential Interior)	N/A	Yes	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Non-residential Exterior)	N/A	Yes	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Electric Lawnmower	A-1	Yes	Percent of equipment type that will be electric.	--	--
Electric Leafblower	A-1	Yes	Percent of equipment type that will be electric.	--	--
Electric Chainsaw	A-1	Yes	Percent of equipment type that will be electric.	--	--
Exceed Title 24	BE-1	No	Percentage improvement selected for the Project.	--	--
Install High Efficiently Lighting	LE-1	Yes	% Lighting Energy Reduction	--	--
On-site Renewable Energy	AE-1, AE-2, AE-3	No	kWh Generated	--	--
		No	% of Electricity Use Generated	--	--
Energy Efficient Appliances	BE-4	Yes	Appliance Type, Land Use Subtype, % Improvement	Use Default Values	Defaults

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Apply Water Conservation Strategy	WUW-2	No	% Reduction Indoor	--	--
		No	% Reduction Outdoor	--	--
Use Reclaimed Water	WSW-1	No	% Indoor Water Use	30%	Water and Wastewater Feasibility Study, Section 2.4.
		No	% Outdoor Water Use	30%	Water and Wastewater Feasibility Study, Section 2.4.
Use Grey Water	WSW-2	No	% Indoor Water Use	--	--
		No	% Outdoor Water Use	--	--
Install Low-Flow Bathroom Faucet	WUW-1	Yes	% Reduction in flow	32%	Default % reduction assuming implementation of Recommended Mitigation
Install Low-flow Kitchen Faucet	WUW-1	Yes	% Reduction in flow	18%	Default % reduction assuming implementation of Recommended Mitigation.
Install Low-flow Toilet	WUW-1	Yes	% Reduction in flow	20%	Default % reduction assuming implementation of Recommended Mitigation
Install Low-flow Shower	WUW-1	Yes	% Reduction in flow	20%	Default % reduction assuming implementation of Recommended Mitigation
Turf Reduction	WUW-5	No	Turf Reduction Area (sqft)	--	--
		No	% Reduction turf	--	--
Use Water-Efficient Irrigation Systems	WUW-4	No	% Reduction	--	--
Water Efficient Landscape	WUW-3	No	Maximum Applied Water Allowance (MAWA) (gal/yr)	--	--
		No	Estimated Total Water Use (ETWU) (gal/yr)	--	--
Institute Recycling and Composting Service	SW-1	Yes	% Reduction in Waste Disposal over State requirements	--	--

Source: AES, 2016; CalEEMod, 2016

Table 1 – Land Use Inputs Alternative C

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet	Population
User Defined	Casino	129.095	1,000 sq. ft.	3.62	129,095	0
Recreation	Arena (Event Center and outdoor amphitheater)	3,300	seats	2.02	72,000	0
Recreation	Arena (Convention Center)	10.08	1,000 sq. ft.	0.28	10,080	0
Recreational	Hotel	250	rooms	5.28	188,368	0
Retail	Regional Shopping Center	130	1,000 sq. ft.	3.64	130,000	
Parking	Enclosed Parking Structure	1,650	spaces	16.36	583,500	0
Parking	Parking Lot	600	spaces	58.93	--	0
Total				90.132	1,113,043	0

Notes: Population based on daily trips and 1.7 person per trips.

Source: Table 2-1, Section 2 of the EIS; Kimbley Horn daily trip generation rates.

Table 2 – Construction Equipment Usage

Equipment	Total No.	Construction Phase Activities				
		Site Preparation	Grading	Construction	Paving	Architectural Coating
	Construction Phasing	7/1/2019 - 8/31/2019	9/1/2019 - 11/30/2019	12/1/2019 -1311 12/15/2020	5/1/2020 - 8/15/2020	3/15/2020 - 12/31/2020
All Equipment	Default	Default	Default	Default	Default	Default
Worker Trips (one-way trips)	--	Default	Default	Default	Default	Default

Source: CalEEMod defaults used for equipment and phase time proportion. Total time from Project Description.

Table 3 - Trip Generation Rates

Land Use	Daily Trip Generation Rate		Trip Length (Miles)			Trip Percent			Primary Trip	Diverted
	Weekday (/size/day)	Saturday (size/day)	Work Trips (C-W)	Work to Project Trips (C-C)	Home to Project Trips (C-NW)	Work Trips (C-W)	Work to Project Trips (C-C)	Home to Project Trips (C-NW)		
Casino	21.26	21.26	9.50	9.50	25.00	19.00	19.40	61.60	90	10
Events Center	0.23	0.23	9.50	9.50	25.00	1.80	79.20	19.00	100	0
Convention Center	67.01	67.01	9.50	9.50	25.00	0.00	81.00	19.00	100	0
Hotel	2.04	2.04	9.50	9.50	25.00	19.40	61.60	19.00	100	0
Retail	22.52	22.52	9.50	9.50	25.00	16.30	64.70	19.00	90	10

Notes: Event and convention center 30 percent trip generation reduction implemented because facilities are anticipated to operate less than 256 days per year.

Source: Kimley-Horn TIS, 2018.

Table 4 – Energy Use

Land Use Subtype	Title-24 Electricity Energy Intensity (KWhr/size/yr)	Nontitle-24 Electricity Energy Intensity (KWhr/size/yr)	Lighting Energy Intensity (KWhr/size/yr)	Title-24 Natural Gas Intensity (KBtu/size/yr)	Non-title-24 Natural Gas Intensity (KBtu/size/yr)
All Land Uses	--	13.64	--	--	0.130

Notes: All other land uses energy is input under Casino the land use.

Electricity energy use is determined by the following equation: $15,465,000 \text{ kwh/yr} / 1,113,043 \text{ sqft} = 14.601 \text{ kwh/size/yr}$. Kwh/yr was provided in an email from HBG Design on July 10, 2017 and the sqft is provide in the DEIS, Section 2, Table 2-1.

Natural gas use is determined by the following equation: $(16,800 \text{ cf per hour} * 8,760 \text{ hours/yr} / 1,000) = 147,168 \text{ kcf/yr} / 1,113,043 \text{ sqft} = 0.139 \text{ kcf/size/yr}$, cf was provided in an email from HBG Design on July 11, 2017 and the sqft is provide in the DEIS, Section 2, Table 2-1.

Table 5 – Off-Road Equipment Mitigation Inputs

Equipment Type	Engine Tier	Number of Equipment Mitigated	Diesel Particulate Filter (DPF) Level 2014
All Equipment	Tier 3	Default	Level 3
Scrapers	No Change	Default	No Change

Table 6 – Water Use

Land Use Type	Indoor Water Demand (gallons per day)	Outdoor Water Demand (gallons per day)
Casino	17,823,049	938,402
Conference Center	1,391,660	73,272
Events Center	9,940,428	523,374
Hotel	26,006,368	1,369,262
Retail	17,947,995	944,980
Total	73,109,500	3,849,290

Notes: Based on Redding Rancheria Wastewater Management and Drinking Water Feasibility Study.
Outdoor water demand based on Table 4 (landscape irrigation) and distributed to land uses based on indoor water demand percentages of the total indoor water demand.

CalEEMod Mitigation Measures

- The Tribe shall use Tier 3 construction equipment, using a minimum of 90 percent of the equipment's total horsepower.
- The Tribe shall apply soil stabilizer on unpaved roads
- The Tribe shall apply water to exposed construction areas twice a day. 11
- The Tribe shall restrict vehicle speeds on the construction site to 15 miles per hour.
- The Tribe shall use at minimum 30 percent recycled water.

CalEEMod Inputs

Redding Rancheria Fee-to-Trust and Casino Project
Alternative D

Project-Specific Inputs for the Redding Rancheria Fee-to-Trust and Casino Project

Input	Type of Input	Project Specific Inputs	
		Inputs	Source/Notes
Project Name	Project Name	Redding Rancheria Fee-to-Trust and Casino Project - Alternative D	Project Description
Project Location	Air Quality District/ Air Basin	Shasta County	Modeler, based on location
Climate zone	Climate Zone Number	3	Appendix F Climate Zones Lookup
Land Use Setting	Urban or Rural	Urban	Modeler, based on location
Operational Year	1st year of operation after full buildout.	2025	Project Description
Utility Company	Utility Company Name	PG&E	Project is served by Redding Electrical Utility (REU) which is not included as a power provider in CalEEMod. PG&E is used in place because REU sells power into the PG&E grid and vice versa.
Land Use Type and Subtype	Residential, Commercial, Recreation, etc.	See Table 1.	See Table 1.
Unit Amount	Size of Buildings or Number of units for each Land Use Type.	See Table 1.	See Table 1.
Lot Acreage	Acreage of each Land Use Type	See Table 1.	See Table 1.
Population	Population based on persons/household	0	No residential units are proposed therefore not population is associated with Alternative D.
Construction Phases	Type of construction phase (Demo, Site Prep, etc.) and beginning and ending dates	Alt D- 14 Months starting 6/1/2019	14 months of construction from project description
Off-Road Equipment	Type of equipment (Excavator, Dozer, etc.) and number of units per construction phase	See Table 2.	See Table 2.
Dust From Material Movement	Export/Import of Material (Tons or Cubic Yards)	0	Section 2 of the EIS
Dust From Material Movement	Export/Import of Material (Tons or Cubic Yards)	0	Section 2 of the EIS

Input	Type of Input	Project Specific Inputs	
		Inputs	Source/Notes
Demolition	Sq ft or tons of Demo	N/A	--
Construction Trip Gen Rate	Average number of one-way trips per day	--	--
Operational Trip Reductions	% reduction in trips.	See Table 3.	2017 KH Traffic Impact Analysis.
Operational Trip Gen Rate and trip length	Trips and trip lengths	See Table 3.	See Table 3.
Area Sources	Hearths – # of wood-burning fireplaces, #of gas fireplaces, and # of units with no fireplace.	Not Applicable	No hearths are included in the project design.
	Landscape Equipment - % of equipment that is electric.	--	--
Energy Use	Project Specific Emission Factors.	--	--
Water and Wastewater	Indoor and outdoor water use for each Land Use Subtype in gallons per year.	See Table 6.	Water and Wastewater Feasibility Study Table 4
Solid waste	Tons of solid waste generated per year	112	CalRecycle, 2017
	Land Fill Gas Capture Rate	94%	CARB Mandatory Reporting Regulation Guidance
Operational off-road equipment	Excavator, Dozer, etc.	--	--
Stationary Sources	Emergency Generators/Fire Pumps	1 - 2,923 Horsepower	Based on like project emergency gen/set size and use.
	Generators/Fire Pumps EF	Default	Default
	Process Boilers	1- 0.5 MMBtu/hr	Estimate from like projects
	Boilers EF	Default	Default
	User Defined	Default	Default
Land Use Change	Vegetation land use type (cropland, etc.) and initial and final acreage	Grassland Initial: 232 Acres Final: 191	--

Input	Type of Input	Project Specific Inputs	
		Inputs	Source/Notes
Sequestration	Type and net number of new trees added	--	--

Source: AES, 2016; EPA 2017; CalEEMod, 2016.

Project-Mitigation Inputs for the Redding Rancheria Fee-to-Trust and Casino Project

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Off-Road Equipment	C-1	Yes	Engine Type, DPF Level, and Oxidation Catalyst	See Table 4.	See Table 4.
Soil Stabilizer for Unpaved Roads	N/A	Yes	PM10 (% Reduction)	10%	Default % Reduction.
	N/A		PM2.5 (% Reduction)	10%	Default % Reduction.
Water Exposed Area	N/A	Yes	Frequency (per day)	2 times per day	Default % Reduction
	N/A		PM10 (% Reduction)	55%	Default % Reduction.
	N/A		PM2.5 (% Reduction)	55%	Default % Reduction.
Replace Ground Cover of Area Disturbed	N/A	No	PM10 (% Reduction)	--	--
	N/A		PM2.5 (% Reduction)	--	--
Unpaved Road Mitigation	N/A	No	Moisture Content (%)	--	--
	N/A	Yes	Vehicle Speed (mph)	15 mph	Default Reduction
Type of Residential	N/A	No	Type of Residential	--	--
Increased Density	LUT-1	No	Dwelling Units/Acre	--	--
			Job/Job Acre	--	--
Increased Diversity	LUT-3	No	Yes or No	--	--
Improved Walkability Design	LUT-9	No	Intersections/Square Miles	--	--
Improve Destination Accessibility	LUT-4	No	Distance to Downtown/Job Ctr	--	--
Increased Transit Accessibility	LUT-5	No	Average Distance to Transit Station (miles)	--	--

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Integrated Below Market Rate Housing	LUT-6	No	# Dwelling Units Below Market Rate	--	--
Improve Pedestrian Network	SDT-1	No	Yes or No; Project Site, Project Site and Connecting off-site, and Rural	--	--
Provide Traffic Calming Measures	SDT-2	No	% Streets with Improvement	--	--
		No	% Intersections with Improvement	--	--
Implement Neighborhood Electric Vehicle (NEV) Network	SDT-3	No	% of streets equipped with NEV network.	--	--
Limit Parking Supply	PDT-1	No	% Reduction in Spaces	--	--
Unbundled Parking Costs	PDT-2	No	Monthly Parking Costs (\$)	--	--
On-Street Market Pricing	PDT-3	No	% Increase in Price	--	--
Provide a Bus Rapid Transit System	TST-1	No	% Lines BRT	--	Assuming no increase over existing shuttle services
Expand Transit Network	TST-3	Yes	% Increase Transit Coverage	--	--
Increase Transit Frequency	TST-4	No	Level of Implementation	--	--
		No	% Reduction in Headways	--	--
Implement Trip Reduction Program	TRT-1, TRT-2	No	% employee eligible	--	--
		No	Program Type	--	--
Transit Subsidy	TRT-4	No	% employee eligible	--	--
		No	Daily Transit Subsidy Amount (\$)	--	--
Implement Employee Parking "Cash-Out"	TRT-15	No	% employee eligible	--	--
Workplace Parking Charge	TRT-14	No	% employee eligible	--	--
		No	Daily Parking Charge (\$)	--	--

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Encourage Telecommuting and Alternative Work Schedules	TRT-6	No	% employee work 9/80	--	--
		No	% employee work 4/40	--	--
		No	% employee telecommute 1.5 days	--	--
Market Commute Trip Reduction Option	TRT-7	No	% employee eligible	--	--
Employee Vanpool/Shuttle	TRT-11	Yes	% employee eligible	--	--
		Yes	% vanpool mode share	--	--
Provide Ride Sharing Program	TRT-3	No	% employee eligible	--	--
Implement School Bus Program	TRT-13	No	% family using	--	--
Only Natural Gas Hearth	N/A	No	Yes or No	--	--
No hearth	N/A	No	Yes or No	--	--
Use of Low VOC Cleaning Supplies	N/A	No	Yes or No	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Residential Interior)	N/A	Yes	Emission Factor (EF) (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Residential Exterior)	N/A	Yes	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Non-residential Interior)	N/A	Yes	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Non-residential Exterior)	N/A	Yes	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Electric Lawnmower	A-1	Yes	Percent of equipment type that will be electric.	--	--
Electric Leafblower	A-1	Yes	Percent of equipment type that will be electric.	--	--

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Electric Chainsaw	A-1	Yes	Percent of equipment type that will be electric.	--	--
Exceed Title 24	BE-1	No	Percentage improvement selected for the Project.	--	--
Install High Efficiently Lighting	LE-1	Yes	% Lighting Energy Reduction	--	--
On-site Renewable Energy	AE-1, AE-2, AE-3	No	kWh Generated	--	--
		No	% of Electricity Use Generated	--	--
Energy Efficient Appliances	BE-4	Yes	Appliance Type, Land Use Subtype, % Improvement	Use Default Values	Defaults
Apply Water Conservation Strategy	WUW-2	No	% Reduction Indoor	--	--
		No	% Reduction Outdoor	--	--
Use Reclaimed Water	WSW-1	No	% Indoor Water Use	30%	Water and Wastewater Feasibility Study, Section 2.4.
		No	% Outdoor Water Use	30%	Water and Wastewater Feasibility Study, Section 2.4.
Use Grey Water	WSW-2	No	% Indoor Water Use	--	--
		No	% Outdoor Water Use	--	--
Install Low-Flow Bathroom Faucet	WUW-1	Yes	% Reduction in flow	32%	Default % reduction assuming implementation of Recommended Mitigation
Install Low-flow Kitchen Faucet	WUW-1	Yes	% Reduction in flow	18%	Default % reduction assuming implementation of Recommended Mitigation.
Install Low-flow Toilet	WUW-1	Yes	% Reduction in flow	20%	Default % reduction assuming implementation of Recommended Mitigation
Install Low-flow Shower	WUW-1	Yes	% Reduction in flow	20%	Default % reduction assuming implementation of Recommended Mitigation
Turf Reduction	WUW-5	No	Turf Reduction Area (sqft)	--	--
		No	% Reduction turf	--	--

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Use Water-Efficient Irrigation Systems	WUW-4	No	% Reduction	--	--
Water Efficient Landscape	WUW-3	No	Maximum Applied Water Allowance (MAWA) (gal/yr)	--	--
		No	Estimated Total Water Use (ETWU) (gal/yr)	--	--
Institute Recycling and Composting Service	SW-1	Yes	% Reduction in Waste Disposal over State requirements	--	--

Source: AES, 2016; CalEEMod, 2016

Table 1 – Land Use Inputs Alternative D

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet	Population
Retail	Regional Shopping Center	120	1,000 sq. ft.	7.69	120,000	0
Recreational	High Turnover Restaurant	99	Seats	0.31	4,867	0
Recreational	Quality Restaurant	66	Seats	0.21	3,245	0
Recreational	Hotel	128	rooms	6.83	106,544	0
Parking/Water/Wastewater	Parking Lot	200	Spaces	25.59	--	0

Notes: Population based on daily trips provided by Kimley-Horn.

Source: Table 2-1, Section 2 of the EIS.

Table 2 – Construction Equipment Usage

Equipment	Total No.	Construction Phase Activities				
		Site Preparation	Grading	Construction	Paving	Architectural Coating
	Construction Phasing	7/1/2019 - 7/31/2019	8/1/2019 - 8/31/2019	9/1/2019 - 7/15/2020	4/1/2020 - 6/15/2020	3/15/2020 - 7/31/2020
All Equipment	Default	Default	Default	Default	Default	Default
Worker Trips (one-way trips)	--	Default	Default	Default	Default	Default

Source: CalEEMod defaults used for equipment and phase time proportion. Total time from Project Description.

Table 3 – Trip Generation Rates

Land Use	Daily Trip Generation Rate		Trip Length (Miles)			Trip Percent			Primary Trip	Diverted
	Weekday (/size/day)	Saturday (size/day)	Work Trips (C-W)	Work to Project Trips (C-C)	Home to Project Trips (C-NW)	Work Trips (C-W)	Work to Project Trips (C-C)	Home to Project Trips (C-NW)		
Regional Shopping Center	22.52	22.52	9.50	9.50	25.00	16.30	64.70	19.00	85	15
High Turnover Restaurant	98.21	98.21	9.50	9.50	25.00	8.50	72.50	19.00	85	15
Quality Restaurant	58.24	58.24	9.50	9.50	25.00	12.00	69.00	19.00	85	15
Hotel	8.17	8.17	9.50	9.50	25.00	19.40	61.60	19.00	85	15

Table 4 – Energy Use

Land Use Subtype	Title-24 Electricity Energy Intensity (KWhr/size/yr)	Nontitle-24 Electricity Energy Intensity (KWhr/size/yr)	Lighting Energy Intensity (KWhr/size/yr)	Title-24 Natural Gas Intensity (KBtu/size/yr)	Non-title-24 Natural Gas Intensity (KBtu/size/yr)
All Land Uses	--	2.88	--	--	0.0274

Notes: All other land uses utilize default energy.

Electricity energy use is determined by the following equation: $15,465,000 \text{ kwh/yr} / 234,656 \text{ sqft} = 14.601 \text{ kwh/size/yr}$. Kwh/yr was provided in an email from HBG Design on July 10, 2017 and the sqft is provide in the DEIS, Section 2, Table 2-1.

Natural gas use is determined by the following equation: $(16,800 \text{ cf per hour} * 8,760 \text{ hours/yr} / 1,000) = 147,168 \text{ kcf/yr} / 234,656 \text{ sqft} = 0.139 \text{ kcf/size/yr}$, cf was provided in an email from HBG Design on July 11, 2017 and the sqft is provide in the DEIS, Section 2, Table 2-1.

Table 5 – Off-Road Equipment Mitigation Inputs

Equipment Type	Engine Tier	Number of Equipment Mitigated	Diesel Particulate Filter (DPF) Level 2014
All Equipment	Tier 3	Default	Level 3
Scrapers	No Change	Default	No Change

Table 6 – Water Use

Land Use Type	Indoor Water Demand (gallons per day)	Outdoor Water Demand (gallons per day)
Hotel	10,038,311	702,406
Quality Restaurant	3,454,360	241,710
High Turnover Restaurant	6,908,720	483,421
Outdoor Sports Retail	6,170,609	431,773
Total	26,572,000	1,859,310

CalEEMod Mitigation Measures

- The Tribe shall use Tier 3 construction equipment, using a minimum of 90 percent of the equipment's total horsepower.
- The Tribe shall apply soil stabilizer on unpaved roads
- The Tribe shall apply water to exposed construction areas twice a day.
- The Tribe shall restrict vehicle speeds on the construction site to 15 miles per hour.
- The Tribe shall use at minimum 30 percent recycled water.

CalEEMod Inputs

Redding Rancheria Fee-to-Trust and Casino Project
Alternative E

Project-Specific Inputs for the Redding Rancheria Fee-to-Trust and Casino Project

Input	Type of Input	Project Specific Inputs	
		Inputs	Source/Notes
Project Name	Project Name	Redding Rancheria Fee-to-Trust and Casino Project – Alternative E	Project Description
Project Location	Air Quality District/ Air Basin	Shasta County	Modeler, based on location
Climate zone	Climate Zone Number	3	Appendix F Climate Zones Lookup
Land Use Setting	Urban or Rural	Urban	Modeler, based on location
Start of Construction	Date	July 1, 2019	Project Description
Operational Year	1st year of operation after full buildout.	2025	Project Description
Utility Company	Utility Company Name	PG&E	Project is served by Redding Electrical Utility (REU) which is not included as a power provider in CalEEMod. PG&E is used in place because REU sells power into the PG&E grid and vice versa.
Land Use Type and Subtype	Residential, Commercial, Recreation, etc.	See Table 1.	See Table 1.
Unit Amount	Size of Buildings or Number of units for each Land Use Type.	See Table 1.	See Table 1.
Lot Acreage	Acreage of each Land Use Type	See Table 1.	See Table 1.
Population	Population based on persons/household	0	No residential units are proposed therefore not population is associated with Alternative E.
Construction Phases	Type of construction phase (Demo, Site Prep, etc.) and beginning and ending dates	See Table 2.	See Table 2.
Off-Road Equipment	Type of equipment (Excavator, Dozer, etc.) and number of units per construction phase	See Table 2.	See Table 2.
Demolition	Sq ft or tons of Demo	N/A	--
Construction Trip Gen Rate	Average number of one-way trips per day	--	--
Operational Trip Reductions	% reduction in trips.	See Table 3.	2017 KH Traffic Impact Analysis.
Operational Trip Gen Rate and trip length	Trips and trip lengths	See Tables 3.	See Tables 3.

Input	Type of Input	Project Specific Inputs	
		Inputs	Source/Notes
Area Sources	Hearths – # of wood-burning fireplaces, #of gas fireplaces, and # of units with no fireplace.	Not Applicable	No hearths are included in the project design.
	Landscape Equipment - % of equipment that is electric.	--	--
Energy Use	Project Specific Emission Factors.	See Table 4.	See Table 4.
Water and Wastewater	Indoor and outdoor water use for each Land Use Subtype in gallons per year.	See Table 6.	Water and Wastewater Feasibility Study Table 4
Solid waste	Tons of solid waste generated per year	1,288	CalRecycle, 2017
	Land Fill Gas Capture Rate	94%	CARB Mandatory Reporting Regulation Guidance
Operational off-road equipment	Excavator, Dozer, etc.	--	--
Stationary Sources	Emergency Generators/Fire Pumps	3 - 2,923 Horsepower	Based on like project emergency gen/set size and use.
	Generators/Fire Pumps EF	Default	Default
	Process Boilers	3 - 0.5 MMBtu/hr	Estimate from like projects
	Boilers EF	Default	Default
	User Defined	Default	Default
Land Use Change	Vegetation land use type (cropland, etc.) and initial and final acreage	Grassland Initial: 55 Final: 25	--
Sequestration	Type and net number of new trees added	--	--

Source: CalEEMod, 2016; EPA, 2017; Water and Wastewater Feasibility Study, Table 4.

Project-Mitigation Inputs for the Redding Rancheria Fee-to-Trust and Casino Project

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Off-Road Equipment	C-1	Yes	Engine Type, DPF Level, and Oxidation Catalyst	See Table 5.	See Table 5.
Soil Stabilizer for Unpaved Roads	N/A	Yes	PM10 (% Reduction)	10%	Default % Reduction.
	N/A		PM2.5 (% Reduction)	10%	Default % Reduction.
Water Exposed Area	N/A	Yes	Frequency (per day)	2 times per day	Default % Reduction
	N/A		PM10 (% Reduction)	55%	Default % Reduction.
	N/A		PM2.5 (% Reduction)	55%	Default % Reduction.
Replace Ground Cover of Area Disturbed	N/A	No	PM10 (% Reduction)	--	--
	N/A		PM2.5 (% Reduction)	--	--
Unpaved Road Mitigation	N/A	No	Moisture Content (%)	--	--
	N/A	Yes	Vehicle Speed (mph)	15 mph	Default Reduction
Type of Residential	N/A	No	Type of Residential	--	--
Increased Density	LUT-1	No	Dwelling Units/Acre	--	--
			Job/Job Acre	--	--
Increased Diversity	LUT-3	No	Yes or No	--	--
Improved Walkability Design	LUT-9	No	Intersections/Square Miles	--	--
Improve Destination Accessibility	LUT-4	No	Distance to Downtown/Job Ctr	--	--
Increased Transit Accessibility	LUT-5	No	Average Distance to Transit Station (miles)	--	--
Integrated Below Market Rate Housing	LUT-6	No	# Dwelling Units Below Market Rate	--	--
Improve Pedestrian Network	SDT-1	No	Yes or No; Project Site, Project Site and Connecting off-site, and Rural	--	--
Provide Traffic Calming Measures	SDT-2	No	% Streets with Improvement	--	--
		No	% Intersections with Improvement	--	--

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Implement Neighborhood Electric Vehicle (NEV) Network	SDT-3	No	% of streets equipped with NEV network.	--	--
Limit Parking Supply	PDT-1	No	% Reduction in Spaces	--	--
Unbundled Parking Costs	PDT-2	No	Monthly Parking Costs (\$)	--	--
On-Street Market Pricing	PDT-3	No	% Increase in Price	--	--
Provide a Bus Rapid Transit System	TST-1	No	% Lines BRT	--	Assuming no increase over existing shuttle services
Expand Transit Network	TST-3	Yes	% Increase Transit Coverage	--	--
Increase Transit Frequency	TST-4	No	Level of Implementation	--	--
		No	% Reduction in Headways	--	--
Implement Trip Reduction Program	TRT-1, TRT-2	No	% employee eligible	--	--
		No	Program Type	--	--
Transit Subsidy	TRT-4	No	% employee eligible	--	--
		No	Daily Transit Subsidy Amount (\$)	--	--
Implement Employee Parking "Cash-Out"	TRT-15	No	% employee eligible	--	--
Workplace Parking Charge	TRT-14	No	% employee eligible	--	--
		No	Daily Parking Charge (\$)	--	--
Encourage Telecommuting and Alternative Work Schedules	TRT-6	No	% employee work 9/80	--	--
		No	% employee work 4/40	--	--
		No	% employee telecommute 1.5 days	--	--
Market Commute Trip Reduction Option	TRT-7	No	% employee eligible	--	--

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Employee Vanpool/Shuttle	TRT-11	Yes	% employee eligible	--	--
		Yes	% vanpool mode share	--	--
Provide Ride Sharing Program	TRT-3	No	% employee eligible	--	--
Implement School Bus Program	TRT-13	No	% family using	--	--
Only Natural Gas Hearth	N/A	No	Yes or No	--	--
No hearth	N/A	No	Yes or No	--	--
Use of Low VOC Cleaning Supplies	N/A	No	Yes or No	--	--
Use low VOC Paint (Residential Interior)	N/A	Yes	Emission Factor (EF) (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Residential Exterior)	N/A	Yes	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Non-residential Interior)	N/A	Yes	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Non-residential Exterior)	N/A	Yes	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Electric Lawnmower	A-1	Yes	Percent of equipment type that will be electric.	--	--
Electric Leafblower	A-1	Yes	Percent of equipment type that will be electric.	--	--
Electric Chainsaw	A-1	Yes	Percent of equipment type that will be electric.	--	--
Exceed Title 24	BE-1	No	Percentage improvement selected for the Project.	--	--
Install High Efficiently Lighting	LE-1	No	% Lighting Energy Reduction	--	--
On-site Renewable Energy	AE-1, AE-2, AE-3	No	kWh Generated	--	--
		No	% of Electricity Use Generated	--	--
Energy Efficient Appliances	BE-4	Yes	Appliance Type, Land Use Subtype, % Improvement	Use Default Values	Defaults

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Apply Water Conservation Strategy	WUW-2	No	% Reduction Indoor	--	--
		No	% Reduction Outdoor	--	--
Use Reclaimed Water	WSW-1	No	% Indoor Water Use	30%	Water and Wastewater Feasibility Study, Section 2.4.
		No	% Outdoor Water Use	30%	Water and Wastewater Feasibility Study, Section 2.4.
Use Grey Water	WSW-2	No	% Indoor Water Use	--	--
		No	% Outdoor Water Use	--	--
Install Low-Flow Bathroom Faucet	WUW-1	Yes	% Reduction in flow	32%	Default % reduction assuming implementation of Recommended Mitigation
Install Low-flow Kitchen Faucet	WUW-1	Yes	% Reduction in flow	18%	Default % reduction assuming implementation of Recommended Mitigation.
Install Low-flow Toilet	WUW-1	Yes	% Reduction in flow	20%	Default % reduction assuming implementation of Recommended Mitigation
Install Low-flow Shower	WUW-1	Yes	% Reduction in flow	20%	Default % reduction assuming implementation of Recommended Mitigation
Turf Reduction	WUW-5	No	Turf Reduction Area (sqft)	--	--
		No	% Reduction turf	--	--
Use Water-Efficient Irrigation Systems	WUW-4	No	% Reduction	--	--
Water Efficient Landscape	WUW-3	No	Maximum Applied Water Allowance (MAWA) (gal/yr)	--	--
		No	Estimated Total Water Use (ETWU) (gal/yr)	--	--
Institute Recycling and Composting Service	SW-1	Yes	% Reduction in Waste Disposal over State requirements	--	--

Source: AES, 2016; CalEEMod, 2016.

Table 1 – Land Use Inputs Alternative E

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet	Population
User Defined	Casino	150,326	1,000 sq. ft.	2.883	150,326	0
Recreation	Arena (Event Center and outdoor amphitheater)	3,300	seats	1.381	72,000	0
Recreation	Arena (Convention Center)	10.08	1,000 sq. ft.	0.193	10,080	0
Retail	Regional Shopping Center	120	1,000 sq. ft.	2.493	120,000	0
Recreational	Hotel	250	rooms	3.230	177,367	0
Parking	Enclosed Parking Structure	1,650	spaces	11.190	583,500	0
Parking	Parking Lot	600	spaces	3.835	--	0
Total				25.376	1,145,603	

Notes: Population based on daily trips provided by Kimley Horn. Event center includes 1,800 seats from the Event Cent and 1,500 seats from the outdoor Amphitheatre.

Source: Table 2-1, Section 2 of the EIS.

Table 2 – Construction Equipment Usage

Equipment	Total No.	Construction Phase Activities				
		Site Preparation	Grading	Construction	Paving	Architectural Coating
	Construction Phasing	7/1/2019 - 8/31/2019	9/1/2019 - 11/30/2019	12/1/2019 - 12/15/2020	5/1/2020 - 8/15/2020	3/15/2020 - 12/31/2020
All Equipment	Default	Default	Default	Default	Default	Default
Worker Trips (one-way trips)	--	Default	Default	Default	Default	Default

Notes: Construction phase timing based on similar projects. Total time of construction from Project Description.13.

Table 3 - Trip Generation Rates

Land Use	Daily Trip Generation Rate		Trip Length (Miles)			Trip Percent			Primary Trip	Diverted
	Weekday (size/day)	Saturday (size/day)	Work Trips (C-W)	Work to Project Trips (C-C)	Home to Project Trips (C-NW)	Work Trips (C-W)	Work to Project Trips (C-C)	Home to Project Trips (C-NW)		
Casino	33.67	33.67	9.50	9.50	25.00	19.00	19.40	61.60	90	10
Events Center	0.23	0.23	9.50	9.50	25.00	1.80	79.20	19.00	100	0
Convention Center	67.01	67.01	9.50	9.50	25.00	0.00	81.00	19.00	100	0
Hotel	2.04	2.04	9.50	9.50	25.00	19.40	61.60	19.00	100	0
Retail	22.52	22.52	9.50	9.50	25.00	16.30	64.70	19.00	90	10

Table 4 - Energy Use

Land Use Subtype	Title-24 Electricity Energy Intensity (KWhr/size/yr)	Nontitle-24 Electricity Energy Intensity (KWhr/size/yr)	Lighting Energy Intensity (KWhr/size/yr)	Title-24 Natural Gas Intensity (KBtu/size/yr)	Non-title-24 Natural Gas Intensity (KBtu/size/yr)
Casino	--	13.58	--	--	0.129

Notes: All other land uses utilize default energy.

Electricity energy use is determined by the following equation: $15,465,000 \text{ kwh/yr} / 1,107,773 \text{ sqft} = 14.601 \text{ kwh/size/yr}$. Kwh/yr was provided in an email from HBG Design on July 10, 2017 and the sqft is provide in the DEIS, Section 2, Table 2-1.

Natural gas use is determined by the following equation: $(16,800 \text{ cf per hour} * 8,760 \text{ hours/yr} / 1,000) = 147,168 \text{ kcf/yr} / 1,107,773 \text{ sqft} = 0.139 \text{ kcf/size/yr}$, cf was provided in an email from HBG Design on July 11, 2017 and the sqft is provide in the DEIS, Section 2, Table 2-1.

Table 5 – Off-Road Equipment Mitigation Inputs

Equipment Type	Engine Tier	Number of Equipment Mitigated	Diesel Particulate Filter (DPF) Level 2014
All Equipment	Tier 3	Default	Level 3
Scrapers	No Change	Default	No Change

Table 6 – Water Use

Land Use Type	Indoor Water Demand (gallons per year)	Outdoor Water Demand (gallons per year)
Hotel	16,639,197	841,839
Casino	32,005,985	1,619,302
Events Center	10,962,295	554,623
Convention Center	4,551,310	230,268
Outdoor Sports Retail	10,228,213	517,483
Total	74,387,000	3,763,515

Notes: Based on Redding Rancheria Wastewater Management and Drinking Water Feasibility Study.
 Outdoor water demand based on Table 4 (landscape irrigation) and distributed to land uses based on indoor water demand percentages of the total indoor water demand.
 Outdoor water demand based on Table 4 (landscape irrigation) and distributed to land uses based on indoor water demand percentages of the total indoor water demand.

CalEEMod Mitigation Measures

- The Tribe shall use Tier 3 construction equipment, using a minimum of 90 percent of the equipment’s total horsepower.
- The Tribe shall apply soil stabilizer on unpaved roads
- The Tribe shall apply water to exposed construction areas twice a day.
- The Tribe shall restrict vehicle speeds on the construction site to 15 miles per hour.
- The Tribe shall use at minimum 30 percent recycled water.

CalEEMod Inputs

Redding Rancheria Fee-to-Trust and Casino Project
Alternative F

Project-Specific Inputs for the Redding Rancheria Fee-to-Trust and Casino Project

Input	Type of Input	Project Specific Inputs	
		Inputs	Source/Notes
Project Name	Project Name	Redding Rancheria Fee-to-Trust and Casino Project – Alternative E	Project Description
Project Location	Air Quality District/ Air Basin	Shasta County	Modeler, based on location
Climate zone	Climate Zone Number	3	Appendix F Climate Zones Lookup
Land Use Setting	Urban or Rural	Urban	Modeler, based on location
Start of Construction	Date	July 1, 2019	Project Description
Operational Year	1st year of operation after full buildout.	2025	Project Description
Utility Company	Utility Company Name	PG&E	Project is served by Redding Electrical Utility (REU) which is not included as a power provider in CalEEMod. PG&E is used in place because REU sells power into the PG&E grid and vice versa.
Land Use Type and Subtype	Residential, Commercial, Recreation, etc.	See Table 1.	See Table 1.
Unit Amount	Size of Buildings or Number of units for each Land Use Type.	See Table 1.	See Table 1.
Lot Acreage	Acreage of each Land Use Type	See Table 1.	See Table 1.
Population	Population based on persons/household	0	No residential units are proposed therefore not population is associated with Alternative E.
Construction Phases	Type of construction phase (Demo, Site Prep, etc.) and beginning and ending dates	--	--
Off-Road Equipment	Type of equipment (Excavator, Dozer, etc.) and number of units per construction phase	--	--
Demolition	Sq ft or tons of Demo	N/A	--
Construction Trip Gen Rate	Average number of one-way trips per day	--	--
Operational Trip Reductions	% reduction in trips.	See Table 2.	2017 KH Traffic Impact Analysis.
Operational Trip Gen Rate and trip length	Trips and trip lengths	See Table 2.	See Tables 2.

Input	Type of Input	Project Specific Inputs	
		Inputs	Source/Notes
Area Sources	Hearths – # of wood-burning fireplaces, #of gas fireplaces, and # of units with no fireplace.	Not Applicable	No hearths are included in the project design.
	Landscape Equipment - % of equipment that is electric.	--	--
Energy Use	Project Specific Emission Factors.	See Table 4.	See Table 4.
Water and Wastewater	Indoor and outdoor water use for each Land Use Subtype in gallons per year.	See Table 6.	Water and Wastewater Feasibility Study Table 4
Solid waste	Tons of solid waste generated per year	58	CalRecycle, 2017
	Land Fill Gas Capture Rate	94%	CARB Mandatory Reporting Regulation Guidance
Operational off-road equipment	Excavator, Dozer, etc.	--	--
Land Use Change	Vegetation land use type (cropland, etc.) and initial and final acreage	--	--
Sequestration	Type and net number of new trees added	--	--

Source: CalEEMod, 2016; EPA, 2017; Water and Wastewater Feasibility Study, Table 4.

Project-Mitigation Inputs for the Redding Rancheria Fee-to-Trust and Casino Project

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Off-Road Equipment	C-1	Yes	Engine Type, DPF Level, and Oxidation Catalyst	See Table 3.	See Table 3.
Soil Stabilizer for Unpaved Roads	N/A	Yes	PM10 (% Reduction)	10%	Default % Reduction.
	N/A		PM2.5 (% Reduction)	10%	Default % Reduction.
Water Exposed Area	N/A	Yes	Frequency (per day)	2 times per day	Default % Reduction
	N/A		PM10 (% Reduction)	55%	Default % Reduction.
	N/A		PM2.5 (% Reduction)	55%	Default % Reduction.
Replace Ground Cover of Area Disturbed	N/A	No	PM10 (% Reduction)	--	--
	N/A		PM2.5 (% Reduction)	--	--
Unpaved Road Mitigation	N/A	No	Moisture Content (%)	--	--
	N/A	Yes	Vehicle Speed (mph)	15 mph	Default Reduction
Type of Residential	N/A	No	Type of Residential	--	--
Increased Density	LUT-1	No	Dwelling Units/Acre	--	--
			Job/Job Acre	--	--
Increased Diversity	LUT-3	No	Yes or No	--	--
Improved Walkability Design	LUT-9	No	Intersections/Square Miles	--	--
Improve Destination Accessibility	LUT-4	No	Distance to Downtown/Job Ctr	--	--
Increased Transit Accessibility	LUT-5	No	Average Distance to Transit Station (miles)	--	--
Integrated Below Market Rate Housing	LUT-6	No	# Dwelling Units Below Market Rate	--	--
Improve Pedestrian Network	SDT-1	No	Yes or No; Project Site, Project Site and Connecting off-site, and Rural	--	--
Provide Traffic Calming Measures	SDT-2	No	% Streets with Improvement	--	--
		No	% Intersections with Improvement	--	--

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Implement Neighborhood Electric Vehicle (NEV) Network	SDT-3	No	% of streets equipped with NEV network.	--	--
Limit Parking Supply	PDT-1	No	% Reduction in Spaces	--	--
Unbundled Parking Costs	PDT-2	No	Monthly Parking Costs (\$)	--	--
On-Street Market Pricing	PDT-3	No	% Increase in Price	--	--
Provide a Bus Rapid Transit System	TST-1	No	% Lines BRT	--	Assuming no increase over existing shuttle services
Expand Transit Network	TST-3	Yes	% Increase Transit Coverage	--	--
Increase Transit Frequency	TST-4	No	Level of Implementation	--	--
		No	% Reduction in Headways	--	--
Implement Trip Reduction Program	TRT-1, TRT-2	No	% employee eligible	--	--
		No	Program Type	--	--
Transit Subsidy	TRT-4	No	% employee eligible	--	--
		No	Daily Transit Subsidy Amount (\$)	--	--
Implement Employee Parking "Cash-Out"	TRT-15	No	% employee eligible	--	--
Workplace Parking Charge	TRT-14	No	% employee eligible	--	--
		No	Daily Parking Charge (\$)	--	--
Encourage Telecommuting and Alternative Work Schedules	TRT-6	No	% employee work 9/80	--	--
		No	% employee work 4/40	--	--
		No	% employee telecommute 1.5 days	--	--
Market Commute Trip Reduction Option	TRT-7	No	% employee eligible	--	--

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Employee Vanpool/Shuttle	TRT-11	Yes	% employee eligible	--	--
		Yes	% vanpool mode share	--	--
Provide Ride Sharing Program	TRT-3	No	% employee eligible	--	--
Implement School Bus Program	TRT-13	No	% family using	--	--
Only Natural Gas Hearth	N/A	No	Yes or No	--	--
No hearth	N/A	No	Yes or No	--	--
Use of Low VOC Cleaning Supplies	N/A	No	Yes or No	--	--
Use low VOC Paint (Residential Interior)	N/A	Yes	Emission Factor (EF) (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Residential Exterior)	N/A	Yes	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Non-residential Interior)	N/A	Yes	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Use low VOC Paint (Non-residential Exterior)	N/A	Yes	EF (g/l)	150	SHAAQMD amendment to Rule 3:31 Architectural Coatings (based on Nonflat Coating)
Electric Lawnmower	A-1	Yes	Percent of equipment type that will be electric.	--	--
Electric Leafblower	A-1	Yes	Percent of equipment type that will be electric.	--	--
Electric Chainsaw	A-1	Yes	Percent of equipment type that will be electric.	--	--
Exceed Title 24	BE-1	No	Percentage improvement selected for the Project.	--	--
Install High Efficiently Lighting	LE-1	No	% Lighting Energy Reduction	--	--
On-site Renewable Energy	AE-1, AE-2, AE-3	No	kWh Generated	--	--
		No	% of Electricity Use Generated	--	--
Energy Efficient Appliances	BE-4	Yes	Appliance Type, Land Use Subtype, % Improvement	Use Default Values	Defaults

Mitigation Input Category	CAPCOA Mitigation Number	Include in Model? (yes/no)	Type of Input / Unit	Project Specific Inputs	
				Inputs	Source/Notes
Apply Water Conservation Strategy	WUW-2	No	% Reduction Indoor	--	--
		No	% Reduction Outdoor	--	--
Use Reclaimed Water	WSW-1	No	% Indoor Water Use	30%	Water and Wastewater Feasibility Study, Section 2.4.
		No	% Outdoor Water Use	30%	Water and Wastewater Feasibility Study, Section 2.4.
Use Grey Water	WSW-2	No	% Indoor Water Use	--	--
		No	% Outdoor Water Use	--	--
Install Low-Flow Bathroom Faucet	WUW-1	Yes	% Reduction in flow	32%	Default % reduction assuming implementation of Recommended Mitigation
Install Low-flow Kitchen Faucet	WUW-1	Yes	% Reduction in flow	18%	Default % reduction assuming implementation of Recommended Mitigation.
Install Low-flow Toilet	WUW-1	Yes	% Reduction in flow	20%	Default % reduction assuming implementation of Recommended Mitigation
Install Low-flow Shower	WUW-1	Yes	% Reduction in flow	20%	Default % reduction assuming implementation of Recommended Mitigation
Turf Reduction	WUW-5	No	Turf Reduction Area (sqft)	--	--
		No	% Reduction turf	--	--
Use Water-Efficient Irrigation Systems	WUW-4	No	% Reduction	--	--
Water Efficient Landscape	WUW-3	No	Maximum Applied Water Allowance (MAWA) (gal/yr)	--	--
		No	Estimated Total Water Use (ETWU) (gal/yr)	--	--
Institute Recycling and Composting Service	SW-1	Yes	% Reduction in Waste Disposal over State requirements	--	--

Source: AES, 2016; CalEEMod, 2016

Table 1 - Land Use Inputs Alternative F

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet	Population
Recreation	User Defined	9.83	1000 sq. ft.	--	9,8260	0
Recreation	Arena (Event Center)	10	1000 sq. ft.	0.080	10,000	0
Parking	Enclosed Parking Structure	1,710	Spaces	4.81	604,500	0

Table 2 - Construction Equipment Usage

Equipment	Total No.	Construction Phase Activities				
		Site Preparation	Grading	Construction	Paving	Architectural Coating
	Construction Phasing	7/1/2019 - 7/10/2019	7/11/2019 - 7/31/2019	8/1/2019 - 2/14/2020	9/1/2019 - 2/15/2020	10/15/2019 - 2/28/2020
Air Compressors	Default	Default	Default	Default	Default	Default
Worker Trips (one-way trips)	--	Default	Default	Default	Default	Default

Notes: CalEEMod equipment use, construction phase timing, and worker trips based on similar projects. Total time from Project Description.

Table 3 - Trip Generation Rates

Land Use	Daily Trip Generation Rate		Trip Length (Miles)			Trip Percent			Primary Trip	Diverted
	Weekday (/size/day)	Saturday (size/day)	Work Trips (C-W)	Work to Project Trips (C-C)	Home to Project Trips (C-NW)	Work Trips (C-W)	Work to Project Trips (C-C)	Home to Project Trips (C-NW)		
Casino	192.98	192.98	9.50	7.30	7.30	19.0	19.4	61.6	66	3
Convention Center	0	0	9.50	7.30	7.30	0.00	81.00	19.00	100	0

Table 4 – Energy Use

Land Use Subtype	Title-24 Electricity Energy Intensity (KWhr/size/yr)	Nontitle-24 Electricity Energy Intensity (KWhr/size/yr)	Lighting Energy Intensity (KWhr/size/yr)	Title-24 Natural Gas Intensity (KBtu/size/yr)	Non-title-24 Natural Gas Intensity (KBtu/size/yr)
All Land Uses	--	0.243	--	--	0.00231

Notes: All other land uses utilize default energy.

Electricity energy use is determined by the following equation: $15,465,000 \text{ kwh/yr} / 19,826 \text{ sqft} = 14.601 \text{ kwh/size/yr}$. Kwh/yr was provided in an email from HBG Design on July 10, 2017 and the sqft is provide in the DEIS, Section 2, Table 2-1.

Natural gas use is determined by the following equation: $(16,800 \text{ cf per hour} * 8,760 \text{ hours/yr} / 1,000) = 147,168 \text{ kcf/yr} / 19,826 \text{ sqft} = 0.139 \text{ kcf/size/yr}$, cf was provided in an email from HBG Design on July 11, 2017 and the sqft is provide in the DEIS, Section 2, Table 2-1.

Table 5 – Off-Road Equipment Mitigation Inputs

Equipment Type	Engine Tier	Number of Equipment Mitigated	Diesel Particulate Filter (DPF) Level 2014
All Equipment	Tier 3	Default	Level 3

Table 6 – Water Use

Land Use Type	Indoor Water Demand (gallons per day)	Outdoor Water Demand (gallons per day)
Casino	18,834,000	0
Events Center	0	0
Total	18,834,000	0

CalEEMod Mitigation Measures

- The Tribe shall use Tier 3 construction equipment, using a minimum of 90 percent of the equipment's total horsepower.
- The Tribe shall apply soil stabilizer on unpaved roads
- The Tribe shall apply water to exposed construction areas twice a day.
- The Tribe shall restrict vehicle speeds on the construction site to 15 miles per hour.
- The Tribe shall use at minimum 30 percent recycled water.

CALEEMOD OUTPUT FILES

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Annual

**Redding Rancheria FTT and Casino Project – Alternative A
Shasta County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.51	583,500.00	0
Parking Lot	600.00	Space	60.98	0.00	0
Arena	10.08	1000sqft	0.29	10,080.00	0
Hotel	250.00	Room	5.02	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	2.04	7,200.00	0
User Defined Recreational	150.33	User Defined Unit	4.25	150,326.00	0
Regional Shopping Center	130.00	1000sqft	3.68	130,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Off-road Equipment -

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150

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tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	110.00	209.00
tblConstructionPhase	NumDays	1,550.00	272.00
tblConstructionPhase	NumDays	155.00	65.00
tblConstructionPhase	NumDays	110.00	76.00
tblConstructionPhase	NumDays	60.00	45.00
tblConstructionPhase	PhaseEndDate	2/5/2027	12/31/2020
tblConstructionPhase	PhaseEndDate	4/3/2026	12/15/2020
tblConstructionPhase	PhaseEndDate	4/24/2020	11/30/2019
tblConstructionPhase	PhaseEndDate	9/4/2026	8/15/2020
tblConstructionPhase	PhaseEndDate	9/20/2019	8/31/2019
tblConstructionPhase	PhaseStartDate	9/5/2026	3/15/2020
tblConstructionPhase	PhaseStartDate	4/25/2020	12/1/2019
tblConstructionPhase	PhaseStartDate	9/21/2019	9/1/2019
tblConstructionPhase	PhaseStartDate	4/4/2026	5/1/2020
tblEnergyUse	LightingElect	2.78	0.00

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tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	0.00	13.77
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	0.00	0.13
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	8.66	0.00
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00

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tblLandUse	BuildingSpaceSquareFeet	74,250.00	7,200.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	7,200.00
tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	16.51
tblLandUse	LotAcreage	5.40	60.98
tblLandUse	LotAcreage	3.24	0.29
tblLandUse	LotAcreage	8.33	5.02
tblLandUse	LotAcreage	1.70	2.04
tblLandUse	LotAcreage	0.00	4.25
tblLandUse	LotAcreage	2.98	3.68
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	136.50	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,292.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40

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tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	CW_TTP	0.00	61.60
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	10.00
tblVehicleTrips	DV_TP	0.00	10.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	90.00
tblVehicleTrips	PR_TP	0.00	90.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	49.97	22.52

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tblVehicleTrips	ST_TR	0.00	33.67
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	SU_TR	0.00	33.67
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	42.70	22.52
tblVehicleTrips	WD_TR	0.00	33.67
tblWater	IndoorWaterUseRate	4,342,162.79	4,698,703.00
tblWater	IndoorWaterUseRate	6,341,692.50	17,178,053.00
tblWater	IndoorWaterUseRate	29,818,908.53	11,317,305.00
tblWater	IndoorWaterUseRate	9,629,427.79	10,559,450.00
tblWater	IndoorWaterUseRate	0.00	33,042,489.00
tblWater	OutdoorWaterUseRate	277,159.33	243,846.00
tblWater	OutdoorWaterUseRate	704,632.50	891,479.00
tblWater	OutdoorWaterUseRate	1,903,334.59	587,327.00
tblWater	OutdoorWaterUseRate	5,901,907.36	547,997.00
tblWater	OutdoorWaterUseRate	0.00	1,714,786.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2019	9-30-2019	1.7456	0.9230
2	10-1-2019	12-31-2019	1.8677	1.4472
3	1-1-2020	3-31-2020	1.7371	1.5258
4	4-1-2020	6-30-2020	3.0434	2.7409
5	7-1-2020	9-30-2020	2.9781	2.6923
		Highest	3.0434	2.7409

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.2403	5.1000e-004	0.0558	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1088	0.1088	2.8000e-004	0.0000	0.1159
Energy	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	603.1470	603.1470	0.0273	5.6500e-003	605.5124
Mobile	3.7092	32.7921	43.9981	0.2182	15.7000	0.1694	15.8694	4.2230	0.1591	4.3821	0.0000	20,193.5592	20,193.5592	0.8508	0.0000	20,214.8286
Stationary	0.0786	0.3507	0.7413	4.0700e-003		0.0553	0.0553		0.0553	0.0553	0.0000	721.2477	721.2477	0.0163	0.0000	721.6539
Waste						0.0000	0.0000		0.0000	0.0000	262.2643	0.0000	262.2643	15.4994	0.0000	649.7488
Water						0.0000	0.0000		0.0000	0.0000	24.3638	124.9442	149.3080	2.5081	0.0603	229.9655
Total	6.0282	33.1444	44.7961	0.2223	15.7000	0.2250	15.9250	4.2230	0.2147	4.4377	286.6282	21,643.0069	21,929.6350	18.9020	0.0659	22,421.8250

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.2403	5.1000e-004	0.0558	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1088	0.1088	2.8000e-004	0.0000	0.1159
Energy	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	603.1470	603.1470	0.0273	5.6500e-003	605.5124
Mobile	3.7092	32.7921	43.9981	0.2182	15.7000	0.1694	15.8694	4.2230	0.1591	4.3821	0.0000	20,193.5592	20,193.5592	0.8508	0.0000	20,214.8286
Stationary	0.0786	0.3507	0.7413	4.0700e-003		0.0553	0.0553		0.0553	0.0553	0.0000	721.2477	721.2477	0.0163	0.0000	721.6539
Waste						0.0000	0.0000		0.0000	0.0000	262.2643	0.0000	262.2643	15.4994	0.0000	649.7488
Water						0.0000	0.0000		0.0000	0.0000	17.1521	88.6749	105.8271	1.7657	0.0424	162.6127
Total	6.0282	33.1444	44.7961	0.2223	15.7000	0.2250	15.9250	4.2230	0.2147	4.4377	279.4165	21,606.7376	21,886.1540	18.1596	0.0481	22,354.4722

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.52	0.17	0.20	3.93	27.05	0.30

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2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-400.8300
Total	-400.8300

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	8/31/2019	5	45	
2	Grading	Grading	9/1/2019	11/30/2019	5	65	
3	Building Construction	Building Construction	12/1/2019	12/15/2020	5	272	
4	Paving	Paving	5/1/2020	8/15/2020	5	76	
5	Architectural Coating	Architectural Coating	3/15/2020	12/31/2020	5	209	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 77.49

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Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 712,460; Non-Residential Outdoor: 237,487; Striped Parking Area: 35,010 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	432.00	173.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	86.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5420	0.0000	0.5420	0.2979	0.0000	0.2979	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0975	1.0254	0.4964	8.5000e-004		0.0538	0.0538		0.0495	0.0495	0.0000	76.8795	76.8795	0.0243	0.0000	77.4876
Total	0.0975	1.0254	0.4964	8.5000e-004	0.5420	0.0538	0.5958	0.2979	0.0495	0.3474	0.0000	76.8795	76.8795	0.0243	0.0000	77.4876

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3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8800e-003	1.5500e-003	0.0147	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	3.0264	3.0264	1.2000e-004	0.0000	3.0294
Total	1.8800e-003	1.5500e-003	0.0147	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	3.0264	3.0264	1.2000e-004	0.0000	3.0294

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2439	0.0000	0.2439	0.1341	0.0000	0.1341	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0210	0.4290	0.5166	8.5000e-004		3.1900e-003	3.1900e-003		3.1900e-003	3.1900e-003	0.0000	76.8795	76.8795	0.0243	0.0000	77.4876
Total	0.0210	0.4290	0.5166	8.5000e-004	0.2439	3.1900e-003	0.2471	0.1341	3.1900e-003	0.1373	0.0000	76.8795	76.8795	0.0243	0.0000	77.4876

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3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8800e-003	1.5500e-003	0.0147	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	3.0264	3.0264	1.2000e-004	0.0000	3.0294
Total	1.8800e-003	1.5500e-003	0.0147	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	3.0264	3.0264	1.2000e-004	0.0000	3.0294

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6722	0.0000	0.6722	0.2787	0.0000	0.2787	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1540	1.7719	1.0847	2.0200e-003		0.0774	0.0774		0.0712	0.0712	0.0000	181.0293	181.0293	0.0573	0.0000	182.4612
Total	0.1540	1.7719	1.0847	2.0200e-003	0.6722	0.0774	0.7496	0.2787	0.0712	0.3500	0.0000	181.0293	181.0293	0.0573	0.0000	182.4612

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3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0200e-003	2.4900e-003	0.0236	5.0000e-005	5.0800e-003	4.0000e-005	5.1200e-003	1.3500e-003	4.0000e-005	1.3900e-003	0.0000	4.8572	4.8572	1.9000e-004	0.0000	4.8620
Total	3.0200e-003	2.4900e-003	0.0236	5.0000e-005	5.0800e-003	4.0000e-005	5.1200e-003	1.3500e-003	4.0000e-005	1.3900e-003	0.0000	4.8572	4.8572	1.9000e-004	0.0000	4.8620

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3025	0.0000	0.3025	0.1254	0.0000	0.1254	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0945	1.3452	1.1924	2.0200e-003		0.0366	0.0366		0.0339	0.0339	0.0000	181.0291	181.0291	0.0573	0.0000	182.4610
Total	0.0945	1.3452	1.1924	2.0200e-003	0.3025	0.0366	0.3390	0.1254	0.0339	0.1594	0.0000	181.0291	181.0291	0.0573	0.0000	182.4610

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3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0200e-003	2.4900e-003	0.0236	5.0000e-005	5.0800e-003	4.0000e-005	5.1200e-003	1.3500e-003	4.0000e-005	1.3900e-003	0.0000	4.8572	4.8572	1.9000e-004	0.0000	4.8620
Total	3.0200e-003	2.4900e-003	0.0236	5.0000e-005	5.0800e-003	4.0000e-005	5.1200e-003	1.3500e-003	4.0000e-005	1.3900e-003	0.0000	4.8572	4.8572	1.9000e-004	0.0000	4.8620

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0260	0.2319	0.1888	3.0000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	25.8615	25.8615	6.3000e-003	0.0000	26.0190
Total	0.0260	0.2319	0.1888	3.0000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	25.8615	25.8615	6.3000e-003	0.0000	26.0190

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3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0103	0.2565	0.0597	5.6000e-004	0.0124	2.0200e-003	0.0144	3.5900e-003	1.9300e-003	5.5100e-003	0.0000	52.6613	52.6613	4.6400e-003	0.0000	52.7773
Worker	0.0221	0.0182	0.1722	3.9000e-004	0.0371	2.9000e-004	0.0374	9.8900e-003	2.7000e-004	0.0102	0.0000	35.5097	35.5097	1.4000e-003	0.0000	35.5447
Total	0.0323	0.2747	0.2319	9.5000e-004	0.0495	2.3100e-003	0.0518	0.0135	2.2000e-003	0.0157	0.0000	88.1710	88.1710	6.0400e-003	0.0000	88.3220

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.4100e-003	0.1565	0.1966	3.0000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	25.8614	25.8614	6.3000e-003	0.0000	26.0189
Total	7.4100e-003	0.1565	0.1966	3.0000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	25.8614	25.8614	6.3000e-003	0.0000	26.0189

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3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0103	0.2565	0.0597	5.6000e-004	0.0124	2.0200e-003	0.0144	3.5900e-003	1.9300e-003	5.5100e-003	0.0000	52.6613	52.6613	4.6400e-003	0.0000	52.7773
Worker	0.0221	0.0182	0.1722	3.9000e-004	0.0371	2.9000e-004	0.0374	9.8900e-003	2.7000e-004	0.0102	0.0000	35.5097	35.5097	1.4000e-003	0.0000	35.5447
Total	0.0323	0.2747	0.2319	9.5000e-004	0.0495	2.3100e-003	0.0518	0.0135	2.2000e-003	0.0157	0.0000	88.1710	88.1710	6.0400e-003	0.0000	88.3220

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2650	2.3983	2.1061	3.3600e-003		0.1396	0.1396		0.1313	0.1313	0.0000	289.5125	289.5125	0.0706	0.0000	291.2783
Total	0.2650	2.3983	2.1061	3.3600e-003		0.1396	0.1396		0.1313	0.1313	0.0000	289.5125	289.5125	0.0706	0.0000	291.2783

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3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0943	2.6540	0.5895	6.2700e-003	0.1407	0.0147	0.1554	0.0408	0.0140	0.0548	0.0000	594.3358	594.3358	0.0482	0.0000	595.5405
Worker	0.2247	0.1802	1.7126	4.3300e-003	0.4219	3.1600e-003	0.4251	0.1124	2.9100e-003	0.1153	0.0000	390.7684	390.7684	0.0135	0.0000	391.1065
Total	0.3189	2.8342	2.3021	0.0106	0.5626	0.0178	0.5805	0.1531	0.0169	0.1701	0.0000	985.1042	985.1042	0.0617	0.0000	986.6470

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0842	1.7783	2.2342	3.3600e-003		0.0169	0.0169		0.0169	0.0169	0.0000	289.5121	289.5121	0.0706	0.0000	291.2779
Total	0.0842	1.7783	2.2342	3.3600e-003		0.0169	0.0169		0.0169	0.0169	0.0000	289.5121	289.5121	0.0706	0.0000	291.2779

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3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0943	2.6540	0.5895	6.2700e-003	0.1407	0.0147	0.1554	0.0408	0.0140	0.0548	0.0000	594.3358	594.3358	0.0482	0.0000	595.5405
Worker	0.2247	0.1802	1.7126	4.3300e-003	0.4219	3.1600e-003	0.4251	0.1124	2.9100e-003	0.1153	0.0000	390.7684	390.7684	0.0135	0.0000	391.1065
Total	0.3189	2.8342	2.3021	0.0106	0.5626	0.0178	0.5805	0.1531	0.0169	0.1701	0.0000	985.1042	985.1042	0.0617	0.0000	986.6470

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0516	0.5345	0.5568	8.7000e-004		0.0286	0.0286		0.0263	0.0263	0.0000	76.1072	76.1072	0.0246	0.0000	76.7226
Paving	0.0799					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1314	0.5345	0.5568	8.7000e-004		0.0286	0.0286		0.0263	0.0263	0.0000	76.1072	76.1072	0.0246	0.0000	76.7226

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3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3700e-003	1.9000e-003	0.0181	5.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.1248	4.1248	1.4000e-004	0.0000	4.1284
Total	2.3700e-003	1.9000e-003	0.0181	5.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.1248	4.1248	1.4000e-004	0.0000	4.1284

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0213	0.4292	0.6572	8.7000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	76.1072	76.1072	0.0246	0.0000	76.7225
Paving	0.0799					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1012	0.4292	0.6572	8.7000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	76.1072	76.1072	0.0246	0.0000	76.7225

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3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3700e-003	1.9000e-003	0.0181	5.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.1248	4.1248	1.4000e-004	0.0000	4.1284
Total	2.3700e-003	1.9000e-003	0.0181	5.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.1248	4.1248	1.4000e-004	0.0000	4.1284

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.4240					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0253	0.1760	0.1914	3.1000e-004		0.0116	0.0116		0.0116	0.0116	0.0000	26.6815	26.6815	2.0700e-003	0.0000	26.7332
Total	3.4493	0.1760	0.1914	3.1000e-004		0.0116	0.0116		0.0116	0.0116	0.0000	26.6815	26.6815	2.0700e-003	0.0000	26.7332

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3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0374	0.0300	0.2850	7.2000e-004	0.0702	5.3000e-004	0.0708	0.0187	4.8000e-004	0.0192	0.0000	65.0340	65.0340	2.2500e-003	0.0000	65.0903
Total	0.0374	0.0300	0.2850	7.2000e-004	0.0702	5.3000e-004	0.0708	0.0187	4.8000e-004	0.0192	0.0000	65.0340	65.0340	2.2500e-003	0.0000	65.0903

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.4240					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2100e-003	0.1418	0.1915	3.1000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	26.6815	26.6815	2.0700e-003	0.0000	26.7331
Total	3.4302	0.1418	0.1915	3.1000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	26.6815	26.6815	2.0700e-003	0.0000	26.7331

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3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0374	0.0300	0.2850	7.2000e-004	0.0702	5.3000e-004	0.0708	0.0187	4.8000e-004	0.0192	0.0000	65.0340	65.0340	2.2500e-003	0.0000	65.0903
Total	0.0374	0.0300	0.2850	7.2000e-004	0.0702	5.3000e-004	0.0708	0.0187	4.8000e-004	0.0192	0.0000	65.0340	65.0340	2.2500e-003	0.0000	65.0903

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.7092	32.7921	43.9981	0.2182	15.7000	0.1694	15.8694	4.2230	0.1591	4.3821	0.0000	20,193.5592	20,193.5592	0.8508	0.0000	20,214.8286
Unmitigated	3.7092	32.7921	43.9981	0.2182	15.7000	0.1694	15.8694	4.2230	0.1591	4.3821	0.0000	20,193.5592	20,193.5592	0.8508	0.0000	20,214.8286

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	3,059,824	3,059,824
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	2,927.60	2,927.60	2,927.60	12,267,322	12,267,322
User Defined Recreational	5,061.61	5,061.61	5,061.61	21,209,322	21,209,322
Total	9,933.67	9,933.67	9,933.67	42,285,013	42,285,013

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	100	0	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	90	10	0
User Defined Recreational	9.50	9.50	25.00	61.60	19.40	19.00	90	10	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Parking Lot	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Arena	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Hotel	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Movie Theater (No Matinee)	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
User Defined Recreational	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Regional Shopping Center	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	602.0961	602.0961	0.0272	5.6300e-003	604.4553
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	602.0961	602.0961	0.0272	5.6300e-003	604.4553
NaturalGas Mitigated	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0509	1.0509	2.0000e-005	2.0000e-005	1.0571
NaturalGas Unmitigated	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0509	1.0509	2.0000e-005	2.0000e-005	1.0571

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr										MT/yr						
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	19692.7	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0509	1.0509	2.0000e-005	2.0000e-005	1.0571	
Total		1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0509	1.0509	2.0000e-005	2.0000e-005	1.0571	

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	19692.7	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0509	1.0509	2.0000e-005	2.0000e-005	1.0571
Total		1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0509	1.0509	2.0000e-005	2.0000e-005	1.0571

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	2.06969e+006	602.0961	0.0272	5.6300e-003	604.4553
Total		602.0961	0.0272	5.6300e-003	604.4553

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	2.06969e+006	602.0961	0.0272	5.6300e-003	604.4553
Total		602.0961	0.0272	5.6300e-003	604.4553

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.2403	5.1000e-004	0.0558	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1088	0.1088	2.8000e-004	0.0000	0.1159
Unmitigated	2.2403	5.1000e-004	0.0558	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1088	0.1088	2.8000e-004	0.0000	0.1159

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3424					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8927					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.1400e-003	5.1000e-004	0.0558	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1088	0.1088	2.8000e-004	0.0000	0.1159
Total	2.2403	5.1000e-004	0.0558	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1088	0.1088	2.8000e-004	0.0000	0.1159

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3424					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8927					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.1400e-003	5.1000e-004	0.0558	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1088	0.1088	2.8000e-004	0.0000	0.1159
Total	2.2403	5.1000e-004	0.0558	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1088	0.1088	2.8000e-004	0.0000	0.1159

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	105.8271	1.7657	0.0424	162.6127
Unmitigated	149.3080	2.5081	0.0603	229.9655

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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	4.6987 / 0.243846	9.1353	0.1535	3.6900e-003	14.0703
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	17.1781 / 0.891479	33.3979	0.5610	0.0135	51.4397
Movie Theater (No Matinee)	11.3173 / 0.587327	22.0033	0.3696	8.8800e-003	33.8897
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	10.5595 / 0.547997	20.5299	0.3449	8.2900e-003	31.6203
User Defined Recreational	33.0425 / 1.71479	64.2417	1.0791	0.0259	98.9457
Total		149.3080	2.5081	0.0603	229.9655

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	3.30789 / 0.214584	6.4750	0.1080	2.6000e-003	9.9493
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	12.0933 / 0.784502	23.6718	0.3950	9.4900e-003	36.3739
Movie Theater (No Matinee)	7.96738 / 0.516848	15.5956	0.2602	6.2500e-003	23.9640
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	7.43385 / 0.482237	14.5512	0.2428	5.8300e-003	22.3593
User Defined Recreational	23.2619 / 1.50901	45.5335	0.7597	0.0183	69.9663
Total		105.8271	1.7657	0.0424	162.6127

8.0 Waste Detail

8.1 Mitigation Measures Waste

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	262.2643	15.4994	0.0000	649.7488
Unmitigated	262.2643	15.4994	0.0000	649.7488

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8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1292	262.2643	15.4994	0.0000	649.7488
Total		262.2643	15.4994	0.0000	649.7488

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1292	262.2643	15.4994	0.0000	649.7488
Total		262.2643	15.4994	0.0000	649.7488

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Boiler - CNG (0 - 2 MMBTU)	0.0354	0.1577	0.6313	3.8600e-003		0.0490	0.0490		0.0490	0.0490	0.0000	701.2124	701.2124	0.0134	0.0000	701.5484
Emergency Generator - Diesel (750 - 9999 HP)	0.0432	0.1931	0.1101	2.1000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	20.0353	20.0353	2.8100e-003	0.0000	20.1055
Total	0.0786	0.3507	0.7413	4.0700e-003		0.0553	0.0553		0.0553	0.0553	0.0000	721.2477	721.2477	0.0163	0.0000	721.6539

11.0 Vegetation

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	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-400.8300	0.0000	0.0000	-400.8300

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	232 / 139	-400.8300	0.0000	0.0000	-400.8300
Total		-400.8300	0.0000	0.0000	-400.8300

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

**Redding Rancheria FTT and Casino Project – Alternative A
Shasta County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.51	583,500.00	0
Parking Lot	600.00	Space	60.98	0.00	0
Arena	10.08	1000sqft	0.29	10,080.00	0
Hotel	250.00	Room	5.02	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	2.04	7,200.00	0
User Defined Recreational	150.33	User Defined Unit	4.25	150,326.00	0
Regional Shopping Center	130.00	1000sqft	3.68	130,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Off-road Equipment -

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150

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tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	110.00	209.00
tblConstructionPhase	NumDays	1,550.00	272.00
tblConstructionPhase	NumDays	155.00	65.00
tblConstructionPhase	NumDays	110.00	76.00
tblConstructionPhase	NumDays	60.00	45.00
tblConstructionPhase	PhaseEndDate	2/5/2027	12/31/2020
tblConstructionPhase	PhaseEndDate	4/3/2026	12/15/2020
tblConstructionPhase	PhaseEndDate	4/24/2020	11/30/2019
tblConstructionPhase	PhaseEndDate	9/4/2026	8/15/2020
tblConstructionPhase	PhaseEndDate	9/20/2019	8/31/2019
tblConstructionPhase	PhaseStartDate	9/5/2026	3/15/2020
tblConstructionPhase	PhaseStartDate	4/25/2020	12/1/2019
tblConstructionPhase	PhaseStartDate	9/21/2019	9/1/2019
tblConstructionPhase	PhaseStartDate	4/4/2026	5/1/2020
tblEnergyUse	LightingElect	2.78	0.00

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tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	0.00	13.77
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	0.00	0.13
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	8.66	0.00
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00

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tblLandUse	BuildingSpaceSquareFeet	74,250.00	7,200.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	7,200.00
tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	16.51
tblLandUse	LotAcreage	5.40	60.98
tblLandUse	LotAcreage	3.24	0.29
tblLandUse	LotAcreage	8.33	5.02
tblLandUse	LotAcreage	1.70	2.04
tblLandUse	LotAcreage	0.00	4.25
tblLandUse	LotAcreage	2.98	3.68
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	136.50	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,292.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40

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tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	CW_TTP	0.00	61.60
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	10.00
tblVehicleTrips	DV_TP	0.00	10.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	90.00
tblVehicleTrips	PR_TP	0.00	90.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	49.97	22.52

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tblVehicleTrips	ST_TR	0.00	33.67
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	SU_TR	0.00	33.67
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	42.70	22.52
tblVehicleTrips	WD_TR	0.00	33.67
tblWater	IndoorWaterUseRate	4,342,162.79	4,698,703.00
tblWater	IndoorWaterUseRate	6,341,692.50	17,178,053.00
tblWater	IndoorWaterUseRate	29,818,908.53	11,317,305.00
tblWater	IndoorWaterUseRate	9,629,427.79	10,559,450.00
tblWater	IndoorWaterUseRate	0.00	33,042,489.00
tblWater	OutdoorWaterUseRate	277,159.33	243,846.00
tblWater	OutdoorWaterUseRate	704,632.50	891,479.00
tblWater	OutdoorWaterUseRate	1,903,334.59	587,327.00
tblWater	OutdoorWaterUseRate	5,901,907.36	547,997.00
tblWater	OutdoorWaterUseRate	0.00	1,714,786.00

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.3044	5.6200e-003	0.6202	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3329	1.3329	3.4700e-003		1.4196
Energy	5.8000e-004	5.2900e-003	4.4400e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3474	6.3474	1.2000e-004	1.2000e-004	6.3851
Mobile	25.3644	176.1494	279.2689	1.2799	90.5767	0.9304	91.5071	24.2621	0.8736	25.1357		130,373.4192	130,373.4192	5.1786		130,502.8845
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	45.0587	209.2011	301.6988	1.3357	90.5767	2.2597	92.8364	24.2621	2.2028	26.4649		138,297.3156	138,297.3156	5.7794	1.2000e-004	138,441.8362

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.3044	5.6200e-003	0.6202	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3329	1.3329	3.4700e-003		1.4196
Energy	5.8000e-004	5.2900e-003	4.4400e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3474	6.3474	1.2000e-004	1.2000e-004	6.3851
Mobile	25.3644	176.1494	279.2689	1.2799	90.5767	0.9304	91.5071	24.2621	0.8736	25.1357		130,373.4192	130,373.4192	5.1786		130,502.8845
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	45.0587	209.2011	301.6988	1.3357	90.5767	2.2597	92.8364	24.2621	2.2028	26.4649		138,297.3156	138,297.3156	5.7794	1.2000e-004	138,441.8362

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	8/31/2019	5	45	
2	Grading	Grading	9/1/2019	11/30/2019	5	65	
3	Building Construction	Building Construction	12/1/2019	12/15/2020	5	272	
4	Paving	Paving	5/1/2020	8/15/2020	5	76	
5	Architectural Coating	Architectural Coating	3/15/2020	12/31/2020	5	209	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 77.49

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 712,460; Non-Residential Outdoor: 237,487; Striped Parking Area: 35,010 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	432.00	173.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	86.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					24.0883	0.0000	24.0883	13.2409	0.0000	13.2409			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	24.0883	2.3904	26.4787	13.2409	2.1991	15.4400		3,766.4529	3,766.4529	1.1917		3,796.2445

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3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					10.8398	0.0000	10.8398	5.9584	0.0000	5.9584			0.0000			0.0000
Off-Road	0.9312	19.0656	22.9600	0.0380		0.1419	0.1419		0.1419	0.1419	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	0.9312	19.0656	22.9600	0.0380	10.8398	0.1419	10.9817	5.9584	0.1419	6.1003	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

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3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					20.6826	0.0000	20.6826	8.5763	0.0000	8.5763			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	20.6826	2.3827	23.0652	8.5763	2.1920	10.7683		6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393
Total	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.3072	0.0000	9.3072	3.8593	0.0000	3.8593			0.0000			0.0000
Off-Road	2.9080	41.3897	36.6894	0.0620		1.1249	1.1249		1.0439	1.0439	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	2.9080	41.3897	36.6894	0.0620	9.3072	1.1249	10.4321	3.8593	1.0439	4.9033	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393
Total	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9211	22.8615	5.0444	0.0512	1.1724	0.1817	1.3541	0.3376	0.1738	0.5114		5,350.436 2	5,350.436 2	0.4419		5,361.484 0
Worker	2.4284	1.5390	18.6096	0.0400	3.5488	0.0262	3.5750	0.9413	0.0242	0.9655		3,971.252 6	3,971.252 6	0.1599		3,975.249 2
Total	3.3495	24.4005	23.6540	0.0912	4.7212	0.2079	4.9291	1.2789	0.1980	1.4769		9,321.688 8	9,321.688 8	0.6018		9,336.733 2

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9211	22.8615	5.0444	0.0512	1.1724	0.1817	1.3541	0.3376	0.1738	0.5114		5,350.436 2	5,350.436 2	0.4419		5,361.484 0
Worker	2.4284	1.5390	18.6096	0.0400	3.5488	0.0262	3.5750	0.9413	0.0242	0.9655		3,971.252 6	3,971.252 6	0.1599		3,975.249 2
Total	3.3495	24.4005	23.6540	0.0912	4.7212	0.2079	4.9291	1.2789	0.1980	1.4769		9,321.688 8	9,321.688 8	0.6018		9,336.733 2

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.063 1	2,553.063 1	0.6229		2,568.634 5

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7434	20.8586	4.3571	0.0509	1.1725	0.1162	1.2886	0.3376	0.1111	0.4487		5,314.790 5	5,314.790 5	0.4029		5,324.863 2
Worker	2.1714	1.3435	16.3592	0.0387	3.5488	0.0253	3.5740	0.9413	0.0233	0.9646		3,846.149 8	3,846.149 8	0.1363		3,849.556 5
Total	2.9148	22.2021	20.7163	0.0895	4.7212	0.1414	4.8626	1.2789	0.1344	1.4133		9,160.940 2	9,160.940 2	0.5392		9,174.419 7

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7434	20.8586	4.3571	0.0509	1.1725	0.1162	1.2886	0.3376	0.1111	0.4487		5,314.790 5	5,314.790 5	0.4029		5,324.863 2
Worker	2.1714	1.3435	16.3592	0.0387	3.5488	0.0253	3.5740	0.9413	0.0233	0.9646		3,846.149 8	3,846.149 8	0.1363		3,849.556 5
Total	2.9148	22.2021	20.7163	0.0895	4.7212	0.1414	4.8626	1.2789	0.1344	1.4133		9,160.940 2	9,160.940 2	0.5392		9,174.419 7

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1
Paving	2.1022					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	3.4588	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652
Total	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5609	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	2.1022					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.6632	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652
Total	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	32.7651					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	33.0073	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4323	0.2675	3.2567	7.7000e-003	0.7065	5.0300e-003	0.7115	0.1874	4.6300e-003	0.1920		765.6687	765.6687	0.0271		766.3469
Total	0.4323	0.2675	3.2567	7.7000e-003	0.7065	5.0300e-003	0.7115	0.1874	4.6300e-003	0.1920		765.6687	765.6687	0.0271		766.3469

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	32.7651					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928
Total	32.8246	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4323	0.2675	3.2567	7.7000e-003	0.7065	5.0300e-003	0.7115	0.1874	4.6300e-003	0.1920		765.6687	765.6687	0.0271		766.3469
Total	0.4323	0.2675	3.2567	7.7000e-003	0.7065	5.0300e-003	0.7115	0.1874	4.6300e-003	0.1920		765.6687	765.6687	0.0271		766.3469

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	25.3644	176.1494	279.2689	1.2799	90.5767	0.9304	91.5071	24.2621	0.8736	25.1357		130,373.4192	130,373.4192	5.1786		130,502.8845
Unmitigated	25.3644	176.1494	279.2689	1.2799	90.5767	0.9304	91.5071	24.2621	0.8736	25.1357		130,373.4192	130,373.4192	5.1786		130,502.8845

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	3,059,824	3,059,824
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	2,927.60	2,927.60	2,927.60	12,267,322	12,267,322
User Defined Recreational	5,061.61	5,061.61	5,061.61	21,209,322	21,209,322
Total	9,933.67	9,933.67	9,933.67	42,285,013	42,285,013

4.3 Trip Type Information

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	100	0	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	90	10	0
User Defined Recreational	9.50	9.50	25.00	61.60	19.40	19.00	90	10	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Parking Lot	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Arena	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Hotel	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Movie Theater (No Matinee)	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
User Defined Recreational	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Regional Shopping Center	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.8000e-004	5.2900e-003	4.4400e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3474	6.3474	1.2000e-004	1.2000e-004	6.3851
NaturalGas Unmitigated	5.8000e-004	5.2900e-003	4.4400e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3474	6.3474	1.2000e-004	1.2000e-004	6.3851

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	lb/day										lb/day						
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	53.9526	5.8000e-004	5.2900e-003	4.4400e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3474	6.3474	1.2000e-004	1.2000e-004	6.3851	
Total		5.8000e-004	5.2900e-003	4.4400e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3474	6.3474	1.2000e-004	1.2000e-004	6.3851	

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0.0539526	5.8000e-004	5.2900e-003	4.4400e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3474	6.3474	1.2000e-004	1.2000e-004	6.3851
Total		5.8000e-004	5.2900e-003	4.4400e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3474	6.3474	1.2000e-004	1.2000e-004	6.3851

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	12.3044	5.6200e-003	0.6202	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3329	1.3329	3.4700e-003		1.4196
Unmitigated	12.3044	5.6200e-003	0.6202	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3329	1.3329	3.4700e-003		1.4196

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.8761					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.3711					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0571	5.6200e-003	0.6202	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3329	1.3329	3.4700e-003		1.4196
Total	12.3044	5.6200e-003	0.6202	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3329	1.3329	3.4700e-003		1.4196

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.8761					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.3711					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0571	5.6200e-003	0.6202	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3329	1.3329	3.4700e-003		1.4196
Total	12.3044	5.6200e-003	0.6202	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3329	1.3329	3.4700e-003		1.4196

7.0 Water Detail

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (0 - 2 MMBTU)	0.1941	0.8640	3.4589	0.0212		0.2682	0.2682		0.2682	0.2682		4,235.3665	4,235.3665	0.0812		4,237.3959
Emergency Generator - Diesel (750 - 9999 HP)	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

**Redding Rancheria FTT and Casino Project – Alternative A
Shasta County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.51	583,500.00	0
Parking Lot	600.00	Space	60.98	0.00	0
Arena	10.08	1000sqft	0.29	10,080.00	0
Hotel	250.00	Room	5.02	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	2.04	7,200.00	0
User Defined Recreational	150.33	User Defined Unit	4.25	150,326.00	0
Regional Shopping Center	130.00	1000sqft	3.68	130,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

Project Characteristics - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Off-road Equipment -

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	110.00	209.00
tblConstructionPhase	NumDays	1,550.00	272.00
tblConstructionPhase	NumDays	155.00	65.00
tblConstructionPhase	NumDays	110.00	76.00
tblConstructionPhase	NumDays	60.00	45.00
tblConstructionPhase	PhaseEndDate	2/5/2027	12/31/2020
tblConstructionPhase	PhaseEndDate	4/3/2026	12/15/2020
tblConstructionPhase	PhaseEndDate	4/24/2020	11/30/2019
tblConstructionPhase	PhaseEndDate	9/4/2026	8/15/2020
tblConstructionPhase	PhaseEndDate	9/20/2019	8/31/2019
tblConstructionPhase	PhaseStartDate	9/5/2026	3/15/2020
tblConstructionPhase	PhaseStartDate	4/25/2020	12/1/2019
tblConstructionPhase	PhaseStartDate	9/21/2019	9/1/2019
tblConstructionPhase	PhaseStartDate	4/4/2026	5/1/2020
tblEnergyUse	LightingElect	2.78	0.00

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	0.00	13.77
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	0.00	0.13
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	8.66	0.00
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

tblLandUse	BuildingSpaceSquareFeet	74,250.00	7,200.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	7,200.00
tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	16.51
tblLandUse	LotAcreage	5.40	60.98
tblLandUse	LotAcreage	3.24	0.29
tblLandUse	LotAcreage	8.33	5.02
tblLandUse	LotAcreage	1.70	2.04
tblLandUse	LotAcreage	0.00	4.25
tblLandUse	LotAcreage	2.98	3.68
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	136.50	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,292.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40

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tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	CW_TTP	0.00	61.60
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	10.00
tblVehicleTrips	DV_TP	0.00	10.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	90.00
tblVehicleTrips	PR_TP	0.00	90.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	49.97	22.52

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tblVehicleTrips	ST_TR	0.00	33.67
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	SU_TR	0.00	33.67
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	42.70	22.52
tblVehicleTrips	WD_TR	0.00	33.67
tblWater	IndoorWaterUseRate	4,342,162.79	4,698,703.00
tblWater	IndoorWaterUseRate	6,341,692.50	17,178,053.00
tblWater	IndoorWaterUseRate	29,818,908.53	11,317,305.00
tblWater	IndoorWaterUseRate	9,629,427.79	10,559,450.00
tblWater	IndoorWaterUseRate	0.00	33,042,489.00
tblWater	OutdoorWaterUseRate	277,159.33	243,846.00
tblWater	OutdoorWaterUseRate	704,632.50	891,479.00
tblWater	OutdoorWaterUseRate	1,903,334.59	587,327.00
tblWater	OutdoorWaterUseRate	5,901,907.36	547,997.00
tblWater	OutdoorWaterUseRate	0.00	1,714,786.00

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.3044	5.6200e-003	0.6202	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3329	1.3329	3.4700e-003		1.4196
Energy	5.8000e-004	5.2900e-003	4.4400e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3474	6.3474	1.2000e-004	1.2000e-004	6.3851
Mobile	19.5990	182.7045	244.7921	1.1706	90.5767	0.9343	91.5110	24.2621	0.8773	25.1394		119,407.9031	119,407.9031	5.3692		119,542.1328
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	39.2934	215.7562	267.2221	1.2265	90.5767	2.2636	92.8403	24.2621	2.2066	26.4687		127,331.7995	127,331.7995	5.9700	1.2000e-004	127,481.0844

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.3044	5.6200e-003	0.6202	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3329	1.3329	3.4700e-003		1.4196
Energy	5.8000e-004	5.2900e-003	4.4400e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3474	6.3474	1.2000e-004	1.2000e-004	6.3851
Mobile	19.5990	182.7045	244.7921	1.1706	90.5767	0.9343	91.5110	24.2621	0.8773	25.1394		119,407.9031	119,407.9031	5.3692		119,542.1328
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	39.2934	215.7562	267.2221	1.2265	90.5767	2.2636	92.8403	24.2621	2.2066	26.4687		127,331.7995	127,331.7995	5.9700	1.2000e-004	127,481.0844

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	8/31/2019	5	45	
2	Grading	Grading	9/1/2019	11/30/2019	5	65	
3	Building Construction	Building Construction	12/1/2019	12/15/2020	5	272	
4	Paving	Paving	5/1/2020	8/15/2020	5	76	
5	Architectural Coating	Architectural Coating	3/15/2020	12/31/2020	5	209	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 77.49

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 712,460; Non-Residential Outdoor: 237,487; Striped Parking Area: 35,010 (Architectural Coating – sqft)

OffRoad Equipment

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	432.00	173.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	86.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					24.0883	0.0000	24.0883	13.2409	0.0000	13.2409			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	24.0883	2.3904	26.4787	13.2409	2.1991	15.4400		3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					10.8398	0.0000	10.8398	5.9584	0.0000	5.9584			0.0000			0.0000
Off-Road	0.9312	19.0656	22.9600	0.0380		0.1419	0.1419		0.1419	0.1419	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	0.9312	19.0656	22.9600	0.0380	10.8398	0.1419	10.9817	5.9584	0.1419	6.1003	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					20.6826	0.0000	20.6826	8.5763	0.0000	8.5763			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	20.6826	2.3827	23.0652	8.5763	2.1920	10.7683		6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032
Total	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.3072	0.0000	9.3072	3.8593	0.0000	3.8593			0.0000			0.0000
Off-Road	2.9080	41.3897	36.6894	0.0620		1.1249	1.1249		1.0439	1.0439	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	2.9080	41.3897	36.6894	0.0620	9.3072	1.1249	10.4321	3.8593	1.0439	4.9033	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032
Total	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9613	23.3634	5.9272	0.0495	1.1724	0.1853	1.3577	0.3376	0.1772	0.5148		5,176.1209	5,176.1209	0.4967		5,188.5385
Worker	2.1246	1.8422	15.7797	0.0346	3.5488	0.0262	3.5750	0.9413	0.0242	0.9655		3,443.9628	3,443.9628	0.1387		3,447.4291
Total	3.0859	25.2056	21.7069	0.0842	4.7212	0.2115	4.9327	1.2789	0.2014	1.4803		8,620.0837	8,620.0837	0.6354		8,635.9676

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9613	23.3634	5.9272	0.0495	1.1724	0.1853	1.3577	0.3376	0.1772	0.5148		5,176.1209	5,176.1209	0.4967		5,188.5385
Worker	2.1246	1.8422	15.7797	0.0346	3.5488	0.0262	3.5750	0.9413	0.0242	0.9655		3,443.9628	3,443.9628	0.1387		3,447.4291
Total	3.0859	25.2056	21.7069	0.0842	4.7212	0.2115	4.9327	1.2789	0.2014	1.4803		8,620.0837	8,620.0837	0.6354		8,635.9676

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7803	21.2451	5.1675	0.0492	1.1725	0.1189	1.2913	0.3376	0.1137	0.4513		5,139.5108	5,139.5108	0.4547		5,150.8792
Worker	1.9022	1.6055	13.7550	0.0335	3.5488	0.0253	3.5740	0.9413	0.0233	0.9646		3,335.0283	3,335.0283	0.1172		3,337.9577
Total	2.6825	22.8506	18.9225	0.0827	4.7212	0.1441	4.8654	1.2789	0.1370	1.4159		8,474.5391	8,474.5391	0.5719		8,488.8369

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7803	21.2451	5.1675	0.0492	1.1725	0.1189	1.2913	0.3376	0.1137	0.4513		5,139.5108	5,139.5108	0.4547		5,150.8792
Worker	1.9022	1.6055	13.7550	0.0335	3.5488	0.0253	3.5740	0.9413	0.0233	0.9646		3,335.0283	3,335.0283	0.1172		3,337.9577
Total	2.6825	22.8506	18.9225	0.0827	4.7212	0.1441	4.8654	1.2789	0.1370	1.4159		8,474.5391	8,474.5391	0.5719		8,488.8369

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	2.1022					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	3.4588	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013
Total	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5609	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	2.1022					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.6632	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013
Total	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	32.7651					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	33.0073	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3787	0.3196	2.7383	6.6700e-003	0.7065	5.0300e-003	0.7115	0.1874	4.6300e-003	0.1920		663.9177	663.9177	0.0233		664.5009
Total	0.3787	0.3196	2.7383	6.6700e-003	0.7065	5.0300e-003	0.7115	0.1874	4.6300e-003	0.1920		663.9177	663.9177	0.0233		664.5009

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	32.7651					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928
Total	32.8246	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3787	0.3196	2.7383	6.6700e-003	0.7065	5.0300e-003	0.7115	0.1874	4.6300e-003	0.1920		663.9177	663.9177	0.0233		664.5009
Total	0.3787	0.3196	2.7383	6.6700e-003	0.7065	5.0300e-003	0.7115	0.1874	4.6300e-003	0.1920		663.9177	663.9177	0.0233		664.5009

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	19.5990	182.7045	244.7921	1.1706	90.5767	0.9343	91.5110	24.2621	0.8773	25.1394		119,407.9031	119,407.9031	5.3692		119,542.1328
Unmitigated	19.5990	182.7045	244.7921	1.1706	90.5767	0.9343	91.5110	24.2621	0.8773	25.1394		119,407.9031	119,407.9031	5.3692		119,542.1328

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	3,059,824	3,059,824
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	2,927.60	2,927.60	2,927.60	12,267,322	12,267,322
User Defined Recreational	5,061.61	5,061.61	5,061.61	21,209,322	21,209,322
Total	9,933.67	9,933.67	9,933.67	42,285,013	42,285,013

4.3 Trip Type Information

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	100	0	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	90	10	0
User Defined Recreational	9.50	9.50	25.00	61.60	19.40	19.00	90	10	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Parking Lot	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Arena	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Hotel	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Movie Theater (No Matinee)	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
User Defined Recreational	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Regional Shopping Center	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.8000e-004	5.2900e-003	4.4400e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3474	6.3474	1.2000e-004	1.2000e-004	6.3851
NaturalGas Unmitigated	5.8000e-004	5.2900e-003	4.4400e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3474	6.3474	1.2000e-004	1.2000e-004	6.3851

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	53.9526	5.8000e-004	5.2900e-003	4.4400e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3474	6.3474	1.2000e-004	1.2000e-004	6.3851
Total		5.8000e-004	5.2900e-003	4.4400e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3474	6.3474	1.2000e-004	1.2000e-004	6.3851

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0.0539526	5.8000e-004	5.2900e-003	4.4400e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3474	6.3474	1.2000e-004	1.2000e-004	6.3851
Total		5.8000e-004	5.2900e-003	4.4400e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3474	6.3474	1.2000e-004	1.2000e-004	6.3851

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	12.3044	5.6200e-003	0.6202	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3329	1.3329	3.4700e-003		1.4196
Unmitigated	12.3044	5.6200e-003	0.6202	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3329	1.3329	3.4700e-003		1.4196

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.8761					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.3711					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0571	5.6200e-003	0.6202	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3329	1.3329	3.4700e-003		1.4196
Total	12.3044	5.6200e-003	0.6202	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3329	1.3329	3.4700e-003		1.4196

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.8761					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.3711					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0571	5.6200e-003	0.6202	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3329	1.3329	3.4700e-003		1.4196
Total	12.3044	5.6200e-003	0.6202	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3329	1.3329	3.4700e-003		1.4196

7.0 Water Detail

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (0 - 2 MMBTU)	0.1941	0.8640	3.4589	0.0212		0.2682	0.2682		0.2682	0.2682		4,235.3665	4,235.3665	0.0812		4,237.3959
Emergency Generator - Diesel (750 - 9999 HP)	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative A

Shasta County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.01	0.17	0.00	0.00	0.83	0.84	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.31	0.12	-0.03	0.00	0.78	0.77	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.38	0.24	-0.10	0.00	0.53	0.52	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.23	0.20	-0.17	0.00	0.88	0.87	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.77	0.58	-0.04	0.00	0.94	0.94	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	Tier 3	1	1	Level 3	0.00
Cranes	Diesel	Tier 3	1	1	Level 3	0.00
Excavators	Diesel	Tier 3	2	2	Level 3	0.00
Forklifts	Diesel	Tier 3	3	3	Level 3	0.00
Generator Sets	Diesel	Tier 3	1	1	Level 3	0.00
Graders	Diesel	Tier 3	1	1	Level 3	0.00
Pavers	Diesel	Tier 3	2	2	Level 3	0.00
Paving Equipment	Diesel	Tier 3	2	2	Level 3	0.00
Rollers	Diesel	Tier 3	2	2	Level 3	0.00
Rubber Tired Dozers	Diesel	Tier 3	4	4	Level 3	0.00
Scrapers	Diesel	No Change	0	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 3	9	9	Level 3	0.00
Welders	Diesel	Tier 3	1	1	Level 3	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	2.53100E-002	1.75960E-001	1.91380E-001	3.10000E-004	1.15900E-002	1.15900E-002	0.00000E+000	2.66815E+001	2.66815E+001	2.07000E-003	0.00000E+000	2.67332E+001
Cranes	5.44400E-002	6.47520E-001	2.53440E-001	6.90000E-004	2.67600E-002	2.46200E-002	0.00000E+000	6.04326E+001	6.04326E+001	1.95100E-002	0.00000E+000	6.09203E+001
Excavators	1.69500E-002	1.74320E-001	2.12110E-001	3.40000E-004	8.41000E-003	7.73000E-003	0.00000E+000	3.01396E+001	3.01396E+001	9.54000E-003	0.00000E+000	3.03779E+001
Forklifts	5.92800E-002	5.33700E-001	4.82010E-001	6.20000E-004	3.99000E-002	3.67100E-002	0.00000E+000	5.48893E+001	5.48893E+001	1.77200E-002	0.00000E+000	5.53324E+001
Generator Sets	5.47700E-002	4.76380E-001	5.04150E-001	8.90000E-004	2.70100E-002	2.70100E-002	0.00000E+000	7.68682E+001	7.68682E+001	4.37000E-003	0.00000E+000	7.69775E+001
Graders	1.58200E-002	2.13840E-001	5.97400E-002	2.20000E-004	6.86000E-003	6.31000E-003	0.00000E+000	1.93892E+001	1.93892E+001	6.13000E-003	0.00000E+000	1.95425E+001
Pavers	1.99600E-002	2.13580E-001	2.20270E-001	3.60000E-004	1.03800E-002	9.55000E-003	0.00000E+000	3.13892E+001	3.13892E+001	1.01500E-002	0.00000E+000	3.16430E+001
Paving Equipment	1.57700E-002	1.62740E-001	1.92610E-001	3.10000E-004	8.14000E-003	7.49000E-003	0.00000E+000	2.72012E+001	2.72012E+001	8.80000E-003	0.00000E+000	2.74211E+001
Rollers	1.58200E-002	1.58170E-001	1.43900E-001	2.00000E-004	1.00800E-002	9.28000E-003	0.00000E+000	1.75169E+001	1.75169E+001	5.67000E-003	0.00000E+000	1.76585E+001
Rubber Tired Dozers	1.13460E-001	1.20744E+000	4.28410E-001	8.50000E-004	5.88700E-002	5.41600E-002	0.00000E+000	7.66960E+001	7.66960E+001	2.42700E-002	0.00000E+000	7.73026E+001
Scrapers	6.92400E-002	8.39400E-001	5.23990E-001	9.80000E-004	3.28900E-002	3.02600E-002	0.00000E+000	8.84396E+001	8.84396E+001	2.79800E-002	0.00000E+000	8.91391E+001
Tractors/Loaders/Backhoes	1.11550E-001	1.12053E+000	1.17143E+000	1.59000E-003	7.23700E-002	6.65800E-002	0.00000E+000	1.40830E+002	1.40830E+002	4.51900E-002	0.00000E+000	1.41960E+002
Welders	4.70000E-002	2.14280E-001	2.40760E-001	3.50000E-004	1.19600E-002	1.19600E-002	0.00000E+000	2.55980E+001	2.55980E+001	3.82000E-003	0.00000E+000	2.56936E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr							Mitigated mt/yr					
Air Compressors	6.21000E-003	1.41800E-001	1.91490E-001	3.10000E-004	1.49000E-003	1.49000E-003	0.00000E+000	2.66815E+001	2.66815E+001	2.07000E-003	0.00000E+000	2.67331E+001
Cranes	1.68700E-002	3.26190E-001	3.65560E-001	6.90000E-004	1.86000E-003	1.86000E-003	0.00000E+000	6.04325E+001	6.04325E+001	1.95100E-002	0.00000E+000	6.09203E+001
Excavators	8.26000E-003	1.59690E-001	2.54670E-001	3.40000E-004	1.16000E-003	1.16000E-003	0.00000E+000	3.01395E+001	3.01395E+001	9.54000E-003	0.00000E+000	3.03779E+001
Forklifts	1.53700E-002	3.50960E-001	4.73920E-001	6.20000E-004	3.69000E-003	3.69000E-003	0.00000E+000	5.48893E+001	5.48893E+001	1.77200E-002	0.00000E+000	5.53323E+001
Generator Sets	1.78900E-002	4.08530E-001	5.51660E-001	8.90000E-004	4.29000E-003	4.29000E-003	0.00000E+000	7.68681E+001	7.68681E+001	4.37000E-003	0.00000E+000	7.69774E+001
Graders	5.27000E-003	1.01960E-001	1.14260E-001	2.20000E-004	5.80000E-004	5.80000E-004	0.00000E+000	1.93891E+001	1.93891E+001	6.13000E-003	0.00000E+000	1.95425E+001
Pavers	8.78000E-003	1.69790E-001	2.70790E-001	3.60000E-004	1.23000E-003	1.23000E-003	0.00000E+000	3.13892E+001	3.13892E+001	1.01500E-002	0.00000E+000	3.16430E+001
Paving Equipment	7.64000E-003	1.47780E-001	2.35680E-001	3.10000E-004	1.07000E-003	1.07000E-003	0.00000E+000	2.72011E+001	2.72011E+001	8.80000E-003	0.00000E+000	2.74211E+001
Rollers	4.89000E-003	1.11650E-001	1.50770E-001	2.00000E-004	1.17000E-003	1.17000E-003	0.00000E+000	1.75169E+001	1.75169E+001	5.67000E-003	0.00000E+000	1.76585E+001
Rubber Tired Dozers	2.09100E-002	4.04270E-001	4.53060E-001	8.50000E-004	2.30000E-003	2.30000E-003	0.00000E+000	7.66959E+001	7.66959E+001	2.42700E-002	0.00000E+000	7.73025E+001
Scrapers	6.92400E-002	8.39400E-001	5.23990E-001	9.80000E-004	3.28900E-002	3.02600E-002	0.00000E+000	8.84395E+001	8.84395E+001	2.79800E-002	0.00000E+000	8.91390E+001
Tractors/Loaders/Balckhoes	3.88900E-002	8.88010E-001	1.19914E+000	1.59000E-003	9.33000E-003	9.33000E-003	0.00000E+000	1.40830E+002	1.40830E+002	4.51900E-002	0.00000E+000	1.41960E+002
Welders	1.44000E-002	2.29890E-001	2.03570E-001	3.50000E-004	2.09000E-003	2.09000E-003	0.00000E+000	2.55980E+001	2.55980E+001	3.82000E-003	0.00000E+000	2.56936E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	7.54642E-001	1.94135E-001	-5.74773E-004	0.00000E+000	8.71441E-001	8.71441E-001	0.00000E+000	1.12437E-006	1.12437E-006	0.00000E+000	0.00000E+000	1.49627E-006
Cranes	6.90118E-001	4.96247E-001	-4.42393E-001	0.00000E+000	9.30493E-001	9.24452E-001	0.00000E+000	1.15832E-006	1.15832E-006	0.00000E+000	0.00000E+000	1.14904E-006
Excavators	5.12684E-001	8.39261E-002	-2.00651E-001	0.00000E+000	8.62069E-001	8.49935E-001	0.00000E+000	1.32716E-006	1.32716E-006	0.00000E+000	0.00000E+000	9.87559E-007
Forklifts	7.40722E-001	3.42402E-001	1.67839E-002	0.00000E+000	9.07519E-001	8.99482E-001	0.00000E+000	1.09311E-006	1.09311E-006	0.00000E+000	0.00000E+000	1.26508E-006
Generator Sets	6.73361E-001	1.42428E-001	-9.42378E-002	0.00000E+000	8.41170E-001	8.41170E-001	0.00000E+000	1.17084E-006	1.17084E-006	0.00000E+000	0.00000E+000	1.29908E-006
Graders	6.66877E-001	5.23195E-001	-9.12621E-001	0.00000E+000	9.15452E-001	9.08082E-001	0.00000E+000	1.03150E-006	1.03150E-006	0.00000E+000	0.00000E+000	1.53511E-006
Pavers	5.60120E-001	2.05029E-001	-2.29355E-001	0.00000E+000	8.81503E-001	8.71204E-001	0.00000E+000	1.27432E-006	1.27432E-006	0.00000E+000	0.00000E+000	1.26410E-006
Paving Equipment	5.15536E-001	9.19258E-002	-2.23612E-001	0.00000E+000	8.68550E-001	8.57143E-001	0.00000E+000	1.47053E-006	1.47053E-006	0.00000E+000	0.00000E+000	1.09405E-006
Rollers	6.90898E-001	2.94114E-001	-4.77415E-002	0.00000E+000	8.83929E-001	8.73922E-001	0.00000E+000	1.14176E-006	1.14176E-006	0.00000E+000	0.00000E+000	1.13260E-006
Rubber Tired Dozers	8.15706E-001	6.65184E-001	-5.75383E-002	0.00000E+000	9.60931E-001	9.57533E-001	0.00000E+000	1.17346E-006	1.17346E-006	0.00000E+000	0.00000E+000	1.29362E-006
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.13072E-006	1.13072E-006	0.00000E+000	0.00000E+000	1.23403E-006
Tractors/Loaders/Balckhoes	6.51367E-001	2.07509E-001	-2.36548E-002	0.00000E+000	8.71079E-001	8.59868E-001	0.00000E+000	1.13612E-006	1.13612E-006	0.00000E+000	0.00000E+000	1.19752E-006
Welders	6.93617E-001	-7.28486E-002	1.54469E-001	0.00000E+000	8.25251E-001	8.25251E-001	0.00000E+000	1.17197E-006	1.17197E-006	0.00000E+000	0.00000E+000	1.16761E-006

Fugitive Dust Mitigation

Yes/No Mitigation Measure Mitigation Input Mitigation Input Mitigation Input

Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	10.00	PM2.5 Reduction	10.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00

No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
Yes	Clean Paved Road	% PM Reduction	0.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.07	0.02	0.07	0.02	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.61	0.17	0.61	0.17	0.00	0.00
Grading	Fugitive Dust	0.67	0.28	0.30	0.13	0.55	0.55
Grading	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.54	0.30	0.24	0.13	0.55	0.55
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	29.60	29.03	29.12	29.60	29.62	29.29
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.18	0.45		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network			
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00		
No	Transit Improvements	Expand Transit Network	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00
No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		

No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	150.00
Yes	Use Low VOC Paint (Residential Exterior)	150.00
Yes	Use Low VOC Paint (Non-residential Interior)	150.00
Yes	Use Low VOC Paint (Non-residential Exterior)	150.00
Yes	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
Yes	Use Reclaimed Water	30.00	30.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
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Institute Recycling and Composting Services Percent Reduction in Waste Disposed	
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Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Annual

**Redding Rancheria FTT and Casino Project – Alternative A
Shasta County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.51	583,500.00	0
Parking Lot	600.00	Space	60.98	0.00	0
Arena	10.08	1000sqft	0.29	10,080.00	0
Hotel	250.00	Room	5.02	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	2.04	7,200.00	0
User Defined Recreational	150.33	User Defined Unit	4.25	150,326.00	0
Regional Shopping Center	130.00	1000sqft	3.68	130,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Annual

Project Characteristics - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Off-road Equipment -

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	60.00	2.00

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tblConstructionPhase	PhaseEndDate	9/22/2023	7/2/2020
tblConstructionPhase	PhaseStartDate	7/1/2023	7/1/2020
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	7,200.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	7,200.00
tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	16.51
tblLandUse	LotAcreage	5.40	60.98
tblLandUse	LotAcreage	3.24	0.29
tblLandUse	LotAcreage	8.33	5.02
tblLandUse	LotAcreage	1.70	2.04
tblLandUse	LotAcreage	0.00	4.25
tblLandUse	LotAcreage	2.98	3.68
tblProjectCharacteristics	OperationalYear	2018	2040

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.2402	5.0000e-004	0.0556	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1088	0.1088	2.8000e-004	0.0000	0.1158
Energy	0.0336	0.3056	0.2567	1.8300e-003		0.0232	0.0232		0.0232	0.0232	0.0000	2,227.6121	2,227.6121	0.0921	0.0238	2,237.0140
Mobile	3.3609	33.3456	30.1674	0.1520	9.1964	0.0955	9.2919	2.4713	0.0894	2.5607	0.0000	14,116.7729	14,116.7729	0.9389	0.0000	14,140.2444
Stationary	0.0786	0.3507	0.7413	4.0700e-003		0.0553	0.0553		0.0553	0.0553	0.0000	721.2477	721.2477	0.0163	0.0000	721.6539
Waste						0.0000	0.0000		0.0000	0.0000	55.5505	0.0000	55.5505	3.2829	0.0000	137.6240
Water						0.0000	0.0000		0.0000	0.0000	15.9046	87.8611	103.7657	1.6375	0.0394	156.4433
Total	5.7133	34.0025	31.2211	0.1579	9.1964	0.1742	9.3706	2.4713	0.1681	2.6394	71.4551	17,153.6025	17,225.0576	5.9679	0.0632	17,393.0955

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.2402	5.0000e-004	0.0556	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1088	0.1088	2.8000e-004	0.0000	0.1158
Energy	0.0336	0.3056	0.2567	1.8300e-003		0.0232	0.0232		0.0232	0.0232	0.0000	2,227.6121	2,227.6121	0.0921	0.0238	2,237.0140
Mobile	3.3609	33.3456	30.1674	0.1520	9.1964	0.0955	9.2919	2.4713	0.0894	2.5607	0.0000	14,116.7729	14,116.7729	0.9389	0.0000	14,140.2444
Stationary	0.0786	0.3507	0.7413	4.0700e-003		0.0553	0.0553		0.0553	0.0553	0.0000	721.2477	721.2477	0.0163	0.0000	721.6539
Waste						0.0000	0.0000		0.0000	0.0000	55.5505	0.0000	55.5505	3.2829	0.0000	137.6240
Water						0.0000	0.0000		0.0000	0.0000	11.1969	63.4288	74.6257	1.1529	0.0278	111.7169
Total	5.7133	34.0025	31.2211	0.1579	9.1964	0.1742	9.3706	2.4713	0.1681	2.6394	66.7474	17,129.1703	17,195.9176	5.4833	0.0516	17,348.3691

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.59	0.14	0.17	8.12	18.41	0.26

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2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-400.8300
Total	-400.8300

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2020	7/2/2020	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 77.49

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	6.0000e-005	5.7000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1303	0.1303	0.0000	0.0000	0.1304
Total	7.0000e-005	6.0000e-005	5.7000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1303	0.1303	0.0000	0.0000	0.1304

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.3609	33.3456	30.1674	0.1520	9.1964	0.0955	9.2919	2.4713	0.0894	2.5607	0.0000	14,116.77 29	14,116.77 29	0.9389	0.0000	14,140.24 44
Unmitigated	3.3609	33.3456	30.1674	0.1520	9.1964	0.0955	9.2919	2.4713	0.0894	2.5607	0.0000	14,116.77 29	14,116.77 29	0.9389	0.0000	14,140.24 44

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	107.96	107.96	107.96	209,646	209,646
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	2,042.50	2,047.50	1487.50	3,731,328	3,731,328
Movie Theater (No Matinee)	5,808.00	7,392.00	6105.00	11,442,435	11,442,435
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	5,551.00	6,496.10	3281.20	9,400,795	9,400,795
User Defined Recreational	0.00	0.00	0.00		
Total	13,509.46	16,043.56	10,981.66	24,784,204	24,784,204

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	7.30	7.30	0.00	81.00	19.00	66	28	6
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Movie Theater (No Matinee)	9.50	7.30	7.30	1.80	79.20	19.00	66	17	17
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
User Defined Recreational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Parking Lot	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Arena	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Hotel	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Movie Theater (No Matinee)	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
User Defined Recreational	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Regional Shopping Center	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,894.8909	1,894.8909	0.0857	0.0177	1,902.3156
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,894.8909	1,894.8909	0.0857	0.0177	1,902.3156
NaturalGas Mitigated	0.0336	0.3056	0.2567	1.8300e-003		0.0232	0.0232		0.0232	0.0232	0.0000	332.7212	332.7212	6.3800e-003	6.1000e-003	334.6984
NaturalGas Unmitigated	0.0336	0.3056	0.2567	1.8300e-003		0.0232	0.0232		0.0232	0.0232	0.0000	332.7212	332.7212	6.3800e-003	6.1000e-003	334.6984

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	211176	1.1400e-003	0.0104	8.7000e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004	0.0000	11.2692	11.2692	2.2000e-004	2.1000e-004	11.3361
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	4.47674e+006	0.0241	0.2195	0.1843	1.3200e-003		0.0167	0.0167		0.0167	0.0167	0.0000	238.8961	238.8961	4.5800e-003	4.3800e-003	240.3157
Movie Theater (No Matinee)	150840	8.1000e-004	7.3900e-003	6.2100e-003	4.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	8.0494	8.0494	1.5000e-004	1.5000e-004	8.0972
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	1.3962e+006	7.5300e-003	0.0684	0.0575	4.1000e-004		5.2000e-003	5.2000e-003		5.2000e-003	5.2000e-003	0.0000	74.5066	74.5066	1.4300e-003	1.3700e-003	74.9493
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0336	0.3056	0.2567	1.8300e-003		0.0232	0.0232		0.0232	0.0232	0.0000	332.7212	332.7212	6.3800e-003	6.1100e-003	334.6984

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	211176	1.1400e-003	0.0104	8.7000e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004	0.0000	11.2692	11.2692	2.2000e-004	2.1000e-004	11.3361
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	4.47674e+006	0.0241	0.2195	0.1843	1.3200e-003		0.0167	0.0167		0.0167	0.0167	0.0000	238.8961	238.8961	4.5800e-003	4.3800e-003	240.3157
Movie Theater (No Matinee)	150840	8.1000e-004	7.3900e-003	6.2100e-003	4.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	8.0494	8.0494	1.5000e-004	1.5000e-004	8.0972
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	1.3962e+006	7.5300e-003	0.0684	0.0575	4.1000e-004		5.2000e-003	5.2000e-003		5.2000e-003	5.2000e-003	0.0000	74.5066	74.5066	1.4300e-003	1.3700e-003	74.9493
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0336	0.3056	0.2567	1.8300e-003		0.0232	0.0232		0.0232	0.0232	0.0000	332.7212	332.7212	6.3800e-003	6.1100e-003	334.6984

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	90619.2	26.3622	1.1900e-003	2.5000e-004	26.4655
Enclosed Parking Structure	3.82193e+006	1,111.8418	0.0503	0.0104	1,116.1983
Hotel	1.45086e+006	422.0724	0.0191	3.9500e-003	423.7262
Movie Theater (No Matinee)	64728	18.8301	8.5000e-004	1.8000e-004	18.9039
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	1.0855e+006	315.7844	0.0143	2.9500e-003	317.0217
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		1,894.8909	0.0857	0.0177	1,902.3156

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	90619.2	26.3622	1.1900e-003	2.5000e-004	26.4655
Enclosed Parking Structure	3.82193e+006	1,111.8418	0.0503	0.0104	1,116.1983
Hotel	1.45086e+006	422.0724	0.0191	3.9500e-003	423.7262
Movie Theater (No Matinee)	64728	18.8301	8.5000e-004	1.8000e-004	18.9039
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	1.0855e+006	315.7844	0.0143	2.9500e-003	317.0217
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		1,894.8909	0.0857	0.0177	1,902.3156

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.2402	5.0000e-004	0.0556	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1088	0.1088	2.8000e-004	0.0000	0.1158
Unmitigated	2.2402	5.0000e-004	0.0556	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1088	0.1088	2.8000e-004	0.0000	0.1158

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3424					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8927					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0900e-003	5.0000e-004	0.0556	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1088	0.1088	2.8000e-004	0.0000	0.1158
Total	2.2402	5.0000e-004	0.0556	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1088	0.1088	2.8000e-004	0.0000	0.1158

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3424					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8927					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0900e-003	5.0000e-004	0.0556	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1088	0.1088	2.8000e-004	0.0000	0.1158
Total	2.2402	5.0000e-004	0.0556	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1088	0.1088	2.8000e-004	0.0000	0.1158

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	74.6257	1.1529	0.0278	111.7169
Unmitigated	103.7657	1.6375	0.0394	156.4433

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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	4.34216 / 0.277159	8.4949	0.1418	3.4100e-003	13.0556
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	6.34169 / 0.704632	12.7120	0.2071	4.9800e-003	19.3740
Movie Theater (No Matinee)	29.8189 / 1.90333	58.3367	0.9739	0.0234	89.6564
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	9.62943 / 5.90191	24.2221	0.3147	7.6100e-003	34.3573
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		103.7657	1.6375	0.0394	156.4433

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	3.05688 / 0.2439	6.0301	0.0998	2.4000e-003	9.2410
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	4.46455 / 0.620077	9.0755	0.1458	3.5100e-003	13.7661
Movie Theater (No Matinee)	20.9925 / 1.67493	41.4101	0.6856	0.0165	63.4605
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	6.77912 / 5.19368	18.1100	0.2216	5.3700e-003	25.2493
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		74.6257	1.1529	0.0278	111.7169

8.0 Waste Detail

8.1 Mitigation Measures Waste

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	55.5505	3.2829	0.0000	137.6240
Unmitigated	55.5505	3.2829	0.0000	137.6240

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Annual

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.28	0.0568	3.3600e-003	0.0000	0.1408
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	136.88	27.7854	1.6421	0.0000	68.8372
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	136.5	27.7083	1.6375	0.0000	68.6461
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		55.5505	3.2829	0.0000	137.6240

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Annual

8.2 Waste by Land Use

Mitigated

Land Use	Waste Disposed tons	Total CO2	CH4	N2O	CO2e
		MT/yr			
Arena	0.28	0.0568	3.3600e-003	0.0000	0.1408
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	136.88	27.7854	1.6421	0.0000	68.8372
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	136.5	27.7083	1.6375	0.0000	68.6461
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		55.5505	3.2829	0.0000	137.6240

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Annual

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Boiler - CNG (0 - 2 MMBTU)	0.0354	0.1577	0.6313	3.8600e-003		0.0490	0.0490		0.0490	0.0490	0.0000	701.2124	701.2124	0.0134	0.0000	701.5484
Emergency Generator - Diesel (750 - 9999 HP)	0.0432	0.1931	0.1101	2.1000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	20.0353	20.0353	2.8100e-003	0.0000	20.1055
Total	0.0786	0.3507	0.7413	4.0700e-003		0.0553	0.0553		0.0553	0.0553	0.0000	721.2477	721.2477	0.0163	0.0000	721.6539

11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-400.8300	0.0000	0.0000	-400.8300

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	232 / 139	-400.8300	0.0000	0.0000	-400.8300
Total		-400.8300	0.0000	0.0000	-400.8300

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

**Redding Rancheria FTT and Casino Project – Alternative A
Shasta County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.51	583,500.00	0
Parking Lot	600.00	Space	60.98	0.00	0
Arena	10.08	1000sqft	0.29	10,080.00	0
Hotel	250.00	Room	5.02	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	2.04	7,200.00	0
User Defined Recreational	150.33	User Defined Unit	4.25	150,326.00	0
Regional Shopping Center	130.00	1000sqft	3.68	130,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

Project Characteristics - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Off-road Equipment -

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	60.00	2.00

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

tblConstructionPhase	PhaseEndDate	9/22/2023	7/2/2020
tblConstructionPhase	PhaseStartDate	7/1/2023	7/1/2020
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	7,200.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	7,200.00
tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	16.51
tblLandUse	LotAcreage	5.40	60.98
tblLandUse	LotAcreage	3.24	0.29
tblLandUse	LotAcreage	8.33	5.02
tblLandUse	LotAcreage	1.70	2.04
tblLandUse	LotAcreage	0.00	4.25
tblLandUse	LotAcreage	2.98	3.68
tblProjectCharacteristics	OperationalYear	2018	2040

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.3038	5.5500e-003	0.6179	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3329	1.3329	3.4300e-003		1.4188
Energy	0.1842	1.6747	1.4068	0.0101		0.1273	0.1273		0.1273	0.1273		2,009.6564	2,009.6564	0.0385	0.0368	2,021.5988
Mobile	29.0851	216.3986	215.2200	1.0549	62.9575	0.6204	63.5779	16.8487	0.5805	17.4292		107,919.7829	107,919.7829	6.5557		108,083.6765
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	48.9624	251.1197	239.0498	1.1208	62.9575	2.0765	65.0340	16.8487	2.0367	18.8853		117,846.9884	117,846.9884	7.1949	0.0368	118,037.8410

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.3038	5.5500e-003	0.6179	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3329	1.3329	3.4300e-003		1.4188
Energy	0.1842	1.6747	1.4068	0.0101		0.1273	0.1273		0.1273	0.1273		2,009.6564	2,009.6564	0.0385	0.0368	2,021.5988
Mobile	29.0851	216.3986	215.2200	1.0549	62.9575	0.6204	63.5779	16.8487	0.5805	17.4292		107,919.7829	107,919.7829	6.5557		108,083.6765
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	48.9624	251.1197	239.0498	1.1208	62.9575	2.0765	65.0340	16.8487	2.0367	18.8853		117,846.9884	117,846.9884	7.1949	0.0368	118,037.8410

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2020	7/2/2020	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

Acres of Paving: 77.49

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
------------	------------------------	--------	-------------	-------------	-------------

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					541.9878	0.0000	541.9878	297.9205	0.0000	297.9205			0.0000			0.0000
Total					541.9878	0.0000	541.9878	297.9205	0.0000	297.9205			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0905	0.0560	0.6816	1.6100e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		160.2562	160.2562	5.6800e-003		160.3982
Total	0.0905	0.0560	0.6816	1.6100e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		160.2562	160.2562	5.6800e-003		160.3982

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

3.2 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					243.8945	0.0000	243.8945	134.0642	0.0000	134.0642			0.0000			0.0000
Total					243.8945	0.0000	243.8945	134.0642	0.0000	134.0642			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0905	0.0560	0.6816	1.6100e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		160.2562	160.2562	5.6800e-003		160.3982
Total	0.0905	0.0560	0.6816	1.6100e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		160.2562	160.2562	5.6800e-003		160.3982

4.0 Operational Detail - Mobile

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	29.0851	216.3986	215.2200	1.0549	62.9575	0.6204	63.5779	16.8487	0.5805	17.4292		107,919.7829	107,919.7829	6.5557		108,083.6765
Unmitigated	29.0851	216.3986	215.2200	1.0549	62.9575	0.6204	63.5779	16.8487	0.5805	17.4292		107,919.7829	107,919.7829	6.5557		108,083.6765

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	107.96	107.96	107.96	209,646	209,646
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	2,042.50	2,047.50	1487.50	3,731,328	3,731,328
Movie Theater (No Matinee)	5,808.00	7,392.00	6105.00	11,442,435	11,442,435
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	5,551.00	6,496.10	3281.20	9,400,795	9,400,795
User Defined Recreational	0.00	0.00	0.00		
Total	13,509.46	16,043.56	10,981.66	24,784,204	24,784,204

4.3 Trip Type Information

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	7.30	7.30	0.00	81.00	19.00	66	28	6
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Movie Theater (No Matinee)	9.50	7.30	7.30	1.80	79.20	19.00	66	17	17
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
User Defined Recreational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Parking Lot	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Arena	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Hotel	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Movie Theater (No Matinee)	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
User Defined Recreational	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Regional Shopping Center	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1842	1.6747	1.4068	0.0101		0.1273	0.1273		0.1273	0.1273		2,009.6564	2,009.6564	0.0385	0.0368	2,021.5988
NaturalGas Unmitigated	0.1842	1.6747	1.4068	0.0101		0.1273	0.1273		0.1273	0.1273		2,009.6564	2,009.6564	0.0385	0.0368	2,021.5988

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	578.564	6.2400e-003	0.0567	0.0477	3.4000e-004		4.3100e-003	4.3100e-003		4.3100e-003	4.3100e-003		68.0664	68.0664	1.3000e-003	1.2500e-003	68.4709
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	12265	0.1323	1.2025	1.0101	7.2100e-003		0.0914	0.0914		0.0914	0.0914		1,442.9470	1,442.9470	0.0277	0.0265	1,451.5217
Movie Theater (No Matinee)	413.26	4.4600e-003	0.0405	0.0340	2.4000e-004		3.0800e-003	3.0800e-003		3.0800e-003	3.0800e-003		48.6189	48.6189	9.3000e-004	8.9000e-004	48.9078
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3825.21	0.0413	0.3750	0.3150	2.2500e-003		0.0285	0.0285		0.0285	0.0285		450.0242	450.0242	8.6300e-003	8.2500e-003	452.6984
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.1842	1.6747	1.4068	0.0100		0.1273	0.1273		0.1273	0.1273		2,009.6564	2,009.6564	0.0385	0.0368	2,021.5988

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0.578564	6.2400e-003	0.0567	0.0477	3.4000e-004		4.3100e-003	4.3100e-003		4.3100e-003	4.3100e-003		68.0664	68.0664	1.3000e-003	1.2500e-003	68.4709
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	12.265	0.1323	1.2025	1.0101	7.2100e-003		0.0914	0.0914		0.0914	0.0914		1,442.9470	1,442.9470	0.0277	0.0265	1,451.5217
Movie Theater (No Matinee)	0.41326	4.4600e-003	0.0405	0.0340	2.4000e-004		3.0800e-003	3.0800e-003		3.0800e-003	3.0800e-003		48.6189	48.6189	9.3000e-004	8.9000e-004	48.9078
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3.82521	0.0413	0.3750	0.3150	2.2500e-003		0.0285	0.0285		0.0285	0.0285		450.0242	450.0242	8.6300e-003	8.2500e-003	452.6984
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.1842	1.6747	1.4068	0.0100		0.1273	0.1273		0.1273	0.1273		2,009.6564	2,009.6564	0.0385	0.0368	2,021.5988

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	12.3038	5.5500e-003	0.6179	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3329	1.3329	3.4300e-003		1.4188
Unmitigated	12.3038	5.5500e-003	0.6179	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3329	1.3329	3.4300e-003		1.4188

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.8761					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.3711					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0565	5.5500e-003	0.6179	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3329	1.3329	3.4300e-003		1.4188
Total	12.3038	5.5500e-003	0.6179	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3329	1.3329	3.4300e-003		1.4188

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.8761					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.3711					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0565	5.5500e-003	0.6179	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3329	1.3329	3.4300e-003		1.4188
Total	12.3038	5.5500e-003	0.6179	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3329	1.3329	3.4300e-003		1.4188

7.0 Water Detail

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (0 - 2 MMBTU)	0.1941	0.8640	3.4589	0.0212		0.2682	0.2682		0.2682	0.2682		4,235.3665	4,235.3665	0.0812		4,237.3959
Emergency Generator - Diesel (750 - 9999 HP)	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Summer

11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

**Redding Rancheria FTT and Casino Project – Alternative A
Shasta County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.51	583,500.00	0
Parking Lot	600.00	Space	60.98	0.00	0
Arena	10.08	1000sqft	0.29	10,080.00	0
Hotel	250.00	Room	5.02	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	2.04	7,200.00	0
User Defined Recreational	150.33	User Defined Unit	4.25	150,326.00	0
Regional Shopping Center	130.00	1000sqft	3.68	130,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

Project Characteristics - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Off-road Equipment -

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	60.00	2.00

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

tblConstructionPhase	PhaseEndDate	9/22/2023	7/2/2020
tblConstructionPhase	PhaseStartDate	7/1/2023	7/1/2020
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	7,200.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	7,200.00
tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	16.51
tblLandUse	LotAcreage	5.40	60.98
tblLandUse	LotAcreage	3.24	0.29
tblLandUse	LotAcreage	8.33	5.02
tblLandUse	LotAcreage	1.70	2.04
tblLandUse	LotAcreage	0.00	4.25
tblLandUse	LotAcreage	2.98	3.68
tblProjectCharacteristics	OperationalYear	2018	2040

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.3038	5.5500e-003	0.6179	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3329	1.3329	3.4300e-003		1.4188
Energy	0.1842	1.6747	1.4068	0.0101		0.1273	0.1273		0.1273	0.1273		2,009.6564	2,009.6564	0.0385	0.0368	2,021.5988
Mobile	20.7208	217.5635	207.2659	0.9602	62.9575	0.6274	63.5849	16.8487	0.5873	17.4359		98,303.1550	98,303.1550	7.1797		98,482.6464
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	40.5981	252.2845	231.0958	1.0260	62.9575	2.0836	65.0411	16.8487	2.0434	18.8921		108,230.3605	108,230.3605	7.8188	0.0368	108,436.8109

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.3038	5.5500e-003	0.6179	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3329	1.3329	3.4300e-003		1.4188
Energy	0.1842	1.6747	1.4068	0.0101		0.1273	0.1273		0.1273	0.1273		2,009.6564	2,009.6564	0.0385	0.0368	2,021.5988
Mobile	20.7208	217.5635	207.2659	0.9602	62.9575	0.6274	63.5849	16.8487	0.5873	17.4359		98,303.1550	98,303.1550	7.1797		98,482.6464
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	40.5981	252.2845	231.0958	1.0260	62.9575	2.0836	65.0411	16.8487	2.0434	18.8921		108,230.3605	108,230.3605	7.8188	0.0368	108,436.8109

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2020	7/2/2020	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

Acres of Paving: 77.49

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					541.9878	0.0000	541.9878	297.9205	0.0000	297.9205			0.0000			0.0000
Total					541.9878	0.0000	541.9878	297.9205	0.0000	297.9205			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0793	0.0669	0.5731	1.4000e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		138.9595	138.9595	4.8800e-003		139.0816
Total	0.0793	0.0669	0.5731	1.4000e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		138.9595	138.9595	4.8800e-003		139.0816

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

3.2 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					243.8945	0.0000	243.8945	134.0642	0.0000	134.0642			0.0000			0.0000
Total					243.8945	0.0000	243.8945	134.0642	0.0000	134.0642			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0793	0.0669	0.5731	1.4000e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		138.9595	138.9595	4.8800e-003		139.0816
Total	0.0793	0.0669	0.5731	1.4000e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		138.9595	138.9595	4.8800e-003		139.0816

4.0 Operational Detail - Mobile

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	20.7208	217.5635	207.2659	0.9602	62.9575	0.6274	63.5849	16.8487	0.5873	17.4359		98,303.15 50	98,303.15 50	7.1797		98,482.64 64
Unmitigated	20.7208	217.5635	207.2659	0.9602	62.9575	0.6274	63.5849	16.8487	0.5873	17.4359		98,303.15 50	98,303.15 50	7.1797		98,482.64 64

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	107.96	107.96	107.96	209,646	209,646
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	2,042.50	2,047.50	1487.50	3,731,328	3,731,328
Movie Theater (No Matinee)	5,808.00	7,392.00	6105.00	11,442,435	11,442,435
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	5,551.00	6,496.10	3281.20	9,400,795	9,400,795
User Defined Recreational	0.00	0.00	0.00		
Total	13,509.46	16,043.56	10,981.66	24,784,204	24,784,204

4.3 Trip Type Information

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	7.30	7.30	0.00	81.00	19.00	66	28	6
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Movie Theater (No Matinee)	9.50	7.30	7.30	1.80	79.20	19.00	66	17	17
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
User Defined Recreational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Parking Lot	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Arena	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Hotel	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Movie Theater (No Matinee)	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
User Defined Recreational	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Regional Shopping Center	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1842	1.6747	1.4068	0.0101		0.1273	0.1273		0.1273	0.1273		2,009.6564	2,009.6564	0.0385	0.0368	2,021.5988
NaturalGas Unmitigated	0.1842	1.6747	1.4068	0.0101		0.1273	0.1273		0.1273	0.1273		2,009.6564	2,009.6564	0.0385	0.0368	2,021.5988

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	578.564	6.2400e-003	0.0567	0.0477	3.4000e-004		4.3100e-003	4.3100e-003		4.3100e-003	4.3100e-003		68.0664	68.0664	1.3000e-003	1.2500e-003	68.4709
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	12265	0.1323	1.2025	1.0101	7.2100e-003		0.0914	0.0914		0.0914	0.0914		1,442.9470	1,442.9470	0.0277	0.0265	1,451.5217
Movie Theater (No Matinee)	413.26	4.4600e-003	0.0405	0.0340	2.4000e-004		3.0800e-003	3.0800e-003		3.0800e-003	3.0800e-003		48.6189	48.6189	9.3000e-004	8.9000e-004	48.9078
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3825.21	0.0413	0.3750	0.3150	2.2500e-003		0.0285	0.0285		0.0285	0.0285		450.0242	450.0242	8.6300e-003	8.2500e-003	452.6984
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.1842	1.6747	1.4068	0.0100		0.1273	0.1273		0.1273	0.1273		2,009.6564	2,009.6564	0.0385	0.0368	2,021.5988

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0.578564	6.2400e-003	0.0567	0.0477	3.4000e-004		4.3100e-003	4.3100e-003		4.3100e-003	4.3100e-003		68.0664	68.0664	1.3000e-003	1.2500e-003	68.4709
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	12.265	0.1323	1.2025	1.0101	7.2100e-003		0.0914	0.0914		0.0914	0.0914		1,442.9470	1,442.9470	0.0277	0.0265	1,451.5217
Movie Theater (No Matinee)	0.41326	4.4600e-003	0.0405	0.0340	2.4000e-004		3.0800e-003	3.0800e-003		3.0800e-003	3.0800e-003		48.6189	48.6189	9.3000e-004	8.9000e-004	48.9078
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3.82521	0.0413	0.3750	0.3150	2.2500e-003		0.0285	0.0285		0.0285	0.0285		450.0242	450.0242	8.6300e-003	8.2500e-003	452.6984
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.1842	1.6747	1.4068	0.0100		0.1273	0.1273		0.1273	0.1273		2,009.6564	2,009.6564	0.0385	0.0368	2,021.5988

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	12.3038	5.5500e-003	0.6179	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3329	1.3329	3.4300e-003		1.4188
Unmitigated	12.3038	5.5500e-003	0.6179	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3329	1.3329	3.4300e-003		1.4188

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.8761					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.3711					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0565	5.5500e-003	0.6179	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3329	1.3329	3.4300e-003		1.4188
Total	12.3038	5.5500e-003	0.6179	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3329	1.3329	3.4300e-003		1.4188

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.8761					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.3711					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0565	5.5500e-003	0.6179	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3329	1.3329	3.4300e-003		1.4188
Total	12.3038	5.5500e-003	0.6179	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3329	1.3329	3.4300e-003		1.4188

7.0 Water Detail

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (0 - 2 MMBTU)	0.1941	0.8640	3.4589	0.0212		0.2682	0.2682		0.2682	0.2682		4,235.3665	4,235.3665	0.0812		4,237.3959
Emergency Generator - Diesel (750 - 9999 HP)	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470

Redding Rancheria FTT and Casino Project – Alternative A - Shasta County, Winter

11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative A

Shasta County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	1	No Change	0.00
Cranes	Diesel	No Change	0	1	No Change	0.00
Excavators	Diesel	No Change	0	2	No Change	0.00
Forklifts	Diesel	No Change	0	3	No Change	0.00
Generator Sets	Diesel	No Change	0	1	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00
Pavers	Diesel	No Change	0	2	No Change	0.00
Paving Equipment	Diesel	No Change	0	2	No Change	0.00
Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	4	No Change	0.00
Scrapers	Diesel	No Change	0	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	9	No Change	0.00
Welders	Diesel	No Change	0	1	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr							Unmitigated mt/yr					

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr							Mitigated mt/yr					

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												

Fugitive Dust Mitigation

Yes/No Mitigation Measure Mitigation Input Mitigation Input Mitigation Input

Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	10.00	PM2.5 Reduction	10.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
No	Clean Paved Road	% PM Reduction	0.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Site Preparation	Fugitive Dust	0.54	0.30	0.24	0.13	0.55	0.55
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	29.60	27.81	28.08	29.60	29.54	28.59
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.18	0.45		

No	Land Use	Improve Walkability Design	0.00		
No	Land Use	Improve Destination Accessibility	0.00		
No	Land Use	Increase Transit Accessibility	0.25		
No	Land Use	Integrate Below Market Rate Housing	0.00		
	Land Use	Land Use SubTotal	0.00		
No	Neighborhood Enhancements	Improve Pedestrian Network			
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00		
No	Transit Improvements	Expand Transit Network	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			

No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00
No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		
No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	150.00
Yes	Use Low VOC Paint (Residential Exterior)	150.00
Yes	Use Low VOC Paint (Non-residential Interior)	150.00
Yes	Use Low VOC Paint (Non-residential Exterior)	150.00
Yes	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
Yes	Use Reclaimed Water	30.00	30.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Annual

**Redding Rancheria FTT and Casino Project – Alternative B
Shasta County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	13.14	583,500.00	0
Parking Lot	600.00	Space	51.82	0.00	0
Arena	10.08	1000sqft	0.23	10,080.00	0
Hotel	250.00	Room	3.99	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	1.62	72,000.00	0
User Defined Recreational	150.33	User Defined Unit	3.39	150,326.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Refer to CalEEMod input table.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to Appendix Q CalEEMod Tables.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150

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tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3

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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	75.00	209.00
tblConstructionPhase	NumDays	1,110.00	272.00
tblConstructionPhase	NumDays	110.00	65.00
tblConstructionPhase	NumDays	75.00	76.00
tblConstructionPhase	NumDays	40.00	45.00
tblConstructionPhase	PhaseEndDate	1/18/2022	12/31/2020
tblConstructionPhase	PhaseEndDate	11/29/2019	11/30/2019
tblConstructionPhase	PhaseEndDate	3/31/2021	8/15/2020
tblConstructionPhase	PhaseEndDate	8/30/2019	8/31/2019
tblConstructionPhase	PhaseStartDate	4/1/2021	3/15/2020
tblConstructionPhase	PhaseStartDate	11/30/2019	12/1/2019
tblConstructionPhase	PhaseStartDate	8/31/2019	9/1/2019
tblConstructionPhase	PhaseStartDate	12/16/2020	5/1/2020
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	LightingElect	1.55	0.00

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tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	0.00	12.17
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	0.00	0.12
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblGrading	AcresOfGrading	162.50	275.00
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00

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tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	13.14
tblLandUse	LotAcreage	5.40	51.82
tblLandUse	LotAcreage	3.24	0.23
tblLandUse	LotAcreage	8.33	3.99
tblLandUse	LotAcreage	1.70	1.62
tblLandUse	LotAcreage	0.00	3.39
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,234.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00

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tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	10.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PR_TP	66.00	90.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	0.00	33.67
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	0.00	33.67
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	0.00	33.67

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tblWater	IndoorWaterUseRate	4,342,162.79	4,520,822.00
tblWater	IndoorWaterUseRate	6,341,692.50	16,527,735.00
tblWater	IndoorWaterUseRate	29,818,908.53	10,888,860.00
tblWater	IndoorWaterUseRate	0.00	31,791,583.00
tblWater	OutdoorWaterUseRate	277,159.33	205,457.00
tblWater	OutdoorWaterUseRate	704,632.50	751,132.00
tblWater	OutdoorWaterUseRate	1,903,334.59	494,863.00
tblWater	OutdoorWaterUseRate	0.00	1,444,824.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2019	9-30-2019	1.7456	0.9230
2	10-1-2019	12-31-2019	1.8507	1.4302
3	1-1-2020	3-31-2020	1.6653	1.4540
4	4-1-2020	6-30-2020	2.8502	2.5477
5	7-1-2020	9-30-2020	2.7845	2.4987
		Highest	2.8502	2.5477

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.9402	4.9000e-004	0.0546	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	0.1065	0.1065	2.8000e-004	0.0000	0.1134
Energy	9.0000e-005	8.5000e-004	7.2000e-004	1.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	533.3185	533.3185	0.0241	5.0000e-003	535.4101
Mobile	3.2190	28.5743	42.9138	0.2173	16.2155	0.1714	16.3869	4.3617	0.1610	4.5226	0.0000	20,090.7281	20,090.7281	0.7145	0.0000	20,108.5913
Stationary	0.0432	0.1931	0.1101	2.1000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	20.0353	20.0353	2.8100e-003	0.0000	20.1055
Waste						0.0000	0.0000		0.0000	0.0000	250.4909	0.0000	250.4909	14.8036	0.0000	620.5805
Water						0.0000	0.0000		0.0000	0.0000	20.2183	103.2662	123.4845	2.0813	0.0500	190.4163
Total	5.2024	28.7687	43.0792	0.2175	16.2155	0.1780	16.3935	4.3617	0.1676	4.5292	270.7091	20,747.4546	21,018.1637	17.6266	0.0550	21,475.2171

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.9402	4.9000e-004	0.0546	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	0.1065	0.1065	2.8000e-004	0.0000	0.1134
Energy	9.0000e-005	8.5000e-004	7.2000e-004	1.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	533.3185	533.3185	0.0241	5.0000e-003	535.4101
Mobile	3.2190	28.5743	42.9138	0.2173	16.2155	0.1714	16.3869	4.3617	0.1610	4.5226	0.0000	20,090.7281	20,090.7281	0.7145	0.0000	20,108.5913
Stationary	0.0432	0.1931	0.1101	2.1000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	20.0353	20.0353	2.8100e-003	0.0000	20.1055
Waste						0.0000	0.0000		0.0000	0.0000	250.4909	0.0000	250.4909	14.8036	0.0000	620.5805
Water						0.0000	0.0000		0.0000	0.0000	14.2337	73.2184	87.4521	1.4652	0.0352	134.5741
Total	5.2024	28.7687	43.0792	0.2175	16.2155	0.1780	16.3935	4.3617	0.1676	4.5292	264.7245	20,717.4068	20,982.1313	17.0105	0.0402	21,419.3749

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.21	0.14	0.17	3.49	26.91	0.26

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2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-318.9400
Total	-318.9400

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	8/31/2019	5	45	
2	Grading	Grading	9/1/2019	11/30/2019	5	65	
3	Building Construction	Building Construction	12/1/2019	12/15/2020	5	272	
4	Paving	Paving	5/1/2020	8/15/2020	5	76	
5	Architectural Coating	Architectural Coating	3/15/2020	12/31/2020	5	209	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 64.96

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Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 614,660; Non-Residential Outdoor: 204,887; Striped Parking Area: 35,010 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	417.00	163.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	83.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4065	0.0000	0.4065	0.2234	0.0000	0.2234	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0975	1.0254	0.4964	8.5000e-004		0.0538	0.0538		0.0495	0.0495	0.0000	76.8795	76.8795	0.0243	0.0000	77.4876
Total	0.0975	1.0254	0.4964	8.5000e-004	0.4065	0.0538	0.4603	0.2234	0.0495	0.2729	0.0000	76.8795	76.8795	0.0243	0.0000	77.4876

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3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8800e-003	1.5500e-003	0.0147	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	3.0264	3.0264	1.2000e-004	0.0000	3.0294
Total	1.8800e-003	1.5500e-003	0.0147	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	3.0264	3.0264	1.2000e-004	0.0000	3.0294

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1829	0.0000	0.1829	0.1006	0.0000	0.1006	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0210	0.4290	0.5166	8.5000e-004		3.1900e-003	3.1900e-003		3.1900e-003	3.1900e-003	0.0000	76.8795	76.8795	0.0243	0.0000	77.4876
Total	0.0210	0.4290	0.5166	8.5000e-004	0.1829	3.1900e-003	0.1861	0.1006	3.1900e-003	0.1037	0.0000	76.8795	76.8795	0.0243	0.0000	77.4876

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3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8800e-003	1.5500e-003	0.0147	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	3.0264	3.0264	1.2000e-004	0.0000	3.0294
Total	1.8800e-003	1.5500e-003	0.0147	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	3.0264	3.0264	1.2000e-004	0.0000	3.0294

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3415	0.0000	0.3415	0.1233	0.0000	0.1233	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1540	1.7719	1.0847	2.0200e-003		0.0774	0.0774		0.0712	0.0712	0.0000	181.0293	181.0293	0.0573	0.0000	182.4612
Total	0.1540	1.7719	1.0847	2.0200e-003	0.3415	0.0774	0.4190	0.1233	0.0712	0.1946	0.0000	181.0293	181.0293	0.0573	0.0000	182.4612

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3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0200e-003	2.4900e-003	0.0236	5.0000e-005	5.0800e-003	4.0000e-005	5.1200e-003	1.3500e-003	4.0000e-005	1.3900e-003	0.0000	4.8572	4.8572	1.9000e-004	0.0000	4.8620
Total	3.0200e-003	2.4900e-003	0.0236	5.0000e-005	5.0800e-003	4.0000e-005	5.1200e-003	1.3500e-003	4.0000e-005	1.3900e-003	0.0000	4.8572	4.8572	1.9000e-004	0.0000	4.8620

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1537	0.0000	0.1537	0.0555	0.0000	0.0555	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0945	1.3452	1.1924	2.0200e-003		0.0366	0.0366		0.0339	0.0339	0.0000	181.0291	181.0291	0.0573	0.0000	182.4610
Total	0.0945	1.3452	1.1924	2.0200e-003	0.1537	0.0366	0.1903	0.0555	0.0339	0.0894	0.0000	181.0291	181.0291	0.0573	0.0000	182.4610

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3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0200e-003	2.4900e-003	0.0236	5.0000e-005	5.0800e-003	4.0000e-005	5.1200e-003	1.3500e-003	4.0000e-005	1.3900e-003	0.0000	4.8572	4.8572	1.9000e-004	0.0000	4.8620
Total	3.0200e-003	2.4900e-003	0.0236	5.0000e-005	5.0800e-003	4.0000e-005	5.1200e-003	1.3500e-003	4.0000e-005	1.3900e-003	0.0000	4.8572	4.8572	1.9000e-004	0.0000	4.8620

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0260	0.2319	0.1888	3.0000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	25.8615	25.8615	6.3000e-003	0.0000	26.0190
Total	0.0260	0.2319	0.1888	3.0000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	25.8615	25.8615	6.3000e-003	0.0000	26.0190

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3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.6600e-003	0.2417	0.0563	5.2000e-004	0.0117	1.9000e-003	0.0136	3.3800e-003	1.8200e-003	5.2000e-003	0.0000	49.6173	49.6173	4.3700e-003	0.0000	49.7266
Worker	0.0213	0.0176	0.1662	3.8000e-004	0.0358	2.8000e-004	0.0361	9.5400e-003	2.6000e-004	9.8000e-003	0.0000	34.2767	34.2767	1.3500e-003	0.0000	34.3105
Total	0.0310	0.2593	0.2225	9.0000e-004	0.0475	2.1800e-003	0.0497	0.0129	2.0800e-003	0.0150	0.0000	83.8940	83.8940	5.7200e-003	0.0000	84.0371

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.4100e-003	0.1565	0.1966	3.0000e-004		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	25.8614	25.8614	6.3000e-003	0.0000	26.0189
Total	7.4100e-003	0.1565	0.1966	3.0000e-004		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	25.8614	25.8614	6.3000e-003	0.0000	26.0189

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3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.6600e-003	0.2417	0.0563	5.2000e-004	0.0117	1.9000e-003	0.0136	3.3800e-003	1.8200e-003	5.2000e-003	0.0000	49.6173	49.6173	4.3700e-003	0.0000	49.7266
Worker	0.0213	0.0176	0.1662	3.8000e-004	0.0358	2.8000e-004	0.0361	9.5400e-003	2.6000e-004	9.8000e-003	0.0000	34.2767	34.2767	1.3500e-003	0.0000	34.3105
Total	0.0310	0.2593	0.2225	9.0000e-004	0.0475	2.1800e-003	0.0497	0.0129	2.0800e-003	0.0150	0.0000	83.8940	83.8940	5.7200e-003	0.0000	84.0371

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2650	2.3983	2.1061	3.3600e-003		0.1396	0.1396		0.1313	0.1313	0.0000	289.5125	289.5125	0.0706	0.0000	291.2783
Total	0.2650	2.3983	2.1061	3.3600e-003		0.1396	0.1396		0.1313	0.1313	0.0000	289.5125	289.5125	0.0706	0.0000	291.2783

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3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0888	2.5006	0.5554	5.9100e-003	0.1326	0.0138	0.1464	0.0384	0.0132	0.0516	0.0000	559.9811	559.9811	0.0454	0.0000	561.1162
Worker	0.2169	0.1740	1.6531	4.1800e-003	0.4073	3.0500e-003	0.4103	0.1085	2.8100e-003	0.1113	0.0000	377.2001	377.2001	0.0131	0.0000	377.5264
Total	0.3057	2.6746	2.2085	0.0101	0.5399	0.0169	0.5567	0.1469	0.0160	0.1629	0.0000	937.1812	937.1812	0.0585	0.0000	938.6426

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0842	1.7783	2.2342	3.3600e-003		0.0246	0.0246		0.0246	0.0246	0.0000	289.5121	289.5121	0.0706	0.0000	291.2779
Total	0.0842	1.7783	2.2342	3.3600e-003		0.0246	0.0246		0.0246	0.0246	0.0000	289.5121	289.5121	0.0706	0.0000	291.2779

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3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0888	2.5006	0.5554	5.9100e-003	0.1326	0.0138	0.1464	0.0384	0.0132	0.0516	0.0000	559.9811	559.9811	0.0454	0.0000	561.1162
Worker	0.2169	0.1740	1.6531	4.1800e-003	0.4073	3.0500e-003	0.4103	0.1085	2.8100e-003	0.1113	0.0000	377.2001	377.2001	0.0131	0.0000	377.5264
Total	0.3057	2.6746	2.2085	0.0101	0.5399	0.0169	0.5567	0.1469	0.0160	0.1629	0.0000	937.1812	937.1812	0.0585	0.0000	938.6426

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0516	0.5345	0.5568	8.7000e-004		0.0286	0.0286		0.0263	0.0263	0.0000	76.1072	76.1072	0.0246	0.0000	76.7226
Paving	0.0679					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1194	0.5345	0.5568	8.7000e-004		0.0286	0.0286		0.0263	0.0263	0.0000	76.1072	76.1072	0.0246	0.0000	76.7226

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3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3700e-003	1.9000e-003	0.0181	5.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.1248	4.1248	1.4000e-004	0.0000	4.1284
Total	2.3700e-003	1.9000e-003	0.0181	5.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.1248	4.1248	1.4000e-004	0.0000	4.1284

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0213	0.4292	0.6572	8.7000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	76.1072	76.1072	0.0246	0.0000	76.7225
Paving	0.0679					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0892	0.4292	0.6572	8.7000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	76.1072	76.1072	0.0246	0.0000	76.7225

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3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3700e-003	1.9000e-003	0.0181	5.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.1248	4.1248	1.4000e-004	0.0000	4.1284
Total	2.3700e-003	1.9000e-003	0.0181	5.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.1248	4.1248	1.4000e-004	0.0000	4.1284

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.9707					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0253	0.1760	0.1914	3.1000e-004		0.0116	0.0116		0.0116	0.0116	0.0000	26.6815	26.6815	2.0700e-003	0.0000	26.7332
Total	2.9960	0.1760	0.1914	3.1000e-004		0.0116	0.0116		0.0116	0.0116	0.0000	26.6815	26.6815	2.0700e-003	0.0000	26.7332

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3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0361	0.0290	0.2751	7.0000e-004	0.0678	5.1000e-004	0.0683	0.0181	4.7000e-004	0.0185	0.0000	62.7654	62.7654	2.1700e-003	0.0000	62.8197
Total	0.0361	0.0290	0.2751	7.0000e-004	0.0678	5.1000e-004	0.0683	0.0181	4.7000e-004	0.0185	0.0000	62.7654	62.7654	2.1700e-003	0.0000	62.8197

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.9707					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2100e-003	0.1418	0.1915	3.1000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	26.6815	26.6815	2.0700e-003	0.0000	26.7331
Total	2.9769	0.1418	0.1915	3.1000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	26.6815	26.6815	2.0700e-003	0.0000	26.7331

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3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0361	0.0290	0.2751	7.0000e-004	0.0678	5.1000e-004	0.0683	0.0181	4.7000e-004	0.0185	0.0000	62.7654	62.7654	2.1700e-003	0.0000	62.8197
Total	0.0361	0.0290	0.2751	7.0000e-004	0.0678	5.1000e-004	0.0683	0.0181	4.7000e-004	0.0185	0.0000	62.7654	62.7654	2.1700e-003	0.0000	62.8197

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.2190	28.5743	42.9138	0.2173	16.2155	0.1714	16.3869	4.3617	0.1610	4.5226	0.0000	20,090.7281	20,090.7281	0.7145	0.0000	20,108.5913
Unmitigated	3.2190	28.5743	42.9138	0.2173	16.2155	0.1714	16.3869	4.3617	0.1610	4.5226	0.0000	20,090.7281	20,090.7281	0.7145	0.0000	20,108.5913

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	2,830,337	2,830,337
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
User Defined Recreational	5,061.61	5,061.61	5,061.61	35,094,539	35,094,539
Total	7,006.07	7,006.07	7,006.07	43,673,421	43,673,421

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	90	10	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	100	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	100	0	0
User Defined Recreational	9.50	9.50	25.00	19.00	19.40	61.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Parking Lot	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Arena	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Hotel	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Movie Theater (No Matinee)	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
User Defined Recreational	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	532.3880	532.3880	0.0241	4.9800e-003	534.4740
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	532.3880	532.3880	0.0241	4.9800e-003	534.4740
NaturalGas Mitigated	9.0000e-005	8.5000e-004	7.2000e-004	1.0000e-005			6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.9306	0.9306	2.0000e-005	2.0000e-005	0.9361
NaturalGas Unmitigated	9.0000e-005	8.5000e-004	7.2000e-004	1.0000e-005			6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.9306	0.9306	2.0000e-005	2.0000e-005	0.9361

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr										MT/yr						
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	17437.8	9.0000e-005	8.5000e-004	7.2000e-004	1.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.9306	0.9306	2.0000e-005	2.0000e-005	0.9361	
Total		9.0000e-005	8.5000e-004	7.2000e-004	1.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.9306	0.9306	2.0000e-005	2.0000e-005	0.9361	

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr										MT/yr						
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	17437.8	9.0000e-005	8.5000e-004	7.2000e-004	1.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.9306	0.9306	2.0000e-005	2.0000e-005	0.9361	
Total		9.0000e-005	8.5000e-004	7.2000e-004	1.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.9306	0.9306	2.0000e-005	2.0000e-005	0.9361	

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1.83007e+006	532.3880	0.0241	4.9800e-003	534.4740
Total		532.3880	0.0241	4.9800e-003	534.4740

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1.83007e+006	532.3880	0.0241	4.9800e-003	534.4740
Total		532.3880	0.0241	4.9800e-003	534.4740

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.9402	4.9000e-004	0.0546	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	0.1065	0.1065	2.8000e-004	0.0000	0.1134
Unmitigated	1.9402	4.9000e-004	0.0546	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	0.1065	0.1065	2.8000e-004	0.0000	0.1134

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2971					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.6381					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0300e-003	4.9000e-004	0.0546	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	0.1065	0.1065	2.8000e-004	0.0000	0.1134
Total	1.9402	4.9000e-004	0.0546	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	0.1065	0.1065	2.8000e-004	0.0000	0.1134

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2971					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.6381					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0300e-003	4.9000e-004	0.0546	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	0.1065	0.1065	2.8000e-004	0.0000	0.1134
Total	1.9402	4.9000e-004	0.0546	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	0.1065	0.1065	2.8000e-004	0.0000	0.1134

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	87.4521	1.4652	0.0352	134.5741
Unmitigated	123.4845	2.0813	0.0500	190.4163

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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	4.52082 / 0.205457	8.7598	0.1476	3.5500e-003	13.5078
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	16.5277 / 0.751132	32.0250	0.5398	0.0130	49.3833
Movie Theater (No Matinee)	10.8889 / 0.494863	21.0988	0.3556	8.5400e-003	32.5349
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	31.7916 / 1.44482	61.6009	1.0383	0.0249	94.9903
Total		123.4845	2.0813	0.0500	190.4163

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	3.18266 / 0.180802	6.2037	0.1039	2.5000e-003	9.5465
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	11.6355 / 0.660996	22.6802	0.3800	9.1300e-003	34.9010
Movie Theater (No Matinee)	7.66576 / 0.435479	14.9422	0.2504	6.0200e-003	22.9936
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	22.3813 / 1.27145	43.6260	0.7310	0.0176	67.1331
Total		87.4521	1.4652	0.0352	134.5741

8.0 Waste Detail

8.1 Mitigation Measures Waste

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	250.4909	14.8036	0.0000	620.5805
Unmitigated	250.4909	14.8036	0.0000	620.5805

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1234	250.4909	14.8036	0.0000	620.5805
Total		250.4909	14.8036	0.0000	620.5805

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1234	250.4909	14.8036	0.0000	620.5805
Total		250.4909	14.8036	0.0000	620.5805

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

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Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Emergency Generator - Diesel (750 - 9999 HP)	0.0432	0.1931	0.1101	2.1000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	20.0353	20.0353	2.8100e-003	0.0000	20.1055
Total	0.0432	0.1931	0.1101	2.1000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	20.0353	20.0353	2.8100e-003	0.0000	20.1055

11.0 Vegetation

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	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-318.9400	0.0000	0.0000	-318.9400

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	232 / 158	-318.9400	0.0000	0.0000	-318.9400
Total		-318.9400	0.0000	0.0000	-318.9400

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	13.14	583,500.00	0
Parking Lot	600.00	Space	51.82	0.00	0
Arena	10.08	1000sqft	0.23	10,080.00	0
Hotel	250.00	Room	3.99	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	1.62	72,000.00	0
User Defined Recreational	150.33	User Defined Unit	3.39	150,326.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Refer to CalEEMod input table.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to Appendix Q CalEEMod Tables.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150

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tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3

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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	75.00	209.00
tblConstructionPhase	NumDays	1,110.00	272.00
tblConstructionPhase	NumDays	110.00	65.00
tblConstructionPhase	NumDays	75.00	76.00
tblConstructionPhase	NumDays	40.00	45.00
tblConstructionPhase	PhaseEndDate	1/18/2022	12/31/2020
tblConstructionPhase	PhaseEndDate	11/29/2019	11/30/2019
tblConstructionPhase	PhaseEndDate	3/31/2021	8/15/2020
tblConstructionPhase	PhaseEndDate	8/30/2019	8/31/2019
tblConstructionPhase	PhaseStartDate	4/1/2021	3/15/2020
tblConstructionPhase	PhaseStartDate	11/30/2019	12/1/2019
tblConstructionPhase	PhaseStartDate	8/31/2019	9/1/2019
tblConstructionPhase	PhaseStartDate	12/16/2020	5/1/2020
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	LightingElect	1.55	0.00

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tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	0.00	12.17
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	0.00	0.12
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblGrading	AcresOfGrading	162.50	275.00
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00

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tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	13.14
tblLandUse	LotAcreage	5.40	51.82
tblLandUse	LotAcreage	3.24	0.23
tblLandUse	LotAcreage	8.33	3.99
tblLandUse	LotAcreage	1.70	1.62
tblLandUse	LotAcreage	0.00	3.39
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,234.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00

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tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	10.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PR_TP	66.00	90.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	0.00	33.67
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	0.00	33.67
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	0.00	33.67

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

tblWater	IndoorWaterUseRate	4,342,162.79	4,520,822.00
tblWater	IndoorWaterUseRate	6,341,692.50	16,527,735.00
tblWater	IndoorWaterUseRate	29,818,908.53	10,888,860.00
tblWater	IndoorWaterUseRate	0.00	31,791,583.00
tblWater	OutdoorWaterUseRate	277,159.33	205,457.00
tblWater	OutdoorWaterUseRate	704,632.50	751,132.00
tblWater	OutdoorWaterUseRate	1,903,334.59	494,863.00
tblWater	OutdoorWaterUseRate	0.00	1,444,824.00

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.6595	5.5000e-003	0.6070	5.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		1.3045	1.3045	3.3900e-003		1.3893
Energy	5.2000e-004	4.6800e-003	3.9300e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004		5.6206	5.6206	1.1000e-004	1.0000e-004	5.6540
Mobile	21.3542	152.4743	277.1011	1.2748	93.5508	0.9416	94.4924	25.0587	0.8843	25.9430		129,758.7523	129,758.7523	4.4190		129,869.2270
Stationary	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	39.2094	184.6612	296.0584	1.3095	93.5508	2.0026	95.5533	25.0587	1.9453	27.0040		133,446.5269	133,446.5269	4.9386	1.0000e-004	133,570.0213

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.6595	5.5000e-003	0.6070	5.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		1.3045	1.3045	3.3900e-003		1.3893
Energy	5.2000e-004	4.6800e-003	3.9300e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004		5.6206	5.6206	1.1000e-004	1.0000e-004	5.6540
Mobile	21.3542	152.4743	277.1011	1.2748	93.5508	0.9416	94.4924	25.0587	0.8843	25.9430		129,758.7523	129,758.7523	4.4190		129,869.2270
Stationary	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	39.2094	184.6612	296.0584	1.3095	93.5508	2.0026	95.5533	25.0587	1.9453	27.0040		133,446.5269	133,446.5269	4.9386	1.0000e-004	133,570.0213

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	8/31/2019	5	45	
2	Grading	Grading	9/1/2019	11/30/2019	5	65	
3	Building Construction	Building Construction	12/1/2019	12/15/2020	5	272	
4	Paving	Paving	5/1/2020	8/15/2020	5	76	
5	Architectural Coating	Architectural Coating	3/15/2020	12/31/2020	5	209	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 64.96

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 614,660; Non-Residential Outdoor: 204,887; Striped Parking Area: 35,010 (Architectural Coating – sqft)

OffRoad Equipment

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	417.00	163.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	83.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.9312	19.0656	22.9600	0.0380		0.1419	0.1419		0.1419	0.1419	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	0.9312	19.0656	22.9600	0.0380	8.1298	0.1419	8.2717	4.4688	0.1419	4.6107	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					10.5088	0.0000	10.5088	3.7947	0.0000	3.7947			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	10.5088	2.3827	12.8915	3.7947	2.1920	5.9867		6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393
Total	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.7290	0.0000	4.7290	1.7076	0.0000	1.7076			0.0000			0.0000
Off-Road	2.9080	41.3897	36.6894	0.0620		1.1249	1.1249		1.0439	1.0439	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	2.9080	41.3897	36.6894	0.0620	4.7290	1.1249	5.8539	1.7076	1.0439	2.7515	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393
Total	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.8678	21.5400	4.7528	0.0482	1.1047	0.1712	1.2759	0.3181	0.1638	0.4819		5,041.1624	5,041.1624	0.4164			5,051.5716
Worker	2.3441	1.4856	17.9634	0.0386	3.4256	0.0253	3.4508	0.9086	0.0233	0.9319		3,833.3619	3,833.3619	0.1543			3,837.2197
Total	3.2119	23.0256	22.7162	0.0868	4.5302	0.1965	4.7267	1.2267	0.1871	1.4138		8,874.5243	8,874.5243	0.5707			8,888.7913

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1969	0.1969		0.1969	0.1969	0.0000	2,591.5802	2,591.5802	0.6313			2,607.3635
Total	0.6739	14.2261	17.8738	0.0269		0.1969	0.1969		0.1969	0.1969	0.0000	2,591.5802	2,591.5802	0.6313			2,607.3635

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8678	21.5400	4.7528	0.0482	1.1047	0.1712	1.2759	0.3181	0.1638	0.4819		5,041.1624	5,041.1624	0.4164		5,051.5716
Worker	2.3441	1.4856	17.9634	0.0386	3.4256	0.0253	3.4508	0.9086	0.0233	0.9319		3,833.3619	3,833.3619	0.1543		3,837.2197
Total	3.2119	23.0256	22.7162	0.0868	4.5302	0.1965	4.7267	1.2267	0.1871	1.4138		8,874.5243	8,874.5243	0.5707		8,888.7913

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7005	19.6529	4.1053	0.0479	1.1047	0.1095	1.2141	0.3181	0.1047	0.4228		5,007.577 2	5,007.577 2	0.3796		5,017.067 7
Worker	2.0960	1.2969	15.7912	0.0373	3.4256	0.0244	3.4499	0.9086	0.0225	0.9311		3,712.602 9	3,712.602 9	0.1315		3,715.891 3
Total	2.7965	20.9498	19.8964	0.0852	4.5302	0.1338	4.6641	1.2267	0.1272	1.3539		8,720.180 0	8,720.180 0	0.5112		8,732.959 0

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1969	0.1969		0.1969	0.1969	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	0.6739	14.2261	17.8738	0.0269		0.1969	0.1969		0.1969	0.1969	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7005	19.6529	4.1053	0.0479	1.1047	0.1095	1.2141	0.3181	0.1047	0.4228		5,007.577 2	5,007.577 2	0.3796		5,017.067 7
Worker	2.0960	1.2969	15.7912	0.0373	3.4256	0.0244	3.4499	0.9086	0.0225	0.9311		3,712.602 9	3,712.602 9	0.1315		3,715.891 3
Total	2.7965	20.9498	19.8964	0.0852	4.5302	0.1338	4.6641	1.2267	0.1272	1.3539		8,720.180 0	8,720.180 0	0.5112		8,732.959 0

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1
Paving	1.7864					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	3.1430	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652
Total	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5609	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	1.7864					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.3474	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652
Total	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	28.4273					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	28.6695	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4172	0.2581	3.1431	7.4300e-003	0.6818	4.8500e-003	0.6867	0.1809	4.4700e-003	0.1853		738.9593	738.9593	0.0262		739.6139
Total	0.4172	0.2581	3.1431	7.4300e-003	0.6818	4.8500e-003	0.6867	0.1809	4.4700e-003	0.1853		738.9593	738.9593	0.0262		739.6139

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	28.4273					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928
Total	28.4867	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4172	0.2581	3.1431	7.4300e-003	0.6818	4.8500e-003	0.6867	0.1809	4.4700e-003	0.1853		738.9593	738.9593	0.0262		739.6139
Total	0.4172	0.2581	3.1431	7.4300e-003	0.6818	4.8500e-003	0.6867	0.1809	4.4700e-003	0.1853		738.9593	738.9593	0.0262		739.6139

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	21.3542	152.4743	277.1011	1.2748	93.5508	0.9416	94.4924	25.0587	0.8843	25.9430		129,758.7523	129,758.7523	4.4190		129,869.2270
Unmitigated	21.3542	152.4743	277.1011	1.2748	93.5508	0.9416	94.4924	25.0587	0.8843	25.9430		129,758.7523	129,758.7523	4.4190		129,869.2270

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	2,830,337	2,830,337
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
User Defined Recreational	5,061.61	5,061.61	5,061.61	35,094,539	35,094,539
Total	7,006.07	7,006.07	7,006.07	43,673,421	43,673,421

4.3 Trip Type Information

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	90	10	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	100	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	100	0	0
User Defined Recreational	9.50	9.50	25.00	19.00	19.40	61.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Parking Lot	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Arena	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Hotel	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Movie Theater (No Matinee)	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
User Defined Recreational	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.2000e-004	4.6800e-003	3.9300e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004		5.6206	5.6206	1.1000e-004	1.0000e-004	5.6540
NaturalGas Unmitigated	5.2000e-004	4.6800e-003	3.9300e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004		5.6206	5.6206	1.1000e-004	1.0000e-004	5.6540

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	47.7748	5.2000e-004	4.6800e-003	3.9300e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004		5.6206	5.6206	1.1000e-004	1.0000e-004	5.6540
Total		5.2000e-004	4.6800e-003	3.9300e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004		5.6206	5.6206	1.1000e-004	1.0000e-004	5.6540

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0.0477748	5.2000e-004	4.6800e-003	3.9300e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004		5.6206	5.6206	1.1000e-004	1.0000e-004	5.6540
Total		5.2000e-004	4.6800e-003	3.9300e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004		5.6206	5.6206	1.1000e-004	1.0000e-004	5.6540

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.6595	5.5000e-003	0.6070	5.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		1.3045	1.3045	3.3900e-003		1.3893
Unmitigated	10.6595	5.5000e-003	0.6070	5.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		1.3045	1.3045	3.3900e-003		1.3893

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.6278					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.9758					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0559	5.5000e-003	0.6070	5.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		1.3045	1.3045	3.3900e-003		1.3893
Total	10.6595	5.5000e-003	0.6070	5.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		1.3045	1.3045	3.3900e-003		1.3893

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.6278					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.9758					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0559	5.5000e-003	0.6070	5.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		1.3045	1.3045	3.3900e-003		1.3893
Total	10.6595	5.5000e-003	0.6070	5.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		1.3045	1.3045	3.3900e-003		1.3893

7.0 Water Detail

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	

User Defined Equipment

Equipment Type	Number
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10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
						0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Emergency Generator - Diesel (750 - 9999 HP)	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

Redding Rancheria FTT and Casino Project – Alternative B
Shasta County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	13.14	583,500.00	0
Parking Lot	600.00	Space	51.82	0.00	0
Arena	10.08	1000sqft	0.23	10,080.00	0
Hotel	250.00	Room	3.99	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	1.62	72,000.00	0
User Defined Recreational	150.33	User Defined Unit	3.39	150,326.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

Project Characteristics - Refer to CalEEMod input table.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to Appendix Q CalEEMod Tables.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	75.00	209.00
tblConstructionPhase	NumDays	1,110.00	272.00
tblConstructionPhase	NumDays	110.00	65.00
tblConstructionPhase	NumDays	75.00	76.00
tblConstructionPhase	NumDays	40.00	45.00
tblConstructionPhase	PhaseEndDate	1/18/2022	12/31/2020
tblConstructionPhase	PhaseEndDate	11/29/2019	11/30/2019
tblConstructionPhase	PhaseEndDate	3/31/2021	8/15/2020
tblConstructionPhase	PhaseEndDate	8/30/2019	8/31/2019
tblConstructionPhase	PhaseStartDate	4/1/2021	3/15/2020
tblConstructionPhase	PhaseStartDate	11/30/2019	12/1/2019
tblConstructionPhase	PhaseStartDate	8/31/2019	9/1/2019
tblConstructionPhase	PhaseStartDate	12/16/2020	5/1/2020
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	LightingElect	1.55	0.00

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	0.00	12.17
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	0.00	0.12
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblGrading	AcresOfGrading	162.50	275.00
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	13.14
tblLandUse	LotAcreage	5.40	51.82
tblLandUse	LotAcreage	3.24	0.23
tblLandUse	LotAcreage	8.33	3.99
tblLandUse	LotAcreage	1.70	1.62
tblLandUse	LotAcreage	0.00	3.39
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,234.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	10.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PR_TP	66.00	90.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	0.00	33.67
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	0.00	33.67
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	0.00	33.67

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

tblWater	IndoorWaterUseRate	4,342,162.79	4,520,822.00
tblWater	IndoorWaterUseRate	6,341,692.50	16,527,735.00
tblWater	IndoorWaterUseRate	29,818,908.53	10,888,860.00
tblWater	IndoorWaterUseRate	0.00	31,791,583.00
tblWater	OutdoorWaterUseRate	277,159.33	205,457.00
tblWater	OutdoorWaterUseRate	704,632.50	751,132.00
tblWater	OutdoorWaterUseRate	1,903,334.59	494,863.00
tblWater	OutdoorWaterUseRate	0.00	1,444,824.00

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.6595	5.5000e-003	0.6070	5.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		1.3045	1.3045	3.3900e-003		1.3893
Energy	5.2000e-004	4.6800e-003	3.9300e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004		5.6206	5.6206	1.1000e-004	1.0000e-004	5.6540
Mobile	17.1358	160.0255	235.8160	1.1676	93.5508	0.9444	94.4951	25.0587	0.8869	25.9457		119,031.3463	119,031.3463	4.4663		119,143.0044
Stationary	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	34.9910	192.2124	254.7733	1.2023	93.5508	2.0053	95.5561	25.0587	1.9479	27.0066		122,719.1210	122,719.1210	4.9859	1.0000e-004	122,843.7987

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.6595	5.5000e-003	0.6070	5.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		1.3045	1.3045	3.3900e-003		1.3893
Energy	5.2000e-004	4.6800e-003	3.9300e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004		5.6206	5.6206	1.1000e-004	1.0000e-004	5.6540
Mobile	17.1358	160.0255	235.8160	1.1676	93.5508	0.9444	94.4951	25.0587	0.8869	25.9457		119,031.3463	119,031.3463	4.4663		119,143.0044
Stationary	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	34.9910	192.2124	254.7733	1.2023	93.5508	2.0053	95.5561	25.0587	1.9479	27.0066		122,719.1210	122,719.1210	4.9859	1.0000e-004	122,843.7987

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	8/31/2019	5	45	
2	Grading	Grading	9/1/2019	11/30/2019	5	65	
3	Building Construction	Building Construction	12/1/2019	12/15/2020	5	272	
4	Paving	Paving	5/1/2020	8/15/2020	5	76	
5	Architectural Coating	Architectural Coating	3/15/2020	12/31/2020	5	209	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 64.96

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 614,660; Non-Residential Outdoor: 204,887; Striped Parking Area: 35,010 (Architectural Coating – sqft)

OffRoad Equipment

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	417.00	163.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	83.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.9312	19.0656	22.9600	0.0380		0.1419	0.1419		0.1419	0.1419	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	0.9312	19.0656	22.9600	0.0380	8.1298	0.1419	8.2717	4.4688	0.1419	4.6107	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					10.5088	0.0000	10.5088	3.7947	0.0000	3.7947			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	10.5088	2.3827	12.8915	3.7947	2.1920	5.9867		6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032
Total	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.7290	0.0000	4.7290	1.7076	0.0000	1.7076			0.0000			0.0000
Off-Road	2.9080	41.3897	36.6894	0.0620		1.1249	1.1249		1.0439	1.0439	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	2.9080	41.3897	36.6894	0.0620	4.7290	1.1249	5.8539	1.7076	1.0439	2.7515	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032
Total	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9057	22.0129	5.5846	0.0467	1.1047	0.1746	1.2792	0.3181	0.1670	0.4851		4,876.923 2	4,876.923 2	0.4680		4,888.623 0
Worker	2.0508	1.7782	15.2318	0.0334	3.4256	0.0253	3.4508	0.9086	0.0233	0.9319		3,324.380 7	3,324.380 7	0.1338		3,327.726 7
Total	2.9565	23.7912	20.8164	0.0801	4.5302	0.1998	4.7300	1.2267	0.1903	1.4170		8,201.303 9	8,201.303 9	0.6018		8,216.349 7

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1969	0.1969		0.1969	0.1969	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5
Total	0.6739	14.2261	17.8738	0.0269		0.1969	0.1969		0.1969	0.1969	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9057	22.0129	5.5846	0.0467	1.1047	0.1746	1.2792	0.3181	0.1670	0.4851		4,876.923 2	4,876.923 2	0.4680		4,888.623 0
Worker	2.0508	1.7782	15.2318	0.0334	3.4256	0.0253	3.4508	0.9086	0.0233	0.9319		3,324.380 7	3,324.380 7	0.1338		3,327.726 7
Total	2.9565	23.7912	20.8164	0.0801	4.5302	0.1998	4.7300	1.2267	0.1903	1.4170		8,201.303 9	8,201.303 9	0.6018		8,216.349 7

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.063 1	2,553.063 1	0.6229		2,568.634 5

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7352	20.0171	4.8688	0.0463	1.1047	0.1120	1.2167	0.3181	0.1071	0.4252		4,842.429 3	4,842.429 3	0.4285		4,853.140 5
Worker	1.8362	1.5497	13.2774	0.0324	3.4256	0.0244	3.4499	0.9086	0.0225	0.9311		3,219.228 7	3,219.228 7	0.1131		3,222.056 4
Total	2.5714	21.5668	18.1462	0.0787	4.5302	0.1364	4.6666	1.2267	0.1296	1.3563		8,061.657 9	8,061.657 9	0.5416		8,075.196 9

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1969	0.1969		0.1969	0.1969	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	0.6739	14.2261	17.8738	0.0269		0.1969	0.1969		0.1969	0.1969	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7352	20.0171	4.8688	0.0463	1.1047	0.1120	1.2167	0.3181	0.1071	0.4252		4,842.429 3	4,842.429 3	0.4285		4,853.140 5
Worker	1.8362	1.5497	13.2774	0.0324	3.4256	0.0244	3.4499	0.9086	0.0225	0.9311		3,219.228 7	3,219.228 7	0.1131		3,222.056 4
Total	2.5714	21.5668	18.1462	0.0787	4.5302	0.1364	4.6666	1.2267	0.1296	1.3563		8,061.657 9	8,061.657 9	0.5416		8,075.196 9

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1
Paving	1.7864					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	3.1430	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013
Total	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5609	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	1.7864					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.3474	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013
Total	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	28.4273					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	28.6695	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3655	0.3085	2.6428	6.4400e-003	0.6818	4.8500e-003	0.6867	0.1809	4.4700e-003	0.1853		640.7578	640.7578	0.0225		641.3206
Total	0.3655	0.3085	2.6428	6.4400e-003	0.6818	4.8500e-003	0.6867	0.1809	4.4700e-003	0.1853		640.7578	640.7578	0.0225		641.3206

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	28.4273					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928
Total	28.4867	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3655	0.3085	2.6428	6.4400e-003	0.6818	4.8500e-003	0.6867	0.1809	4.4700e-003	0.1853		640.7578	640.7578	0.0225		641.3206
Total	0.3655	0.3085	2.6428	6.4400e-003	0.6818	4.8500e-003	0.6867	0.1809	4.4700e-003	0.1853		640.7578	640.7578	0.0225		641.3206

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	17.1358	160.0255	235.8160	1.1676	93.5508	0.9444	94.4951	25.0587	0.8869	25.9457		119,031.3463	119,031.3463	4.4663		119,143.0044
Unmitigated	17.1358	160.0255	235.8160	1.1676	93.5508	0.9444	94.4951	25.0587	0.8869	25.9457		119,031.3463	119,031.3463	4.4663		119,143.0044

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	2,830,337	2,830,337
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
User Defined Recreational	5,061.61	5,061.61	5,061.61	35,094,539	35,094,539
Total	7,006.07	7,006.07	7,006.07	43,673,421	43,673,421

4.3 Trip Type Information

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	90	10	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	100	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	100	0	0
User Defined Recreational	9.50	9.50	25.00	19.00	19.40	61.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Parking Lot	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Arena	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Hotel	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Movie Theater (No Matinee)	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
User Defined Recreational	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.2000e-004	4.6800e-003	3.9300e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004		5.6206	5.6206	1.1000e-004	1.0000e-004	5.6540
NaturalGas Unmitigated	5.2000e-004	4.6800e-003	3.9300e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004		5.6206	5.6206	1.1000e-004	1.0000e-004	5.6540

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	lb/day										lb/day						
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	47.7748	5.2000e-004	4.6800e-003	3.9300e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004		5.6206	5.6206	1.1000e-004	1.0000e-004	5.6540	
Total		5.2000e-004	4.6800e-003	3.9300e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004		5.6206	5.6206	1.1000e-004	1.0000e-004	5.6540	

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0.0477748	5.2000e-004	4.6800e-003	3.9300e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004		5.6206	5.6206	1.1000e-004	1.0000e-004	5.6540
Total		5.2000e-004	4.6800e-003	3.9300e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004		5.6206	5.6206	1.1000e-004	1.0000e-004	5.6540

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.6595	5.5000e-003	0.6070	5.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		1.3045	1.3045	3.3900e-003		1.3893
Unmitigated	10.6595	5.5000e-003	0.6070	5.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		1.3045	1.3045	3.3900e-003		1.3893

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.6278					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.9758					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0559	5.5000e-003	0.6070	5.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		1.3045	1.3045	3.3900e-003		1.3893
Total	10.6595	5.5000e-003	0.6070	5.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		1.3045	1.3045	3.3900e-003		1.3893

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.6278					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.9758					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0559	5.5000e-003	0.6070	5.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		1.3045	1.3045	3.3900e-003		1.3893
Total	10.6595	5.5000e-003	0.6070	5.0000e-005		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003		1.3045	1.3045	3.3900e-003		1.3893

7.0 Water Detail

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	

User Defined Equipment

Equipment Type	Number
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10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
						0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Emergency Generator - Diesel (750 - 9999 HP)	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative B

Shasta County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.01	0.17	0.00	0.00	0.83	0.84	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.32	0.12	-0.03	0.00	0.73	0.72	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.38	0.24	-0.10	0.00	0.53	0.52	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.25	0.20	-0.17	0.00	0.88	0.87	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.77	0.58	-0.04	0.00	0.94	0.94	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	Tier 3	1	1	Level 3	0.00
Cranes	Diesel	Tier 3	1	1	Level 3	0.00
Excavators	Diesel	Tier 3	2	2	Level 3	0.00
Forklifts	Diesel	Tier 3	3	3	Level 3	0.00
Generator Sets	Diesel	Tier 3	1	1	Level 3	0.00
Graders	Diesel	Tier 3	1	1	Level 3	0.00
Pavers	Diesel	Tier 3	2	2	Level 3	0.00
Paving Equipment	Diesel	Tier 3	2	2	Level 3	0.00
Rollers	Diesel	Tier 3	2	2	Level 3	0.00
Rubber Tired Dozers	Diesel	Tier 3	4	4	Level 3	0.00
Scrapers	Diesel	No Change	0	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 3	9	9	Level 3	0.00
Welders	Diesel	Tier 3	1	1	Level 1	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	2.53100E-002	1.75960E-001	1.91380E-001	3.10000E-004	1.15900E-002	1.15900E-002	0.00000E+000	2.66815E+001	2.66815E+001	2.07000E-003	0.00000E+000	2.67332E+001
Cranes	5.44400E-002	6.47520E-001	2.53440E-001	6.90000E-004	2.67600E-002	2.46200E-002	0.00000E+000	6.04326E+001	6.04326E+001	1.95100E-002	0.00000E+000	6.09203E+001
Excavators	1.69500E-002	1.74320E-001	2.12110E-001	3.40000E-004	8.41000E-003	7.73000E-003	0.00000E+000	3.01396E+001	3.01396E+001	9.54000E-003	0.00000E+000	3.03779E+001
Forklifts	5.92800E-002	5.33700E-001	4.82010E-001	6.20000E-004	3.99000E-002	3.67100E-002	0.00000E+000	5.48893E+001	5.48893E+001	1.77200E-002	0.00000E+000	5.53324E+001
Generator Sets	5.47700E-002	4.76380E-001	5.04150E-001	8.90000E-004	2.70100E-002	2.70100E-002	0.00000E+000	7.68682E+001	7.68682E+001	4.37000E-003	0.00000E+000	7.69775E+001
Graders	1.58200E-002	2.13840E-001	5.97400E-002	2.20000E-004	6.86000E-003	6.31000E-003	0.00000E+000	1.93892E+001	1.93892E+001	6.13000E-003	0.00000E+000	1.95425E+001
Pavers	1.99600E-002	2.13580E-001	2.20270E-001	3.60000E-004	1.03800E-002	9.55000E-003	0.00000E+000	3.13892E+001	3.13892E+001	1.01500E-002	0.00000E+000	3.16430E+001
Paving Equipment	1.57700E-002	1.62740E-001	1.92610E-001	3.10000E-004	8.14000E-003	7.49000E-003	0.00000E+000	2.72012E+001	2.72012E+001	8.80000E-003	0.00000E+000	2.74211E+001
Rollers	1.58200E-002	1.58170E-001	1.43900E-001	2.00000E-004	1.00800E-002	9.28000E-003	0.00000E+000	1.75169E+001	1.75169E+001	5.67000E-003	0.00000E+000	1.76585E+001
Rubber Tired Dozers	1.13460E-001	1.20744E+000	4.28410E-001	8.50000E-004	5.88700E-002	5.41600E-002	0.00000E+000	7.66960E+001	7.66960E+001	2.42700E-002	0.00000E+000	7.73026E+001
Scrapers	6.92400E-002	8.39400E-001	5.23990E-001	9.80000E-004	3.28900E-002	3.02600E-002	0.00000E+000	8.84396E+001	8.84396E+001	2.79800E-002	0.00000E+000	8.91391E+001
Tractors/Loaders/Backhoes	1.11550E-001	1.12053E+000	1.17143E+000	1.59000E-003	7.23700E-002	6.65800E-002	0.00000E+000	1.40830E+002	1.40830E+002	4.51900E-002	0.00000E+000	1.41960E+002
Welders	4.70000E-002	2.14280E-001	2.40760E-001	3.50000E-004	1.19600E-002	1.19600E-002	0.00000E+000	2.55980E+001	2.55980E+001	3.82000E-003	0.00000E+000	2.56936E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr							Mitigated mt/yr					
Air Compressors	6.21000E-003	1.41800E-001	1.91490E-001	3.10000E-004	1.49000E-003	1.49000E-003	0.00000E+000	2.66815E+001	2.66815E+001	2.07000E-003	0.00000E+000	2.67331E+001
Cranes	1.68700E-002	3.26190E-001	3.65560E-001	6.90000E-004	1.86000E-003	1.86000E-003	0.00000E+000	6.04325E+001	6.04325E+001	1.95100E-002	0.00000E+000	6.09203E+001
Excavators	8.26000E-003	1.59690E-001	2.54670E-001	3.40000E-004	1.16000E-003	1.16000E-003	0.00000E+000	3.01395E+001	3.01395E+001	9.54000E-003	0.00000E+000	3.03779E+001
Forklifts	1.53700E-002	3.50960E-001	4.73920E-001	6.20000E-004	3.69000E-003	3.69000E-003	0.00000E+000	5.48893E+001	5.48893E+001	1.77200E-002	0.00000E+000	5.53323E+001
Generator Sets	1.78900E-002	4.08530E-001	5.51660E-001	8.90000E-004	4.29000E-003	4.29000E-003	0.00000E+000	7.68681E+001	7.68681E+001	4.37000E-003	0.00000E+000	7.69774E+001
Graders	5.27000E-003	1.01960E-001	1.14260E-001	2.20000E-004	5.80000E-004	5.80000E-004	0.00000E+000	1.93891E+001	1.93891E+001	6.13000E-003	0.00000E+000	1.95425E+001
Pavers	8.78000E-003	1.69790E-001	2.70790E-001	3.60000E-004	1.23000E-003	1.23000E-003	0.00000E+000	3.13892E+001	3.13892E+001	1.01500E-002	0.00000E+000	3.16430E+001
Paving Equipment	7.64000E-003	1.47780E-001	2.35680E-001	3.10000E-004	1.07000E-003	1.07000E-003	0.00000E+000	2.72011E+001	2.72011E+001	8.80000E-003	0.00000E+000	2.74211E+001
Rollers	4.89000E-003	1.11650E-001	1.50770E-001	2.00000E-004	1.17000E-003	1.17000E-003	0.00000E+000	1.75169E+001	1.75169E+001	5.67000E-003	0.00000E+000	1.76585E+001
Rubber Tired Dozers	2.09100E-002	4.04270E-001	4.53060E-001	8.50000E-004	2.30000E-003	2.30000E-003	0.00000E+000	7.66959E+001	7.66959E+001	2.42700E-002	0.00000E+000	7.73025E+001
Scrapers	6.92400E-002	8.39400E-001	5.23990E-001	9.80000E-004	3.28900E-002	3.02600E-002	0.00000E+000	8.84395E+001	8.84395E+001	2.79800E-002	0.00000E+000	8.91390E+001
Tractors/Loaders/Balckhoes	3.88900E-002	8.88010E-001	1.19914E+000	1.59000E-003	9.33000E-003	9.33000E-003	0.00000E+000	1.40830E+002	1.40830E+002	4.51900E-002	0.00000E+000	1.41960E+002
Welders	1.44000E-002	2.29890E-001	2.03570E-001	3.50000E-004	1.04300E-002	1.04300E-002	0.00000E+000	2.55980E+001	2.55980E+001	3.82000E-003	0.00000E+000	2.56936E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	7.54642E-001	1.94135E-001	-5.74773E-004	0.00000E+000	8.71441E-001	8.71441E-001	0.00000E+000	1.12437E-006	1.12437E-006	0.00000E+000	0.00000E+000	1.49627E-006
Cranes	6.90118E-001	4.96247E-001	-4.42393E-001	0.00000E+000	9.30493E-001	9.24452E-001	0.00000E+000	1.15832E-006	1.15832E-006	0.00000E+000	0.00000E+000	1.14904E-006
Excavators	5.12684E-001	8.39261E-002	-2.00651E-001	0.00000E+000	8.62069E-001	8.49935E-001	0.00000E+000	1.32716E-006	1.32716E-006	0.00000E+000	0.00000E+000	9.87559E-007
Forklifts	7.40722E-001	3.42402E-001	1.67839E-002	0.00000E+000	9.07519E-001	8.99482E-001	0.00000E+000	1.09311E-006	1.09311E-006	0.00000E+000	0.00000E+000	1.26508E-006
Generator Sets	6.73361E-001	1.42428E-001	-9.42378E-002	0.00000E+000	8.41170E-001	8.41170E-001	0.00000E+000	1.17084E-006	1.17084E-006	0.00000E+000	0.00000E+000	1.29908E-006
Graders	6.66877E-001	5.23195E-001	-9.12621E-001	0.00000E+000	9.15452E-001	9.08082E-001	0.00000E+000	1.03150E-006	1.03150E-006	0.00000E+000	0.00000E+000	1.53511E-006
Pavers	5.60120E-001	2.05029E-001	-2.29355E-001	0.00000E+000	8.81503E-001	8.71204E-001	0.00000E+000	1.27432E-006	1.27432E-006	0.00000E+000	0.00000E+000	1.26410E-006
Paving Equipment	5.15536E-001	9.19258E-002	-2.23612E-001	0.00000E+000	8.68550E-001	8.57143E-001	0.00000E+000	1.47053E-006	1.47053E-006	0.00000E+000	0.00000E+000	1.09405E-006
Rollers	6.90898E-001	2.94114E-001	-4.77415E-002	0.00000E+000	8.83929E-001	8.73922E-001	0.00000E+000	1.14176E-006	1.14176E-006	0.00000E+000	0.00000E+000	1.13260E-006
Rubber Tired Dozers	8.15706E-001	6.65184E-001	-5.75383E-002	0.00000E+000	9.60931E-001	9.57533E-001	0.00000E+000	1.17346E-006	1.17346E-006	0.00000E+000	0.00000E+000	1.29362E-006
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.13072E-006	1.13072E-006	0.00000E+000	0.00000E+000	1.23403E-006
Tractors/Loaders/Balkhoes	6.51367E-001	2.07509E-001	-2.36548E-002	0.00000E+000	8.71079E-001	8.59868E-001	0.00000E+000	1.13612E-006	1.13612E-006	0.00000E+000	0.00000E+000	1.19752E-006
Welders	6.93617E-001	-7.28486E-002	1.54469E-001	0.00000E+000	1.27926E-001	1.27926E-001	0.00000E+000	1.17197E-006	1.17197E-006	0.00000E+000	0.00000E+000	1.16761E-006

Fugitive Dust Mitigation

Yes/No Mitigation Measure Mitigation Input Mitigation Input Mitigation Input

Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	10.00	PM2.5 Reduction	10.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00

No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
Yes	Clean Paved Road	% PM Reduction	0.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.07	0.02	0.07	0.02	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.59	0.16	0.59	0.16	0.00	0.00
Grading	Fugitive Dust	0.34	0.12	0.15	0.06	0.55	0.55
Grading	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.41	0.22	0.18	0.10	0.55	0.55
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	29.60	29.10	29.18	29.60	29.58	29.33
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.11	0.33		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network			
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00		
No	Transit Improvements	Expand Transit Network	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00
No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		

No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	150.00
Yes	Use Low VOC Paint (Residential Exterior)	150.00
Yes	Use Low VOC Paint (Non-residential Interior)	150.00
Yes	Use Low VOC Paint (Non-residential Exterior)	150.00
Yes	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
Yes	Use Reclaimed Water	30.00	30.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
---------------------	-------------

Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	13.14	583,500.00	0
Parking Lot	600.00	Space	51.82	0.00	0
Arena	10.08	1000sqft	0.23	10,080.00	0
Hotel	250.00	Room	3.99	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	1.62	72,000.00	0
User Defined Recreational	150.33	User Defined Unit	3.39	150,326.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Refer to CalEEMod input table.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to Appendix Q CalEEMod Tables.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	40.00	2.00
tblConstructionPhase	PhaseEndDate	8/30/2019	7/2/2019

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tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00
tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	13.14
tblLandUse	LotAcreage	5.40	51.82
tblLandUse	LotAcreage	3.24	0.23
tblLandUse	LotAcreage	8.33	3.99
tblLandUse	LotAcreage	1.70	1.62
tblLandUse	LotAcreage	0.00	3.39
tblProjectCharacteristics	OperationalYear	2018	2040
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2019	9-30-2019	0.0358	0.0358
		Highest	0.0358	0.0358

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.9401	4.9000e-004	0.0544	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	0.1065	0.1065	2.7000e-004	0.0000	0.1134
Energy	0.0334	0.3037	0.2551	1.8200e-003		0.0231	0.0231		0.0231	0.0231	0.0000	2,079.2367	2,079.2367	0.0854	0.0224	2,088.0531
Mobile	1.0990	17.2009	9.9408	0.0809	5.7081	0.0285	5.7366	1.5339	0.0267	1.5606	0.0000	7,543.7698	7,543.7698	0.5673	0.0000	7,557.9534
Stationary	0.0432	0.1931	0.1101	2.1000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	20.0353	20.0353	2.8100e-003	0.0000	20.1055
Waste						0.0000	0.0000		0.0000	0.0000	27.8422	0.0000	27.8422	1.6454	0.0000	68.9780
Water						0.0000	0.0000		0.0000	0.0000	12.8497	66.6939	79.5436	1.3228	0.0318	122.0860
Total	3.1157	17.6982	10.3604	0.0829	5.7081	0.0581	5.7662	1.5339	0.0563	1.5902	40.6919	9,709.8422	9,750.5341	3.6241	0.0542	9,857.2894

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.9401	4.9000e-004	0.0544	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	0.1065	0.1065	2.7000e-004	0.0000	0.1134
Energy	0.0334	0.3037	0.2551	1.8200e-003		0.0231	0.0231		0.0231	0.0231	0.0000	2,079.2367	2,079.2367	0.0854	0.0224	2,088.0531
Mobile	1.0990	17.2009	9.9408	0.0809	5.7081	0.0285	5.7366	1.5339	0.0267	1.5606	0.0000	7,543.7698	7,543.7698	0.5673	0.0000	7,557.9534
Stationary	0.0432	0.1931	0.1101	2.1000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	20.0353	20.0353	2.8100e-003	0.0000	20.1055
Waste						0.0000	0.0000		0.0000	0.0000	27.8422	0.0000	27.8422	1.6454	0.0000	68.9780
Water						0.0000	0.0000		0.0000	0.0000	9.0462	47.4695	56.5157	0.9313	0.0224	86.4676
Total	3.1157	17.6982	10.3604	0.0829	5.7081	0.0581	5.7662	1.5339	0.0563	1.5902	36.8884	9,690.6178	9,727.5062	3.2325	0.0448	9,821.6709

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.35	0.20	0.24	10.80	17.36	0.36

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2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-318.9400
Total	-318.9400

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/2/2019	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 64.96

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0181	0.0000	0.0181	9.9300e-003	0.0000	9.9300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0456	0.0221	4.0000e-005		2.3900e-003	2.3900e-003		2.2000e-003	2.2000e-003	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439
Total	4.3400e-003	0.0456	0.0221	4.0000e-005	0.0181	2.3900e-003	0.0205	9.9300e-003	2.2000e-003	0.0121	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439

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3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346
Total	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.1300e-003	0.0000	8.1300e-003	4.4700e-003	0.0000	4.4700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0456	0.0221	4.0000e-005		2.3900e-003	2.3900e-003		2.2000e-003	2.2000e-003	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439
Total	4.3400e-003	0.0456	0.0221	4.0000e-005	8.1300e-003	2.3900e-003	0.0105	4.4700e-003	2.2000e-003	6.6700e-003	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439

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3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346
Total	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0990	17.2009	9.9408	0.0809	5.7081	0.0285	5.7366	1.5339	0.0267	1.5606	0.0000	7,543.7698	7,543.7698	0.5673	0.0000	7,557.9534
Unmitigated	1.0990	17.2009	9.9408	0.0809	5.7081	0.0285	5.7366	1.5339	0.0267	1.5606	0.0000	7,543.7698	7,543.7698	0.5673	0.0000	7,557.9534

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	107.96	107.96	107.96	209,646	209,646
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	2,042.50	2,047.50	1487.50	3,731,328	3,731,328
Movie Theater (No Matinee)	5,808.00	7,392.00	6105.00	11,442,435	11,442,435
Parking Lot	0.00	0.00	0.00		
User Defined Recreational	0.00	0.00	0.00		
Total	7,958.46	9,547.46	7,700.46	15,383,409	15,383,409

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	7.30	7.30	0.00	81.00	19.00	66	28	6
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Movie Theater (No Matinee)	9.50	7.30	7.30	1.80	79.20	19.00	66	17	17
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
User Defined Recreational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Parking Lot	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Arena	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Hotel	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Movie Theater (No Matinee)	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
User Defined Recreational	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	1,748.5776	1,748.5776	0.0791	0.0164	1,755.4290
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	1,748.5776	1,748.5776	0.0791	0.0164	1,755.4290
NaturalGas Mitigated	0.0334	0.3037	0.2551	1.8200e-003			0.0231	0.0231		0.0231	0.0000	330.6592	330.6592	6.3400e-003	6.0600e-003	332.6241
NaturalGas Unmitigated	0.0334	0.3037	0.2551	1.8200e-003			0.0231	0.0231		0.0231	0.0000	330.6592	330.6592	6.3400e-003	6.0600e-003	332.6241

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	211176	1.1400e-003	0.0104	8.7000e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004	0.0000	11.2692	11.2692	2.2000e-004	2.1000e-004	11.3361
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	4.47674e+006	0.0241	0.2195	0.1843	1.3200e-003		0.0167	0.0167		0.0167	0.0167	0.0000	238.8961	238.8961	4.5800e-003	4.3800e-003	240.3157
Movie Theater (No Matinee)	1.5084e+006	8.1300e-003	0.0739	0.0621	4.4000e-004		5.6200e-003	5.6200e-003		5.6200e-003	5.6200e-003	0.0000	80.4940	80.4940	1.5400e-003	1.4800e-003	80.9723
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0334	0.3037	0.2552	1.8200e-003		0.0231	0.0231		0.0231	0.0231	0.0000	330.6592	330.6592	6.3400e-003	6.0700e-003	332.6241

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	211176	1.1400e-003	0.0104	8.7000e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004	0.0000	11.2692	11.2692	2.2000e-004	2.1000e-004	11.3361
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	4.47674e+006	0.0241	0.2195	0.1843	1.3200e-003		0.0167	0.0167		0.0167	0.0167	0.0000	238.8961	238.8961	4.5800e-003	4.3800e-003	240.3157
Movie Theater (No Matinee)	1.5084e+006	8.1300e-003	0.0739	0.0621	4.4000e-004		5.6200e-003	5.6200e-003		5.6200e-003	5.6200e-003	0.0000	80.4940	80.4940	1.5400e-003	1.4800e-003	80.9723
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0334	0.3037	0.2552	1.8200e-003		0.0231	0.0231		0.0231	0.0231	0.0000	330.6592	330.6592	6.3400e-003	6.0700e-003	332.6241

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	90619.2	26.3622	1.1900e-003	2.5000e-004	26.4655
Enclosed Parking Structure	3.82193e+006	1,111.8418	0.0503	0.0104	1,116.1983
Hotel	1.45086e+006	422.0724	0.0191	3.9500e-003	423.7262
Movie Theater (No Matinee)	647280	188.3012	8.5100e-003	1.7600e-003	189.0390
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		1,748.5776	0.0791	0.0164	1,755.4290

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	90619.2	26.3622	1.1900e-003	2.5000e-004	26.4655
Enclosed Parking Structure	3.82193e+006	1,111.8418	0.0503	0.0104	1,116.1983
Hotel	1.45086e+006	422.0724	0.0191	3.9500e-003	423.7262
Movie Theater (No Matinee)	647280	188.3012	8.5100e-003	1.7600e-003	189.0390
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		1,748.5776	0.0791	0.0164	1,755.4290

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.9401	4.9000e-004	0.0544	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	0.1065	0.1065	2.7000e-004	0.0000	0.1134
Unmitigated	1.9401	4.9000e-004	0.0544	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	0.1065	0.1065	2.7000e-004	0.0000	0.1134

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2971					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.6381					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.9800e-003	4.9000e-004	0.0544	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	0.1065	0.1065	2.7000e-004	0.0000	0.1134
Total	1.9401	4.9000e-004	0.0544	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	0.1065	0.1065	2.7000e-004	0.0000	0.1134

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2971					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.6381					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.9800e-003	4.9000e-004	0.0544	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	0.1065	0.1065	2.7000e-004	0.0000	0.1134
Total	1.9401	4.9000e-004	0.0544	0.0000		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	0.1065	0.1065	2.7000e-004	0.0000	0.1134

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	56.5157	0.9313	0.0224	86.4676
Unmitigated	79.5436	1.3228	0.0318	122.0860

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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	4.34216 / 0.277159	8.4949	0.1418	3.4100e-003	13.0556
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	6.34169 / 0.704632	12.7120	0.2071	4.9800e-003	19.3740
Movie Theater (No Matinee)	29.8189 / 1.90333	58.3367	0.9739	0.0234	89.6564
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		79.5436	1.3228	0.0318	122.0860

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	3.05688 / 0.2439	6.0301	0.0998	2.4000e-003	9.2410
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	4.46455 / 0.620077	9.0755	0.1458	3.5100e-003	13.7661
Movie Theater (No Matinee)	20.9925 / 1.67493	41.4101	0.6856	0.0165	63.4605
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		56.5157	0.9313	0.0224	86.4676

8.0 Waste Detail

8.1 Mitigation Measures Waste

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	27.8422	1.6454	0.0000	68.9780
Unmitigated	27.8422	1.6454	0.0000	68.9780

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.28	0.0568	3.3600e-003	0.0000	0.1408
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	136.88	27.7854	1.6421	0.0000	68.8372
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		27.8422	1.6454	0.0000	68.9780

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.28	0.0568	3.3600e-003	0.0000	0.1408
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	136.88	27.7854	1.6421	0.0000	68.8372
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		27.8422	1.6454	0.0000	68.9780

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Annual

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Emergency Generator - Diesel (750 - 9999 HP)	0.0432	0.1931	0.1101	2.1000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	20.0353	20.0353	2.8100e-003	0.0000	20.1055
Total	0.0432	0.1931	0.1101	2.1000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	20.0353	20.0353	2.8100e-003	0.0000	20.1055

11.0 Vegetation

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	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-318.9400	0.0000	0.0000	-318.9400

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	232 / 158	-318.9400	0.0000	0.0000	-318.9400
Total		-318.9400	0.0000	0.0000	-318.9400

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

**Redding Rancheria FTT and Casino Project – Alternative B
Shasta County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	13.14	583,500.00	0
Parking Lot	600.00	Space	51.82	0.00	0
Arena	10.08	1000sqft	0.23	10,080.00	0
Hotel	250.00	Room	3.99	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	1.62	72,000.00	0
User Defined Recreational	150.33	User Defined Unit	3.39	150,326.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

Project Characteristics - Refer to CalEEMod input table.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to Appendix Q CalEEMod Tables.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	40.00	2.00
tblConstructionPhase	PhaseEndDate	8/30/2019	7/2/2019

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00
tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	13.14
tblLandUse	LotAcreage	5.40	51.82
tblLandUse	LotAcreage	3.24	0.23
tblLandUse	LotAcreage	8.33	3.99
tblLandUse	LotAcreage	1.70	1.62
tblLandUse	LotAcreage	0.00	3.39
tblProjectCharacteristics	OperationalYear	2018	2040
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.6589	5.4300e-003	0.6047	5.0000e-005		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003		1.3045	1.3045	3.3600e-003		1.3885
Energy	0.1831	1.6643	1.3980	9.9900e-003		0.1265	0.1265		0.1265	0.1265		1,997.2020	1,997.2020	0.0383	0.0366	2,009.0703
Mobile	8.9842	110.8060	70.5444	0.5512	38.5739	0.1830	38.7569	10.3230	0.1715	10.4945		56,621.2590	56,621.2590	3.8472		56,717.4397
Stationary	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	27.0214	144.6525	90.8935	0.5958	38.5739	1.3701	39.9440	10.3230	1.3586	11.6816		62,300.6151	62,300.6151	4.4049	0.0366	62,421.6496

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.6589	5.4300e-003	0.6047	5.0000e-005		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003		1.3045	1.3045	3.3600e-003		1.3885
Energy	0.1831	1.6643	1.3980	9.9900e-003		0.1265	0.1265		0.1265	0.1265		1,997.2020	1,997.2020	0.0383	0.0366	2,009.0703
Mobile	8.9842	110.8060	70.5444	0.5512	38.5739	0.1830	38.7569	10.3230	0.1715	10.4945		56,621.2590	56,621.2590	3.8472		56,717.4397
Stationary	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	27.0214	144.6525	90.8935	0.5958	38.5739	1.3701	39.9440	10.3230	1.3586	11.6816		62,300.6151	62,300.6151	4.4049	0.0366	62,421.6496

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/2/2019	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

Acres of Paving: 64.96

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	8.1298	2.3904	10.5202	4.4688	2.1991	6.6679	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

4.0 Operational Detail - Mobile

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.9842	110.8060	70.5444	0.5512	38.5739	0.1830	38.7569	10.3230	0.1715	10.4945		56,621.25 90	56,621.25 90	3.8472		56,717.43 97
Unmitigated	8.9842	110.8060	70.5444	0.5512	38.5739	0.1830	38.7569	10.3230	0.1715	10.4945		56,621.25 90	56,621.25 90	3.8472		56,717.43 97

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	107.96	107.96	107.96	209,646	209,646
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	2,042.50	2,047.50	1487.50	3,731,328	3,731,328
Movie Theater (No Matinee)	5,808.00	7,392.00	6105.00	11,442,435	11,442,435
Parking Lot	0.00	0.00	0.00		
User Defined Recreational	0.00	0.00	0.00		
Total	7,958.46	9,547.46	7,700.46	15,383,409	15,383,409

4.3 Trip Type Information

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	7.30	7.30	0.00	81.00	19.00	66	28	6
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Movie Theater (No Matinee)	9.50	7.30	7.30	1.80	79.20	19.00	66	17	17
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
User Defined Recreational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Parking Lot	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Arena	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Hotel	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Movie Theater (No Matinee)	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
User Defined Recreational	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1831	1.6643	1.3980	9.9900e-003		0.1265	0.1265		0.1265	0.1265		1,997.2020	1,997.2020	0.0383	0.0366	2,009.0703
NaturalGas Unmitigated	0.1831	1.6643	1.3980	9.9900e-003		0.1265	0.1265		0.1265	0.1265		1,997.2020	1,997.2020	0.0383	0.0366	2,009.0703

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	578.564	6.2400e-003	0.0567	0.0477	3.4000e-004		4.3100e-003	4.3100e-003		4.3100e-003	4.3100e-003		68.0664	68.0664	1.3000e-003	1.2500e-003	68.4709
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	12265	0.1323	1.2025	1.0101	7.2100e-003		0.0914	0.0914		0.0914	0.0914		1,442.9470	1,442.9470	0.0277	0.0265	1,451.5217
Movie Theater (No Matinee)	4132.6	0.0446	0.4052	0.3403	2.4300e-003		0.0308	0.0308		0.0308	0.0308		486.1886	486.1886	9.3200e-003	8.9100e-003	489.0777
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.1831	1.6643	1.3980	9.9800e-003		0.1265	0.1265		0.1265	0.1265		1,997.2020	1,997.2020	0.0383	0.0366	2,009.0703

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0.578564	6.2400e-003	0.0567	0.0477	3.4000e-004		4.3100e-003	4.3100e-003		4.3100e-003	4.3100e-003		68.0664	68.0664	1.3000e-003	1.2500e-003	68.4709
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	12.265	0.1323	1.2025	1.0101	7.2100e-003		0.0914	0.0914		0.0914	0.0914		1,442.9470	1,442.9470	0.0277	0.0265	1,451.5217
Movie Theater (No Matinee)	4.1326	0.0446	0.4052	0.3403	2.4300e-003		0.0308	0.0308		0.0308	0.0308		486.1886	486.1886	9.3200e-003	8.9100e-003	489.0777
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.1831	1.6643	1.3980	9.9800e-003		0.1265	0.1265		0.1265	0.1265		1,997.2020	1,997.2020	0.0383	0.0366	2,009.0703

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.6589	5.4300e-003	0.6047	5.0000e-005		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003		1.3045	1.3045	3.3600e-003		1.3885
Unmitigated	10.6589	5.4300e-003	0.6047	5.0000e-005		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003		1.3045	1.3045	3.3600e-003		1.3885

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.6278					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.9758					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0553	5.4300e-003	0.6047	5.0000e-005		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003		1.3045	1.3045	3.3600e-003		1.3885
Total	10.6589	5.4300e-003	0.6047	5.0000e-005		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003		1.3045	1.3045	3.3600e-003		1.3885

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.6278					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.9758					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0553	5.4300e-003	0.6047	5.0000e-005		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003		1.3045	1.3045	3.3600e-003		1.3885
Total	10.6589	5.4300e-003	0.6047	5.0000e-005		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003		1.3045	1.3045	3.3600e-003		1.3885

7.0 Water Detail

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
						0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Emergency Generator - Diesel (750 - 9999 HP)	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Summer

11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

Redding Rancheria FTT and Casino Project – Alternative B
Shasta County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	13.14	583,500.00	0
Parking Lot	600.00	Space	51.82	0.00	0
Arena	10.08	1000sqft	0.23	10,080.00	0
Hotel	250.00	Room	3.99	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	1.62	72,000.00	0
User Defined Recreational	150.33	User Defined Unit	3.39	150,326.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

Project Characteristics - Refer to CalEEMod input table.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to Appendix Q CalEEMod Tables.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	40.00	2.00
tblConstructionPhase	PhaseEndDate	8/30/2019	7/2/2019

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00
tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	13.14
tblLandUse	LotAcreage	5.40	51.82
tblLandUse	LotAcreage	3.24	0.23
tblLandUse	LotAcreage	8.33	3.99
tblLandUse	LotAcreage	1.70	1.62
tblLandUse	LotAcreage	0.00	3.39
tblProjectCharacteristics	OperationalYear	2018	2040
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.6589	5.4300e-003	0.6047	5.0000e-005		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003		1.3045	1.3045	3.3600e-003		1.3885
Energy	0.1831	1.6643	1.3980	9.9900e-003		0.1265	0.1265		0.1265	0.1265		1,997.2020	1,997.2020	0.0383	0.0366	2,009.0703
Mobile	6.7338	110.0284	66.7929	0.5045	38.5739	0.1846	38.7585	10.3230	0.1730	10.4960		51,870.5458	51,870.5458	4.3147		51,978.4144
Stationary	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	24.7711	143.8749	87.1420	0.5491	38.5739	1.3717	39.9456	10.3230	1.3601	11.6831		57,549.9019	57,549.9019	4.8724	0.0366	57,682.6243

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.6589	5.4300e-003	0.6047	5.0000e-005		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003		1.3045	1.3045	3.3600e-003		1.3885
Energy	0.1831	1.6643	1.3980	9.9900e-003		0.1265	0.1265		0.1265	0.1265		1,997.2020	1,997.2020	0.0383	0.0366	2,009.0703
Mobile	6.7338	110.0284	66.7929	0.5045	38.5739	0.1846	38.7585	10.3230	0.1730	10.4960		51,870.5458	51,870.5458	4.3147		51,978.4144
Stationary	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	24.7711	143.8749	87.1420	0.5491	38.5739	1.3717	39.9456	10.3230	1.3601	11.6831		57,549.9019	57,549.9019	4.8724	0.0366	57,682.6243

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/2/2019	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

Acres of Paving: 64.96

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	8.1298	2.3904	10.5202	4.4688	2.1991	6.6679	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

4.0 Operational Detail - Mobile

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.7338	110.0284	66.7929	0.5045	38.5739	0.1846	38.7585	10.3230	0.1730	10.4960		51,870.54 58	51,870.54 58	4.3147		51,978.41 44
Unmitigated	6.7338	110.0284	66.7929	0.5045	38.5739	0.1846	38.7585	10.3230	0.1730	10.4960		51,870.54 58	51,870.54 58	4.3147		51,978.41 44

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	107.96	107.96	107.96	209,646	209,646
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	2,042.50	2,047.50	1487.50	3,731,328	3,731,328
Movie Theater (No Matinee)	5,808.00	7,392.00	6105.00	11,442,435	11,442,435
Parking Lot	0.00	0.00	0.00		
User Defined Recreational	0.00	0.00	0.00		
Total	7,958.46	9,547.46	7,700.46	15,383,409	15,383,409

4.3 Trip Type Information

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	7.30	7.30	0.00	81.00	19.00	66	28	6
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Movie Theater (No Matinee)	9.50	7.30	7.30	1.80	79.20	19.00	66	17	17
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
User Defined Recreational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Parking Lot	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Arena	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Hotel	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Movie Theater (No Matinee)	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
User Defined Recreational	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1831	1.6643	1.3980	9.9900e-003		0.1265	0.1265		0.1265	0.1265		1,997.2020	1,997.2020	0.0383	0.0366	2,009.0703
NaturalGas Unmitigated	0.1831	1.6643	1.3980	9.9900e-003		0.1265	0.1265		0.1265	0.1265		1,997.2020	1,997.2020	0.0383	0.0366	2,009.0703

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	578.564	6.2400e-003	0.0567	0.0477	3.4000e-004		4.3100e-003	4.3100e-003		4.3100e-003	4.3100e-003		68.0664	68.0664	1.3000e-003	1.2500e-003	68.4709
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	12265	0.1323	1.2025	1.0101	7.2100e-003		0.0914	0.0914		0.0914	0.0914		1,442.9470	1,442.9470	0.0277	0.0265	1,451.5217
Movie Theater (No Matinee)	4132.6	0.0446	0.4052	0.3403	2.4300e-003		0.0308	0.0308		0.0308	0.0308		486.1886	486.1886	9.3200e-003	8.9100e-003	489.0777
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.1831	1.6643	1.3980	9.9800e-003		0.1265	0.1265		0.1265	0.1265		1,997.2020	1,997.2020	0.0383	0.0366	2,009.0703

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0.578564	6.2400e-003	0.0567	0.0477	3.4000e-004		4.3100e-003	4.3100e-003		4.3100e-003	4.3100e-003		68.0664	68.0664	1.3000e-003	1.2500e-003	68.4709
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	12.265	0.1323	1.2025	1.0101	7.2100e-003		0.0914	0.0914		0.0914	0.0914		1,442.9470	1,442.9470	0.0277	0.0265	1,451.5217
Movie Theater (No Matinee)	4.1326	0.0446	0.4052	0.3403	2.4300e-003		0.0308	0.0308		0.0308	0.0308		486.1886	486.1886	9.3200e-003	8.9100e-003	489.0777
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.1831	1.6643	1.3980	9.9800e-003		0.1265	0.1265		0.1265	0.1265		1,997.2020	1,997.2020	0.0383	0.0366	2,009.0703

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.6589	5.4300e-003	0.6047	5.0000e-005		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003		1.3045	1.3045	3.3600e-003		1.3885
Unmitigated	10.6589	5.4300e-003	0.6047	5.0000e-005		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003		1.3045	1.3045	3.3600e-003		1.3885

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.6278					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.9758					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0553	5.4300e-003	0.6047	5.0000e-005		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003		1.3045	1.3045	3.3600e-003		1.3885
Total	10.6589	5.4300e-003	0.6047	5.0000e-005		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003		1.3045	1.3045	3.3600e-003		1.3885

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.6278					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.9758					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0553	5.4300e-003	0.6047	5.0000e-005		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003		1.3045	1.3045	3.3600e-003		1.3885
Total	10.6589	5.4300e-003	0.6047	5.0000e-005		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003		1.3045	1.3045	3.3600e-003		1.3885

7.0 Water Detail

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
						0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Emergency Generator - Diesel (750 - 9999 HP)	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511

Redding Rancheria FTT and Casino Project – Alternative B - Shasta County, Winter

11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative B

Shasta County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Rubber Tired Dozers	Diesel	No Change	0	3	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	4	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr						Unmitigated mt/yr						
Rubber Tired Dozers	3.40000E-003	3.62200E-002	1.28500E-002	3.00000E-005	1.77000E-003	1.62000E-003	0.00000E+000	2.30088E+000	2.30088E+000	7.30000E-004	0.00000E+000	2.31908E+000
Tractors/Loaders/Backhoes	9.30000E-004	9.35000E-003	9.21000E-003	1.00000E-005	6.20000E-004	5.70000E-004	0.00000E+000	1.11599E+000	1.11599E+000	3.50000E-004	0.00000E+000	1.12482E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr						Mitigated mt/yr						
Rubber Tired Dozers	3.40000E-003	3.62200E-002	1.28500E-002	3.00000E-005	1.77000E-003	1.62000E-003	0.00000E+000	2.30088E+000	2.30088E+000	7.30000E-004	0.00000E+000	2.31908E+000
Tractors/Loaders/Backhoes	9.30000E-004	9.35000E-003	9.21000E-003	1.00000E-005	6.20000E-004	5.70000E-004	0.00000E+000	1.11599E+000	1.11599E+000	3.50000E-004	0.00000E+000	1.12481E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.89031E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	10.00	PM2.5 Reduction
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)
No	Clean Paved Road	% PM Reduction	0.00	Frequency (per day)

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Site Preparation	Fugitive Dust	0.02	0.01	0.01	0.00	0.55	0.55
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	29.60	28.82	28.95	29.60	29.57	29.17
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.11	0.33		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network			
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00		
No	Transit Improvements	Expand Transit Network	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00
No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		

No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	150.00
Yes	Use Low VOC Paint (Residential Exterior)	150.00
Yes	Use Low VOC Paint (Non-residential Interior)	150.00
Yes	Use Low VOC Paint (Non-residential Exterior)	150.00
Yes	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
Yes	Use Reclaimed Water	30.00	30.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
---------------------	-------------

Institute Recycling and Composting Services Percent Reduction in Waste Disposed	
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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.36	583,500.00	0
Parking Lot	600.00	Space	58.93	0.00	0
Arena	10.08	1000sqft	0.28	10,080.00	0
Hotel	250.00	Room	5.28	188,368.00	0
Movie Theater (No Matinee)	3,300.00	Seat	2.02	72,000.00	0
User Defined Recreational	129.09	User Defined Unit	3.62	129,095.00	0
Regional Shopping Center	130.00	1000sqft	3.64	130,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Refer to CalEEMod Table.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Trips and VMT - Not consistent with other Alternatives.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	264,772.00	200,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	794,315.00	600,000.00
tblArchitecturalCoating	ConstArea_Parking	35,010.00	28,000.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150

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tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	110.00	209.00
tblConstructionPhase	NumDays	1,550.00	272.00
tblConstructionPhase	NumDays	155.00	65.00
tblConstructionPhase	NumDays	110.00	76.00
tblConstructionPhase	NumDays	60.00	45.00
tblConstructionPhase	PhaseEndDate	1/18/2022	12/31/2020
tblConstructionPhase	PhaseEndDate	11/29/2019	11/30/2019
tblConstructionPhase	PhaseEndDate	3/31/2021	8/15/2020
tblConstructionPhase	PhaseEndDate	8/30/2019	8/31/2019
tblConstructionPhase	PhaseStartDate	4/1/2021	3/15/2020
tblConstructionPhase	PhaseStartDate	11/30/2019	12/1/2019
tblConstructionPhase	PhaseStartDate	8/31/2019	9/1/2019

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tblConstructionPhase	PhaseStartDate	12/16/2020	5/1/2020
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	0.00	13.64
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	0.00	0.13
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	8.66	0.00
tblGrading	AcresOfGrading	162.50	387.50

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tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	188,368.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	129,095.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	188,368.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00
tblLandUse	LandUseSquareFeet	0.00	129,095.00
tblLandUse	LotAcreage	14.85	16.36
tblLandUse	LotAcreage	5.40	58.93
tblLandUse	LotAcreage	3.24	0.28
tblLandUse	LotAcreage	8.33	5.28
tblLandUse	LotAcreage	1.70	2.02
tblLandUse	LotAcreage	0.00	3.62
tblLandUse	LotAcreage	2.98	3.64
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	136.50	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,176.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	1,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	3.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00

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tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00
tblTripsAndVMT	VendorTripNumber	182.00	162.00
tblTripsAndVMT	WorkerTripNumber	454.00	392.00
tblTripsAndVMT	WorkerTripNumber	91.00	73.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	10.00

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tblVehicleTrips	DV_TP	0.00	10.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	90.00
tblVehicleTrips	PR_TP	0.00	90.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	ST_TR	0.00	21.26
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	SU_TR	0.00	21.26
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	42.70	22.52
tblVehicleTrips	WD_TR	0.00	21.26
tblWater	IndoorWaterUseRate	4,342,162.79	1,391,660.00
tblWater	IndoorWaterUseRate	6,341,692.50	26,006,368.00

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tblWater	IndoorWaterUseRate	29,818,908.53	9,940,428.00
tblWater	IndoorWaterUseRate	9,629,427.79	17,947,995.00
tblWater	IndoorWaterUseRate	0.00	17,823,049.00
tblWater	OutdoorWaterUseRate	277,159.33	73,272.00
tblWater	OutdoorWaterUseRate	704,632.50	1,369,262.00
tblWater	OutdoorWaterUseRate	1,903,334.59	523,374.00
tblWater	OutdoorWaterUseRate	5,901,907.36	944,980.00
tblWater	OutdoorWaterUseRate	0.00	938,402.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2019	9-30-2019	1.7456	0.9230
2	10-1-2019	12-31-2019	1.8466	1.4261
3	1-1-2020	3-31-2020	1.6487	1.4374
4	4-1-2020	6-30-2020	2.8135	2.5111
5	7-1-2020	9-30-2020	2.7461	2.4602
		Highest	2.8135	2.5111

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4913	5.0000e-004	0.0556	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1085	0.1085	2.8000e-004	0.0000	0.1155
Energy	9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	513.1487	513.1487	0.0232	4.8100e-003	515.1612
Mobile	3.1163	27.6029	39.1019	0.1959	14.3604	0.1533	14.5138	3.8627	0.1440	4.0067	0.0000	18,124.6740	18,124.6740	0.7040	0.0000	18,142.2747
Stationary	0.0543	0.2427	0.3090	1.4300e-003		0.0218	0.0218		0.0218	0.0218	0.0000	240.9652	240.9652	7.0400e-003	0.0000	241.1413
Waste						0.0000	0.0000		0.0000	0.0000	238.7174	0.0000	238.7174	14.1078	0.0000	591.4122
Water						0.0000	0.0000		0.0000	0.0000	23.1943	119.0026	142.1969	2.3877	0.0574	218.9827
Total	5.6620	27.8469	39.4671	0.1974	14.3604	0.1754	14.5358	3.8627	0.1660	4.0287	261.9116	18,997.8989	19,259.8105	17.2300	0.0622	19,709.0876

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4913	5.0000e-004	0.0556	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1085	0.1085	2.8000e-004	0.0000	0.1155
Energy	9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	513.1487	513.1487	0.0232	4.8100e-003	515.1612
Mobile	3.1163	27.6029	39.1019	0.1959	14.3604	0.1533	14.5138	3.8627	0.1440	4.0067	0.0000	18,124.6740	18,124.6740	0.7040	0.0000	18,142.2747
Stationary	0.0543	0.2427	0.3090	1.4300e-003		0.0218	0.0218		0.0218	0.0218	0.0000	240.9652	240.9652	7.0400e-003	0.0000	241.1413
Waste						0.0000	0.0000		0.0000	0.0000	238.7174	0.0000	238.7174	14.1078	0.0000	591.4122
Water						0.0000	0.0000		0.0000	0.0000	16.3288	84.4676	100.7964	1.6809	0.0404	154.8563
Total	5.6620	27.8469	39.4671	0.1974	14.3604	0.1754	14.5358	3.8627	0.1660	4.0287	255.0461	18,963.3639	19,218.4101	16.5233	0.0452	19,644.9612

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.62	0.18	0.21	4.10	27.30	0.33

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2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-387.9000
Total	-387.9000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	8/31/2019	5	45	
2	Grading	Grading	9/1/2019	11/30/2019	5	65	
3	Building Construction	Building Construction	12/1/2019	12/15/2020	5	272	
4	Paving	Paving	5/1/2020	8/15/2020	5	76	
5	Architectural Coating	Architectural Coating	3/15/2020	12/31/2020	5	209	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 75.29

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Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 600,000; Non-Residential Outdoor: 200,000; Striped Parking Area: 28,000 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	392.00	162.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	73.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4065	0.0000	0.4065	0.2234	0.0000	0.2234	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0975	1.0254	0.4964	8.5000e-004		0.0538	0.0538		0.0495	0.0495	0.0000	76.8795	76.8795	0.0243	0.0000	77.4876
Total	0.0975	1.0254	0.4964	8.5000e-004	0.4065	0.0538	0.4603	0.2234	0.0495	0.2729	0.0000	76.8795	76.8795	0.0243	0.0000	77.4876

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3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8800e-003	1.5500e-003	0.0147	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	3.0264	3.0264	1.2000e-004	0.0000	3.0294
Total	1.8800e-003	1.5500e-003	0.0147	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	3.0264	3.0264	1.2000e-004	0.0000	3.0294

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1829	0.0000	0.1829	0.1006	0.0000	0.1006	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0210	0.4290	0.5166	8.5000e-004		3.1900e-003	3.1900e-003		3.1900e-003	3.1900e-003	0.0000	76.8795	76.8795	0.0243	0.0000	77.4876
Total	0.0210	0.4290	0.5166	8.5000e-004	0.1829	3.1900e-003	0.1861	0.1006	3.1900e-003	0.1037	0.0000	76.8795	76.8795	0.0243	0.0000	77.4876

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3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8800e-003	1.5500e-003	0.0147	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	3.0264	3.0264	1.2000e-004	0.0000	3.0294
Total	1.8800e-003	1.5500e-003	0.0147	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	3.0264	3.0264	1.2000e-004	0.0000	3.0294

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4012	0.0000	0.4012	0.1298	0.0000	0.1298	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1540	1.7719	1.0847	2.0200e-003		0.0774	0.0774		0.0712	0.0712	0.0000	181.0293	181.0293	0.0573	0.0000	182.4612
Total	0.1540	1.7719	1.0847	2.0200e-003	0.4012	0.0774	0.4786	0.1298	0.0712	0.2010	0.0000	181.0293	181.0293	0.0573	0.0000	182.4612

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3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0200e-003	2.4900e-003	0.0236	5.0000e-005	5.0800e-003	4.0000e-005	5.1200e-003	1.3500e-003	4.0000e-005	1.3900e-003	0.0000	4.8572	4.8572	1.9000e-004	0.0000	4.8620
Total	3.0200e-003	2.4900e-003	0.0236	5.0000e-005	5.0800e-003	4.0000e-005	5.1200e-003	1.3500e-003	4.0000e-005	1.3900e-003	0.0000	4.8572	4.8572	1.9000e-004	0.0000	4.8620

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1805	0.0000	0.1805	0.0584	0.0000	0.0584	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0945	1.3452	1.1924	2.0200e-003		0.0366	0.0366		0.0339	0.0339	0.0000	181.0291	181.0291	0.0573	0.0000	182.4610
Total	0.0945	1.3452	1.1924	2.0200e-003	0.1805	0.0366	0.2171	0.0584	0.0339	0.0923	0.0000	181.0291	181.0291	0.0573	0.0000	182.4610

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3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0200e-003	2.4900e-003	0.0236	5.0000e-005	5.0800e-003	4.0000e-005	5.1200e-003	1.3500e-003	4.0000e-005	1.3900e-003	0.0000	4.8572	4.8572	1.9000e-004	0.0000	4.8620
Total	3.0200e-003	2.4900e-003	0.0236	5.0000e-005	5.0800e-003	4.0000e-005	5.1200e-003	1.3500e-003	4.0000e-005	1.3900e-003	0.0000	4.8572	4.8572	1.9000e-004	0.0000	4.8620

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0260	0.2319	0.1888	3.0000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	25.8615	25.8615	6.3000e-003	0.0000	26.0190
Total	0.0260	0.2319	0.1888	3.0000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	25.8615	25.8615	6.3000e-003	0.0000	26.0190

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3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.6000e-003	0.2402	0.0559	5.2000e-004	0.0116	1.8900e-003	0.0135	3.3600e-003	1.8100e-003	5.1600e-003	0.0000	49.3129	49.3129	4.3500e-003	0.0000	49.4216
Worker	0.0200	0.0165	0.1562	3.6000e-004	0.0337	2.6000e-004	0.0340	8.9700e-003	2.4000e-004	9.2100e-003	0.0000	32.2218	32.2218	1.2700e-003	0.0000	32.2535
Total	0.0296	0.2567	0.2122	8.8000e-004	0.0453	2.1500e-003	0.0474	0.0123	2.0500e-003	0.0144	0.0000	81.5347	81.5347	5.6200e-003	0.0000	81.6751

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.4100e-003	0.1565	0.1966	3.0000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	25.8614	25.8614	6.3000e-003	0.0000	26.0189
Total	7.4100e-003	0.1565	0.1966	3.0000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	25.8614	25.8614	6.3000e-003	0.0000	26.0189

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3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.6000e-003	0.2402	0.0559	5.2000e-004	0.0116	1.8900e-003	0.0135	3.3600e-003	1.8100e-003	5.1600e-003	0.0000	49.3129	49.3129	4.3500e-003	0.0000	49.4216
Worker	0.0200	0.0165	0.1562	3.6000e-004	0.0337	2.6000e-004	0.0340	8.9700e-003	2.4000e-004	9.2100e-003	0.0000	32.2218	32.2218	1.2700e-003	0.0000	32.2535
Total	0.0296	0.2567	0.2122	8.8000e-004	0.0453	2.1500e-003	0.0474	0.0123	2.0500e-003	0.0144	0.0000	81.5347	81.5347	5.6200e-003	0.0000	81.6751

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2650	2.3983	2.1061	3.3600e-003		0.1396	0.1396		0.1313	0.1313	0.0000	289.5125	289.5125	0.0706	0.0000	291.2783
Total	0.2650	2.3983	2.1061	3.3600e-003		0.1396	0.1396		0.1313	0.1313	0.0000	289.5125	289.5125	0.0706	0.0000	291.2783

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3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0883	2.4853	0.5520	5.8700e-003	0.1318	0.0137	0.1455	0.0382	0.0131	0.0513	0.0000	556.5457	556.5457	0.0451	0.0000	557.6738
Worker	0.2039	0.1635	1.5540	3.9300e-003	0.3829	2.8600e-003	0.3857	0.1020	2.6400e-003	0.1046	0.0000	354.5862	354.5862	0.0123	0.0000	354.8929
Total	0.2921	2.6488	2.1060	9.8000e-003	0.5146	0.0166	0.5312	0.1401	0.0158	0.1559	0.0000	911.1318	911.1318	0.0574	0.0000	912.5667

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0842	1.7783	2.2342	3.3600e-003		0.0169	0.0169		0.0169	0.0169	0.0000	289.5121	289.5121	0.0706	0.0000	291.2779
Total	0.0842	1.7783	2.2342	3.3600e-003		0.0169	0.0169		0.0169	0.0169	0.0000	289.5121	289.5121	0.0706	0.0000	291.2779

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3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0883	2.4853	0.5520	5.8700e-003	0.1318	0.0137	0.1455	0.0382	0.0131	0.0513	0.0000	556.5457	556.5457	0.0451	0.0000	557.6738
Worker	0.2039	0.1635	1.5540	3.9300e-003	0.3829	2.8600e-003	0.3857	0.1020	2.6400e-003	0.1046	0.0000	354.5862	354.5862	0.0123	0.0000	354.8929
Total	0.2921	2.6488	2.1060	9.8000e-003	0.5146	0.0166	0.5312	0.1401	0.0158	0.1559	0.0000	911.1318	911.1318	0.0574	0.0000	912.5667

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0516	0.5345	0.5568	8.7000e-004		0.0286	0.0286		0.0263	0.0263	0.0000	76.1072	76.1072	0.0246	0.0000	76.7226
Paving	0.0772					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1288	0.5345	0.5568	8.7000e-004		0.0286	0.0286		0.0263	0.0263	0.0000	76.1072	76.1072	0.0246	0.0000	76.7226

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3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3700e-003	1.9000e-003	0.0181	5.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.1248	4.1248	1.4000e-004	0.0000	4.1284
Total	2.3700e-003	1.9000e-003	0.0181	5.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.1248	4.1248	1.4000e-004	0.0000	4.1284

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0213	0.4292	0.6572	8.7000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	76.1072	76.1072	0.0246	0.0000	76.7225
Paving	0.0772					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0985	0.4292	0.6572	8.7000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	76.1072	76.1072	0.0246	0.0000	76.7225

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3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3700e-003	1.9000e-003	0.0181	5.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.1248	4.1248	1.4000e-004	0.0000	4.1284
Total	2.3700e-003	1.9000e-003	0.0181	5.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.1248	4.1248	1.4000e-004	0.0000	4.1284

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.8783					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0253	0.1760	0.1914	3.1000e-004		0.0116	0.0116		0.0116	0.0116	0.0000	26.6815	26.6815	2.0700e-003	0.0000	26.7332
Total	2.9036	0.1760	0.1914	3.1000e-004		0.0116	0.0116		0.0116	0.0116	0.0000	26.6815	26.6815	2.0700e-003	0.0000	26.7332

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3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0317	0.0255	0.2419	6.1000e-004	0.0596	4.5000e-004	0.0601	0.0159	4.1000e-004	0.0163	0.0000	55.2033	55.2033	1.9100e-003	0.0000	55.2510
Total	0.0317	0.0255	0.2419	6.1000e-004	0.0596	4.5000e-004	0.0601	0.0159	4.1000e-004	0.0163	0.0000	55.2033	55.2033	1.9100e-003	0.0000	55.2510

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.8783					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2100e-003	0.1418	0.1915	3.1000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	26.6815	26.6815	2.0700e-003	0.0000	26.7331
Total	2.8845	0.1418	0.1915	3.1000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	26.6815	26.6815	2.0700e-003	0.0000	26.7331

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3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0317	0.0255	0.2419	6.1000e-004	0.0596	4.5000e-004	0.0601	0.0159	4.1000e-004	0.0163	0.0000	55.2033	55.2033	1.9100e-003	0.0000	55.2510
Total	0.0317	0.0255	0.2419	6.1000e-004	0.0596	4.5000e-004	0.0601	0.0159	4.1000e-004	0.0163	0.0000	55.2033	55.2033	1.9100e-003	0.0000	55.2510

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.1163	27.6029	39.1019	0.1959	14.3604	0.1533	14.5138	3.8627	0.1440	4.0067	0.0000	18,124.6740	18,124.6740	0.7040	0.0000	18,142.2747
Unmitigated	3.1163	27.6029	39.1019	0.1959	14.3604	0.1533	14.5138	3.8627	0.1440	4.0067	0.0000	18,124.6740	18,124.6740	0.7040	0.0000	18,142.2747

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	3,059,824	3,059,824
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	2,927.60	2,927.60	2,927.60	12,267,322	12,267,322
User Defined Recreational	2,744.45	2,744.45	2,744.45	17,601,446	17,601,446
Total	7,616.51	7,616.51	7,616.51	38,677,137	38,677,137

4.3 Trip Type Information

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Annual

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	100	0	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	90	10	0
User Defined Recreational	9.50	9.50	25.00	19.00	19.40	61.60	90	10	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Parking Lot	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Arena	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Hotel	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Movie Theater (No Matinee)	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
User Defined Recreational	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Regional Shopping Center	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	512.2531	512.2531	0.0232	4.7900e-003	514.2603
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	512.2531	512.2531	0.0232	4.7900e-003	514.2603
NaturalGas Mitigated	9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8956	0.8956	2.0000e-005	2.0000e-005	0.9009
NaturalGas Unmitigated	9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8956	0.8956	2.0000e-005	2.0000e-005	0.9009

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr										MT/yr						
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	16782.4	9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8956	0.8956	2.0000e-005	2.0000e-005	0.9009	
Total		9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8956	0.8956	2.0000e-005	2.0000e-005	0.9009	

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	16782.4	9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8956	0.8956	2.0000e-005	2.0000e-005	0.9009
Total		9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8956	0.8956	2.0000e-005	2.0000e-005	0.9009

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1.76086e+006	512.2531	0.0232	4.7900e-003	514.2603
Total		512.2531	0.0232	4.7900e-003	514.2603

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1.76086e+006	512.2531	0.0232	4.7900e-003	514.2603
Total		512.2531	0.0232	4.7900e-003	514.2603

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.4913	5.0000e-004	0.0556	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1085	0.1085	2.8000e-004	0.0000	0.1155
Unmitigated	2.4913	5.0000e-004	0.0556	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1085	0.1085	2.8000e-004	0.0000	0.1155

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3803					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1059					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.1200e-003	5.0000e-004	0.0556	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1085	0.1085	2.8000e-004	0.0000	0.1155
Total	2.4913	5.0000e-004	0.0556	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1085	0.1085	2.8000e-004	0.0000	0.1155

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3803					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1059					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.1200e-003	5.0000e-004	0.0556	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1085	0.1085	2.8000e-004	0.0000	0.1155
Total	2.4913	5.0000e-004	0.0556	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1085	0.1085	2.8000e-004	0.0000	0.1155

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	100.7964	1.6809	0.0404	154.8563
Unmitigated	142.1969	2.3877	0.0574	218.9827

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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.39166 / 0.073272	2.7068	0.0455	1.0900e-003	4.1684
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	26.0064 / 1.36926	50.5820	0.8493	0.0204	77.8961
Movie Theater (No Matinee)	9.94043 / 0.523374	19.3340	0.3246	7.8000e-003	29.7743
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	17.948 / 0.94498	34.9086	0.5862	0.0141	53.7591
User Defined Recreational	17.823 / 0.938402	34.6656	0.5821	0.0140	53.3848
Total		142.1969	2.3877	0.0574	218.9827

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	0.979729 / 0.0644794	1.9187	0.0320	7.7000e-004	2.9477
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	18.3085 / 1.20495	35.8551	0.5979	0.0144	55.0852
Movie Theater (No Matinee)	6.99806 / 0.460569	13.7049	0.2286	5.4900e-003	21.0552
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	12.6354 / 0.831582	24.7450	0.4127	9.9200e-003	38.0164
User Defined Recreational	12.5474 / 0.825794	24.5727	0.4098	9.8500e-003	37.7518
Total		100.7964	1.6809	0.0404	154.8563

8.0 Waste Detail

8.1 Mitigation Measures Waste

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	238.7174	14.1078	0.0000	591.4122
Unmitigated	238.7174	14.1078	0.0000	591.4122

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Annual

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1176	238.7174	14.1078	0.0000	591.4122
Total		238.7174	14.1078	0.0000	591.4122

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8.2 Waste by Land Use

Mitigated

Land Use	Waste Disposed tons	Total CO2 MT/yr	CH4 MT/yr	N2O MT/yr	CO2e MT/yr
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1176	238.7174	14.1078	0.0000	591.4122
Total		238.7174	14.1078	0.0000	591.4122

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Annual

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	1380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Boiler - CNG (0 - 2 MMBTU)	0.0112	0.0497	0.1989	1.2200e-003		0.0154	0.0154		0.0154	0.0154	0.0000	220.9299	220.9299	4.2300e-003	0.0000	221.0358
Emergency Generator - Diesel (750 - 9999 HP)	0.0432	0.1931	0.1101	2.1000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	20.0353	20.0353	2.8100e-003	0.0000	20.1055
Total	0.0543	0.2427	0.3090	1.4300e-003		0.0218	0.0218		0.0218	0.0218	0.0000	240.9652	240.9652	7.0400e-003	0.0000	241.1413

11.0 Vegetation

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-387.9000	0.0000	0.0000	-387.9000

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	232 / 142	-387.9000	0.0000	0.0000	-387.9000
Total		-387.9000	0.0000	0.0000	-387.9000

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C
Shasta County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.36	583,500.00	0
Parking Lot	600.00	Space	58.93	0.00	0
Arena	10.08	1000sqft	0.28	10,080.00	0
Hotel	250.00	Room	5.28	188,368.00	0
Movie Theater (No Matinee)	3,300.00	Seat	2.02	72,000.00	0
User Defined Recreational	129.09	User Defined Unit	3.62	129,095.00	0
Regional Shopping Center	130.00	1000sqft	3.64	130,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

Project Characteristics - Refer to CalEEMod Table.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Trips and VMT - Not consistent with other Alternatives.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	264,772.00	200,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	794,315.00	600,000.00
tblArchitecturalCoating	ConstArea_Parking	35,010.00	28,000.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150

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tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	110.00	209.00
tblConstructionPhase	NumDays	1,550.00	272.00
tblConstructionPhase	NumDays	155.00	65.00
tblConstructionPhase	NumDays	110.00	76.00
tblConstructionPhase	NumDays	60.00	45.00
tblConstructionPhase	PhaseEndDate	1/18/2022	12/31/2020
tblConstructionPhase	PhaseEndDate	11/29/2019	11/30/2019
tblConstructionPhase	PhaseEndDate	3/31/2021	8/15/2020
tblConstructionPhase	PhaseEndDate	8/30/2019	8/31/2019
tblConstructionPhase	PhaseStartDate	4/1/2021	3/15/2020
tblConstructionPhase	PhaseStartDate	11/30/2019	12/1/2019
tblConstructionPhase	PhaseStartDate	8/31/2019	9/1/2019

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

tblConstructionPhase	PhaseStartDate	12/16/2020	5/1/2020
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	0.00	13.64
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	0.00	0.13
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	8.66	0.00
tblGrading	AcresOfGrading	162.50	387.50

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tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	188,368.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	129,095.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	188,368.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00
tblLandUse	LandUseSquareFeet	0.00	129,095.00
tblLandUse	LotAcreage	14.85	16.36
tblLandUse	LotAcreage	5.40	58.93
tblLandUse	LotAcreage	3.24	0.28
tblLandUse	LotAcreage	8.33	5.28
tblLandUse	LotAcreage	1.70	2.02
tblLandUse	LotAcreage	0.00	3.62
tblLandUse	LotAcreage	2.98	3.64
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	136.50	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,176.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	1,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	3.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00
tblTripsAndVMT	VendorTripNumber	182.00	162.00
tblTripsAndVMT	WorkerTripNumber	454.00	392.00
tblTripsAndVMT	WorkerTripNumber	91.00	73.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	10.00

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tblVehicleTrips	DV_TP	0.00	10.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	90.00
tblVehicleTrips	PR_TP	0.00	90.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	ST_TR	0.00	21.26
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	SU_TR	0.00	21.26
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	42.70	22.52
tblVehicleTrips	WD_TR	0.00	21.26
tblWater	IndoorWaterUseRate	4,342,162.79	1,391,660.00
tblWater	IndoorWaterUseRate	6,341,692.50	26,006,368.00

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tblWater	IndoorWaterUseRate	29,818,908.53	9,940,428.00
tblWater	IndoorWaterUseRate	9,629,427.79	17,947,995.00
tblWater	IndoorWaterUseRate	0.00	17,823,049.00
tblWater	OutdoorWaterUseRate	277,159.33	73,272.00
tblWater	OutdoorWaterUseRate	704,632.50	1,369,262.00
tblWater	OutdoorWaterUseRate	1,903,334.59	523,374.00
tblWater	OutdoorWaterUseRate	5,901,907.36	944,980.00
tblWater	OutdoorWaterUseRate	0.00	938,402.00

2.0 Emissions Summary

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.6798	5.6000e-003	0.6181	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3283	1.3283	3.4500e-003		1.4146
Energy	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
Mobile	21.0128	147.8145	250.3203	1.1494	82.8485	0.8423	83.6907	22.1920	0.7909	22.9829		117,038.5418	117,038.5418	4.3169		117,146.4636
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	42.0825	180.8654	272.7474	1.2053	82.8485	2.1715	85.0200	22.1920	2.1202	24.3121		124,961.4955	124,961.4955	4.9177	1.0000e-004	125,084.4666

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.6798	5.6000e-003	0.6181	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3283	1.3283	3.4500e-003		1.4146
Energy	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
Mobile	21.0128	147.8145	250.3203	1.1494	82.8485	0.8423	83.6907	22.1920	0.7909	22.9829		117,038.5418	117,038.5418	4.3169		117,146.4636
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	42.0825	180.8654	272.7474	1.2053	82.8485	2.1715	85.0200	22.1920	2.1202	24.3121		124,961.4955	124,961.4955	4.9177	1.0000e-004	125,084.4666

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	8/31/2019	5	45	
2	Grading	Grading	9/1/2019	11/30/2019	5	65	
3	Building Construction	Building Construction	12/1/2019	12/15/2020	5	272	
4	Paving	Paving	5/1/2020	8/15/2020	5	76	
5	Architectural Coating	Architectural Coating	3/15/2020	12/31/2020	5	209	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 75.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 600,000; Non-Residential Outdoor: 200,000; Striped Parking Area: 28,000 (Architectural Coating – sqft)

OffRoad Equipment

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	392.00	162.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	73.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.9312	19.0656	22.9600	0.0380		0.1419	0.1419		0.1419	0.1419	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	0.9312	19.0656	22.9600	0.0380	8.1298	0.1419	8.2717	4.4688	0.1419	4.6107	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.3443	0.0000	12.3443	3.9929	0.0000	3.9929			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	12.3443	2.3827	14.7270	3.9929	2.1920	6.1849		6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393
Total	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.5549	0.0000	5.5549	1.7968	0.0000	1.7968			0.0000			0.0000
Off-Road	2.9080	41.3897	36.6894	0.0620		1.1249	1.1249		1.0439	1.0439	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	2.9080	41.3897	36.6894	0.0620	5.5549	1.1249	6.6798	1.7968	1.0439	2.8407	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393
Total	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8625	21.4079	4.7236	0.0479	1.0979	0.1702	1.2680	0.3161	0.1628	0.4789		5,010.2350	5,010.2350	0.4138		5,020.5804
Worker	2.2036	1.3965	16.8865	0.0363	3.2202	0.0238	3.2439	0.8541	0.0219	0.8761		3,603.5441	3,603.5441	0.1451		3,607.1706
Total	3.0661	22.8044	21.6101	0.0842	4.3181	0.1939	4.5120	1.1703	0.1847	1.3550		8,613.7791	8,613.7791	0.5589		8,627.7510

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8625	21.4079	4.7236	0.0479	1.0979	0.1702	1.2680	0.3161	0.1628	0.4789		5,010.2350	5,010.2350	0.4138		5,020.5804
Worker	2.2036	1.3965	16.8865	0.0363	3.2202	0.0238	3.2439	0.8541	0.0219	0.8761		3,603.5441	3,603.5441	0.1451		3,607.1706
Total	3.0661	22.8044	21.6101	0.0842	4.3181	0.1939	4.5120	1.1703	0.1847	1.3550		8,613.7791	8,613.7791	0.5589		8,627.7510

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6962	19.5323	4.0801	0.0476	1.0979	0.1088	1.2067	0.3161	0.1041	0.4202		4,976.8558	4,976.8558	0.3773		4,986.2881
Worker	1.9704	1.2191	14.8445	0.0351	3.2202	0.0229	3.2431	0.8541	0.0211	0.8753		3,490.0248	3,490.0248	0.1237		3,493.1161
Total	2.6665	20.7515	18.9245	0.0827	4.3181	0.1317	4.4498	1.1703	0.1252	1.2955		8,466.8806	8,466.8806	0.5009		8,479.4042

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6962	19.5323	4.0801	0.0476	1.0979	0.1088	1.2067	0.3161	0.1041	0.4202		4,976.8558	4,976.8558	0.3773		4,986.2881
Worker	1.9704	1.2191	14.8445	0.0351	3.2202	0.0229	3.2431	0.8541	0.0211	0.8753		3,490.0248	3,490.0248	0.1237		3,493.1161
Total	2.6665	20.7515	18.9245	0.0827	4.3181	0.1317	4.4498	1.1703	0.1252	1.2955		8,466.8806	8,466.8806	0.5009		8,479.4042

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	2.0315					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	3.3881	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652
Total	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5609	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	2.0315					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.5925	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652
Total	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.5439					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	27.7861	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3669	0.2270	2.7644	6.5300e-003	0.5997	4.2700e-003	0.6040	0.1591	3.9300e-003	0.1630		649.9281	649.9281	0.0230		650.5038
Total	0.3669	0.2270	2.7644	6.5300e-003	0.5997	4.2700e-003	0.6040	0.1591	3.9300e-003	0.1630		649.9281	649.9281	0.0230		650.5038

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.5439					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928
Total	27.6033	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3669	0.2270	2.7644	6.5300e-003	0.5997	4.2700e-003	0.6040	0.1591	3.9300e-003	0.1630		649.9281	649.9281	0.0230		650.5038
Total	0.3669	0.2270	2.7644	6.5300e-003	0.5997	4.2700e-003	0.6040	0.1591	3.9300e-003	0.1630		649.9281	649.9281	0.0230		650.5038

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	21.0128	147.8145	250.3203	1.1494	82.8485	0.8423	83.6907	22.1920	0.7909	22.9829		117,038.5418	117,038.5418	4.3169		117,146.4636
Unmitigated	21.0128	147.8145	250.3203	1.1494	82.8485	0.8423	83.6907	22.1920	0.7909	22.9829		117,038.5418	117,038.5418	4.3169		117,146.4636

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	3,059,824	3,059,824
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	2,927.60	2,927.60	2,927.60	12,267,322	12,267,322
User Defined Recreational	2,744.45	2,744.45	2,744.45	17,601,446	17,601,446
Total	7,616.51	7,616.51	7,616.51	38,677,137	38,677,137

4.3 Trip Type Information

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	100	0	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	90	10	0
User Defined Recreational	9.50	9.50	25.00	19.00	19.40	61.60	90	10	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Parking Lot	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Arena	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Hotel	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Movie Theater (No Matinee)	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
User Defined Recreational	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Regional Shopping Center	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
NaturalGas Unmitigated	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	45.979	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
Total		5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0.045979	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
Total		5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.6798	5.6000e-003	0.6181	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3283	1.3283	3.4500e-003		1.4146
Unmitigated	13.6798	5.6000e-003	0.6181	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3283	1.3283	3.4500e-003		1.4146

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0840					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.5389					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0569	5.6000e-003	0.6181	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3283	1.3283	3.4500e-003		1.4146
Total	13.6798	5.6000e-003	0.6181	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3283	1.3283	3.4500e-003		1.4146

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0840					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.5389					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0569	5.6000e-003	0.6181	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3283	1.3283	3.4500e-003		1.4146
Total	13.6798	5.6000e-003	0.6181	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3283	1.3283	3.4500e-003		1.4146

7.0 Water Detail

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	1380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (0 - 2 MMBTU)	0.1941	0.8640	3.4589	0.0212		0.2682	0.2682		0.2682	0.2682		4,235.3665	4,235.3665	0.0812		4,237.3959
Emergency Generator - Diesel (750 - 9999 HP)	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

11.0 Vegetation

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C
Shasta County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.36	583,500.00	0
Parking Lot	600.00	Space	58.93	0.00	0
Arena	10.08	1000sqft	0.28	10,080.00	0
Hotel	250.00	Room	5.28	188,368.00	0
Movie Theater (No Matinee)	3,300.00	Seat	2.02	72,000.00	0
User Defined Recreational	129.09	User Defined Unit	3.62	129,095.00	0
Regional Shopping Center	130.00	1000sqft	3.64	130,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

Project Characteristics - Refer to CalEEMod Table.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Trips and VMT - Not consistent with other Alternatives.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	264,772.00	200,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	794,315.00	600,000.00
tblArchitecturalCoating	ConstArea_Parking	35,010.00	28,000.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	110.00	209.00
tblConstructionPhase	NumDays	1,550.00	272.00
tblConstructionPhase	NumDays	155.00	65.00
tblConstructionPhase	NumDays	110.00	76.00
tblConstructionPhase	NumDays	60.00	45.00
tblConstructionPhase	PhaseEndDate	1/18/2022	12/31/2020
tblConstructionPhase	PhaseEndDate	11/29/2019	11/30/2019
tblConstructionPhase	PhaseEndDate	3/31/2021	8/15/2020
tblConstructionPhase	PhaseEndDate	8/30/2019	8/31/2019
tblConstructionPhase	PhaseStartDate	4/1/2021	3/15/2020
tblConstructionPhase	PhaseStartDate	11/30/2019	12/1/2019
tblConstructionPhase	PhaseStartDate	8/31/2019	9/1/2019

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

tblConstructionPhase	PhaseStartDate	12/16/2020	5/1/2020
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	0.00	13.64
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	0.00	0.13
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	8.66	0.00
tblGrading	AcresOfGrading	162.50	387.50

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	188,368.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	129,095.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	188,368.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00
tblLandUse	LandUseSquareFeet	0.00	129,095.00
tblLandUse	LotAcreage	14.85	16.36
tblLandUse	LotAcreage	5.40	58.93
tblLandUse	LotAcreage	3.24	0.28
tblLandUse	LotAcreage	8.33	5.28
tblLandUse	LotAcreage	1.70	2.02
tblLandUse	LotAcreage	0.00	3.62
tblLandUse	LotAcreage	2.98	3.64
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	136.50	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,176.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	1,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	3.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00
tblTripsAndVMT	VendorTripNumber	182.00	162.00
tblTripsAndVMT	WorkerTripNumber	454.00	392.00
tblTripsAndVMT	WorkerTripNumber	91.00	73.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	10.00

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

tblVehicleTrips	DV_TP	0.00	10.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	90.00
tblVehicleTrips	PR_TP	0.00	90.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	ST_TR	0.00	21.26
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	SU_TR	0.00	21.26
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	42.70	22.52
tblVehicleTrips	WD_TR	0.00	21.26
tblWater	IndoorWaterUseRate	4,342,162.79	1,391,660.00
tblWater	IndoorWaterUseRate	6,341,692.50	26,006,368.00

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

tblWater	IndoorWaterUseRate	29,818,908.53	9,940,428.00
tblWater	IndoorWaterUseRate	9,629,427.79	17,947,995.00
tblWater	IndoorWaterUseRate	0.00	17,823,049.00
tblWater	OutdoorWaterUseRate	277,159.33	73,272.00
tblWater	OutdoorWaterUseRate	704,632.50	1,369,262.00
tblWater	OutdoorWaterUseRate	1,903,334.59	523,374.00
tblWater	OutdoorWaterUseRate	5,901,907.36	944,980.00
tblWater	OutdoorWaterUseRate	0.00	938,402.00

2.0 Emissions Summary

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.6798	5.6000e-003	0.6181	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3283	1.3283	3.4500e-003		1.4146
Energy	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
Mobile	16.5236	154.1630	216.2214	1.0520	82.8485	0.8453	83.6937	22.1920	0.7938	22.9858		107,278.7967	107,278.7967	4.4237		107,389.3883
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	37.5933	187.2139	238.6485	1.1079	82.8485	2.1745	85.0230	22.1920	2.1230	24.3150		115,201.7504	115,201.7504	5.0244	1.0000e-004	115,327.3913

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.6798	5.6000e-003	0.6181	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3283	1.3283	3.4500e-003		1.4146
Energy	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
Mobile	16.5236	154.1630	216.2214	1.0520	82.8485	0.8453	83.6937	22.1920	0.7938	22.9858		107,278.7967	107,278.7967	4.4237		107,389.3883
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	37.5933	187.2139	238.6485	1.1079	82.8485	2.1745	85.0230	22.1920	2.1230	24.3150		115,201.7504	115,201.7504	5.0244	1.0000e-004	115,327.3913

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	8/31/2019	5	45	
2	Grading	Grading	9/1/2019	11/30/2019	5	65	
3	Building Construction	Building Construction	12/1/2019	12/15/2020	5	272	
4	Paving	Paving	5/1/2020	8/15/2020	5	76	
5	Architectural Coating	Architectural Coating	3/15/2020	12/31/2020	5	209	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 75.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 600,000; Non-Residential Outdoor: 200,000; Striped Parking Area: 28,000 (Architectural Coating – sqft)

OffRoad Equipment

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	392.00	162.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	73.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.9312	19.0656	22.9600	0.0380		0.1419	0.1419		0.1419	0.1419	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	0.9312	19.0656	22.9600	0.0380	8.1298	0.1419	8.2717	4.4688	0.1419	4.6107	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.3443	0.0000	12.3443	3.9929	0.0000	3.9929			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	12.3443	2.3827	14.7270	3.9929	2.1920	6.1849		6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032
Total	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.5549	0.0000	5.5549	1.7968	0.0000	1.7968			0.0000			0.0000
Off-Road	2.9080	41.3897	36.6894	0.0620		1.1249	1.1249		1.0439	1.0439	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	2.9080	41.3897	36.6894	0.0620	5.5549	1.1249	6.6798	1.7968	1.0439	2.8407	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032
Total	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9002	21.8779	5.5503	0.0464	1.0979	0.1735	1.2714	0.3161	0.1660	0.4821		4,847.003 4	4,847.003 4	0.4651		4,858.631 4
Worker	1.9278	1.6716	14.3186	0.0314	3.2202	0.0238	3.2439	0.8541	0.0219	0.8761		3,125.077 3	3,125.077 3	0.1258		3,128.222 7
Total	2.8280	23.5495	19.8690	0.0778	4.3181	0.1973	4.5153	1.1703	0.1879	1.3582		7,972.080 7	7,972.080 7	0.5909		7,986.854 2

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9002	21.8779	5.5503	0.0464	1.0979	0.1735	1.2714	0.3161	0.1660	0.4821		4,847.003 4	4,847.003 4	0.4651		4,858.631 4
Worker	1.9278	1.6716	14.3186	0.0314	3.2202	0.0238	3.2439	0.8541	0.0219	0.8761		3,125.077 3	3,125.077 3	0.1258		3,128.222 7
Total	2.8280	23.5495	19.8690	0.0778	4.3181	0.1973	4.5153	1.1703	0.1879	1.3582		7,972.080 7	7,972.080 7	0.5909		7,986.854 2

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.063 1	2,553.063 1	0.6229		2,568.634 5

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7307	19.8943	4.8389	0.0461	1.0979	0.1113	1.2092	0.3161	0.1065	0.4226		4,812.721 1	4,812.721 1	0.4258		4,823.366 7
Worker	1.7261	1.4568	12.4814	0.0304	3.2202	0.0229	3.2431	0.8541	0.0211	0.8753		3,026.229 4	3,026.229 4	0.1063		3,028.887 6
Total	2.4568	21.3511	17.3203	0.0765	4.3181	0.1342	4.4523	1.1703	0.1276	1.2979		7,838.950 5	7,838.950 5	0.5322		7,852.254 2

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7307	19.8943	4.8389	0.0461	1.0979	0.1113	1.2092	0.3161	0.1065	0.4226		4,812.721 1	4,812.721 1	0.4258		4,823.366 7
Worker	1.7261	1.4568	12.4814	0.0304	3.2202	0.0229	3.2431	0.8541	0.0211	0.8753		3,026.229 4	3,026.229 4	0.1063		3,028.887 6
Total	2.4568	21.3511	17.3203	0.0765	4.3181	0.1342	4.4523	1.1703	0.1276	1.2979		7,838.950 5	7,838.950 5	0.5322		7,852.254 2

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1
Paving	2.0315					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	3.3881	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013
Total	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5609	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	2.0315					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.5925	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013
Total	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.5439					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	27.7861	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3214	0.2713	2.3243	5.6600e-003	0.5997	4.2700e-003	0.6040	0.1591	3.9300e-003	0.1630		563.5580	563.5580	0.0198		564.0530
Total	0.3214	0.2713	2.3243	5.6600e-003	0.5997	4.2700e-003	0.6040	0.1591	3.9300e-003	0.1630		563.5580	563.5580	0.0198		564.0530

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.5439					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928
Total	27.6033	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Worker	0.3214	0.2713	2.3243	5.6600e-003	0.5997	4.2700e-003	0.6040	0.1591	3.9300e-003	0.1630		563.5580	563.5580	0.0198			564.0530
Total	0.3214	0.2713	2.3243	5.6600e-003	0.5997	4.2700e-003	0.6040	0.1591	3.9300e-003	0.1630		563.5580	563.5580	0.0198			564.0530

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	16.5236	154.1630	216.2214	1.0520	82.8485	0.8453	83.6937	22.1920	0.7938	22.9858		107,278.7967	107,278.7967	4.4237		107,389.3883
Unmitigated	16.5236	154.1630	216.2214	1.0520	82.8485	0.8453	83.6937	22.1920	0.7938	22.9858		107,278.7967	107,278.7967	4.4237		107,389.3883

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	3,059,824	3,059,824
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	2,927.60	2,927.60	2,927.60	12,267,322	12,267,322
User Defined Recreational	2,744.45	2,744.45	2,744.45	17,601,446	17,601,446
Total	7,616.51	7,616.51	7,616.51	38,677,137	38,677,137

4.3 Trip Type Information

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	100	0	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	90	10	0
User Defined Recreational	9.50	9.50	25.00	19.00	19.40	61.60	90	10	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Parking Lot	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Arena	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Hotel	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Movie Theater (No Matinee)	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
User Defined Recreational	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Regional Shopping Center	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
NaturalGas Unmitigated	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	lb/day										lb/day						
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	45.979	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414	
Total		5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414	

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0.045979	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
Total		5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.6798	5.6000e-003	0.6181	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3283	1.3283	3.4500e-003		1.4146
Unmitigated	13.6798	5.6000e-003	0.6181	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3283	1.3283	3.4500e-003		1.4146

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0840					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.5389					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0569	5.6000e-003	0.6181	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3283	1.3283	3.4500e-003		1.4146
Total	13.6798	5.6000e-003	0.6181	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3283	1.3283	3.4500e-003		1.4146

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0840					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.5389					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0569	5.6000e-003	0.6181	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3283	1.3283	3.4500e-003		1.4146
Total	13.6798	5.6000e-003	0.6181	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3283	1.3283	3.4500e-003		1.4146

7.0 Water Detail

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	1380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (0 - 2 MMBTU)	0.1941	0.8640	3.4589	0.0212		0.2682	0.2682		0.2682	0.2682		4,235.3665	4,235.3665	0.0812		4,237.3959
Emergency Generator - Diesel (750 - 9999 HP)	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

11.0 Vegetation

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C

Shasta County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.01	0.17	0.00	0.00	0.84	0.84	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.33	0.13	-0.03	0.00	0.78	0.78	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.38	0.24	-0.10	0.00	0.53	0.52	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.23	0.20	-0.17	0.00	0.88	0.87	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.77	0.58	-0.04	0.00	0.94	0.94	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	Tier 3	1	1	Level 3	0.00
Cranes	Diesel	Tier 3	1	1	Level 3	0.00
Excavators	Diesel	Tier 3	2	2	Level 3	0.00
Forklifts	Diesel	Tier 3	3	3	Level 3	0.00
Generator Sets	Diesel	Tier 3	1	1	Level 3	0.00
Graders	Diesel	Tier 3	1	1	Level 3	0.00
Pavers	Diesel	Tier 3	2	2	Level 3	0.00
Paving Equipment	Diesel	Tier 3	2	2	Level 3	0.00
Rollers	Diesel	Tier 3	2	2	Level 3	0.00
Rubber Tired Dozers	Diesel	Tier 3	4	4	Level 3	0.00
Scrapers	Diesel	No Change	0	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 3	9	9	Level 3	0.00
Welders	Diesel	Tier 3	1	1	Level 3	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	2.53100E-002	1.75960E-001	1.91380E-001	3.10000E-004	1.15900E-002	1.15900E-002	0.00000E+000	2.66815E+001	2.66815E+001	2.07000E-003	0.00000E+000	2.67332E+001
Cranes	5.44400E-002	6.47520E-001	2.53440E-001	6.90000E-004	2.67600E-002	2.46200E-002	0.00000E+000	6.04326E+001	6.04326E+001	1.95100E-002	0.00000E+000	6.09203E+001
Excavators	1.69500E-002	1.74320E-001	2.12110E-001	3.40000E-004	8.41000E-003	7.73000E-003	0.00000E+000	3.01396E+001	3.01396E+001	9.54000E-003	0.00000E+000	3.03779E+001
Forklifts	5.92800E-002	5.33700E-001	4.82010E-001	6.20000E-004	3.99000E-002	3.67100E-002	0.00000E+000	5.48893E+001	5.48893E+001	1.77200E-002	0.00000E+000	5.53324E+001
Generator Sets	5.47700E-002	4.76380E-001	5.04150E-001	8.90000E-004	2.70100E-002	2.70100E-002	0.00000E+000	7.68682E+001	7.68682E+001	4.37000E-003	0.00000E+000	7.69775E+001
Graders	1.58200E-002	2.13840E-001	5.97400E-002	2.20000E-004	6.86000E-003	6.31000E-003	0.00000E+000	1.93892E+001	1.93892E+001	6.13000E-003	0.00000E+000	1.95425E+001
Pavers	1.99600E-002	2.13580E-001	2.20270E-001	3.60000E-004	1.03800E-002	9.55000E-003	0.00000E+000	3.13892E+001	3.13892E+001	1.01500E-002	0.00000E+000	3.16430E+001
Paving Equipment	1.57700E-002	1.62740E-001	1.92610E-001	3.10000E-004	8.14000E-003	7.49000E-003	0.00000E+000	2.72012E+001	2.72012E+001	8.80000E-003	0.00000E+000	2.74211E+001
Rollers	1.58200E-002	1.58170E-001	1.43900E-001	2.00000E-004	1.00800E-002	9.28000E-003	0.00000E+000	1.75169E+001	1.75169E+001	5.67000E-003	0.00000E+000	1.76585E+001
Rubber Tired Dozers	1.13460E-001	1.20744E+000	4.28410E-001	8.50000E-004	5.88700E-002	5.41600E-002	0.00000E+000	7.66960E+001	7.66960E+001	2.42700E-002	0.00000E+000	7.73026E+001
Scrapers	6.92400E-002	8.39400E-001	5.23990E-001	9.80000E-004	3.28900E-002	3.02600E-002	0.00000E+000	8.84396E+001	8.84396E+001	2.79800E-002	0.00000E+000	8.91391E+001
Tractors/Loaders/Backhoes	1.11550E-001	1.12053E+000	1.17143E+000	1.59000E-003	7.23700E-002	6.65800E-002	0.00000E+000	1.40830E+002	1.40830E+002	4.51900E-002	0.00000E+000	1.41960E+002
Welders	4.70000E-002	2.14280E-001	2.40760E-001	3.50000E-004	1.19600E-002	1.19600E-002	0.00000E+000	2.55980E+001	2.55980E+001	3.82000E-003	0.00000E+000	2.56936E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr							Mitigated mt/yr					
Air Compressors	6.21000E-003	1.41800E-001	1.91490E-001	3.10000E-004	1.49000E-003	1.49000E-003	0.00000E+000	2.66815E+001	2.66815E+001	2.07000E-003	0.00000E+000	2.67331E+001
Cranes	1.68700E-002	3.26190E-001	3.65560E-001	6.90000E-004	1.86000E-003	1.86000E-003	0.00000E+000	6.04325E+001	6.04325E+001	1.95100E-002	0.00000E+000	6.09203E+001
Excavators	8.26000E-003	1.59690E-001	2.54670E-001	3.40000E-004	1.16000E-003	1.16000E-003	0.00000E+000	3.01395E+001	3.01395E+001	9.54000E-003	0.00000E+000	3.03779E+001
Forklifts	1.53700E-002	3.50960E-001	4.73920E-001	6.20000E-004	3.69000E-003	3.69000E-003	0.00000E+000	5.48893E+001	5.48893E+001	1.77200E-002	0.00000E+000	5.53323E+001
Generator Sets	1.78900E-002	4.08530E-001	5.51660E-001	8.90000E-004	4.29000E-003	4.29000E-003	0.00000E+000	7.68681E+001	7.68681E+001	4.37000E-003	0.00000E+000	7.69774E+001
Graders	5.27000E-003	1.01960E-001	1.14260E-001	2.20000E-004	5.80000E-004	5.80000E-004	0.00000E+000	1.93891E+001	1.93891E+001	6.13000E-003	0.00000E+000	1.95425E+001
Pavers	8.78000E-003	1.69790E-001	2.70790E-001	3.60000E-004	1.23000E-003	1.23000E-003	0.00000E+000	3.13892E+001	3.13892E+001	1.01500E-002	0.00000E+000	3.16430E+001
Paving Equipment	7.64000E-003	1.47780E-001	2.35680E-001	3.10000E-004	1.07000E-003	1.07000E-003	0.00000E+000	2.72011E+001	2.72011E+001	8.80000E-003	0.00000E+000	2.74211E+001
Rollers	4.89000E-003	1.11650E-001	1.50770E-001	2.00000E-004	1.17000E-003	1.17000E-003	0.00000E+000	1.75169E+001	1.75169E+001	5.67000E-003	0.00000E+000	1.76585E+001
Rubber Tired Dozers	2.09100E-002	4.04270E-001	4.53060E-001	8.50000E-004	2.30000E-003	2.30000E-003	0.00000E+000	7.66959E+001	7.66959E+001	2.42700E-002	0.00000E+000	7.73025E+001
Scrapers	6.92400E-002	8.39400E-001	5.23990E-001	9.80000E-004	3.28900E-002	3.02600E-002	0.00000E+000	8.84395E+001	8.84395E+001	2.79800E-002	0.00000E+000	8.91390E+001
Tractors/Loaders/Balckhoes	3.88900E-002	8.88010E-001	1.19914E+000	1.59000E-003	9.33000E-003	9.33000E-003	0.00000E+000	1.40830E+002	1.40830E+002	4.51900E-002	0.00000E+000	1.41960E+002
Welders	1.44000E-002	2.29890E-001	2.03570E-001	3.50000E-004	2.09000E-003	2.09000E-003	0.00000E+000	2.55980E+001	2.55980E+001	3.82000E-003	0.00000E+000	2.56936E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	7.54642E-001	1.94135E-001	-5.74773E-004	0.00000E+000	8.71441E-001	8.71441E-001	0.00000E+000	1.12437E-006	1.12437E-006	0.00000E+000	0.00000E+000	1.49627E-006
Cranes	6.90118E-001	4.96247E-001	-4.42393E-001	0.00000E+000	9.30493E-001	9.24452E-001	0.00000E+000	1.15832E-006	1.15832E-006	0.00000E+000	0.00000E+000	1.14904E-006
Excavators	5.12684E-001	8.39261E-002	-2.00651E-001	0.00000E+000	8.62069E-001	8.49935E-001	0.00000E+000	1.32716E-006	1.32716E-006	0.00000E+000	0.00000E+000	9.87559E-007
Forklifts	7.40722E-001	3.42402E-001	1.67839E-002	0.00000E+000	9.07519E-001	8.99482E-001	0.00000E+000	1.09311E-006	1.09311E-006	0.00000E+000	0.00000E+000	1.26508E-006
Generator Sets	6.73361E-001	1.42428E-001	-9.42378E-002	0.00000E+000	8.41170E-001	8.41170E-001	0.00000E+000	1.17084E-006	1.17084E-006	0.00000E+000	0.00000E+000	1.29908E-006
Graders	6.66877E-001	5.23195E-001	-9.12621E-001	0.00000E+000	9.15452E-001	9.08082E-001	0.00000E+000	1.03150E-006	1.03150E-006	0.00000E+000	0.00000E+000	1.53511E-006
Pavers	5.60120E-001	2.05029E-001	-2.29355E-001	0.00000E+000	8.81503E-001	8.71204E-001	0.00000E+000	1.27432E-006	1.27432E-006	0.00000E+000	0.00000E+000	1.26410E-006
Paving Equipment	5.15536E-001	9.19258E-002	-2.23612E-001	0.00000E+000	8.68550E-001	8.57143E-001	0.00000E+000	1.47053E-006	1.47053E-006	0.00000E+000	0.00000E+000	1.09405E-006
Rollers	6.90898E-001	2.94114E-001	-4.77415E-002	0.00000E+000	8.83929E-001	8.73922E-001	0.00000E+000	1.14176E-006	1.14176E-006	0.00000E+000	0.00000E+000	1.13260E-006
Rubber Tired Dozers	8.15706E-001	6.65184E-001	-5.75383E-002	0.00000E+000	9.60931E-001	9.57533E-001	0.00000E+000	1.17346E-006	1.17346E-006	0.00000E+000	0.00000E+000	1.29362E-006
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.13072E-006	1.13072E-006	0.00000E+000	0.00000E+000	1.23403E-006
Tractors/Loaders/Balckhoes	6.51367E-001	2.07509E-001	-2.36548E-002	0.00000E+000	8.71079E-001	8.59868E-001	0.00000E+000	1.13612E-006	1.13612E-006	0.00000E+000	0.00000E+000	1.19752E-006
Welders	6.93617E-001	-7.28486E-002	1.54469E-001	0.00000E+000	8.25251E-001	8.25251E-001	0.00000E+000	1.17197E-006	1.17197E-006	0.00000E+000	0.00000E+000	1.16761E-006

Fugitive Dust Mitigation

Yes/No Mitigation Measure Mitigation Input Mitigation Input Mitigation Input

Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	10.00	PM2.5 Reduction	10.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00

No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
Yes	Clean Paved Road	% PM Reduction	0.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.06	0.02	0.06	0.02	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.56	0.15	0.56	0.15	0.00	0.00
Grading	Fugitive Dust	0.40	0.13	0.18	0.06	0.55	0.55
Grading	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.41	0.22	0.18	0.10	0.55	0.55
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	29.60	29.02	29.11	29.60	29.57	29.28
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.18	0.45		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network			
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00		
No	Transit Improvements	Expand Transit Network	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00
No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		

No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	150.00
Yes	Use Low VOC Paint (Residential Exterior)	150.00
Yes	Use Low VOC Paint (Non-residential Interior)	150.00
Yes	Use Low VOC Paint (Non-residential Exterior)	150.00
Yes	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
Yes	Use Reclaimed Water	30.00	30.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
---------------------	-------------

Institute Recycling and Composting Services Percent Reduction in Waste Disposed	
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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.36	583,500.00	0
Parking Lot	600.00	Space	58.93	0.00	0
Arena	10.08	1000sqft	0.28	10,080.00	0
Hotel	250.00	Room	5.28	188,368.00	0
Movie Theater (No Matinee)	3,300.00	Seat	2.02	72,000.00	0
User Defined Recreational	129.09	User Defined Unit	3.62	129,095.00	0
Regional Shopping Center	130.00	1000sqft	3.64	130,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Refer to CalEEMod Table.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	60.00	2.00
tblConstructionPhase	PhaseEndDate	8/30/2019	7/2/2019

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tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	0.00	13.64
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	0.00	0.13
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	8.66	0.00
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00

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tblLandUse	BuildingSpaceSquareFeet	363,000.00	188,368.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	129,095.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	188,368.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00
tblLandUse	LandUseSquareFeet	0.00	129,095.00
tblLandUse	LotAcreage	14.85	16.36
tblLandUse	LotAcreage	5.40	58.93
tblLandUse	LotAcreage	3.24	0.28
tblLandUse	LotAcreage	8.33	5.28
tblLandUse	LotAcreage	1.70	2.02
tblLandUse	LotAcreage	0.00	3.62
tblLandUse	LotAcreage	2.98	3.64
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	136.50	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,176.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	1,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	3.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00

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tblStationaryGeneratorsPumpsUse	NumberOfEquipment		
		0.00	3.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	10.00
tblVehicleTrips	DV_TP	0.00	10.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00

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tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	90.00
tblVehicleTrips	PR_TP	0.00	90.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	ST_TR	0.00	21.26
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	SU_TR	0.00	21.26
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	42.70	22.52
tblVehicleTrips	WD_TR	0.00	21.26
tblWater	IndoorWaterUseRate	4,342,162.79	1,391,660.00
tblWater	IndoorWaterUseRate	6,341,692.50	26,006,368.00
tblWater	IndoorWaterUseRate	29,818,908.53	9,940,428.00
tblWater	IndoorWaterUseRate	9,629,427.79	17,947,995.00
tblWater	IndoorWaterUseRate	0.00	17,823,049.00
tblWater	OutdoorWaterUseRate	277,159.33	73,272.00
tblWater	OutdoorWaterUseRate	704,632.50	1,369,262.00

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tblWater	OutdoorWaterUseRate	1,903,334.59	523,374.00
tblWater	OutdoorWaterUseRate	5,901,907.36	944,980.00
tblWater	OutdoorWaterUseRate	0.00	938,402.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2019	9-30-2019	0.0358	0.0358
		Highest	0.0358	0.0358

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4913	5.0000e-004	0.0554	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1085	0.1085	2.8000e-004	0.0000	0.1154
Energy	9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	513.1487	513.1487	0.0232	4.8100e-003	515.1612
Mobile	1.6550	21.3216	20.5323	0.1701	14.3513	0.0654	14.4166	3.8565	0.0613	3.9179	0.0000	15,823.1871	15,823.1871	0.6288	0.0000	15,838.9074
Stationary	0.0543	0.2427	0.3090	1.4300e-003		0.0218	0.0218		0.0218	0.0218	0.0000	240.9652	240.9652	7.0400e-003	0.0000	241.1413
Waste						0.0000	0.0000		0.0000	0.0000	238.7174	0.0000	238.7174	14.1078	0.0000	591.4122
Water						0.0000	0.0000		0.0000	0.0000	23.1943	119.0026	142.1969	2.3877	0.0574	218.9827
Total	4.2007	21.5657	20.8974	0.1716	14.3513	0.0874	14.4386	3.8565	0.0834	3.9399	261.9116	16,696.4120	16,958.3236	17.1548	0.0622	17,405.7202

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4913	5.0000e-004	0.0554	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1085	0.1085	2.8000e-004	0.0000	0.1154
Energy	9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	513.1487	513.1487	0.0232	4.8100e-003	515.1612
Mobile	1.6550	21.3216	20.5323	0.1701	14.3513	0.0654	14.4166	3.8565	0.0613	3.9179	0.0000	15,823.1871	15,823.1871	0.6288	0.0000	15,838.9074
Stationary	0.0543	0.2427	0.3090	1.4300e-003		0.0218	0.0218		0.0218	0.0218	0.0000	240.9652	240.9652	7.0400e-003	0.0000	241.1413
Waste						0.0000	0.0000		0.0000	0.0000	238.7174	0.0000	238.7174	14.1078	0.0000	591.4122
Water						0.0000	0.0000		0.0000	0.0000	16.3288	84.4676	100.7964	1.6809	0.0404	154.8563
Total	4.2007	21.5657	20.8974	0.1716	14.3513	0.0874	14.4386	3.8565	0.0834	3.9399	255.0461	16,661.8770	16,916.9232	16.4480	0.0452	17,341.5938

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.62	0.21	0.24	4.12	27.30	0.37

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2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-387.9000
Total	-387.9000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/2/2019	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 75.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0181	0.0000	0.0181	9.9300e-003	0.0000	9.9300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0456	0.0221	4.0000e-005		2.3900e-003	2.3900e-003		2.2000e-003	2.2000e-003	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439
Total	4.3400e-003	0.0456	0.0221	4.0000e-005	0.0181	2.3900e-003	0.0205	9.9300e-003	2.2000e-003	0.0121	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439

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3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346
Total	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0181	0.0000	0.0181	9.9300e-003	0.0000	9.9300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0456	0.0221	4.0000e-005		2.3900e-003	2.3900e-003		2.2000e-003	2.2000e-003	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439
Total	4.3400e-003	0.0456	0.0221	4.0000e-005	0.0181	2.3900e-003	0.0205	9.9300e-003	2.2000e-003	0.0121	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439

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3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346
Total	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.6550	21.3216	20.5323	0.1701	14.3513	0.0654	14.4166	3.8565	0.0613	3.9179	0.0000	15,823.1871	15,823.1871	0.6288	0.0000	15,838.9074
Unmitigated	1.6550	21.3216	20.5323	0.1701	14.3513	0.0654	14.4166	3.8565	0.0613	3.9179	0.0000	15,823.1871	15,823.1871	0.6288	0.0000	15,838.9074

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	3,059,824	3,059,824
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	2,927.60	2,927.60	2,927.60	12,267,322	12,267,322
User Defined Recreational	2,744.45	2,744.45	2,744.45	17,601,446	17,601,446
Total	7,616.51	7,616.51	7,616.51	38,677,137	38,677,137

4.3 Trip Type Information

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Annual

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	100	0	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	90	10	0
User Defined Recreational	9.50	9.50	25.00	19.00	19.40	61.60	90	10	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Parking Lot	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Arena	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Hotel	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Movie Theater (No Matinee)	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
User Defined Recreational	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Regional Shopping Center	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	512.2531	512.2531	0.0232	4.7900e-003	514.2603
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	512.2531	512.2531	0.0232	4.7900e-003	514.2603
NaturalGas Mitigated	9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8956	0.8956	2.0000e-005	2.0000e-005	0.9009
NaturalGas Unmitigated	9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8956	0.8956	2.0000e-005	2.0000e-005	0.9009

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Annual

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr										MT/yr						
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	16782.4	9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8956	0.8956	2.0000e-005	2.0000e-005	0.9009	
Total		9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8956	0.8956	2.0000e-005	2.0000e-005	0.9009	

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5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr										MT/yr						
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	16782.4	9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8956	0.8956	2.0000e-005	2.0000e-005	0.9009	
Total		9.0000e-005	8.2000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8956	0.8956	2.0000e-005	2.0000e-005	0.9009	

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5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1.76086e+006	512.2531	0.0232	4.7900e-003	514.2603
Total		512.2531	0.0232	4.7900e-003	514.2603

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1.76086e+006	512.2531	0.0232	4.7900e-003	514.2603
Total		512.2531	0.0232	4.7900e-003	514.2603

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.4913	5.0000e-004	0.0554	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1085	0.1085	2.8000e-004	0.0000	0.1154
Unmitigated	2.4913	5.0000e-004	0.0554	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1085	0.1085	2.8000e-004	0.0000	0.1154

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3803					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1059					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0700e-003	5.0000e-004	0.0554	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1085	0.1085	2.8000e-004	0.0000	0.1154
Total	2.4913	5.0000e-004	0.0554	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1085	0.1085	2.8000e-004	0.0000	0.1154

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3803					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1059					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0700e-003	5.0000e-004	0.0554	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1085	0.1085	2.8000e-004	0.0000	0.1154
Total	2.4913	5.0000e-004	0.0554	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1085	0.1085	2.8000e-004	0.0000	0.1154

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	100.7964	1.6809	0.0404	154.8563
Unmitigated	142.1969	2.3877	0.0574	218.9827

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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	1.39166 / 0.073272	2.7068	0.0455	1.0900e-003	4.1684
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	26.0064 / 1.36926	50.5820	0.8493	0.0204	77.8961
Movie Theater (No Matinee)	9.94043 / 0.523374	19.3340	0.3246	7.8000e-003	29.7743
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	17.948 / 0.94498	34.9086	0.5862	0.0141	53.7591
User Defined Recreational	17.823 / 0.938402	34.6656	0.5821	0.0140	53.3848
Total		142.1969	2.3877	0.0574	218.9827

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	0.979729 / 0.0644794	1.9187	0.0320	7.7000e-004	2.9477
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	18.3085 / 1.20495	35.8551	0.5979	0.0144	55.0852
Movie Theater (No Matinee)	6.99806 / 0.460569	13.7049	0.2286	5.4900e-003	21.0552
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	12.6354 / 0.831582	24.7450	0.4127	9.9200e-003	38.0164
User Defined Recreational	12.5474 / 0.825794	24.5727	0.4098	9.8500e-003	37.7518
Total		100.7964	1.6809	0.0404	154.8563

8.0 Waste Detail

8.1 Mitigation Measures Waste

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	238.7174	14.1078	0.0000	591.4122
Unmitigated	238.7174	14.1078	0.0000	591.4122

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1176	238.7174	14.1078	0.0000	591.4122
Total		238.7174	14.1078	0.0000	591.4122

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8.2 Waste by Land Use

Mitigated

Land Use	Waste Disposed tons	Total CO2 MT/yr	CH4 MT/yr	N2O MT/yr	CO2e MT/yr
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1176	238.7174	14.1078	0.0000	591.4122
Total		238.7174	14.1078	0.0000	591.4122

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	1380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Boiler - CNG (0 - 2 MMBTU)	0.0112	0.0497	0.1989	1.2200e-003		0.0154	0.0154		0.0154	0.0154	0.0000	220.9299	220.9299	4.2300e-003	0.0000	221.0358
Emergency Generator - Diesel (750 - 9999 HP)	0.0432	0.1931	0.1101	2.1000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	20.0353	20.0353	2.8100e-003	0.0000	20.1055
Total	0.0543	0.2427	0.3090	1.4300e-003		0.0218	0.0218		0.0218	0.0218	0.0000	240.9652	240.9652	7.0400e-003	0.0000	241.1413

11.0 Vegetation

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	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-387.9000	0.0000	0.0000	-387.9000

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	232 / 142	-387.9000	0.0000	0.0000	-387.9000
Total		-387.9000	0.0000	0.0000	-387.9000

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C
Shasta County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.36	583,500.00	0
Parking Lot	600.00	Space	58.93	0.00	0
Arena	10.08	1000sqft	0.28	10,080.00	0
Hotel	250.00	Room	5.28	188,368.00	0
Movie Theater (No Matinee)	3,300.00	Seat	2.02	72,000.00	0
User Defined Recreational	129.09	User Defined Unit	3.62	129,095.00	0
Regional Shopping Center	130.00	1000sqft	3.64	130,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

Project Characteristics - Refer to CalEEMod Table.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	60.00	2.00
tblConstructionPhase	PhaseEndDate	8/30/2019	7/2/2019

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	0.00	13.64
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	0.00	0.13
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	8.66	0.00
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

tblLandUse	BuildingSpaceSquareFeet	363,000.00	188,368.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	129,095.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	188,368.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00
tblLandUse	LandUseSquareFeet	0.00	129,095.00
tblLandUse	LotAcreage	14.85	16.36
tblLandUse	LotAcreage	5.40	58.93
tblLandUse	LotAcreage	3.24	0.28
tblLandUse	LotAcreage	8.33	5.28
tblLandUse	LotAcreage	1.70	2.02
tblLandUse	LotAcreage	0.00	3.62
tblLandUse	LotAcreage	2.98	3.64
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	136.50	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,176.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	1,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	3.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

tblStationaryGeneratorsPumpsUse	NumberOfEquipment		
		0.00	3.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	10.00
tblVehicleTrips	DV_TP	0.00	10.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	90.00
tblVehicleTrips	PR_TP	0.00	90.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	ST_TR	0.00	21.26
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	SU_TR	0.00	21.26
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	42.70	22.52
tblVehicleTrips	WD_TR	0.00	21.26
tblWater	IndoorWaterUseRate	4,342,162.79	1,391,660.00
tblWater	IndoorWaterUseRate	6,341,692.50	26,006,368.00
tblWater	IndoorWaterUseRate	29,818,908.53	9,940,428.00
tblWater	IndoorWaterUseRate	9,629,427.79	17,947,995.00
tblWater	IndoorWaterUseRate	0.00	17,823,049.00
tblWater	OutdoorWaterUseRate	277,159.33	73,272.00
tblWater	OutdoorWaterUseRate	704,632.50	1,369,262.00

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

tblWater	OutdoorWaterUseRate	1,903,334.59	523,374.00
tblWater	OutdoorWaterUseRate	5,901,907.36	944,980.00
tblWater	OutdoorWaterUseRate	0.00	938,402.00

2.0 Emissions Summary

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.6793	5.5300e-003	0.6157	5.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003		1.3283	1.3283	3.4200e-003		1.4138
Energy	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
Mobile	10.6972	115.6271	131.3682	0.9903	82.7981	0.3590	83.1571	22.1581	0.3369	22.4950		101,398.7121	101,398.7121	3.7059		101,491.3593
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	31.7663	148.6779	153.7930	1.0461	82.7981	1.6882	84.4863	22.1581	1.6661	23.8242		109,321.6658	109,321.6658	4.3066	1.0000e-004	109,429.3616

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.6793	5.5300e-003	0.6157	5.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003		1.3283	1.3283	3.4200e-003		1.4138
Energy	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
Mobile	10.6972	115.6271	131.3682	0.9903	82.7981	0.3590	83.1571	22.1581	0.3369	22.4950		101,398.7121	101,398.7121	3.7059		101,491.3593
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	31.7663	148.6779	153.7930	1.0461	82.7981	1.6882	84.4863	22.1581	1.6661	23.8242		109,321.6658	109,321.6658	4.3066	1.0000e-004	109,429.3616

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/2/2019	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

Acres of Paving: 75.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Clean Paved Roads

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

4.0 Operational Detail - Mobile

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.6972	115.6271	131.3682	0.9903	82.7981	0.3590	83.1571	22.1581	0.3369	22.4950		101,398.7121	101,398.7121	3.7059		101,491.3593
Unmitigated	10.6972	115.6271	131.3682	0.9903	82.7981	0.3590	83.1571	22.1581	0.3369	22.4950		101,398.7121	101,398.7121	3.7059		101,491.3593

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	3,059,824	3,059,824
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	2,927.60	2,927.60	2,927.60	12,267,322	12,267,322
User Defined Recreational	2,744.45	2,744.45	2,744.45	17,601,446	17,601,446
Total	7,616.51	7,616.51	7,616.51	38,677,137	38,677,137

4.3 Trip Type Information

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	100	0	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	90	10	0
User Defined Recreational	9.50	9.50	25.00	19.00	19.40	61.60	90	10	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Parking Lot	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Arena	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Hotel	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Movie Theater (No Matinee)	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
User Defined Recreational	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Regional Shopping Center	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
NaturalGas Unmitigated	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	45.979	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
Total		5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0.045979	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
Total		5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.6793	5.5300e-003	0.6157	5.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003		1.3283	1.3283	3.4200e-003		1.4138
Unmitigated	13.6793	5.5300e-003	0.6157	5.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003		1.3283	1.3283	3.4200e-003		1.4138

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0840					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.5389					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0563	5.5300e-003	0.6157	5.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003		1.3283	1.3283	3.4200e-003		1.4138
Total	13.6793	5.5300e-003	0.6157	5.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003		1.3283	1.3283	3.4200e-003		1.4138

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0840					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.5389					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0563	5.5300e-003	0.6157	5.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003		1.3283	1.3283	3.4200e-003		1.4138
Total	13.6793	5.5300e-003	0.6157	5.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003		1.3283	1.3283	3.4200e-003		1.4138

7.0 Water Detail

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	1380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (0 - 2 MMBTU)	0.1941	0.8640	3.4589	0.0212		0.2682	0.2682		0.2682	0.2682		4,235.3665	4,235.3665	0.0812		4,237.3959
Emergency Generator - Diesel (750 - 9999 HP)	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Summer

11.0 Vegetation

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C
Shasta County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.36	583,500.00	0
Parking Lot	600.00	Space	58.93	0.00	0
Arena	10.08	1000sqft	0.28	10,080.00	0
Hotel	250.00	Room	5.28	188,368.00	0
Movie Theater (No Matinee)	3,300.00	Seat	2.02	72,000.00	0
User Defined Recreational	129.09	User Defined Unit	3.62	129,095.00	0
Regional Shopping Center	130.00	1000sqft	3.64	130,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

Project Characteristics - Refer to CalEEMod Table.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	60.00	2.00
tblConstructionPhase	PhaseEndDate	8/30/2019	7/2/2019

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tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	0.00	13.64
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	0.00	0.13
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	8.66	0.00
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

tblLandUse	BuildingSpaceSquareFeet	363,000.00	188,368.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	129,095.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	188,368.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00
tblLandUse	LandUseSquareFeet	0.00	129,095.00
tblLandUse	LotAcreage	14.85	16.36
tblLandUse	LotAcreage	5.40	58.93
tblLandUse	LotAcreage	3.24	0.28
tblLandUse	LotAcreage	8.33	5.28
tblLandUse	LotAcreage	1.70	2.02
tblLandUse	LotAcreage	0.00	3.62
tblLandUse	LotAcreage	2.98	3.64
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	136.50	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,176.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	1,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	3.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

tblStationaryGeneratorsPumpsUse	NumberOfEquipment		
		0.00	3.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	10.00
tblVehicleTrips	DV_TP	0.00	10.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	90.00
tblVehicleTrips	PR_TP	0.00	90.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	ST_TR	0.00	21.26
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	SU_TR	0.00	21.26
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	42.70	22.52
tblVehicleTrips	WD_TR	0.00	21.26
tblWater	IndoorWaterUseRate	4,342,162.79	1,391,660.00
tblWater	IndoorWaterUseRate	6,341,692.50	26,006,368.00
tblWater	IndoorWaterUseRate	29,818,908.53	9,940,428.00
tblWater	IndoorWaterUseRate	9,629,427.79	17,947,995.00
tblWater	IndoorWaterUseRate	0.00	17,823,049.00
tblWater	OutdoorWaterUseRate	277,159.33	73,272.00
tblWater	OutdoorWaterUseRate	704,632.50	1,369,262.00

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tblWater	OutdoorWaterUseRate	1,903,334.59	523,374.00
tblWater	OutdoorWaterUseRate	5,901,907.36	944,980.00
tblWater	OutdoorWaterUseRate	0.00	938,402.00

2.0 Emissions Summary

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.6793	5.5300e-003	0.6157	5.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003		1.3283	1.3283	3.4200e-003		1.4138
Energy	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
Mobile	8.8402	117.6382	113.2580	0.9142	82.7981	0.3602	83.1584	22.1581	0.3381	22.4962		93,742.2132	93,742.2132	4.0367		93,843.1311
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	29.9094	150.6890	135.6828	0.9700	82.7981	1.6894	84.4876	22.1581	1.6673	23.8254		101,665.1669	101,665.1669	4.6375	1.0000e-004	101,781.1333

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.6793	5.5300e-003	0.6157	5.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003		1.3283	1.3283	3.4200e-003		1.4138
Energy	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
Mobile	8.8402	117.6382	113.2580	0.9142	82.7981	0.3602	83.1584	22.1581	0.3381	22.4962		93,742.2132	93,742.2132	4.0367		93,843.1311
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	29.9094	150.6890	135.6828	0.9700	82.7981	1.6894	84.4876	22.1581	1.6673	23.8254		101,665.1669	101,665.1669	4.6375	1.0000e-004	101,781.1333

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/2/2019	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

Acres of Paving: 75.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Clean Paved Roads

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

4.0 Operational Detail - Mobile

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.8402	117.6382	113.2580	0.9142	82.7981	0.3602	83.1584	22.1581	0.3381	22.4962		93,742.21 32	93,742.21 32	4.0367		93,843.13 11
Unmitigated	8.8402	117.6382	113.2580	0.9142	82.7981	0.3602	83.1584	22.1581	0.3381	22.4962		93,742.21 32	93,742.21 32	4.0367		93,843.13 11

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	3,059,824	3,059,824
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	2,927.60	2,927.60	2,927.60	12,267,322	12,267,322
User Defined Recreational	2,744.45	2,744.45	2,744.45	17,601,446	17,601,446
Total	7,616.51	7,616.51	7,616.51	38,677,137	38,677,137

4.3 Trip Type Information

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	100	0	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	90	10	0
User Defined Recreational	9.50	9.50	25.00	19.00	19.40	61.60	90	10	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Parking Lot	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Arena	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Hotel	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Movie Theater (No Matinee)	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
User Defined Recreational	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Regional Shopping Center	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
NaturalGas Unmitigated	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	lb/day										lb/day						
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	45.979	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414	
Total		5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414	

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0.045979	5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414
Total		5.0000e-004	4.5100e-003	3.7900e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4093	5.4093	1.0000e-004	1.0000e-004	5.4414

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.6793	5.5300e-003	0.6157	5.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003		1.3283	1.3283	3.4200e-003		1.4138
Unmitigated	13.6793	5.5300e-003	0.6157	5.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003		1.3283	1.3283	3.4200e-003		1.4138

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0840					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.5389					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0563	5.5300e-003	0.6157	5.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003		1.3283	1.3283	3.4200e-003		1.4138
Total	13.6793	5.5300e-003	0.6157	5.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003		1.3283	1.3283	3.4200e-003		1.4138

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0840					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.5389					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0563	5.5300e-003	0.6157	5.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003		1.3283	1.3283	3.4200e-003		1.4138
Total	13.6793	5.5300e-003	0.6157	5.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003		1.3283	1.3283	3.4200e-003		1.4138

7.0 Water Detail

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	1380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (0 - 2 MMBTU)	0.1941	0.8640	3.4589	0.0212		0.2682	0.2682		0.2682	0.2682		4,235.3665	4,235.3665	0.0812		4,237.3959
Emergency Generator - Diesel (750 - 9999 HP)	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C - Shasta County, Winter

11.0 Vegetation

Redding Rancheria Fee-to-Trust and Gaming Project - Alternative C

Shasta County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Rubber Tired Dozers	Diesel	No Change	0	3	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	4	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr						Unmitigated mt/yr						
Rubber Tired Dozers	3.40000E-003	3.62200E-002	1.28500E-002	3.00000E-005	1.77000E-003	1.62000E-003	0.00000E+000	2.30088E+000	2.30088E+000	7.30000E-004	0.00000E+000	2.31908E+000
Tractors/Loaders/Backhoes	9.30000E-004	9.35000E-003	9.21000E-003	1.00000E-005	6.20000E-004	5.70000E-004	0.00000E+000	1.11599E+000	1.11599E+000	3.50000E-004	0.00000E+000	1.12482E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr						Mitigated mt/yr						
Rubber Tired Dozers	3.40000E-003	3.62200E-002	1.28500E-002	3.00000E-005	1.77000E-003	1.62000E-003	0.00000E+000	2.30088E+000	2.30088E+000	7.30000E-004	0.00000E+000	2.31908E+000
Tractors/Loaders/Backhoes	9.30000E-004	9.35000E-003	9.21000E-003	1.00000E-005	6.20000E-004	5.70000E-004	0.00000E+000	1.11599E+000	1.11599E+000	3.50000E-004	0.00000E+000	1.12481E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.89031E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	10.00	PM2.5 Reduction
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction
No	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)
No	Clean Paved Road	% PM Reduction	0.00	Frequency (per day)
				2.00

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Site Preparation	Fugitive Dust	0.02	0.01	0.02	0.01	0.00	0.00
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	29.60	29.02	29.11	29.60	29.57	29.28
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.18	0.45		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network			
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00		
No	Transit Improvements	Expand Transit Network	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00
No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		

No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	150.00
Yes	Use Low VOC Paint (Residential Exterior)	150.00
Yes	Use Low VOC Paint (Non-residential Interior)	150.00
Yes	Use Low VOC Paint (Non-residential Exterior)	150.00
Yes	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
Yes	Use Reclaimed Water	30.00	30.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
---------------------	-------------

Institute Recycling and Composting Services Percent Reduction in Waste Disposed	
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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	200.00	Space	25.59	80,000.00	0
High Turnover (Sit Down Restaurant)	4.87	1000sqft	0.31	4,867.00	0
Hotel	128.00	Room	6.83	185,856.00	0
Quality Restaurant	3.25	1000sqft	0.21	3,245.00	0
Regional Shopping Center	120.00	1000sqft	7.69	120,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - project description

Land Use - Refer to CalEEMod tables

Construction Phase - Refer to CalEEMod in Appendix Q of the EIS.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Operational Off-Road Equipment - N/A

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150

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tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	55.00	100.00
tblConstructionPhase	NumDays	740.00	228.00
tblConstructionPhase	NumDays	75.00	22.00
tblConstructionPhase	NumDays	55.00	54.00
tblConstructionPhase	NumDays	30.00	23.00
tblConstructionPhase	PhaseEndDate	4/30/2021	7/31/2020
tblConstructionPhase	PhaseEndDate	8/30/2019	8/31/2019
tblConstructionPhase	PhaseEndDate	9/29/2020	6/15/2020
tblConstructionPhase	PhaseStartDate	9/30/2020	3/15/2020
tblConstructionPhase	PhaseStartDate	8/31/2019	9/1/2019
tblConstructionPhase	PhaseStartDate	7/16/2020	4/1/2020
tblEnergyUse	LightingElect	6.34	0.00

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tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	6.34	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	16.25	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	16.25	0.00
tblEnergyUse	NT24E	2.30	2.88
tblEnergyUse	NT24NG	174.70	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	174.70	0.00
tblEnergyUse	NT24NG	2.08	0.03
tblEnergyUse	T24E	6.86	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	6.86	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	35.90	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	35.90	0.00
tblEnergyUse	T24NG	8.66	0.00
tblGrading	AcresOfGrading	55.00	187.50
tblLandUse	BuildingSpaceSquareFeet	4,870.00	4,867.00
tblLandUse	BuildingSpaceSquareFeet	3,250.00	3,245.00
tblLandUse	LandUseSquareFeet	4,870.00	4,867.00
tblLandUse	LandUseSquareFeet	3,250.00	3,245.00
tblLandUse	LotAcreage	1.80	25.59
tblLandUse	LotAcreage	0.11	0.31

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tblLandUse	LotAcreage	4.27	6.83
tblLandUse	LotAcreage	0.07	0.21
tblLandUse	LotAcreage	2.75	7.69
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	57.95	0.00
tblSolidWaste	SolidWasteGenerationRate	70.08	0.00
tblSolidWaste	SolidWasteGenerationRate	2.97	0.00
tblSolidWaste	SolidWasteGenerationRate	126.00	112.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	4,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	12.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	DV_TP	20.00	15.00

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tblVehicleTrips	DV_TP	38.00	15.00
tblVehicleTrips	DV_TP	0.00	15.00
tblVehicleTrips	DV_TP	18.00	15.00
tblVehicleTrips	DV_TP	35.00	15.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	37.00	85.00
tblVehicleTrips	PR_TP	58.00	85.00
tblVehicleTrips	PR_TP	0.00	85.00
tblVehicleTrips	PR_TP	38.00	85.00
tblVehicleTrips	PR_TP	54.00	85.00
tblVehicleTrips	ST_TR	158.37	98.21
tblVehicleTrips	ST_TR	8.19	8.17
tblVehicleTrips	ST_TR	94.36	58.24
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	SU_TR	131.84	98.21
tblVehicleTrips	SU_TR	5.95	8.17
tblVehicleTrips	SU_TR	72.16	58.24
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	WD_TR	127.15	98.21
tblVehicleTrips	WD_TR	89.95	58.24
tblVehicleTrips	WD_TR	42.70	22.52
tblWater	IndoorWaterUseRate	1,478,209.18	6,908,720.00
tblWater	IndoorWaterUseRate	3,246,946.56	10,038,311.00
tblWater	IndoorWaterUseRate	986,484.57	3,454,360.00

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tblWater	IndoorWaterUseRate	8,888,702.58	6,170,609.00
tblWater	OutdoorWaterUseRate	94,353.78	483,421.00
tblWater	OutdoorWaterUseRate	360,771.84	702,406.00
tblWater	OutdoorWaterUseRate	62,967.10	241,710.00
tblWater	OutdoorWaterUseRate	5,447,914.48	431,773.00

2.0 Emissions Summary

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2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.2528	2.4490	1.7129	3.7000e-003	0.4472	0.1132	0.5604	0.1814	0.1054	0.2868	0.0000	334.0051	334.0051	0.0657	0.0000	335.6480
2020	2.5042	2.4215	2.2040	5.0100e-003	0.1294	0.1085	0.2379	0.0352	0.1020	0.1371	0.0000	448.2750	448.2750	0.0717	0.0000	450.0679
Maximum	2.5042	2.4490	2.2040	5.0100e-003	0.4472	0.1132	0.5604	0.1814	0.1054	0.2868	0.0000	448.2750	448.2750	0.0717	0.0000	450.0679

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.1202	1.7017	1.7905	3.7000e-003	0.2418	0.0233	0.2651	0.0927	0.0223	0.1149	0.0000	334.0049	334.0049	0.0657	0.0000	335.6477
2020	2.3717	1.9807	2.3477	5.0100e-003	0.1294	0.0166	0.1460	0.0352	0.0164	0.0515	0.0000	448.2747	448.2747	0.0717	0.0000	450.0676
Maximum	2.3717	1.9807	2.3477	5.0100e-003	0.2418	0.0233	0.2651	0.0927	0.0223	0.1149	0.0000	448.2747	448.2747	0.0717	0.0000	450.0676

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	9.62	24.40	-5.65	0.00	35.62	81.99	48.50	40.98	81.36	60.73	0.00	0.00	0.00	0.01	0.00	0.00

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2019	9-30-2019	1.5744	0.9861
2	10-1-2019	12-31-2019	1.1166	0.8360
3	1-1-2020	3-31-2020	1.2821	1.0708
4	4-1-2020	6-30-2020	2.9528	2.6312
5	7-1-2020	9-30-2020	0.6754	0.6355
		Highest	2.9528	2.6312

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4517	4.0000e-005	4.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.1500e-003	8.1500e-003	2.0000e-005	0.0000	8.6800e-003
Energy	2.0000e-005	1.6000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	100.7145	100.7145	4.5500e-003	9.4000e-004	101.1095
Mobile	1.6034	14.1663	18.6626	0.0922	6.5914	0.0714	6.6628	1.7730	0.0670	1.8400	0.0000	8,535.706 1	8,535.706 1	0.3696	0.0000	8,544.945 1
Stationary	0.0406	0.1813	0.2838	1.4300e-003		0.0206	0.0206		0.0206	0.0206	0.0000	247.0943	247.0943	6.3500e-003	0.0000	247.2531
Waste						0.0000	0.0000		0.0000	0.0000	22.7350	0.0000	22.7350	1.3436	0.0000	56.3250
Water						0.0000	0.0000		0.0000	0.0000	8.4301	43.7207	52.1508	0.8678	0.0209	80.0608
Total	3.0957	14.3478	18.9507	0.0937	6.5914	0.0920	6.6834	1.7730	0.0876	1.8606	31.1651	8,927.243 7	8,958.408 8	2.5919	0.0218	9,029.702 1

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4517	4.0000e-005	4.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.1500e-003	8.1500e-003	2.0000e-005	0.0000	8.6800e-003
Energy	2.0000e-005	1.6000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	100.7145	100.7145	4.5500e-003	9.4000e-004	101.1095
Mobile	1.6034	14.1663	18.6626	0.0922	6.5914	0.0714	6.6628	1.7730	0.0670	1.8400	0.0000	8,535.706 1	8,535.706 1	0.3696	0.0000	8,544.945 1
Stationary	0.0406	0.1813	0.2838	1.4300e-003		0.0206	0.0206		0.0206	0.0206	0.0000	247.0943	247.0943	6.3500e-003	0.0000	247.2531
Waste						0.0000	0.0000		0.0000	0.0000	22.7350	0.0000	22.7350	1.3436	0.0000	56.3250
Water						0.0000	0.0000		0.0000	0.0000	7.4185	38.4742	45.8927	0.7637	0.0184	70.4535
Total	3.0957	14.3478	18.9507	0.0937	6.5914	0.0920	6.6834	1.7730	0.0876	1.8606	30.1535	8,921.997 3	8,952.150 7	2.4878	0.0193	9,020.094 8

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.25	0.06	0.07	4.02	11.47	0.11

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2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-176.7100
Total	-176.7100

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/31/2019	5	23	
2	Grading	Grading	8/1/2019	8/31/2019	5	22	
3	Building Construction	Building Construction	9/1/2019	7/15/2020	5	228	
4	Paving	Paving	4/1/2020	6/15/2020	5	54	
5	Architectural Coating	Architectural Coating	3/15/2020	7/31/2020	5	100	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 25.59

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Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 470,952; Non-Residential Outdoor: 156,984; Striped Parking Area: 4,800 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	153.00	65.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	31.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2078	0.0000	0.2078	0.1142	0.0000	0.1142	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0499	0.5241	0.2537	4.4000e-004		0.0275	0.0275		0.0253	0.0253	0.0000	39.2940	39.2940	0.0124	0.0000	39.6048
Total	0.0499	0.5241	0.2537	4.4000e-004	0.2078	0.0275	0.2353	0.1142	0.0253	0.1395	0.0000	39.2940	39.2940	0.0124	0.0000	39.6048

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3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.6000e-004	7.9000e-004	7.5000e-003	2.0000e-005	1.6200e-003	1.0000e-005	1.6300e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.5468	1.5468	6.0000e-005	0.0000	1.5484
Total	9.6000e-004	7.9000e-004	7.5000e-003	2.0000e-005	1.6200e-003	1.0000e-005	1.6300e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.5468	1.5468	6.0000e-005	0.0000	1.5484

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0935	0.0000	0.0935	0.0514	0.0000	0.0514	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0107	0.2193	0.2640	4.4000e-004		1.6300e-003	1.6300e-003		1.6300e-003	1.6300e-003	0.0000	39.2939	39.2939	0.0124	0.0000	39.6048
Total	0.0107	0.2193	0.2640	4.4000e-004	0.0935	1.6300e-003	0.0951	0.0514	1.6300e-003	0.0530	0.0000	39.2939	39.2939	0.0124	0.0000	39.6048

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3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.6000e-004	7.9000e-004	7.5000e-003	2.0000e-005	1.6200e-003	1.0000e-005	1.6300e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.5468	1.5468	6.0000e-005	0.0000	1.5484
Total	9.6000e-004	7.9000e-004	7.5000e-003	2.0000e-005	1.6200e-003	1.0000e-005	1.6300e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.5468	1.5468	6.0000e-005	0.0000	1.5484

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1657	0.0000	0.1657	0.0472	0.0000	0.0472	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0521	0.5997	0.3671	6.8000e-004		0.0262	0.0262		0.0241	0.0241	0.0000	61.2715	61.2715	0.0194	0.0000	61.7561
Total	0.0521	0.5997	0.3671	6.8000e-004	0.1657	0.0262	0.1919	0.0472	0.0241	0.0713	0.0000	61.2715	61.2715	0.0194	0.0000	61.7561

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3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0200e-003	8.4000e-004	7.9700e-003	2.0000e-005	1.7200e-003	1.0000e-005	1.7300e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.6440	1.6440	6.0000e-005	0.0000	1.6456
Total	1.0200e-003	8.4000e-004	7.9700e-003	2.0000e-005	1.7200e-003	1.0000e-005	1.7300e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.6440	1.6440	6.0000e-005	0.0000	1.6456

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0746	0.0000	0.0746	0.0212	0.0000	0.0212	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0320	0.4553	0.4036	6.8000e-004		0.0124	0.0124		0.0115	0.0115	0.0000	61.2714	61.2714	0.0194	0.0000	61.7560
Total	0.0320	0.4553	0.4036	6.8000e-004	0.0746	0.0124	0.0869	0.0212	0.0115	0.0327	0.0000	61.2714	61.2714	0.0194	0.0000	61.7560

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3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0200e-003	8.4000e-004	7.9700e-003	2.0000e-005	1.7200e-003	1.0000e-005	1.7300e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.6440	1.6440	6.0000e-005	0.0000	1.6456
Total	1.0200e-003	8.4000e-004	7.9700e-003	2.0000e-005	1.7200e-003	1.0000e-005	1.7300e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.6440	1.6440	6.0000e-005	0.0000	1.6456

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1027	0.9169	0.7466	1.1700e-003		0.0561	0.0561		0.0528	0.0528	0.0000	102.2703	102.2703	0.0249	0.0000	102.8932
Total	0.1027	0.9169	0.7466	1.1700e-003		0.0561	0.0561		0.0528	0.0528	0.0000	102.2703	102.2703	0.0249	0.0000	102.8932

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3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0152	0.3812	0.0888	8.3000e-004	0.0184	2.9900e-003	0.0214	5.3300e-003	2.8600e-003	8.1900e-003	0.0000	78.2448	78.2448	6.9000e-003	0.0000	78.4172
Worker	0.0309	0.0255	0.2411	5.5000e-004	0.0520	4.0000e-004	0.0524	0.0139	3.7000e-004	0.0142	0.0000	49.7338	49.7338	1.9600e-003	0.0000	49.7828
Total	0.0462	0.4067	0.3299	1.3800e-003	0.0704	3.3900e-003	0.0738	0.0192	3.2300e-003	0.0224	0.0000	127.9786	127.9786	8.8600e-003	0.0000	128.2000

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0293	0.6188	0.7775	1.1700e-003		5.9000e-003	5.9000e-003		5.9000e-003	5.9000e-003	0.0000	102.2702	102.2702	0.0249	0.0000	102.8931
Total	0.0293	0.6188	0.7775	1.1700e-003		5.9000e-003	5.9000e-003		5.9000e-003	5.9000e-003	0.0000	102.2702	102.2702	0.0249	0.0000	102.8931

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3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0152	0.3812	0.0888	8.3000e-004	0.0184	2.9900e-003	0.0214	5.3300e-003	2.8600e-003	8.1900e-003	0.0000	78.2448	78.2448	6.9000e-003	0.0000	78.4172
Worker	0.0309	0.0255	0.2411	5.5000e-004	0.0520	4.0000e-004	0.0524	0.0139	3.7000e-004	0.0142	0.0000	49.7338	49.7338	1.9600e-003	0.0000	49.7828
Total	0.0462	0.4067	0.3299	1.3800e-003	0.0704	3.3900e-003	0.0738	0.0192	3.2300e-003	0.0224	0.0000	127.9786	127.9786	8.8600e-003	0.0000	128.2000

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1495	1.3526	1.1878	1.9000e-003		0.0788	0.0788		0.0741	0.0741	0.0000	163.2850	163.2850	0.0398	0.0000	164.2809
Total	0.1495	1.3526	1.1878	1.9000e-003		0.0788	0.0788		0.0741	0.0741	0.0000	163.2850	163.2850	0.0398	0.0000	164.2809

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3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0200	0.5624	0.1249	1.3300e-003	0.0298	3.1100e-003	0.0329	8.6400e-003	2.9700e-003	0.0116	0.0000	125.9442	125.9442	0.0102	0.0000	126.1995
Worker	0.0449	0.0360	0.3421	8.6000e-004	0.0843	6.3000e-004	0.0849	0.0224	5.8000e-004	0.0230	0.0000	78.0560	78.0560	2.7000e-003	0.0000	78.1235
Total	0.0649	0.5984	0.4670	2.1900e-003	0.1141	3.7400e-003	0.1178	0.0311	3.5500e-003	0.0346	0.0000	204.0002	204.0002	0.0129	0.0000	204.3230

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0475	1.0029	1.2601	1.9000e-003		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003	0.0000	163.2848	163.2848	0.0398	0.0000	164.2807
Total	0.0475	1.0029	1.2601	1.9000e-003		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003	0.0000	163.2848	163.2848	0.0398	0.0000	164.2807

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3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0200	0.5624	0.1249	1.3300e-003	0.0298	3.1100e-003	0.0329	8.6400e-003	2.9700e-003	0.0116	0.0000	125.9442	125.9442	0.0102	0.0000	126.1995
Worker	0.0449	0.0360	0.3421	8.6000e-004	0.0843	6.3000e-004	0.0849	0.0224	5.8000e-004	0.0230	0.0000	78.0560	78.0560	2.7000e-003	0.0000	78.1235
Total	0.0649	0.5984	0.4670	2.1900e-003	0.1141	3.7400e-003	0.1178	0.0311	3.5500e-003	0.0346	0.0000	204.0002	204.0002	0.0129	0.0000	204.3230

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0366	0.3798	0.3956	6.2000e-004		0.0203	0.0203		0.0187	0.0187	0.0000	54.0762	54.0762	0.0175	0.0000	54.5134
Paving	0.0335					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0702	0.3798	0.3956	6.2000e-004		0.0203	0.0203		0.0187	0.0187	0.0000	54.0762	54.0762	0.0175	0.0000	54.5134

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3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6800e-003	1.3500e-003	0.0128	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.6000e-004	0.0000	2.9308	2.9308	1.0000e-004	0.0000	2.9333
Total	1.6800e-003	1.3500e-003	0.0128	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.6000e-004	0.0000	2.9308	2.9308	1.0000e-004	0.0000	2.9333

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0152	0.3050	0.4670	6.2000e-004		2.4700e-003	2.4700e-003		2.4700e-003	2.4700e-003	0.0000	54.0761	54.0761	0.0175	0.0000	54.5134
Paving	0.0335					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0487	0.3050	0.4670	6.2000e-004		2.4700e-003	2.4700e-003		2.4700e-003	2.4700e-003	0.0000	54.0761	54.0761	0.0175	0.0000	54.5134

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3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6800e-003	1.3500e-003	0.0128	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.6000e-004	0.0000	2.9308	2.9308	1.0000e-004	0.0000	2.9333
Total	1.6800e-003	1.3500e-003	0.0128	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.6000e-004	0.0000	2.9308	2.9308	1.0000e-004	0.0000	2.9333

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.1996					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0121	0.0842	0.0916	1.5000e-004		5.5500e-003	5.5500e-003		5.5500e-003	5.5500e-003	0.0000	12.7663	12.7663	9.9000e-004	0.0000	12.7910
Total	2.2117	0.0842	0.0916	1.5000e-004		5.5500e-003	5.5500e-003		5.5500e-003	5.5500e-003	0.0000	12.7663	12.7663	9.9000e-004	0.0000	12.7910

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3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4500e-003	5.1700e-003	0.0492	1.2000e-004	0.0121	9.0000e-005	0.0122	3.2200e-003	8.0000e-005	3.3100e-003	0.0000	11.2165	11.2165	3.9000e-004	0.0000	11.2262
Total	6.4500e-003	5.1700e-003	0.0492	1.2000e-004	0.0121	9.0000e-005	0.0122	3.2200e-003	8.0000e-005	3.3100e-003	0.0000	11.2165	11.2165	3.9000e-004	0.0000	11.2262

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.1996					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9700e-003	0.0679	0.0916	1.5000e-004		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	12.7663	12.7663	9.9000e-004	0.0000	12.7910
Total	2.2025	0.0679	0.0916	1.5000e-004		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	12.7663	12.7663	9.9000e-004	0.0000	12.7910

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3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4500e-003	5.1700e-003	0.0492	1.2000e-004	0.0121	9.0000e-005	0.0122	3.2200e-003	8.0000e-005	3.3100e-003	0.0000	11.2165	11.2165	3.9000e-004	0.0000	11.2262
Total	6.4500e-003	5.1700e-003	0.0492	1.2000e-004	0.0121	9.0000e-005	0.0122	3.2200e-003	8.0000e-005	3.3100e-003	0.0000	11.2165	11.2165	3.9000e-004	0.0000	11.2262

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.6034	14.1663	18.6626	0.0922	6.5914	0.0714	6.6628	1.7730	0.0670	1.8400	0.0000	8,535.706 1	8,535.706 1	0.3696	0.0000	8,544.945 1
Unmitigated	1.6034	14.1663	18.6626	0.0922	6.5914	0.0714	6.6628	1.7730	0.0670	1.8400	0.0000	8,535.706 1	8,535.706 1	0.3696	0.0000	8,544.945 1

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
High Turnover (Sit Down Restaurant)	478.28	478.28	478.28	1,922,867	1,922,867
Hotel	1,045.76	1,045.76	1,045.76	4,204,329	4,204,329
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	189.28	189.28	189.28	760,973	760,973
Regional Shopping Center	2,702.40	2,702.40	2,702.40	10,864,613	10,864,613
Total	4,415.72	4,415.72	4,415.72	17,752,783	17,752,783

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down)	9.50	9.50	25.00	8.50	72.50	19.00	85	15	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	85	15	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	85	15	0
Quality Restaurant	9.50	9.50	25.00	12.00	69.00	19.00	85	15	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	85	15	0

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
High Turnover (Sit Down Restaurant)	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Hotel	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Quality Restaurant	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Regional Shopping Center	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	100.5390	100.5390	4.5500e-003	9.4000e-004	100.9329
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	100.5390	100.5390	4.5500e-003	9.4000e-004	100.9329
NaturalGas Mitigated	2.0000e-005	1.6000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1755	0.1755	0.0000	0.0000	0.1765
NaturalGas Unmitigated	2.0000e-005	1.6000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1755	0.1755	0.0000	0.0000	0.1765

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5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3288	2.0000e-005	1.6000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1755	0.1755	0.0000	0.0000	0.1765
Total		2.0000e-005	1.6000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1755	0.1755	0.0000	0.0000	0.1765

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5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr										MT/yr						
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3288	2.0000e-005	1.6000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1755	0.1755	0.0000	0.0000	0.1765	
Total		2.0000e-005	1.6000e-004	1.4000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1755	0.1755	0.0000	0.0000	0.1765	

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	345600	100.5390	4.5500e-003	9.4000e-004	100.9329
Total		100.5390	4.5500e-003	9.4000e-004	100.9329

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	345600	100.5390	4.5500e-003	9.4000e-004	100.9329
Total		100.5390	4.5500e-003	9.4000e-004	100.9329

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4517	4.0000e-005	4.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.1500e-003	8.1500e-003	2.0000e-005	0.0000	8.6800e-003
Unmitigated	1.4517	4.0000e-005	4.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.1500e-003	8.1500e-003	2.0000e-005	0.0000	8.6800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2200					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2314					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.8000e-004	4.0000e-005	4.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.1500e-003	8.1500e-003	2.0000e-005	0.0000	8.6800e-003
Total	1.4517	4.0000e-005	4.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.1500e-003	8.1500e-003	2.0000e-005	0.0000	8.6800e-003

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2200					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2314					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.8000e-004	4.0000e-005	4.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.1500e-003	8.1500e-003	2.0000e-005	0.0000	8.6800e-003
Total	1.4517	4.0000e-005	4.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.1500e-003	8.1500e-003	2.0000e-005	0.0000	8.6800e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	45.8927	0.7637	0.0184	70.4535
Unmitigated	52.1508	0.8678	0.0209	80.0608

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
High Turnover (Sit Down Restaurant)	6.90872 / 0.483421	13.5592	0.2256	5.4200e-003	20.8158
Hotel	10.0383 / 0.702406	19.7014	0.3279	7.8800e-003	30.2452
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	3.45436 / 0.24171	6.7796	0.1128	2.7100e-003	10.4079
Regional Shopping Center	6.17061 / 0.431773	12.1106	0.2015	4.8400e-003	18.5919
Total		52.1508	0.8678	0.0209	80.0608

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
High Turnover (Sit Down Restaurant)	6.07967 / 0.42541	11.9321	0.1986	4.7700e-003	18.3179
Hotel	8.83371 / 0.618117	17.3372	0.2885	6.9300e-003	26.6158
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	3.03984 / 0.212705	5.9661	0.0993	2.3900e-003	9.1590
Regional Shopping Center	5.43014 / 0.37996	10.6573	0.1774	4.2600e-003	16.3609
Total		45.8927	0.7637	0.0184	70.4535

8.0 Waste Detail

8.1 Mitigation Measures Waste

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	22.7350	1.3436	0.0000	56.3250
Unmitigated	22.7350	1.3436	0.0000	56.3250

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	112	22.7350	1.3436	0.0000	56.3250
Total		22.7350	1.3436	0.0000	56.3250

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8.2 Waste by Land Use

Mitigated

Land Use	Waste Disposed tons	Total CO2	CH4	N2O	CO2e
		MT/yr			
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	112	22.7350	1.3436	0.0000	56.3250
Total		22.7350	1.3436	0.0000	56.3250

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	12	2923	0.73	Diesel

Boilers

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Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	1	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
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10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Boiler - CNG (0 - 2 MMBTU)	0.0118	0.0526	0.2104	1.2900e-003		0.0163	0.0163		0.0163	0.0163	0.0000	233.7375	233.7375	4.4800e-003	0.0000	233.8495
Emergency Generator - Diesel (750 - 9999 HP)	0.0288	0.1287	0.0734	1.4000e-004		4.2300e-003	4.2300e-003		4.2300e-003	4.2300e-003	0.0000	13.3568	13.3568	1.8700e-003	0.0000	13.4037
Total	0.0406	0.1813	0.2838	1.4300e-003		0.0206	0.0206		0.0206	0.0206	0.0000	247.0943	247.0943	6.3500e-003	0.0000	247.2531

11.0 Vegetation

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-176.7100	0.0000	0.0000	-176.7100

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	232 / 191	-176.7100	0.0000	0.0000	-176.7100
Total		-176.7100	0.0000	0.0000	-176.7100

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D
Shasta County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	200.00	Space	25.59	80,000.00	0
High Turnover (Sit Down Restaurant)	4.87	1000sqft	0.31	4,867.00	0
Hotel	128.00	Room	6.83	185,856.00	0
Quality Restaurant	3.25	1000sqft	0.21	3,245.00	0
Regional Shopping Center	120.00	1000sqft	7.69	120,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

Project Characteristics - project description

Land Use - Refer to CalEEMod tables

Construction Phase - Refer to CalEEMod in Appendix Q of the EIS.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Operational Off-Road Equipment - N/A

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	55.00	100.00
tblConstructionPhase	NumDays	740.00	228.00
tblConstructionPhase	NumDays	75.00	22.00
tblConstructionPhase	NumDays	55.00	54.00
tblConstructionPhase	NumDays	30.00	23.00
tblConstructionPhase	PhaseEndDate	4/30/2021	7/31/2020
tblConstructionPhase	PhaseEndDate	8/30/2019	8/31/2019
tblConstructionPhase	PhaseEndDate	9/29/2020	6/15/2020
tblConstructionPhase	PhaseStartDate	9/30/2020	3/15/2020
tblConstructionPhase	PhaseStartDate	8/31/2019	9/1/2019
tblConstructionPhase	PhaseStartDate	7/16/2020	4/1/2020
tblEnergyUse	LightingElect	6.34	0.00

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	6.34	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	16.25	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	16.25	0.00
tblEnergyUse	NT24E	2.30	2.88
tblEnergyUse	NT24NG	174.70	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	174.70	0.00
tblEnergyUse	NT24NG	2.08	0.03
tblEnergyUse	T24E	6.86	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	6.86	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	35.90	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	35.90	0.00
tblEnergyUse	T24NG	8.66	0.00
tblGrading	AcresOfGrading	55.00	187.50
tblLandUse	BuildingSpaceSquareFeet	4,870.00	4,867.00
tblLandUse	BuildingSpaceSquareFeet	3,250.00	3,245.00
tblLandUse	LandUseSquareFeet	4,870.00	4,867.00
tblLandUse	LandUseSquareFeet	3,250.00	3,245.00
tblLandUse	LotAcreage	1.80	25.59
tblLandUse	LotAcreage	0.11	0.31

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

tblLandUse	LotAcreage	4.27	6.83
tblLandUse	LotAcreage	0.07	0.21
tblLandUse	LotAcreage	2.75	7.69
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	57.95	0.00
tblSolidWaste	SolidWasteGenerationRate	70.08	0.00
tblSolidWaste	SolidWasteGenerationRate	2.97	0.00
tblSolidWaste	SolidWasteGenerationRate	126.00	112.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	4,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	12.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	DV_TP	20.00	15.00

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

tblVehicleTrips	DV_TP	38.00	15.00
tblVehicleTrips	DV_TP	0.00	15.00
tblVehicleTrips	DV_TP	18.00	15.00
tblVehicleTrips	DV_TP	35.00	15.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	37.00	85.00
tblVehicleTrips	PR_TP	58.00	85.00
tblVehicleTrips	PR_TP	0.00	85.00
tblVehicleTrips	PR_TP	38.00	85.00
tblVehicleTrips	PR_TP	54.00	85.00
tblVehicleTrips	ST_TR	158.37	98.21
tblVehicleTrips	ST_TR	8.19	8.17
tblVehicleTrips	ST_TR	94.36	58.24
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	SU_TR	131.84	98.21
tblVehicleTrips	SU_TR	5.95	8.17
tblVehicleTrips	SU_TR	72.16	58.24
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	WD_TR	127.15	98.21
tblVehicleTrips	WD_TR	89.95	58.24
tblVehicleTrips	WD_TR	42.70	22.52
tblWater	IndoorWaterUseRate	1,478,209.18	6,908,720.00
tblWater	IndoorWaterUseRate	3,246,946.56	10,038,311.00
tblWater	IndoorWaterUseRate	986,484.57	3,454,360.00

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

tblWater	IndoorWaterUseRate	8,888,702.58	6,170,609.00
tblWater	OutdoorWaterUseRate	94,353.78	483,421.00
tblWater	OutdoorWaterUseRate	360,771.84	702,406.00
tblWater	OutdoorWaterUseRate	62,967.10	241,710.00
tblWater	OutdoorWaterUseRate	5,447,914.48	431,773.00

2.0 Emissions Summary

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Area	7.9568	4.2000e-004	0.0465	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0998	0.0998	2.6000e-004			0.1063
Energy	1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.0598	1.0598	2.0000e-005	2.0000e-005		1.0661
Mobile	11.0139	76.1740	118.1016	0.5409	38.0274	0.3921	38.4195	10.1861	0.3681	10.5542		55,104.4154	55,104.4154	2.2442			55,160.5211
Stationary	2.4631	11.0136	7.2684	0.0186		0.4422	0.4422		0.4422	0.4422		2,638.7387	2,638.7387	0.1991			2,643.7157
Total	21.4339	87.1889	125.4172	0.5595	38.0274	0.8345	38.8619	10.1861	0.8106	10.9967		57,744.3137	57,744.3137	2.4436	2.0000e-005		57,805.4092

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.9568	4.2000e-004	0.0465	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0998	0.0998	2.6000e-004		0.1063
Energy	1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.0598	1.0598	2.0000e-005	2.0000e-005	1.0661
Mobile	11.0139	76.1740	118.1016	0.5409	38.0274	0.3921	38.4195	10.1861	0.3681	10.5542		55,104.4154	55,104.4154	2.2442		55,160.5211
Stationary	2.4631	11.0136	7.2684	0.0186		0.4422	0.4422		0.4422	0.4422		2,638.7387	2,638.7387	0.1991		2,643.7157
Total	21.4339	87.1889	125.4172	0.5595	38.0274	0.8345	38.8619	10.1861	0.8106	10.9967		57,744.3137	57,744.3137	2.4436	2.0000e-005	57,805.4092

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/31/2019	5	23	
2	Grading	Grading	8/1/2019	8/31/2019	5	22	
3	Building Construction	Building Construction	9/1/2019	7/15/2020	5	228	
4	Paving	Paving	4/1/2020	6/15/2020	5	54	
5	Architectural Coating	Architectural Coating	3/15/2020	7/31/2020	5	100	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 25.59

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 470,952; Non-Residential Outdoor: 156,984; Striped Parking Area: 4,800 (Architectural Coating – sqft)

OffRoad Equipment

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	153.00	65.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	31.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.9312	19.0656	22.9600	0.0380		0.1419	0.1419		0.1419	0.1419	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	0.9312	19.0656	22.9600	0.0380	8.1298	0.1419	8.2717	4.4688	0.1419	4.6107	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					15.0604	0.0000	15.0604	4.2862	0.0000	4.2862			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	15.0604	2.3827	17.4431	4.2862	2.1920	6.4782		6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393
Total	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.7772	0.0000	6.7772	1.9288	0.0000	1.9288			0.0000			0.0000
Off-Road	2.9080	41.3897	36.6894	0.0620		1.1249	1.1249		1.0439	1.0439	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	2.9080	41.3897	36.6894	0.0620	6.7772	1.1249	7.9021	1.9288	1.0439	2.9727	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393
Total	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3461	8.5896	1.8953	0.0192	0.4405	0.0683	0.5088	0.1268	0.0653	0.1922		2,010.2795	2,010.2795	0.1660		2,014.4304
Worker	0.8601	0.5451	6.5909	0.0142	1.2569	9.2700e-003	1.2661	0.3334	8.5500e-003	0.3419		1,406.4853	1,406.4853	0.0566		1,407.9008
Total	1.2061	9.1347	8.4862	0.0334	1.6974	0.0775	1.7749	0.4602	0.0739	0.5341		3,416.7648	3,416.7648	0.2227		3,422.3312

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3461	8.5896	1.8953	0.0192	0.4405	0.0683	0.5088	0.1268	0.0653	0.1922		2,010.2795	2,010.2795	0.1660		2,014.4304
Worker	0.8601	0.5451	6.5909	0.0142	1.2569	9.2700e-003	1.2661	0.3334	8.5500e-003	0.3419		1,406.4853	1,406.4853	0.0566		1,407.9008
Total	1.2061	9.1347	8.4862	0.0334	1.6974	0.0775	1.7749	0.4602	0.0739	0.5341		3,416.7648	3,416.7648	0.2227		3,422.3312

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.2793	7.8370	1.6371	0.0191	0.4405	0.0437	0.4842	0.1268	0.0418	0.1686		1,996.8866	1,996.8866	0.1514			2,000.6712
Worker	0.7690	0.4758	5.7939	0.0137	1.2569	8.9400e-003	1.2658	0.3334	8.2500e-003	0.3416		1,362.1780	1,362.1780	0.0483			1,363.3846
Total	1.0484	8.3129	7.4309	0.0328	1.6974	0.0526	1.7500	0.4602	0.0500	0.5102		3,359.0646	3,359.0646	0.1996			3,364.0557

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.0631	2,553.0631	0.6229			2,568.6345
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.0631	2,553.0631	0.6229			2,568.6345

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2793	7.8370	1.6371	0.0191	0.4405	0.0437	0.4842	0.1268	0.0418	0.1686		1,996.8866	1,996.8866	0.1514		2,000.6712
Worker	0.7690	0.4758	5.7939	0.0137	1.2569	8.9400e-003	1.2658	0.3334	8.2500e-003	0.3416		1,362.1780	1,362.1780	0.0483		1,363.3846
Total	1.0484	8.3129	7.4309	0.0328	1.6974	0.0526	1.7500	0.4602	0.0500	0.5102		3,359.0646	3,359.0646	0.1996		3,364.0557

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	1.2416					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.5981	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652
Total	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5609	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	1.2416					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.8025	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652
Total	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	43.9910					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	44.2332	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

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3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1558	0.0964	1.1739	2.7700e-003	0.2547	1.8100e-003	0.2565	0.0676	1.6700e-003	0.0692		275.9969	275.9969	9.7800e-003		276.2413
Total	0.1558	0.0964	1.1739	2.7700e-003	0.2547	1.8100e-003	0.2565	0.0676	1.6700e-003	0.0692		275.9969	275.9969	9.7800e-003		276.2413

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	43.9910					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928
Total	44.0504	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928

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3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1558	0.0964	1.1739	2.7700e-003	0.2547	1.8100e-003	0.2565	0.0676	1.6700e-003	0.0692		275.9969	275.9969	9.7800e-003		276.2413
Total	0.1558	0.0964	1.1739	2.7700e-003	0.2547	1.8100e-003	0.2565	0.0676	1.6700e-003	0.0692		275.9969	275.9969	9.7800e-003		276.2413

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	11.0139	76.1740	118.1016	0.5409	38.0274	0.3921	38.4195	10.1861	0.3681	10.5542		55,104.41 54	55,104.41 54	2.2442		55,160.52 11
Unmitigated	11.0139	76.1740	118.1016	0.5409	38.0274	0.3921	38.4195	10.1861	0.3681	10.5542		55,104.41 54	55,104.41 54	2.2442		55,160.52 11

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
High Turnover (Sit Down Restaurant)	478.28	478.28	478.28	1,922,867	1,922,867
Hotel	1,045.76	1,045.76	1,045.76	4,204,329	4,204,329
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	189.28	189.28	189.28	760,973	760,973
Regional Shopping Center	2,702.40	2,702.40	2,702.40	10,864,613	10,864,613
Total	4,415.72	4,415.72	4,415.72	17,752,783	17,752,783

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down)	9.50	9.50	25.00	8.50	72.50	19.00	85	15	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	85	15	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	85	15	0
Quality Restaurant	9.50	9.50	25.00	12.00	69.00	19.00	85	15	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	85	15	0

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
High Turnover (Sit Down Restaurant)	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Hotel	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Quality Restaurant	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Regional Shopping Center	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.0598	1.0598	2.0000e-005	2.0000e-005	1.0661
NaturalGas Unmitigated	1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.0598	1.0598	2.0000e-005	2.0000e-005	1.0661

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	9.00822	1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.0598	1.0598	2.0000e-005	2.0000e-005	1.0661
Total		1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.0598	1.0598	2.0000e-005	2.0000e-005	1.0661

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.00900822	1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.0598	1.0598	2.0000e-005	2.0000e-005	1.0661
Total		1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.0598	1.0598	2.0000e-005	2.0000e-005	1.0661

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.9568	4.2000e-004	0.0465	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0998	0.0998	2.6000e-004		0.1063
Unmitigated	7.9568	4.2000e-004	0.0465	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0998	0.0998	2.6000e-004		0.1063

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2052					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7473					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.2800e-003	4.2000e-004	0.0465	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0998	0.0998	2.6000e-004		0.1063
Total	7.9568	4.2000e-004	0.0465	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0998	0.0998	2.6000e-004		0.1063

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2052					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7473					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.2800e-003	4.2000e-004	0.0465	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0998	0.0998	2.6000e-004		0.1063
Total	7.9568	4.2000e-004	0.0465	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0998	0.0998	2.6000e-004		0.1063

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	12	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	1	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (0 - 2 MMBTU)	0.0647	0.2880	1.1530	7.0600e-003		0.0894	0.0894		0.0894	0.0894		1,411.7888	1,411.7888	0.0271		1,412.4653
Emergency Generator - Diesel (750 - 9999 HP)	2.3984	10.7256	6.1155	0.0115		0.3528	0.3528		0.3528	0.3528		1,226.9499	1,226.9499	0.1720		1,231.2504
Total	2.4631	11.0136	7.2684	0.0186		0.4422	0.4422		0.4422	0.4422		2,638.7387	2,638.7387	0.1991		2,643.7157

11.0 Vegetation

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D
Shasta County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	200.00	Space	25.59	80,000.00	0
High Turnover (Sit Down Restaurant)	4.87	1000sqft	0.31	4,867.00	0
Hotel	128.00	Room	6.83	185,856.00	0
Quality Restaurant	3.25	1000sqft	0.21	3,245.00	0
Regional Shopping Center	120.00	1000sqft	7.69	120,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

Project Characteristics - project description

Land Use - Refer to CalEEMod tables

Construction Phase - Refer to CalEEMod in Appendix Q of the EIS.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Operational Off-Road Equipment - N/A

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	55.00	100.00
tblConstructionPhase	NumDays	740.00	228.00
tblConstructionPhase	NumDays	75.00	22.00
tblConstructionPhase	NumDays	55.00	54.00
tblConstructionPhase	NumDays	30.00	23.00
tblConstructionPhase	PhaseEndDate	4/30/2021	7/31/2020
tblConstructionPhase	PhaseEndDate	8/30/2019	8/31/2019
tblConstructionPhase	PhaseEndDate	9/29/2020	6/15/2020
tblConstructionPhase	PhaseStartDate	9/30/2020	3/15/2020
tblConstructionPhase	PhaseStartDate	8/31/2019	9/1/2019
tblConstructionPhase	PhaseStartDate	7/16/2020	4/1/2020
tblEnergyUse	LightingElect	6.34	0.00

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	6.34	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	16.25	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	16.25	0.00
tblEnergyUse	NT24E	2.30	2.88
tblEnergyUse	NT24NG	174.70	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	174.70	0.00
tblEnergyUse	NT24NG	2.08	0.03
tblEnergyUse	T24E	6.86	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	6.86	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	35.90	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	35.90	0.00
tblEnergyUse	T24NG	8.66	0.00
tblGrading	AcresOfGrading	55.00	187.50
tblLandUse	BuildingSpaceSquareFeet	4,870.00	4,867.00
tblLandUse	BuildingSpaceSquareFeet	3,250.00	3,245.00
tblLandUse	LandUseSquareFeet	4,870.00	4,867.00
tblLandUse	LandUseSquareFeet	3,250.00	3,245.00
tblLandUse	LotAcreage	1.80	25.59
tblLandUse	LotAcreage	0.11	0.31

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

tblLandUse	LotAcreage	4.27	6.83
tblLandUse	LotAcreage	0.07	0.21
tblLandUse	LotAcreage	2.75	7.69
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	57.95	0.00
tblSolidWaste	SolidWasteGenerationRate	70.08	0.00
tblSolidWaste	SolidWasteGenerationRate	2.97	0.00
tblSolidWaste	SolidWasteGenerationRate	126.00	112.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	4,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	12.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	DV_TP	20.00	15.00

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

tblVehicleTrips	DV_TP	38.00	15.00
tblVehicleTrips	DV_TP	0.00	15.00
tblVehicleTrips	DV_TP	18.00	15.00
tblVehicleTrips	DV_TP	35.00	15.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	37.00	85.00
tblVehicleTrips	PR_TP	58.00	85.00
tblVehicleTrips	PR_TP	0.00	85.00
tblVehicleTrips	PR_TP	38.00	85.00
tblVehicleTrips	PR_TP	54.00	85.00
tblVehicleTrips	ST_TR	158.37	98.21
tblVehicleTrips	ST_TR	8.19	8.17
tblVehicleTrips	ST_TR	94.36	58.24
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	SU_TR	131.84	98.21
tblVehicleTrips	SU_TR	5.95	8.17
tblVehicleTrips	SU_TR	72.16	58.24
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	WD_TR	127.15	98.21
tblVehicleTrips	WD_TR	89.95	58.24
tblVehicleTrips	WD_TR	42.70	22.52
tblWater	IndoorWaterUseRate	1,478,209.18	6,908,720.00
tblWater	IndoorWaterUseRate	3,246,946.56	10,038,311.00
tblWater	IndoorWaterUseRate	986,484.57	3,454,360.00

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tblWater	IndoorWaterUseRate	8,888,702.58	6,170,609.00
tblWater	OutdoorWaterUseRate	94,353.78	483,421.00
tblWater	OutdoorWaterUseRate	360,771.84	702,406.00
tblWater	OutdoorWaterUseRate	62,967.10	241,710.00
tblWater	OutdoorWaterUseRate	5,447,914.48	431,773.00

2.0 Emissions Summary

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Area	7.9568	4.2000e-004	0.0465	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0998	0.0998	2.6000e-004			0.1063
Energy	1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.0598	1.0598	2.0000e-005	2.0000e-005		1.0661
Mobile	8.4625	78.8672	104.0548	0.4946	38.0274	0.3938	38.4212	10.1861	0.3698	10.5559		50,455.6161	50,455.6161	2.3355			50,514.0037
Stationary	2.4631	11.0136	7.2684	0.0186		0.4422	0.4422		0.4422	0.4422		2,638.7387	2,638.7387	0.1991			2,643.7157
Total	18.8825	89.8821	111.3704	0.5132	38.0274	0.8363	38.8637	10.1861	0.8122	10.9983		53,095.5144	53,095.5144	2.5349	2.0000e-005		53,158.8918

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.9568	4.2000e-004	0.0465	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0998	0.0998	2.6000e-004		0.1063
Energy	1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.0598	1.0598	2.0000e-005	2.0000e-005	1.0661
Mobile	8.4625	78.8672	104.0548	0.4946	38.0274	0.3938	38.4212	10.1861	0.3698	10.5559		50,455.6161	50,455.6161	2.3355		50,514.0037
Stationary	2.4631	11.0136	7.2684	0.0186		0.4422	0.4422		0.4422	0.4422		2,638.7387	2,638.7387	0.1991		2,643.7157
Total	18.8825	89.8821	111.3704	0.5132	38.0274	0.8363	38.8637	10.1861	0.8122	10.9983		53,095.5144	53,095.5144	2.5349	2.0000e-005	53,158.8918

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/31/2019	5	23	
2	Grading	Grading	8/1/2019	8/31/2019	5	22	
3	Building Construction	Building Construction	9/1/2019	7/15/2020	5	228	
4	Paving	Paving	4/1/2020	6/15/2020	5	54	
5	Architectural Coating	Architectural Coating	3/15/2020	7/31/2020	5	100	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 25.59

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 470,952; Non-Residential Outdoor: 156,984; Striped Parking Area: 4,800 (Architectural Coating – sqft)

OffRoad Equipment

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	153.00	65.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	31.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.9312	19.0656	22.9600	0.0380		0.1419	0.1419		0.1419	0.1419	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	0.9312	19.0656	22.9600	0.0380	8.1298	0.1419	8.2717	4.4688	0.1419	4.6107	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					15.0604	0.0000	15.0604	4.2862	0.0000	4.2862			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	15.0604	2.3827	17.4431	4.2862	2.1920	6.4782		6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032
Total	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.7772	0.0000	6.7772	1.9288	0.0000	1.9288			0.0000			0.0000
Off-Road	2.9080	41.3897	36.6894	0.0620		1.1249	1.1249		1.0439	1.0439	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	2.9080	41.3897	36.6894	0.0620	6.7772	1.1249	7.9021	1.9288	1.0439	2.9727	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032
Total	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3612	8.7782	2.2270	0.0186	0.4405	0.0696	0.5101	0.1268	0.0666	0.1934		1,944.7853	1,944.7853	0.1866		1,949.4509
Worker	0.7525	0.6525	5.5887	0.0123	1.2569	9.2700e-003	1.2661	0.3334	8.5500e-003	0.3419		1,219.7368	1,219.7368	0.0491		1,220.9645
Total	1.1136	9.4306	7.8156	0.0309	1.6974	0.0789	1.7763	0.4602	0.0751	0.5354		3,164.5221	3,164.5221	0.2357		3,170.4154

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3612	8.7782	2.2270	0.0186	0.4405	0.0696	0.5101	0.1268	0.0666	0.1934		1,944.7853	1,944.7853	0.1866		1,949.4509
Worker	0.7525	0.6525	5.5887	0.0123	1.2569	9.2700e-003	1.2661	0.3334	8.5500e-003	0.3419		1,219.7368	1,219.7368	0.0491		1,220.9645
Total	1.1136	9.4306	7.8156	0.0309	1.6974	0.0789	1.7763	0.4602	0.0751	0.5354		3,164.5221	3,164.5221	0.2357		3,170.4154

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2932	7.9823	1.9415	0.0185	0.4405	0.0447	0.4852	0.1268	0.0427	0.1696		1,931.0301	1,931.0301	0.1709		1,935.3014
Worker	0.6737	0.5686	4.8716	0.0119	1.2569	8.9400e-003	1.2658	0.3334	8.2500e-003	0.3416		1,181.1559	1,181.1559	0.0415		1,182.1934
Total	0.9669	8.5509	6.8131	0.0304	1.6974	0.0536	1.7510	0.4602	0.0510	0.5112		3,112.1859	3,112.1859	0.2124		3,117.4948

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2932	7.9823	1.9415	0.0185	0.4405	0.0447	0.4852	0.1268	0.0427	0.1696		1,931.0301	1,931.0301	0.1709		1,935.3014
Worker	0.6737	0.5686	4.8716	0.0119	1.2569	8.9400e-003	1.2658	0.3334	8.2500e-003	0.3416		1,181.1559	1,181.1559	0.0415		1,182.1934
Total	0.9669	8.5509	6.8131	0.0304	1.6974	0.0536	1.7510	0.4602	0.0510	0.5112		3,112.1859	3,112.1859	0.2124		3,117.4948

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	1.2416					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.5981	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013
Total	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5609	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	1.2416					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.8025	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013
Total	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	43.9910					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	44.2332	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1365	0.1152	0.9871	2.4100e-003	0.2547	1.8100e-003	0.2565	0.0676	1.6700e-003	0.0692		239.3192	239.3192	8.4100e-003		239.5294
Total	0.1365	0.1152	0.9871	2.4100e-003	0.2547	1.8100e-003	0.2565	0.0676	1.6700e-003	0.0692		239.3192	239.3192	8.4100e-003		239.5294

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	43.9910					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928
Total	44.0504	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1365	0.1152	0.9871	2.4100e-003	0.2547	1.8100e-003	0.2565	0.0676	1.6700e-003	0.0692		239.3192	239.3192	8.4100e-003		239.5294
Total	0.1365	0.1152	0.9871	2.4100e-003	0.2547	1.8100e-003	0.2565	0.0676	1.6700e-003	0.0692		239.3192	239.3192	8.4100e-003		239.5294

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.4625	78.8672	104.0548	0.4946	38.0274	0.3938	38.4212	10.1861	0.3698	10.5559		50,455.6161	50,455.6161	2.3355		50,514.0037
Unmitigated	8.4625	78.8672	104.0548	0.4946	38.0274	0.3938	38.4212	10.1861	0.3698	10.5559		50,455.6161	50,455.6161	2.3355		50,514.0037

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
High Turnover (Sit Down Restaurant)	478.28	478.28	478.28	1,922,867	1,922,867
Hotel	1,045.76	1,045.76	1,045.76	4,204,329	4,204,329
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	189.28	189.28	189.28	760,973	760,973
Regional Shopping Center	2,702.40	2,702.40	2,702.40	10,864,613	10,864,613
Total	4,415.72	4,415.72	4,415.72	17,752,783	17,752,783

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down)	9.50	9.50	25.00	8.50	72.50	19.00	85	15	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	85	15	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	85	15	0
Quality Restaurant	9.50	9.50	25.00	12.00	69.00	19.00	85	15	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	85	15	0

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
High Turnover (Sit Down Restaurant)	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Hotel	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Quality Restaurant	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Regional Shopping Center	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
NaturalGas Mitigated	1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.0598	1.0598	2.0000e-005	2.0000e-005	1.0661
NaturalGas Unmitigated	1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.0598	1.0598	2.0000e-005	2.0000e-005	1.0661

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	9.00822	1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.0598	1.0598	2.0000e-005	2.0000e-005	1.0661
Total		1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.0598	1.0598	2.0000e-005	2.0000e-005	1.0661

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.00900822	1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.0598	1.0598	2.0000e-005	2.0000e-005	1.0661
Total		1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.0598	1.0598	2.0000e-005	2.0000e-005	1.0661

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.9568	4.2000e-004	0.0465	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0998	0.0998	2.6000e-004		0.1063
Unmitigated	7.9568	4.2000e-004	0.0465	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0998	0.0998	2.6000e-004		0.1063

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2052					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7473					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.2800e-003	4.2000e-004	0.0465	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0998	0.0998	2.6000e-004		0.1063
Total	7.9568	4.2000e-004	0.0465	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0998	0.0998	2.6000e-004		0.1063

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2052					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7473					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.2800e-003	4.2000e-004	0.0465	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0998	0.0998	2.6000e-004		0.1063
Total	7.9568	4.2000e-004	0.0465	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0998	0.0998	2.6000e-004		0.1063

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	12	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	1	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
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10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (0 - 2 MMBTU)	0.0647	0.2880	1.1530	7.0600e-003		0.0894	0.0894		0.0894	0.0894		1,411.7888	1,411.7888	0.0271		1,412.4653
Emergency Generator - Diesel (750 - 9999 HP)	2.3984	10.7256	6.1155	0.0115		0.3528	0.3528		0.3528	0.3528		1,226.9499	1,226.9499	0.1720		1,231.2504
Total	2.4631	11.0136	7.2684	0.0186		0.4422	0.4422		0.4422	0.4422		2,638.7387	2,638.7387	0.1991		2,643.7157

11.0 Vegetation

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D

Shasta County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.18	0.00	0.00	0.86	0.86	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.48	0.20	-0.04	0.00	0.84	0.83	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.38	0.24	-0.10	0.00	0.53	0.52	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.30	0.20	-0.17	0.00	0.88	0.87	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.77	0.58	-0.04	0.00	0.94	0.94	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	Tier 3	1	1	Level 3	0.00
Cranes	Diesel	Tier 3	1	1	Level 3	0.00
Excavators	Diesel	Tier 3	2	2	Level 3	0.00
Forklifts	Diesel	Tier 3	3	3	Level 3	0.00
Generator Sets	Diesel	Tier 3	1	1	Level 3	0.00
Graders	Diesel	Tier 3	1	1	Level 3	0.00
Pavers	Diesel	Tier 3	2	2	Level 3	0.00
Paving Equipment	Diesel	Tier 3	2	2	Level 3	0.00
Rollers	Diesel	Tier 3	2	2	Level 3	0.00
Rubber Tired Dozers	Diesel	Tier 3	4	4	Level 3	0.00
Scrapers	Diesel	No Change	0	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 3	9	9	Level 3	0.00
Welders	Diesel	Tier 3	1	1	Level 3	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	1.21100E-002	8.41900E-002	9.15700E-002	1.50000E-004	5.55000E-003	5.55000E-003	0.00000E+000	1.27663E+001	1.27663E+001	9.90000E-004	0.00000E+000	1.27910E+001
Cranes	4.71500E-002	5.61230E-001	2.17770E-001	5.80000E-004	2.34000E-002	2.15300E-002	0.00000E+000	5.09947E+001	5.09947E+001	1.63500E-002	0.00000E+000	5.14036E+001
Excavators	5.74000E-003	5.90000E-002	7.17900E-002	1.10000E-004	2.85000E-003	2.62000E-003	0.00000E+000	1.02011E+001	1.02011E+001	3.23000E-003	0.00000E+000	1.02818E+001
Forklifts	5.13300E-002	4.60820E-001	4.05470E-001	5.20000E-004	3.48800E-002	3.20900E-002	0.00000E+000	4.63171E+001	4.63171E+001	1.48500E-002	0.00000E+000	4.66884E+001
Generator Sets	4.74500E-002	4.09580E-001	4.23200E-001	7.50000E-004	2.36600E-002	2.36600E-002	0.00000E+000	6.44337E+001	6.44337E+001	3.80000E-003	0.00000E+000	6.45287E+001
Graders	5.35000E-003	7.23800E-002	2.02200E-002	7.00000E-005	2.32000E-003	2.14000E-003	0.00000E+000	6.56248E+000	6.56248E+000	2.08000E-003	0.00000E+000	6.61439E+000
Pavers	1.41800E-002	1.51760E-001	1.56510E-001	2.50000E-004	7.38000E-003	6.79000E-003	0.00000E+000	2.23029E+001	2.23029E+001	7.21000E-003	0.00000E+000	2.24832E+001
Paving Equipment	1.12000E-002	1.15630E-001	1.36860E-001	2.20000E-004	5.78000E-003	5.32000E-003	0.00000E+000	1.93271E+001	1.93271E+001	6.25000E-003	0.00000E+000	1.94834E+001
Rollers	1.12400E-002	1.12380E-001	1.02240E-001	1.40000E-004	7.16000E-003	6.59000E-003	0.00000E+000	1.24462E+001	1.24462E+001	4.03000E-003	0.00000E+000	1.25468E+001
Rubber Tired Dozers	5.16200E-002	5.49390E-001	1.94930E-001	3.90000E-004	2.67900E-002	2.46400E-002	0.00000E+000	3.48967E+001	3.48967E+001	1.10400E-002	0.00000E+000	3.51727E+001
Scrapers	2.34400E-002	2.84100E-001	1.77350E-001	3.30000E-004	1.11300E-002	1.02400E-002	0.00000E+000	2.99334E+001	2.99334E+001	9.47000E-003	0.00000E+000	3.01702E+001
Tractors/Loaders/Backhoes	8.11900E-002	8.15420E-001	8.41410E-001	1.14000E-003	5.30600E-002	4.88200E-002	0.00000E+000	1.01325E+002	1.01325E+002	3.24100E-002	0.00000E+000	1.02135E+002
Welders	4.08700E-002	1.81430E-001	2.03190E-001	2.90000E-004	1.04600E-002	1.04600E-002	0.00000E+000	2.14572E+001	2.14572E+001	3.33000E-003	0.00000E+000	2.15404E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	2.97000E-003	6.78500E-002	9.16200E-002	1.50000E-004	7.10000E-004	7.10000E-004	0.00000E+000	1.27663E+001	1.27663E+001	9.90000E-004	0.00000E+000	1.27910E+001
Cranes	1.41400E-002	2.73420E-001	3.06420E-001	5.80000E-004	1.56000E-003	1.56000E-003	0.00000E+000	5.09946E+001	5.09946E+001	1.63500E-002	0.00000E+000	5.14035E+001
Excavators	2.80000E-003	5.40500E-002	8.62000E-002	1.10000E-004	3.90000E-004	3.90000E-004	0.00000E+000	1.02011E+001	1.02011E+001	3.23000E-003	0.00000E+000	1.02818E+001
Forklifts	1.28800E-002	2.94180E-001	3.97260E-001	5.20000E-004	3.09000E-003	3.09000E-003	0.00000E+000	4.63170E+001	4.63170E+001	1.48500E-002	0.00000E+000	4.66884E+001
Generator Sets	1.50000E-002	3.42440E-001	4.62430E-001	7.50000E-004	3.60000E-003	3.60000E-003	0.00000E+000	6.44336E+001	6.44336E+001	3.80000E-003	0.00000E+000	6.45286E+001
Graders	1.78000E-003	3.45100E-002	3.86700E-002	7.00000E-005	2.00000E-004	2.00000E-004	0.00000E+000	6.56247E+000	6.56247E+000	2.08000E-003	0.00000E+000	6.61438E+000
Pavers	6.24000E-003	1.20640E-001	1.92400E-001	2.50000E-004	8.70000E-004	8.70000E-004	0.00000E+000	2.23028E+001	2.23028E+001	7.21000E-003	0.00000E+000	2.24832E+001
Paving Equipment	5.43000E-003	1.05000E-001	1.67450E-001	2.20000E-004	7.60000E-004	7.60000E-004	0.00000E+000	1.93271E+001	1.93271E+001	6.25000E-003	0.00000E+000	1.94834E+001
Rollers	3.47000E-003	7.93300E-002	1.07130E-001	1.40000E-004	8.30000E-004	8.30000E-004	0.00000E+000	1.24462E+001	1.24462E+001	4.03000E-003	0.00000E+000	1.25468E+001
Rubber Tired Dozers	9.51000E-003	1.83940E-001	2.06140E-001	3.90000E-004	1.05000E-003	1.05000E-003	0.00000E+000	3.48966E+001	3.48966E+001	1.10400E-002	0.00000E+000	3.51727E+001
Scrapers	2.34400E-002	2.84100E-001	1.77350E-001	3.30000E-004	1.11300E-002	1.02400E-002	0.00000E+000	2.99334E+001	2.99334E+001	9.47000E-003	0.00000E+000	3.01701E+001
Tractors/Loaders/Balckhoes	2.79000E-002	6.36960E-001	8.60120E-001	1.14000E-003	6.70000E-003	6.70000E-003	0.00000E+000	1.01324E+002	1.01324E+002	3.24100E-002	0.00000E+000	1.02135E+002
Welders	1.20700E-002	1.92700E-001	1.70640E-001	2.90000E-004	1.75000E-003	1.75000E-003	0.00000E+000	2.14571E+001	2.14571E+001	3.33000E-003	0.00000E+000	2.15404E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	7.54748E-001	1.94085E-001	-5.46030E-004	0.00000E+000	8.72072E-001	8.72072E-001	0.00000E+000	1.56663E-006	1.56663E-006	0.00000E+000	0.00000E+000	1.56360E-006
Cranes	7.00106E-001	5.12820E-001	-4.07081E-001	0.00000E+000	9.33333E-001	9.27543E-001	0.00000E+000	1.17659E-006	1.17659E-006	0.00000E+000	0.00000E+000	1.16723E-006
Excavators	5.12195E-001	8.38983E-002	-2.00724E-001	0.00000E+000	8.63158E-001	8.51145E-001	0.00000E+000	1.96058E-006	1.96058E-006	0.00000E+000	0.00000E+000	9.72596E-007
Forklifts	7.49075E-001	3.61616E-001	2.02481E-002	0.00000E+000	9.11411E-001	9.03708E-001	0.00000E+000	1.07952E-006	1.07952E-006	0.00000E+000	0.00000E+000	1.07093E-006
Generator Sets	6.83878E-001	1.63924E-001	-9.26985E-002	0.00000E+000	8.47844E-001	8.47844E-001	0.00000E+000	1.24159E-006	1.24159E-006	0.00000E+000	0.00000E+000	1.23976E-006
Graders	6.67290E-001	5.23211E-001	-9.12463E-001	0.00000E+000	9.13793E-001	9.06542E-001	0.00000E+000	1.52381E-006	1.52381E-006	0.00000E+000	0.00000E+000	1.51186E-006
Pavers	5.59944E-001	2.05061E-001	-2.29314E-001	0.00000E+000	8.82114E-001	8.71870E-001	0.00000E+000	1.34512E-006	1.34512E-006	0.00000E+000	0.00000E+000	1.33433E-006
Paving Equipment	5.15179E-001	9.19312E-002	-2.23513E-001	0.00000E+000	8.68512E-001	8.57143E-001	0.00000E+000	1.55222E-006	1.55222E-006	0.00000E+000	0.00000E+000	1.53977E-006
Rollers	6.91281E-001	2.94091E-001	-4.78286E-002	0.00000E+000	8.84078E-001	8.74052E-001	0.00000E+000	8.03458E-007	8.03458E-007	0.00000E+000	0.00000E+000	7.97014E-007
Rubber Tired Dozers	8.15769E-001	6.65192E-001	-5.75078E-002	0.00000E+000	9.60806E-001	9.57386E-001	0.00000E+000	1.14624E-006	1.14624E-006	0.00000E+000	0.00000E+000	1.42156E-006
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.00223E-006	1.00223E-006	0.00000E+000	0.00000E+000	1.32581E-006
Tractors/Loaders/Balkhoes	6.56362E-001	2.18857E-001	-2.22365E-002	0.00000E+000	8.73728E-001	8.62761E-001	0.00000E+000	1.18431E-006	1.18431E-006	0.00000E+000	0.00000E+000	1.17492E-006
Welders	7.04673E-001	-6.21176E-002	1.60195E-001	0.00000E+000	8.32696E-001	8.32696E-001	0.00000E+000	9.32090E-007	9.32090E-007	0.00000E+000	0.00000E+000	9.28488E-007

Fugitive Dust Mitigation

Yes/No Mitigation Measure Mitigation Input Mitigation Input Mitigation Input

Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	10.00	PM2.5 Reduction	10.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00

No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
Yes	Clean Paved Road	% PM Reduction	0.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.18	0.05	0.18	0.05	0.00	0.00
Grading	Fugitive Dust	0.17	0.05	0.07	0.02	0.55	0.55
Grading	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.21	0.11	0.09	0.05	0.55	0.55
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	12.00	12.00	12.00	12.00	11.99	12.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.21	0.50		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network			
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00		
No	Transit Improvements	Expand Transit Network	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00
No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		

No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	150.00
Yes	Use Low VOC Paint (Residential Exterior)	150.00
Yes	Use Low VOC Paint (Non-residential Interior)	150.00
Yes	Use Low VOC Paint (Non-residential Exterior)	150.00
Yes	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
Yes	Use Reclaimed Water	30.00	30.00
No	Use Grey Water	0.00	
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
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Institute Recycling and Composting Services Percent Reduction in Waste Disposed	
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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	200.00	Space	25.59	80,000.00	0
High Turnover (Sit Down Restaurant)	4.87	1000sqft	0.31	4,867.00	0
Hotel	128.00	Room	6.83	185,856.00	0
Quality Restaurant	3.25	1000sqft	0.21	3,245.00	0
Regional Shopping Center	120.00	1000sqft	7.69	120,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - project description

Land Use - Refer to CalEEMod tables

Construction Phase - Refer to CalEEMod in Appendix Q of the EIS.

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Operational Off-Road Equipment - N/A

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15

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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	30.00	2.00
tblConstructionPhase	PhaseEndDate	7/31/2019	7/2/2019
tblEnergyUse	LightingElect	6.34	0.00
tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	6.34	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	16.25	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	16.25	0.00
tblEnergyUse	NT24E	2.30	2.88
tblEnergyUse	NT24NG	174.70	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	174.70	0.00
tblEnergyUse	NT24NG	2.08	0.03
tblEnergyUse	T24E	6.86	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	6.86	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	35.90	0.00
tblEnergyUse	T24NG	18.08	0.00

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tblEnergyUse	T24NG	35.90	0.00
tblEnergyUse	T24NG	8.66	0.00
tblLandUse	BuildingSpaceSquareFeet	4,870.00	4,867.00
tblLandUse	BuildingSpaceSquareFeet	3,250.00	3,245.00
tblLandUse	LandUseSquareFeet	4,870.00	4,867.00
tblLandUse	LandUseSquareFeet	3,250.00	3,245.00
tblLandUse	LotAcreage	1.80	25.59
tblLandUse	LotAcreage	0.11	0.31
tblLandUse	LotAcreage	4.27	6.83
tblLandUse	LotAcreage	0.07	0.21
tblLandUse	LotAcreage	2.75	7.69
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	57.95	0.00
tblSolidWaste	SolidWasteGenerationRate	70.08	0.00
tblSolidWaste	SolidWasteGenerationRate	2.97	0.00
tblSolidWaste	SolidWasteGenerationRate	126.00	112.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	4,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	12.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50

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tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	DV_TP	20.00	15.00
tblVehicleTrips	DV_TP	38.00	15.00
tblVehicleTrips	DV_TP	0.00	15.00
tblVehicleTrips	DV_TP	18.00	15.00
tblVehicleTrips	DV_TP	35.00	15.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	37.00	85.00
tblVehicleTrips	PR_TP	58.00	85.00
tblVehicleTrips	PR_TP	0.00	85.00
tblVehicleTrips	PR_TP	38.00	85.00
tblVehicleTrips	PR_TP	54.00	85.00
tblVehicleTrips	ST_TR	158.37	98.21
tblVehicleTrips	ST_TR	8.19	8.17
tblVehicleTrips	ST_TR	94.36	58.24
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	SU_TR	131.84	98.21
tblVehicleTrips	SU_TR	5.95	8.17

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tblVehicleTrips	SU_TR	72.16	58.24
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	WD_TR	127.15	98.21
tblVehicleTrips	WD_TR	89.95	58.24
tblVehicleTrips	WD_TR	42.70	22.52
tblWater	IndoorWaterUseRate	1,478,209.18	6,908,720.00
tblWater	IndoorWaterUseRate	3,246,946.56	10,038,311.00
tblWater	IndoorWaterUseRate	986,484.57	3,454,360.00
tblWater	IndoorWaterUseRate	8,888,702.58	6,170,609.00
tblWater	OutdoorWaterUseRate	94,353.78	483,421.00
tblWater	OutdoorWaterUseRate	360,771.84	702,406.00
tblWater	OutdoorWaterUseRate	62,967.10	241,710.00
tblWater	OutdoorWaterUseRate	5,447,914.48	431,773.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2019	9-30-2019	0.0358	0.0054
		Highest	0.0358	0.0054

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4517	4.0000e-005	4.1600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.1500e-003	8.1500e-003	2.0000e-005	0.0000	8.6800e-003
Energy	2.0000e-005	1.8000e-004	1.5000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	100.7311	100.7311	4.5500e-003	9.4000e-004	101.1262
Mobile	0.8389	11.3534	9.7431	0.0805	6.5872	0.0305	6.6177	1.7702	0.0286	1.7987	0.0000	7,487.4640	7,487.4640	0.3456	0.0000	7,496.1046
Stationary	0.0406	0.1813	0.2838	1.4300e-003		0.0206	0.0206		0.0206	0.0206	0.0000	247.0943	247.0943	6.3500e-003	0.0000	247.2531
Waste						0.0000	0.0000		0.0000	0.0000	22.7350	0.0000	22.7350	1.3436	0.0000	56.3250
Water						0.0000	0.0000		0.0000	0.0000	8.4301	43.7207	52.1508	0.8678	0.0209	80.0608
Total	2.3312	11.5349	10.0312	0.0819	6.5872	0.0510	6.6382	1.7702	0.0491	1.8193	31.1651	7,879.0183	7,910.1834	2.5680	0.0218	7,980.8784

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4517	4.0000e-005	4.1600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.1500e-003	8.1500e-003	2.0000e-005	0.0000	8.6800e-003
Energy	2.0000e-005	1.8000e-004	1.5000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	100.7311	100.7311	4.5500e-003	9.4000e-004	101.1262
Mobile	0.8389	11.3534	9.7431	0.0805	6.5872	0.0305	6.6177	1.7702	0.0286	1.7987	0.0000	7,487.4640	7,487.4640	0.3456	0.0000	7,496.1046
Stationary	0.0406	0.1813	0.2838	1.4300e-003		0.0206	0.0206		0.0206	0.0206	0.0000	247.0943	247.0943	6.3500e-003	0.0000	247.2531
Waste						0.0000	0.0000		0.0000	0.0000	22.7350	0.0000	22.7350	1.3436	0.0000	56.3250
Water						0.0000	0.0000		0.0000	0.0000	7.4185	38.4742	45.8927	0.7637	0.0184	70.4535
Total	2.3312	11.5349	10.0312	0.0819	6.5872	0.0510	6.6382	1.7702	0.0491	1.8193	30.1535	7,873.7718	7,903.9253	2.4638	0.0193	7,971.2711

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.25	0.07	0.08	4.06	11.47	0.12

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2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-176.7100
Total	-176.7100

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/2/2019	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 25.59

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

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3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0181	0.0000	0.0181	9.9300e-003	0.0000	9.9300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0456	0.0221	4.0000e-005		2.3900e-003	2.3900e-003		2.2000e-003	2.2000e-003	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439
Total	4.3400e-003	0.0456	0.0221	4.0000e-005	0.0181	2.3900e-003	0.0205	9.9300e-003	2.2000e-003	0.0121	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346
Total	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346

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3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.1300e-003	0.0000	8.1300e-003	4.4700e-003	0.0000	4.4700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	-0.0008	8.1000e-003	0.0234	4.0000e-005		-0.0011	-0.0011		-0.0010	-0.0010	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439
Total	-0.0008	8.1000e-003	0.0234	4.0000e-005	8.1300e-003	-0.0011	7.0200e-003	4.4700e-003	-0.0010	3.4700e-003	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346
Total	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.8389	11.3534	9.7431	0.0805	6.5872	0.0305	6.6177	1.7702	0.0286	1.7987	0.0000	7,487.4640	7,487.4640	0.3456	0.0000	7,496.1046
Unmitigated	0.8389	11.3534	9.7431	0.0805	6.5872	0.0305	6.6177	1.7702	0.0286	1.7987	0.0000	7,487.4640	7,487.4640	0.3456	0.0000	7,496.1046

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
High Turnover (Sit Down Restaurant)	478.28	478.28	478.28	1,922,867	1,922,867
Hotel	1,045.76	1,045.76	1,045.76	4,204,329	4,204,329
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	189.28	189.28	189.28	760,973	760,973
Regional Shopping Center	2,702.40	2,702.40	2,702.40	10,864,613	10,864,613
Total	4,415.72	4,415.72	4,415.72	17,752,783	17,752,783

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down	9.50	9.50	25.00	8.50	72.50	19.00	85	15	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	85	15	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	85	15	0
Quality Restaurant	9.50	9.50	25.00	12.00	69.00	19.00	85	15	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	85	15	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
High Turnover (Sit Down Restaurant)	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Hotel	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Quality Restaurant	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Regional Shopping Center	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	100.5390	100.5390	4.5500e-003	9.4000e-004	100.9329
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	100.5390	100.5390	4.5500e-003	9.4000e-004	100.9329
NaturalGas Mitigated	2.0000e-005	1.8000e-004	1.5000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1921	0.1921	0.0000	0.0000	0.1933
NaturalGas Unmitigated	2.0000e-005	1.8000e-004	1.5000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1921	0.1921	0.0000	0.0000	0.1933

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5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3600	2.0000e-005	1.8000e-004	1.5000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1921	0.1921	0.0000	0.0000	0.1933
Total		2.0000e-005	1.8000e-004	1.5000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1921	0.1921	0.0000	0.0000	0.1933

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5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3600	2.0000e-005	1.8000e-004	1.5000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1921	0.1921	0.0000	0.0000	0.1933
Total		2.0000e-005	1.8000e-004	1.5000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1921	0.1921	0.0000	0.0000	0.1933

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	345600	100.5390	4.5500e-003	9.4000e-004	100.9329
Total		100.5390	4.5500e-003	9.4000e-004	100.9329

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	345600	100.5390	4.5500e-003	9.4000e-004	100.9329
Total		100.5390	4.5500e-003	9.4000e-004	100.9329

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4517	4.0000e-005	4.1600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.1500e-003	8.1500e-003	2.0000e-005	0.0000	8.6800e-003
Unmitigated	1.4517	4.0000e-005	4.1600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.1500e-003	8.1500e-003	2.0000e-005	0.0000	8.6800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2200					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2314					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.8000e-004	4.0000e-005	4.1600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.1500e-003	8.1500e-003	2.0000e-005	0.0000	8.6800e-003
Total	1.4517	4.0000e-005	4.1600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.1500e-003	8.1500e-003	2.0000e-005	0.0000	8.6800e-003

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2200					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2314					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.8000e-004	4.0000e-005	4.1600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.1500e-003	8.1500e-003	2.0000e-005	0.0000	8.6800e-003
Total	1.4517	4.0000e-005	4.1600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.1500e-003	8.1500e-003	2.0000e-005	0.0000	8.6800e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	45.8927	0.7637	0.0184	70.4535
Unmitigated	52.1508	0.8678	0.0209	80.0608

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
High Turnover (Sit Down Restaurant)	6.90872 / 0.483421	13.5592	0.2256	5.4200e-003	20.8158
Hotel	10.0383 / 0.702406	19.7014	0.3279	7.8800e-003	30.2452
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	3.45436 / 0.24171	6.7796	0.1128	2.7100e-003	10.4079
Regional Shopping Center	6.17061 / 0.431773	12.1106	0.2015	4.8400e-003	18.5919
Total		52.1508	0.8678	0.0209	80.0608

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
High Turnover (Sit Down Restaurant)	6.07967 / 0.42541	11.9321	0.1986	4.7700e-003	18.3179
Hotel	8.83371 / 0.618117	17.3372	0.2885	6.9300e-003	26.6158
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	3.03984 / 0.212705	5.9661	0.0993	2.3900e-003	9.1590
Regional Shopping Center	5.43014 / 0.37996	10.6573	0.1774	4.2600e-003	16.3609
Total		45.8927	0.7637	0.0184	70.4535

8.0 Waste Detail

8.1 Mitigation Measures Waste

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	22.7350	1.3436	0.0000	56.3250
Unmitigated	22.7350	1.3436	0.0000	56.3250

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	112	22.7350	1.3436	0.0000	56.3250
Total		22.7350	1.3436	0.0000	56.3250

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8.2 Waste by Land Use

Mitigated

Land Use	Waste Disposed tons	Total CO2	CH4	N2O	CO2e
		MT/yr			
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	112	22.7350	1.3436	0.0000	56.3250
Total		22.7350	1.3436	0.0000	56.3250

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	12	2923	0.73	Diesel

Boilers

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Annual

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	1	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Boiler - CNG (0 - 2 MMBTU)	0.0118	0.0526	0.2104	1.2900e-003		0.0163	0.0163		0.0163	0.0163	0.0000	233.7375	233.7375	4.4800e-003	0.0000	233.8495
Emergency Generator - Diesel (750 - 9999 HP)	0.0288	0.1287	0.0734	1.4000e-004		4.2300e-003	4.2300e-003		4.2300e-003	4.2300e-003	0.0000	13.3568	13.3568	1.8700e-003	0.0000	13.4037
Total	0.0406	0.1813	0.2838	1.4300e-003		0.0206	0.0206		0.0206	0.0206	0.0000	247.0943	247.0943	6.3500e-003	0.0000	247.2531

11.0 Vegetation

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-176.7100	0.0000	0.0000	-176.7100

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	232 / 191	-176.7100	0.0000	0.0000	-176.7100
Total		-176.7100	0.0000	0.0000	-176.7100

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

**Redding Rancheria Fee-to-Trust and Casino Project – Alternative D
Shasta County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	200.00	Space	25.59	80,000.00	0
High Turnover (Sit Down Restaurant)	4.87	1000sqft	0.31	4,867.00	0
Hotel	128.00	Room	6.83	185,856.00	0
Quality Restaurant	3.25	1000sqft	0.21	3,245.00	0
Regional Shopping Center	120.00	1000sqft	7.69	120,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

Project Characteristics - project description

Land Use - Refer to CalEEMod tables

Construction Phase - Refer to CalEEMod in Appendix Q of the EIS.

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Operational Off-Road Equipment - N/A

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	30.00	2.00
tblConstructionPhase	PhaseEndDate	7/31/2019	7/2/2019
tblEnergyUse	LightingElect	6.34	0.00
tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	6.34	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	16.25	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	16.25	0.00
tblEnergyUse	NT24E	2.30	2.88
tblEnergyUse	NT24NG	174.70	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	174.70	0.00
tblEnergyUse	NT24NG	2.08	0.03
tblEnergyUse	T24E	6.86	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	6.86	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	35.90	0.00
tblEnergyUse	T24NG	18.08	0.00

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

tblEnergyUse	T24NG	35.90	0.00
tblEnergyUse	T24NG	8.66	0.00
tblLandUse	BuildingSpaceSquareFeet	4,870.00	4,867.00
tblLandUse	BuildingSpaceSquareFeet	3,250.00	3,245.00
tblLandUse	LandUseSquareFeet	4,870.00	4,867.00
tblLandUse	LandUseSquareFeet	3,250.00	3,245.00
tblLandUse	LotAcreage	1.80	25.59
tblLandUse	LotAcreage	0.11	0.31
tblLandUse	LotAcreage	4.27	6.83
tblLandUse	LotAcreage	0.07	0.21
tblLandUse	LotAcreage	2.75	7.69
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	57.95	0.00
tblSolidWaste	SolidWasteGenerationRate	70.08	0.00
tblSolidWaste	SolidWasteGenerationRate	2.97	0.00
tblSolidWaste	SolidWasteGenerationRate	126.00	112.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	4,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	12.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	DV_TP	20.00	15.00
tblVehicleTrips	DV_TP	38.00	15.00
tblVehicleTrips	DV_TP	0.00	15.00
tblVehicleTrips	DV_TP	18.00	15.00
tblVehicleTrips	DV_TP	35.00	15.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	37.00	85.00
tblVehicleTrips	PR_TP	58.00	85.00
tblVehicleTrips	PR_TP	0.00	85.00
tblVehicleTrips	PR_TP	38.00	85.00
tblVehicleTrips	PR_TP	54.00	85.00
tblVehicleTrips	ST_TR	158.37	98.21
tblVehicleTrips	ST_TR	8.19	8.17
tblVehicleTrips	ST_TR	94.36	58.24
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	SU_TR	131.84	98.21
tblVehicleTrips	SU_TR	5.95	8.17

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

tblVehicleTrips	SU_TR	72.16	58.24
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	WD_TR	127.15	98.21
tblVehicleTrips	WD_TR	89.95	58.24
tblVehicleTrips	WD_TR	42.70	22.52
tblWater	IndoorWaterUseRate	1,478,209.18	6,908,720.00
tblWater	IndoorWaterUseRate	3,246,946.56	10,038,311.00
tblWater	IndoorWaterUseRate	986,484.57	3,454,360.00
tblWater	IndoorWaterUseRate	8,888,702.58	6,170,609.00
tblWater	OutdoorWaterUseRate	94,353.78	483,421.00
tblWater	OutdoorWaterUseRate	360,771.84	702,406.00
tblWater	OutdoorWaterUseRate	62,967.10	241,710.00
tblWater	OutdoorWaterUseRate	5,447,914.48	431,773.00

2.0 Emissions Summary

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.9567	4.2000e-004	0.0463	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0998	0.0998	2.6000e-004		0.1063
Energy	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1604	1.1604	2.0000e-005	2.0000e-005	1.1673
Mobile	5.5233	61.8022	61.7303	0.4683	38.0043	0.1672	38.1715	10.1706	0.1569	10.3274		47,980.3039	47,980.3039	2.0261		48,030.9574
Stationary	2.4631	11.0136	7.2684	0.0186		0.4422	0.4422		0.4422	0.4422		2,638.7387	2,638.7387	0.1991		2,643.7157
Total	15.9433	72.8171	69.0458	0.4869	38.0043	0.6096	38.6139	10.1706	0.5993	10.7699		50,620.3028	50,620.3028	2.2255	2.0000e-005	50,675.9465

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.9567	4.2000e-004	0.0463	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0998	0.0998	2.6000e-004		0.1063
Energy	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1604	1.1604	2.0000e-005	2.0000e-005	1.1673
Mobile	5.5233	61.8022	61.7303	0.4683	38.0043	0.1672	38.1715	10.1706	0.1569	10.3274		47,980.3039	47,980.3039	2.0261		48,030.9574
Stationary	2.4631	11.0136	7.2684	0.0186		0.4422	0.4422		0.4422	0.4422		2,638.7387	2,638.7387	0.1991		2,643.7157
Total	15.9433	72.8171	69.0458	0.4869	38.0043	0.6096	38.6139	10.1706	0.5993	10.7699		50,620.3028	50,620.3028	2.2255	2.0000e-005	50,675.9465

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/2/2019	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

Acres of Paving: 25.59

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	-0.7693	8.0993	23.4010	0.0380		-1.1072	-1.1072		-0.9982	-0.9982	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	-0.7693	8.0993	23.4010	0.0380	8.1298	-1.1072	7.0226	4.4688	-0.9982	3.4707	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

4.0 Operational Detail - Mobile

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.5233	61.8022	61.7303	0.4683	38.0043	0.1672	38.1715	10.1706	0.1569	10.3274		47,980.30 39	47,980.30 39	2.0261		48,030.95 74
Unmitigated	5.5233	61.8022	61.7303	0.4683	38.0043	0.1672	38.1715	10.1706	0.1569	10.3274		47,980.30 39	47,980.30 39	2.0261		48,030.95 74

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
High Turnover (Sit Down Restaurant)	478.28	478.28	478.28	1,922,867	1,922,867
Hotel	1,045.76	1,045.76	1,045.76	4,204,329	4,204,329
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	189.28	189.28	189.28	760,973	760,973
Regional Shopping Center	2,702.40	2,702.40	2,702.40	10,864,613	10,864,613
Total	4,415.72	4,415.72	4,415.72	17,752,783	17,752,783

4.3 Trip Type Information

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down	9.50	9.50	25.00	8.50	72.50	19.00	85	15	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	85	15	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	85	15	0
Quality Restaurant	9.50	9.50	25.00	12.00	69.00	19.00	85	15	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	85	15	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
High Turnover (Sit Down Restaurant)	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Hotel	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Quality Restaurant	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Regional Shopping Center	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1604	1.1604	2.0000e-005	2.0000e-005	1.1673
NaturalGas Unmitigated	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1604	1.1604	2.0000e-005	2.0000e-005	1.1673

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	9.86301	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1604	1.1604	2.0000e-005	2.0000e-005	1.1673
Total		1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1604	1.1604	2.0000e-005	2.0000e-005	1.1673

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.00986301	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1604	1.1604	2.0000e-005	2.0000e-005	1.1673
Total		1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1604	1.1604	2.0000e-005	2.0000e-005	1.1673

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.9567	4.2000e-004	0.0463	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0998	0.0998	2.6000e-004		0.1063
Unmitigated	7.9567	4.2000e-004	0.0463	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0998	0.0998	2.6000e-004		0.1063

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2052					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7473					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.2300e-003	4.2000e-004	0.0463	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0998	0.0998	2.6000e-004		0.1063
Total	7.9567	4.2000e-004	0.0463	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0998	0.0998	2.6000e-004		0.1063

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2052					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7473					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.2300e-003	4.2000e-004	0.0463	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0998	0.0998	2.6000e-004		0.1063
Total	7.9567	4.2000e-004	0.0463	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0998	0.0998	2.6000e-004		0.1063

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Summer

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	12	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	1	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (0 - 2 MMBTU)	0.0647	0.2880	1.1530	7.0600e-003		0.0894	0.0894		0.0894	0.0894		1,411.7888	1,411.7888	0.0271		1,412.4653
Emergency Generator - Diesel (750 - 9999 HP)	2.3984	10.7256	6.1155	0.0115		0.3528	0.3528		0.3528	0.3528		1,226.9499	1,226.9499	0.1720		1,231.2504
Total	2.4631	11.0136	7.2684	0.0186		0.4422	0.4422		0.4422	0.4422		2,638.7387	2,638.7387	0.1991		2,643.7157

11.0 Vegetation

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D
Shasta County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	200.00	Space	25.59	80,000.00	0
High Turnover (Sit Down Restaurant)	4.87	1000sqft	0.31	4,867.00	0
Hotel	128.00	Room	6.83	185,856.00	0
Quality Restaurant	3.25	1000sqft	0.21	3,245.00	0
Regional Shopping Center	120.00	1000sqft	7.69	120,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

Project Characteristics - project description

Land Use - Refer to CalEEMod tables

Construction Phase - Refer to CalEEMod in Appendix Q of the EIS.

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Operational Off-Road Equipment - N/A

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	30.00	2.00
tblConstructionPhase	PhaseEndDate	7/31/2019	7/2/2019
tblEnergyUse	LightingElect	6.34	0.00
tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	6.34	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	16.25	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	16.25	0.00
tblEnergyUse	NT24E	2.30	2.88
tblEnergyUse	NT24NG	174.70	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	174.70	0.00
tblEnergyUse	NT24NG	2.08	0.03
tblEnergyUse	T24E	6.86	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	6.86	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	35.90	0.00
tblEnergyUse	T24NG	18.08	0.00

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

tblEnergyUse	T24NG	35.90	0.00
tblEnergyUse	T24NG	8.66	0.00
tblLandUse	BuildingSpaceSquareFeet	4,870.00	4,867.00
tblLandUse	BuildingSpaceSquareFeet	3,250.00	3,245.00
tblLandUse	LandUseSquareFeet	4,870.00	4,867.00
tblLandUse	LandUseSquareFeet	3,250.00	3,245.00
tblLandUse	LotAcreage	1.80	25.59
tblLandUse	LotAcreage	0.11	0.31
tblLandUse	LotAcreage	4.27	6.83
tblLandUse	LotAcreage	0.07	0.21
tblLandUse	LotAcreage	2.75	7.69
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	57.95	0.00
tblSolidWaste	SolidWasteGenerationRate	70.08	0.00
tblSolidWaste	SolidWasteGenerationRate	2.97	0.00
tblSolidWaste	SolidWasteGenerationRate	126.00	112.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	4,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	12.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50

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tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	DV_TP	20.00	15.00
tblVehicleTrips	DV_TP	38.00	15.00
tblVehicleTrips	DV_TP	0.00	15.00
tblVehicleTrips	DV_TP	18.00	15.00
tblVehicleTrips	DV_TP	35.00	15.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	37.00	85.00
tblVehicleTrips	PR_TP	58.00	85.00
tblVehicleTrips	PR_TP	0.00	85.00
tblVehicleTrips	PR_TP	38.00	85.00
tblVehicleTrips	PR_TP	54.00	85.00
tblVehicleTrips	ST_TR	158.37	98.21
tblVehicleTrips	ST_TR	8.19	8.17
tblVehicleTrips	ST_TR	94.36	58.24
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	SU_TR	131.84	98.21
tblVehicleTrips	SU_TR	5.95	8.17

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tblVehicleTrips	SU_TR	72.16	58.24
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	WD_TR	127.15	98.21
tblVehicleTrips	WD_TR	89.95	58.24
tblVehicleTrips	WD_TR	42.70	22.52
tblWater	IndoorWaterUseRate	1,478,209.18	6,908,720.00
tblWater	IndoorWaterUseRate	3,246,946.56	10,038,311.00
tblWater	IndoorWaterUseRate	986,484.57	3,454,360.00
tblWater	IndoorWaterUseRate	8,888,702.58	6,170,609.00
tblWater	OutdoorWaterUseRate	94,353.78	483,421.00
tblWater	OutdoorWaterUseRate	360,771.84	702,406.00
tblWater	OutdoorWaterUseRate	62,967.10	241,710.00
tblWater	OutdoorWaterUseRate	5,447,914.48	431,773.00

2.0 Emissions Summary

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.9567	4.2000e-004	0.0463	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0998	0.0998	2.6000e-004		0.1063
Energy	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1604	1.1604	2.0000e-005	2.0000e-005	1.1673
Mobile	4.4586	62.4624	54.1361	0.4317	38.0043	0.1679	38.1722	10.1706	0.1576	10.3281		44,284.49 53	44,284.49 53	2.2260		44,340.14 62
Stationary	2.4631	11.0136	7.2684	0.0186		0.4422	0.4422		0.4422	0.4422		2,638.738 7	2,638.738 7	0.1991		2,643.715 7
Total	14.8786	73.4774	61.4516	0.4502	38.0043	0.6104	38.6147	10.1706	0.6000	10.7706		46,924.49 41	46,924.49 41	2.4254	2.0000e-005	46,985.13 53

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.9567	4.2000e-004	0.0463	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0998	0.0998	2.6000e-004		0.1063
Energy	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1604	1.1604	2.0000e-005	2.0000e-005	1.1673
Mobile	4.4586	62.4624	54.1361	0.4317	38.0043	0.1679	38.1722	10.1706	0.1576	10.3281		44,284.4953	44,284.4953	2.2260		44,340.1462
Stationary	2.4631	11.0136	7.2684	0.0186		0.4422	0.4422		0.4422	0.4422		2,638.7387	2,638.7387	0.1991		2,643.7157
Total	14.8786	73.4774	61.4516	0.4502	38.0043	0.6104	38.6147	10.1706	0.6000	10.7706		46,924.4941	46,924.4941	2.4254	2.0000e-005	46,985.1353

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/2/2019	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

Acres of Paving: 25.59

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	-0.7693	8.0993	23.4010	0.0380		-1.1072	-1.1072		-0.9982	-0.9982	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	-0.7693	8.0993	23.4010	0.0380	8.1298	-1.1072	7.0226	4.4688	-0.9982	3.4707	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

4.0 Operational Detail - Mobile

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.4586	62.4624	54.1361	0.4317	38.0043	0.1679	38.1722	10.1706	0.1576	10.3281		44,284.49 53	44,284.49 53	2.2260		44,340.14 62
Unmitigated	4.4586	62.4624	54.1361	0.4317	38.0043	0.1679	38.1722	10.1706	0.1576	10.3281		44,284.49 53	44,284.49 53	2.2260		44,340.14 62

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
High Turnover (Sit Down Restaurant)	478.28	478.28	478.28	1,922,867	1,922,867
Hotel	1,045.76	1,045.76	1,045.76	4,204,329	4,204,329
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	189.28	189.28	189.28	760,973	760,973
Regional Shopping Center	2,702.40	2,702.40	2,702.40	10,864,613	10,864,613
Total	4,415.72	4,415.72	4,415.72	17,752,783	17,752,783

4.3 Trip Type Information

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down	9.50	9.50	25.00	8.50	72.50	19.00	85	15	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	85	15	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	85	15	0
Quality Restaurant	9.50	9.50	25.00	12.00	69.00	19.00	85	15	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	85	15	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
High Turnover (Sit Down Restaurant)	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Hotel	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Quality Restaurant	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Regional Shopping Center	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1604	1.1604	2.0000e-005	2.0000e-005	1.1673
NaturalGas Unmitigated	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1604	1.1604	2.0000e-005	2.0000e-005	1.1673

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	9.86301	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1604	1.1604	2.0000e-005	2.0000e-005	1.1673
Total		1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1604	1.1604	2.0000e-005	2.0000e-005	1.1673

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.00986301	1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1604	1.1604	2.0000e-005	2.0000e-005	1.1673
Total		1.1000e-004	9.7000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		1.1604	1.1604	2.0000e-005	2.0000e-005	1.1673

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.9567	4.2000e-004	0.0463	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0998	0.0998	2.6000e-004		0.1063
Unmitigated	7.9567	4.2000e-004	0.0463	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0998	0.0998	2.6000e-004		0.1063

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2052					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7473					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.2300e-003	4.2000e-004	0.0463	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0998	0.0998	2.6000e-004		0.1063
Total	7.9567	4.2000e-004	0.0463	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0998	0.0998	2.6000e-004		0.1063

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2052					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.7473					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.2300e-003	4.2000e-004	0.0463	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0998	0.0998	2.6000e-004		0.1063
Total	7.9567	4.2000e-004	0.0463	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0998	0.0998	2.6000e-004		0.1063

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D - Shasta County, Winter

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	12	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	1	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
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10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (0 - 2 MMBTU)	0.0647	0.2880	1.1530	7.0600e-003		0.0894	0.0894		0.0894	0.0894		1,411.7888	1,411.7888	0.0271		1,412.4653
Emergency Generator - Diesel (750 - 9999 HP)	2.3984	10.7256	6.1155	0.0115		0.3528	0.3528		0.3528	0.3528		1,226.9499	1,226.9499	0.1720		1,231.2504
Total	2.4631	11.0136	7.2684	0.0186		0.4422	0.4422		0.4422	0.4422		2,638.7387	2,638.7387	0.1991		2,643.7157

11.0 Vegetation

Redding Rancheria Fee-to-Trust and Casino Project – Alternative D

Shasta County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Site Preparation	1.16	0.82	-0.06	0.00	1.46	1.45	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Rubber Tired Dozers	Diesel	Tier 3	4	3	Level 3	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 3	9	4	Level 3	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr						Unmitigated mt/yr						
Rubber Tired Dozers	3.40000E-003	3.62200E-002	1.28500E-002	3.00000E-005	1.77000E-003	1.62000E-003	0.00000E+000	2.30088E+000	2.30088E+000	7.30000E-004	0.00000E+000	2.31908E+000
Tractors/Loaders/Backhoes	9.30000E-004	9.35000E-003	9.21000E-003	1.00000E-005	6.20000E-004	5.70000E-004	0.00000E+000	1.11599E+000	1.11599E+000	3.50000E-004	0.00000E+000	1.12482E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr						Mitigated mt/yr						
Rubber Tired Dozers	-2.90000E-004	4.18000E-003	1.38400E-002	3.00000E-005	-4.90000E-004	-4.40000E-004	0.00000E+000	2.30088E+000	2.30088E+000	7.30000E-004	0.00000E+000	2.31908E+000
Tractors/Loaders/Backhoes	-4.80000E-004	3.92000E-003	9.57000E-003	1.00000E-005	-6.20000E-004	-5.50000E-004	0.00000E+000	1.11599E+000	1.11599E+000	3.50000E-004	0.00000E+000	1.12481E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Rubber Tired Dozers	1.08529E+000	8.84594E-001	-7.70428E-002	0.00000E+000	1.27684E+000	1.27160E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Balkhoes	1.51613E+000	5.80749E-001	-3.90879E-002	0.00000E+000	2.00000E+000	1.96491E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.89031E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input	Mitigation Input		
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	10.00	PM2.5 Reduction	10.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
Yes	Clean Paved Road	% PM Reduction	0.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Site Preparation	Fugitive Dust	0.02	0.01	0.01	0.00	0.55	0.55
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	12.00	12.00	12.00	12.00	11.99	12.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.21	0.50		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network			
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00		
No	Transit Improvements	Expand Transit Network	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00
No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		

No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	150.00
Yes	Use Low VOC Paint (Residential Exterior)	150.00
Yes	Use Low VOC Paint (Non-residential Interior)	150.00
Yes	Use Low VOC Paint (Non-residential Exterior)	150.00
Yes	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
Yes	Use Reclaimed Water	30.00	30.00
No	Use Grey Water	0.00	
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
---------------------	-------------

Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.51	583,500.00	0
Parking Lot	600.00	Space	60.98	0.00	0
Arena	10.08	1000sqft	0.19	10,080.00	0
Hotel	250.00	Room	3.23	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	1.38	72,000.00	0
User Defined Recreational	150.33	User Defined Unit	2.88	150,326.00	0
Regional Shopping Center	120.00	1000sqft	2.49	120,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Off-road Equipment -

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150

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tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	110.00	209.00
tblConstructionPhase	NumDays	1,550.00	272.00
tblConstructionPhase	NumDays	155.00	65.00
tblConstructionPhase	NumDays	110.00	76.00
tblConstructionPhase	NumDays	60.00	45.00
tblConstructionPhase	PhaseEndDate	1/18/2022	12/31/2020
tblConstructionPhase	PhaseEndDate	11/29/2019	11/30/2019
tblConstructionPhase	PhaseEndDate	3/31/2021	8/15/2020
tblConstructionPhase	PhaseEndDate	8/30/2019	8/31/2019
tblConstructionPhase	PhaseStartDate	4/1/2021	3/15/2020
tblConstructionPhase	PhaseStartDate	11/30/2019	12/1/2019
tblConstructionPhase	PhaseStartDate	8/31/2019	9/1/2019
tblConstructionPhase	PhaseStartDate	12/16/2020	5/1/2020
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00

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tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	0.00	13.58
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	0.00	0.13
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	8.66	0.00
tblGrading	AcresOfGrading	162.50	387.50
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00

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tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00
tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	16.51
tblLandUse	LotAcreage	5.40	60.98
tblLandUse	LotAcreage	3.24	0.19
tblLandUse	LotAcreage	8.33	3.23
tblLandUse	LotAcreage	1.70	1.38
tblLandUse	LotAcreage	0.00	2.88
tblLandUse	LotAcreage	2.75	2.49
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	126.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,288.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	4,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	3.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00

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tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	10.00
tblVehicleTrips	DV_TP	0.00	10.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00

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tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	90.00
tblVehicleTrips	PR_TP	0.00	90.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	ST_TR	0.00	33.67
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	SU_TR	0.00	33.67
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	42.70	22.52
tblVehicleTrips	WD_TR	0.00	33.67
tblWater	IndoorWaterUseRate	4,342,162.79	4,551,310.00
tblWater	IndoorWaterUseRate	6,341,692.50	16,639,197.00
tblWater	IndoorWaterUseRate	29,818,908.53	10,962,295.00
tblWater	IndoorWaterUseRate	8,888,702.58	10,228,213.00
tblWater	IndoorWaterUseRate	0.00	32,005,985.00
tblWater	OutdoorWaterUseRate	277,159.33	230,268.00
tblWater	OutdoorWaterUseRate	704,632.50	841,839.00
tblWater	OutdoorWaterUseRate	1,903,334.59	554,623.00

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tblWater	OutdoorWaterUseRate	5,447,914.48	517,483.00
tblWater	OutdoorWaterUseRate	0.00	1,619,302.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2019	9-30-2019	1.7456	0.9230
2	10-1-2019	12-31-2019	1.8842	1.4637
3	1-1-2020	3-31-2020	1.8031	1.5918
4	4-1-2020	6-30-2020	3.2061	2.9036
5	7-1-2020	9-30-2020	3.1425	2.8567
		Highest	3.2061	2.9036

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4924	5.0000e-004	0.0557	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1087	0.1087	2.8000e-004	0.0000	0.1157
Energy	1.0000e-004	9.5000e-004	8.0000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	594.9094	594.9094	0.0269	5.5700e-003	597.2425
Mobile	4.1156	36.4797	52.6678	0.2648	19.5278	0.2078	19.7356	5.2526	0.1951	5.4478	0.0000	24,493.8559	24,493.8559	0.9246	0.0000	24,516.9717
Stationary	0.0786	0.3507	0.7413	4.0700e-003		0.0553	0.0553		0.0553	0.0553	0.0000	721.2477	721.2477	0.0163	0.0000	721.6539
Waste						0.0000	0.0000		0.0000	0.0000	261.4524	0.0000	261.4524	15.4514	0.0000	647.7372
Water						0.0000	0.0000		0.0000	0.0000	23.5996	120.9262	144.5258	2.4294	0.0584	222.6527
Total	6.6867	36.8319	53.4657	0.2689	19.5278	0.2634	19.7912	5.2526	0.2507	5.5034	285.0519	25,931.0478	26,216.0997	18.8488	0.0639	26,706.3737

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4924	5.0000e-004	0.0557	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1087	0.1087	2.8000e-004	0.0000	0.1157
Energy	1.0000e-004	9.5000e-004	8.0000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	594.9094	594.9094	0.0269	5.5700e-003	597.2425
Mobile	4.1156	36.4797	52.6678	0.2648	19.5278	0.2078	19.7356	5.2526	0.1951	5.4478	0.0000	24,493.8559	24,493.8559	0.9246	0.0000	24,516.9717
Stationary	0.0786	0.3507	0.7413	4.0700e-003		0.0553	0.0553		0.0553	0.0553	0.0000	721.2477	721.2477	0.0163	0.0000	721.6539
Waste						0.0000	0.0000		0.0000	0.0000	261.4524	0.0000	261.4524	15.4514	0.0000	647.7372
Water						0.0000	0.0000		0.0000	0.0000	16.6141	85.8065	102.4206	1.7103	0.0411	157.4246
Total	6.6867	36.8319	53.4657	0.2689	19.5278	0.2634	19.7912	5.2526	0.2507	5.5034	278.0665	25,895.9281	26,173.9945	18.1297	0.0467	26,641.1456

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.45	0.14	0.16	3.81	27.00	0.24

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2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-129.3000
Total	-129.3000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	8/31/2019	5	45	
2	Grading	Grading	9/1/2019	11/30/2019	5	65	
3	Building Construction	Building Construction	12/1/2019	12/15/2020	5	272	
4	Paving	Paving	5/1/2020	8/15/2020	5	76	
5	Architectural Coating	Architectural Coating	3/15/2020	12/31/2020	5	209	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 77.49

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Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 794,660; Non-Residential Outdoor: 264,887; Striped Parking Area: 35,010 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	456.00	182.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	91.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4065	0.0000	0.4065	0.2234	0.0000	0.2234	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0975	1.0254	0.4964	8.5000e-004		0.0538	0.0538		0.0495	0.0495	0.0000	76.8795	76.8795	0.0243	0.0000	77.4876
Total	0.0975	1.0254	0.4964	8.5000e-004	0.4065	0.0538	0.4603	0.2234	0.0495	0.2729	0.0000	76.8795	76.8795	0.0243	0.0000	77.4876

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3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8800e-003	1.5500e-003	0.0147	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	3.0264	3.0264	1.2000e-004	0.0000	3.0294
Total	1.8800e-003	1.5500e-003	0.0147	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	3.0264	3.0264	1.2000e-004	0.0000	3.0294

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1829	0.0000	0.1829	0.1006	0.0000	0.1006	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0210	0.4290	0.5166	8.5000e-004		3.1900e-003	3.1900e-003		3.1900e-003	3.1900e-003	0.0000	76.8795	76.8795	0.0243	0.0000	77.4876
Total	0.0210	0.4290	0.5166	8.5000e-004	0.1829	3.1900e-003	0.1861	0.1006	3.1900e-003	0.1037	0.0000	76.8795	76.8795	0.0243	0.0000	77.4876

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3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8800e-003	1.5500e-003	0.0147	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	3.0264	3.0264	1.2000e-004	0.0000	3.0294
Total	1.8800e-003	1.5500e-003	0.0147	3.0000e-005	3.1600e-003	2.0000e-005	3.1900e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	3.0264	3.0264	1.2000e-004	0.0000	3.0294

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4012	0.0000	0.4012	0.1298	0.0000	0.1298	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1540	1.7719	1.0847	2.0200e-003		0.0774	0.0774		0.0712	0.0712	0.0000	181.0293	181.0293	0.0573	0.0000	182.4612
Total	0.1540	1.7719	1.0847	2.0200e-003	0.4012	0.0774	0.4786	0.1298	0.0712	0.2010	0.0000	181.0293	181.0293	0.0573	0.0000	182.4612

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3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0200e-003	2.4900e-003	0.0236	5.0000e-005	5.0800e-003	4.0000e-005	5.1200e-003	1.3500e-003	4.0000e-005	1.3900e-003	0.0000	4.8572	4.8572	1.9000e-004	0.0000	4.8620
Total	3.0200e-003	2.4900e-003	0.0236	5.0000e-005	5.0800e-003	4.0000e-005	5.1200e-003	1.3500e-003	4.0000e-005	1.3900e-003	0.0000	4.8572	4.8572	1.9000e-004	0.0000	4.8620

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1805	0.0000	0.1805	0.0584	0.0000	0.0584	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0945	1.3452	1.1924	2.0200e-003		0.0366	0.0366		0.0339	0.0339	0.0000	181.0291	181.0291	0.0573	0.0000	182.4610
Total	0.0945	1.3452	1.1924	2.0200e-003	0.1805	0.0366	0.2171	0.0584	0.0339	0.0923	0.0000	181.0291	181.0291	0.0573	0.0000	182.4610

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3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0200e-003	2.4900e-003	0.0236	5.0000e-005	5.0800e-003	4.0000e-005	5.1200e-003	1.3500e-003	4.0000e-005	1.3900e-003	0.0000	4.8572	4.8572	1.9000e-004	0.0000	4.8620
Total	3.0200e-003	2.4900e-003	0.0236	5.0000e-005	5.0800e-003	4.0000e-005	5.1200e-003	1.3500e-003	4.0000e-005	1.3900e-003	0.0000	4.8572	4.8572	1.9000e-004	0.0000	4.8620

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0260	0.2319	0.1888	3.0000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	25.8615	25.8615	6.3000e-003	0.0000	26.0190
Total	0.0260	0.2319	0.1888	3.0000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	25.8615	25.8615	6.3000e-003	0.0000	26.0190

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3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0108	0.2699	0.0629	5.8000e-004	0.0130	2.1200e-003	0.0152	3.7700e-003	2.0300e-003	5.8000e-003	0.0000	55.4009	55.4009	4.8800e-003	0.0000	55.5230
Worker	0.0233	0.0192	0.1817	4.2000e-004	0.0392	3.0000e-004	0.0395	0.0104	2.8000e-004	0.0107	0.0000	37.4825	37.4825	1.4800e-003	0.0000	37.5194
Total	0.0341	0.2891	0.2446	1.0000e-003	0.0522	2.4200e-003	0.0547	0.0142	2.3100e-003	0.0165	0.0000	92.8834	92.8834	6.3600e-003	0.0000	93.0424

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.4100e-003	0.1565	0.1966	3.0000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	25.8614	25.8614	6.3000e-003	0.0000	26.0189
Total	7.4100e-003	0.1565	0.1966	3.0000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	25.8614	25.8614	6.3000e-003	0.0000	26.0189

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3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0108	0.2699	0.0629	5.8000e-004	0.0130	2.1200e-003	0.0152	3.7700e-003	2.0300e-003	5.8000e-003	0.0000	55.4009	55.4009	4.8800e-003	0.0000	55.5230
Worker	0.0233	0.0192	0.1817	4.2000e-004	0.0392	3.0000e-004	0.0395	0.0104	2.8000e-004	0.0107	0.0000	37.4825	37.4825	1.4800e-003	0.0000	37.5194
Total	0.0341	0.2891	0.2446	1.0000e-003	0.0522	2.4200e-003	0.0547	0.0142	2.3100e-003	0.0165	0.0000	92.8834	92.8834	6.3600e-003	0.0000	93.0424

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2650	2.3983	2.1061	3.3600e-003		0.1396	0.1396		0.1313	0.1313	0.0000	289.5125	289.5125	0.0706	0.0000	291.2783
Total	0.2650	2.3983	2.1061	3.3600e-003		0.1396	0.1396		0.1313	0.1313	0.0000	289.5125	289.5125	0.0706	0.0000	291.2783

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3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0992	2.7921	0.6202	6.5900e-003	0.1480	0.0154	0.1634	0.0429	0.0148	0.0576	0.0000	625.2550	625.2550	0.0507	0.0000	626.5224
Worker	0.2371	0.1902	1.8077	4.5700e-003	0.4454	3.3300e-003	0.4487	0.1186	3.0700e-003	0.1217	0.0000	412.4778	412.4778	0.0143	0.0000	412.8346
Total	0.3363	2.9823	2.4279	0.0112	0.5934	0.0188	0.6122	0.1615	0.0178	0.1793	0.0000	1,037.7328	1,037.7328	0.0650	0.0000	1,039.3570

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0842	1.7783	2.2342	3.3600e-003		0.0169	0.0169		0.0169	0.0169	0.0000	289.5121	289.5121	0.0706	0.0000	291.2779
Total	0.0842	1.7783	2.2342	3.3600e-003		0.0169	0.0169		0.0169	0.0169	0.0000	289.5121	289.5121	0.0706	0.0000	291.2779

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3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0992	2.7921	0.6202	6.5900e-003	0.1480	0.0154	0.1634	0.0429	0.0148	0.0576	0.0000	625.2550	625.2550	0.0507	0.0000	626.5224
Worker	0.2371	0.1902	1.8077	4.5700e-003	0.4454	3.3300e-003	0.4487	0.1186	3.0700e-003	0.1217	0.0000	412.4778	412.4778	0.0143	0.0000	412.8346
Total	0.3363	2.9823	2.4279	0.0112	0.5934	0.0188	0.6122	0.1615	0.0178	0.1793	0.0000	1,037.7328	1,037.7328	0.0650	0.0000	1,039.3570

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0516	0.5345	0.5568	8.7000e-004		0.0286	0.0286		0.0263	0.0263	0.0000	76.1072	76.1072	0.0246	0.0000	76.7226
Paving	0.0799					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1314	0.5345	0.5568	8.7000e-004		0.0286	0.0286		0.0263	0.0263	0.0000	76.1072	76.1072	0.0246	0.0000	76.7226

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3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3700e-003	1.9000e-003	0.0181	5.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.1248	4.1248	1.4000e-004	0.0000	4.1284
Total	2.3700e-003	1.9000e-003	0.0181	5.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.1248	4.1248	1.4000e-004	0.0000	4.1284

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0213	0.4292	0.6572	8.7000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	76.1072	76.1072	0.0246	0.0000	76.7225
Paving	0.0799					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1012	0.4292	0.6572	8.7000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	76.1072	76.1072	0.0246	0.0000	76.7225

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3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3700e-003	1.9000e-003	0.0181	5.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.1248	4.1248	1.4000e-004	0.0000	4.1284
Total	2.3700e-003	1.9000e-003	0.0181	5.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.1248	4.1248	1.4000e-004	0.0000	4.1284

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.8050					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0253	0.1760	0.1914	3.1000e-004		0.0116	0.0116		0.0116	0.0116	0.0000	26.6815	26.6815	2.0700e-003	0.0000	26.7332
Total	3.8303	0.1760	0.1914	3.1000e-004		0.0116	0.0116		0.0116	0.0116	0.0000	26.6815	26.6815	2.0700e-003	0.0000	26.7332

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3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0396	0.0317	0.3016	7.6000e-004	0.0743	5.6000e-004	0.0749	0.0198	5.1000e-004	0.0203	0.0000	68.8150	68.8150	2.3800e-003	0.0000	68.8746
Total	0.0396	0.0317	0.3016	7.6000e-004	0.0743	5.6000e-004	0.0749	0.0198	5.1000e-004	0.0203	0.0000	68.8150	68.8150	2.3800e-003	0.0000	68.8746

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.8050					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2100e-003	0.1418	0.1915	3.1000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	26.6815	26.6815	2.0700e-003	0.0000	26.7331
Total	3.8112	0.1418	0.1915	3.1000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	26.6815	26.6815	2.0700e-003	0.0000	26.7331

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3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0396	0.0317	0.3016	7.6000e-004	0.0743	5.6000e-004	0.0749	0.0198	5.1000e-004	0.0203	0.0000	68.8150	68.8150	2.3800e-003	0.0000	68.8746
Total	0.0396	0.0317	0.3016	7.6000e-004	0.0743	5.6000e-004	0.0749	0.0198	5.1000e-004	0.0203	0.0000	68.8150	68.8150	2.3800e-003	0.0000	68.8746

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.1156	36.4797	52.6678	0.2648	19.5278	0.2078	19.7356	5.2526	0.1951	5.4478	0.0000	24,493.85 59	24,493.85 59	0.9246	0.0000	24,516.97 17
Unmitigated	4.1156	36.4797	52.6678	0.2648	19.5278	0.2078	19.7356	5.2526	0.1951	5.4478	0.0000	24,493.85 59	24,493.85 59	0.9246	0.0000	24,516.97 17

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	3,059,824	3,059,824
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	2,702.40	2,702.40	2,702.40	11,323,682	11,323,682
User Defined Recreational	5,061.61	5,061.61	5,061.61	32,462,448	32,462,448
Total	9,708.47	9,708.47	9,708.47	52,594,499	52,594,499

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	100	0	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	90	10	0
User Defined Recreational	9.50	9.50	25.00	19.00	19.40	61.60	90	10	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Parking Lot	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Arena	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Hotel	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Movie Theater (No Matinee)	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
User Defined Recreational	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Regional Shopping Center	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	593.8746	593.8746	0.0269	5.5600e-003	596.2015
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	593.8746	593.8746	0.0269	5.5600e-003	596.2015
NaturalGas Mitigated	1.0000e-004	9.5000e-004	8.0000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0348	1.0348	2.0000e-005	2.0000e-005	1.0410
NaturalGas Unmitigated	1.0000e-004	9.5000e-004	8.0000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0348	1.0348	2.0000e-005	2.0000e-005	1.0410

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr										MT/yr						
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	19392.1	1.0000e-004	9.5000e-004	8.0000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0348	1.0348	2.0000e-005	2.0000e-005	1.0410	
Total		1.0000e-004	9.5000e-004	8.0000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0348	1.0348	2.0000e-005	2.0000e-005	1.0410	

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr										MT/yr						
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	19392.1	1.0000e-004	9.5000e-004	8.0000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0348	1.0348	2.0000e-005	2.0000e-005	1.0410	
Total		1.0000e-004	9.5000e-004	8.0000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0348	1.0348	2.0000e-005	2.0000e-005	1.0410	

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	2.04143e+006	593.8746	0.0269	5.5600e-003	596.2015
Total		593.8746	0.0269	5.5600e-003	596.2015

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	2.04143e+006	593.8746	0.0269	5.5600e-003	596.2015
Total		593.8746	0.0269	5.5600e-003	596.2015

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.4924	5.0000e-004	0.0557	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1087	0.1087	2.8000e-004	0.0000	0.1157
Unmitigated	2.4924	5.0000e-004	0.0557	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1087	0.1087	2.8000e-004	0.0000	0.1157

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3805					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1068					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.1300e-003	5.0000e-004	0.0557	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1087	0.1087	2.8000e-004	0.0000	0.1157
Total	2.4924	5.0000e-004	0.0557	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1087	0.1087	2.8000e-004	0.0000	0.1157

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3805					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1068					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.1300e-003	5.0000e-004	0.0557	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1087	0.1087	2.8000e-004	0.0000	0.1157
Total	2.4924	5.0000e-004	0.0557	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1087	0.1087	2.8000e-004	0.0000	0.1157

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	102.4206	1.7103	0.0411	157.4246
Unmitigated	144.5258	2.4294	0.0584	222.6527

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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	4.55131 / 0.230268	8.8427	0.1486	3.5700e-003	13.6228
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	16.6392 / 0.841839	32.3281	0.5434	0.0131	49.8039
Movie Theater (No Matinee)	10.9623 / 0.554623	21.2985	0.3580	8.6000e-003	32.8120
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	10.2282 / 0.517483	19.8723	0.3340	8.0300e-003	30.6148
User Defined Recreational	32.006 / 1.6193	62.1841	1.0453	0.0251	95.7993
Total		144.5257	2.4294	0.0584	222.6527

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	3.20412 / 0.202636	6.2665	0.1046	2.5100e-003	9.6319
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	11.714 / 0.740818	22.9099	0.3826	9.1900e-003	35.2134
Movie Theater (No Matinee)	7.71746 / 0.488068	15.0936	0.2521	6.0600e-003	23.1994
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	7.20066 / 0.455385	14.0828	0.2352	5.6500e-003	21.6459
User Defined Recreational	22.5322 / 1.42499	44.0678	0.7359	0.0177	67.7340
Total		102.4206	1.7103	0.0411	157.4246

8.0 Waste Detail

8.1 Mitigation Measures Waste

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	261.4524	15.4514	0.0000	647.7372
Unmitigated	261.4524	15.4514	0.0000	647.7372

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8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1288	261.4524	15.4514	0.0000	647.7372
Total		261.4524	15.4514	0.0000	647.7372

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8.2 Waste by Land Use

Mitigated

Land Use	Waste Disposed tons	Total CO2	CH4	N2O	CO2e
		MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1288	261.4524	15.4514	0.0000	647.7372
Total		261.4524	15.4514	0.0000	647.7372

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Boiler - CNG (0 - 2 MMBTU)	0.0354	0.1577	0.6313	3.8600e-003		0.0490	0.0490		0.0490	0.0490	0.0000	701.2124	701.2124	0.0134	0.0000	701.5484
Emergency Generator - Diesel (750 - 9999 HP)	0.0432	0.1931	0.1101	2.1000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	20.0353	20.0353	2.8100e-003	0.0000	20.1055
Total	0.0786	0.3507	0.7413	4.0700e-003		0.0553	0.0553		0.0553	0.0553	0.0000	721.2477	721.2477	0.0163	0.0000	721.6539

11.0 Vegetation

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	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-129.3000	0.0000	0.0000	-129.3000

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	55 / 25	-129.3000	0.0000	0.0000	-129.3000
Total		-129.3000	0.0000	0.0000	-129.3000

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

Redding Rancheria FTT and Casino Project – Alternative E
Shasta County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.51	583,500.00	0
Parking Lot	600.00	Space	60.98	0.00	0
Arena	10.08	1000sqft	0.19	10,080.00	0
Hotel	250.00	Room	3.23	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	1.38	72,000.00	0
User Defined Recreational	150.33	User Defined Unit	2.88	150,326.00	0
Regional Shopping Center	120.00	1000sqft	2.49	120,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

Project Characteristics - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Off-road Equipment -

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150

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tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	110.00	209.00
tblConstructionPhase	NumDays	1,550.00	272.00
tblConstructionPhase	NumDays	155.00	65.00
tblConstructionPhase	NumDays	110.00	76.00
tblConstructionPhase	NumDays	60.00	45.00
tblConstructionPhase	PhaseEndDate	1/18/2022	12/31/2020
tblConstructionPhase	PhaseEndDate	11/29/2019	11/30/2019
tblConstructionPhase	PhaseEndDate	3/31/2021	8/15/2020
tblConstructionPhase	PhaseEndDate	8/30/2019	8/31/2019
tblConstructionPhase	PhaseStartDate	4/1/2021	3/15/2020
tblConstructionPhase	PhaseStartDate	11/30/2019	12/1/2019
tblConstructionPhase	PhaseStartDate	8/31/2019	9/1/2019
tblConstructionPhase	PhaseStartDate	12/16/2020	5/1/2020
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	0.00	13.58
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	0.00	0.13
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	8.66	0.00
tblGrading	AcresOfGrading	162.50	387.50
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00
tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	16.51
tblLandUse	LotAcreage	5.40	60.98
tblLandUse	LotAcreage	3.24	0.19
tblLandUse	LotAcreage	8.33	3.23
tblLandUse	LotAcreage	1.70	1.38
tblLandUse	LotAcreage	0.00	2.88
tblLandUse	LotAcreage	2.75	2.49
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	126.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,288.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	4,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	3.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	10.00
tblVehicleTrips	DV_TP	0.00	10.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00

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tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	90.00
tblVehicleTrips	PR_TP	0.00	90.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	ST_TR	0.00	33.67
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	SU_TR	0.00	33.67
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	42.70	22.52
tblVehicleTrips	WD_TR	0.00	33.67
tblWater	IndoorWaterUseRate	4,342,162.79	4,551,310.00
tblWater	IndoorWaterUseRate	6,341,692.50	16,639,197.00
tblWater	IndoorWaterUseRate	29,818,908.53	10,962,295.00
tblWater	IndoorWaterUseRate	8,888,702.58	10,228,213.00
tblWater	IndoorWaterUseRate	0.00	32,005,985.00
tblWater	OutdoorWaterUseRate	277,159.33	230,268.00
tblWater	OutdoorWaterUseRate	704,632.50	841,839.00
tblWater	OutdoorWaterUseRate	1,903,334.59	554,623.00

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tblWater	OutdoorWaterUseRate	5,447,914.48	517,483.00
tblWater	OutdoorWaterUseRate	0.00	1,619,302.00

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.6857	5.6100e-003	0.6192	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3307	1.3307	3.4600e-003		1.4172
Energy	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
Mobile	27.6084	195.1298	338.1336	1.5536	112.6602	1.1415	113.8017	30.1774	1.0719	31.2494		158,176.9955	158,176.9955	5.6849		158,319.1175
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	48.6841	228.1814	360.5625	1.6095	112.6602	2.4708	115.1310	30.1774	2.4012	32.5787		166,100.7929	166,100.7929	6.2857	1.1000e-004	166,257.9693

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.6857	5.6100e-003	0.6192	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3307	1.3307	3.4600e-003		1.4172
Energy	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
Mobile	27.6084	195.1298	338.1336	1.5536	112.6602	1.1415	113.8017	30.1774	1.0719	31.2494		158,176.9955	158,176.9955	5.6849		158,319.175
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	48.6841	228.1814	360.5625	1.6095	112.6602	2.4708	115.1310	30.1774	2.4012	32.5787		166,100.7929	166,100.7929	6.2857	1.1000e-004	166,257.9693

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	8/31/2019	5	45	
2	Grading	Grading	9/1/2019	11/30/2019	5	65	
3	Building Construction	Building Construction	12/1/2019	12/15/2020	5	272	
4	Paving	Paving	5/1/2020	8/15/2020	5	76	
5	Architectural Coating	Architectural Coating	3/15/2020	12/31/2020	5	209	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 77.49

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 794,660; Non-Residential Outdoor: 264,887; Striped Parking Area: 35,010 (Architectural Coating – sqft)

OffRoad Equipment

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	456.00	182.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	91.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.9312	19.0656	22.9600	0.0380		0.1419	0.1419		0.1419	0.1419	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	0.9312	19.0656	22.9600	0.0380	8.1298	0.1419	8.2717	4.4688	0.1419	4.6107	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.3443	0.0000	12.3443	3.9929	0.0000	3.9929			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	12.3443	2.3827	14.7270	3.9929	2.1920	6.1849		6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393
Total	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.5549	0.0000	5.5549	1.7968	0.0000	1.7968			0.0000			0.0000
Off-Road	2.9080	41.3897	36.6894	0.0620		1.1249	1.1249		1.0439	1.0439	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	2.9080	41.3897	36.6894	0.0620	5.5549	1.1249	6.6798	1.7968	1.0439	2.8407	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393
Total	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9690	24.0508	5.3068	0.0539	1.2334	0.1912	1.4246	0.3552	0.1829	0.5380		5,628.7826	5,628.7826	0.4649		5,640.4051
Worker	2.5634	1.6245	19.6435	0.0422	3.7459	0.0276	3.7736	0.9936	0.0255	1.0191		4,191.8778	4,191.8778	0.1687		4,196.0964
Total	3.5323	25.6753	24.9503	0.0960	4.9794	0.2188	5.1982	1.3488	0.2084	1.5571		9,820.6603	9,820.6603	0.6336		9,836.5015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9690	24.0508	5.3068	0.0539	1.2334	0.1912	1.4246	0.3552	0.1829	0.5380		5,628.7826	5,628.7826	0.4649		5,640.4051
Worker	2.5634	1.6245	19.6435	0.0422	3.7459	0.0276	3.7736	0.9936	0.0255	1.0191		4,191.8778	4,191.8778	0.1687		4,196.0964
Total	3.5323	25.6753	24.9503	0.0960	4.9794	0.2188	5.1982	1.3488	0.2084	1.5571		9,820.6603	9,820.6603	0.6336		9,836.5015

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7821	21.9437	4.5838	0.0535	1.2334	0.1222	1.3557	0.3552	0.1169	0.4721		5,591.2825	5,591.2825	0.4239		5,601.8793
Worker	2.2921	1.4182	17.2680	0.0408	3.7459	0.0267	3.7726	0.9936	0.0246	1.0182		4,059.8247	4,059.8247	0.1438		4,063.4207
Total	3.0742	23.3619	21.8518	0.0943	4.9794	0.1489	5.1282	1.3488	0.1415	1.4902		9,651.1072	9,651.1072	0.5677		9,665.3000

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7821	21.9437	4.5838	0.0535	1.2334	0.1222	1.3557	0.3552	0.1169	0.4721		5,591.2825	5,591.2825	0.4239		5,601.8793
Worker	2.2921	1.4182	17.2680	0.0408	3.7459	0.0267	3.7726	0.9936	0.0246	1.0182		4,059.8247	4,059.8247	0.1438		4,063.4207
Total	3.0742	23.3619	21.8518	0.0943	4.9794	0.1489	5.1282	1.3488	0.1415	1.4902		9,651.1072	9,651.1072	0.5677		9,665.3000

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	2.1022					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	3.4588	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652
Total	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5609	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	2.1022					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.6632	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652
Total	0.0754	0.0467	0.5680	1.3400e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		133.5469	133.5469	4.7300e-003		133.6652

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.4110					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	36.6532	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

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3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4574	0.2830	3.4460	8.1400e-003	0.7475	5.3200e-003	0.7529	0.1983	4.9000e-003	0.2032		810.1843	810.1843	0.0287		810.9019
Total	0.4574	0.2830	3.4460	8.1400e-003	0.7475	5.3200e-003	0.7529	0.1983	4.9000e-003	0.2032		810.1843	810.1843	0.0287		810.9019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.4110					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928
Total	36.4705	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928

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3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4574	0.2830	3.4460	8.1400e-003	0.7475	5.3200e-003	0.7529	0.1983	4.9000e-003	0.2032		810.1843	810.1843	0.0287		810.9019
Total	0.4574	0.2830	3.4460	8.1400e-003	0.7475	5.3200e-003	0.7529	0.1983	4.9000e-003	0.2032		810.1843	810.1843	0.0287		810.9019

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	27.6084	195.1298	338.1336	1.5536	112.6602	1.1415	113.8017	30.1774	1.0719	31.2494		158,176.9955	158,176.9955	5.6849		158,319.1175
Unmitigated	27.6084	195.1298	338.1336	1.5536	112.6602	1.1415	113.8017	30.1774	1.0719	31.2494		158,176.9955	158,176.9955	5.6849		158,319.1175

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	3,059,824	3,059,824
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	2,702.40	2,702.40	2,702.40	11,323,682	11,323,682
User Defined Recreational	5,061.61	5,061.61	5,061.61	32,462,448	32,462,448
Total	9,708.47	9,708.47	9,708.47	52,594,499	52,594,499

4.3 Trip Type Information

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	100	0	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	90	10	0
User Defined Recreational	9.50	9.50	25.00	19.00	19.40	61.60	90	10	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Parking Lot	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Arena	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Hotel	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Movie Theater (No Matinee)	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
User Defined Recreational	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Regional Shopping Center	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
NaturalGas Unmitigated	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	53.1289	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
Total		5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0.0531289	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
Total		5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.6857	5.6100e-003	0.6192	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3307	1.3307	3.4600e-003		1.4172
Unmitigated	13.6857	5.6100e-003	0.6192	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3307	1.3307	3.4600e-003		1.4172

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0849					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.5438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0570	5.6100e-003	0.6192	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3307	1.3307	3.4600e-003		1.4172
Total	13.6857	5.6100e-003	0.6192	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3307	1.3307	3.4600e-003		1.4172

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0849					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.5438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0570	5.6100e-003	0.6192	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3307	1.3307	3.4600e-003		1.4172
Total	13.6857	5.6100e-003	0.6192	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3307	1.3307	3.4600e-003		1.4172

7.0 Water Detail

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (0 - 2 MMBTU)	0.1941	0.8640	3.4589	0.0212		0.2682	0.2682		0.2682	0.2682		4,235.3665	4,235.3665	0.0812		4,237.3959
Emergency Generator - Diesel (750 - 9999 HP)	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

Redding Rancheria FTT and Casino Project – Alternative E
Shasta County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.51	583,500.00	0
Parking Lot	600.00	Space	60.98	0.00	0
Arena	10.08	1000sqft	0.19	10,080.00	0
Hotel	250.00	Room	3.23	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	1.38	72,000.00	0
User Defined Recreational	150.33	User Defined Unit	2.88	150,326.00	0
Regional Shopping Center	120.00	1000sqft	2.49	120,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

Project Characteristics - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Off-road Equipment -

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	110.00	209.00
tblConstructionPhase	NumDays	1,550.00	272.00
tblConstructionPhase	NumDays	155.00	65.00
tblConstructionPhase	NumDays	110.00	76.00
tblConstructionPhase	NumDays	60.00	45.00
tblConstructionPhase	PhaseEndDate	1/18/2022	12/31/2020
tblConstructionPhase	PhaseEndDate	11/29/2019	11/30/2019
tblConstructionPhase	PhaseEndDate	3/31/2021	8/15/2020
tblConstructionPhase	PhaseEndDate	8/30/2019	8/31/2019
tblConstructionPhase	PhaseStartDate	4/1/2021	3/15/2020
tblConstructionPhase	PhaseStartDate	11/30/2019	12/1/2019
tblConstructionPhase	PhaseStartDate	8/31/2019	9/1/2019
tblConstructionPhase	PhaseStartDate	12/16/2020	5/1/2020
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	0.00	13.58
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	0.00	0.13
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	8.66	0.00
tblGrading	AcresOfGrading	162.50	387.50
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00
tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00
tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	16.51
tblLandUse	LotAcreage	5.40	60.98
tblLandUse	LotAcreage	3.24	0.19
tblLandUse	LotAcreage	8.33	3.23
tblLandUse	LotAcreage	1.70	1.38
tblLandUse	LotAcreage	0.00	2.88
tblLandUse	LotAcreage	2.75	2.49
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	126.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,288.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	4,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	3.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	10.00
tblVehicleTrips	DV_TP	0.00	10.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	90.00
tblVehicleTrips	PR_TP	0.00	90.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	ST_TR	0.00	33.67
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	SU_TR	0.00	33.67
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	42.70	22.52
tblVehicleTrips	WD_TR	0.00	33.67
tblWater	IndoorWaterUseRate	4,342,162.79	4,551,310.00
tblWater	IndoorWaterUseRate	6,341,692.50	16,639,197.00
tblWater	IndoorWaterUseRate	29,818,908.53	10,962,295.00
tblWater	IndoorWaterUseRate	8,888,702.58	10,228,213.00
tblWater	IndoorWaterUseRate	0.00	32,005,985.00
tblWater	OutdoorWaterUseRate	277,159.33	230,268.00
tblWater	OutdoorWaterUseRate	704,632.50	841,839.00
tblWater	OutdoorWaterUseRate	1,903,334.59	554,623.00

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

tblWater	OutdoorWaterUseRate	5,447,914.48	517,483.00
tblWater	OutdoorWaterUseRate	0.00	1,619,302.00

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.6857	5.6100e-003	0.6192	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3307	1.3307	3.4600e-003		1.4172
Energy	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
Mobile	21.8499	203.9184	290.6331	1.4223	112.6602	1.1453	113.8055	30.1774	1.0756	31.2530		145,024.6178	145,024.6178	5.8003		145,169.6251
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	42.9256	236.9700	313.0620	1.4782	112.6602	2.4746	115.1348	30.1774	2.4049	32.5823		152,948.4151	152,948.4151	6.4011	1.1000e-004	153,108.4769

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.6857	5.6100e-003	0.6192	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3307	1.3307	3.4600e-003		1.4172
Energy	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
Mobile	21.8499	203.9184	290.6331	1.4223	112.6602	1.1453	113.8055	30.1774	1.0756	31.2530		145,024.6178	145,024.6178	5.8003		145,169.6251
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	42.9256	236.9700	313.0620	1.4782	112.6602	2.4746	115.1348	30.1774	2.4049	32.5823		152,948.4151	152,948.4151	6.4011	1.1000e-004	153,108.4769

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	8/31/2019	5	45	
2	Grading	Grading	9/1/2019	11/30/2019	5	65	
3	Building Construction	Building Construction	12/1/2019	12/15/2020	5	272	
4	Paving	Paving	5/1/2020	8/15/2020	5	76	
5	Architectural Coating	Architectural Coating	3/15/2020	12/31/2020	5	209	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 77.49

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 794,660; Non-Residential Outdoor: 264,887; Striped Parking Area: 35,010 (Architectural Coating – sqft)

OffRoad Equipment

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	456.00	182.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	91.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.9312	19.0656	22.9600	0.0380		0.1419	0.1419		0.1419	0.1419	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	0.9312	19.0656	22.9600	0.0380	8.1298	0.1419	8.2717	4.4688	0.1419	4.6107	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.3443	0.0000	12.3443	3.9929	0.0000	3.9929			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	12.3443	2.3827	14.7270	3.9929	2.1920	6.1849		6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032
Total	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.5549	0.0000	5.5549	1.7968	0.0000	1.7968			0.0000			0.0000
Off-Road	2.9080	41.3897	36.6894	0.0620		1.1249	1.1249		1.0439	1.0439	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	2.9080	41.3897	36.6894	0.0620	5.5549	1.1249	6.6798	1.7968	1.0439	2.8407	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032
Total	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0113	24.5788	6.2356	0.0521	1.2334	0.1949	1.4283	0.3552	0.1865	0.5416		5,445.3989	5,445.3989	0.5225		5,458.4625
Worker	2.2426	1.9446	16.6564	0.0366	3.7459	0.0276	3.7736	0.9936	0.0255	1.0191		3,635.2940	3,635.2940	0.1464		3,638.9530
Total	3.2539	26.5234	22.8919	0.0887	4.9794	0.2226	5.2019	1.3488	0.2120	1.5607		9,080.6929	9,080.6929	0.6689		9,097.4154

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0113	24.5788	6.2356	0.0521	1.2334	0.1949	1.4283	0.3552	0.1865	0.5416		5,445.3989	5,445.3989	0.5225		5,458.4625
Worker	2.2426	1.9446	16.6564	0.0366	3.7459	0.0276	3.7736	0.9936	0.0255	1.0191		3,635.2940	3,635.2940	0.1464		3,638.9530
Total	3.2539	26.5234	22.8919	0.0887	4.9794	0.2226	5.2019	1.3488	0.2120	1.5607		9,080.6929	9,080.6929	0.6689		9,097.4154

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8209	22.3503	5.4363	0.0517	1.2334	0.1251	1.3585	0.3552	0.1196	0.4748		5,406.884 2	5,406.884 2	0.4784		5,418.844 0
Worker	2.0079	1.6947	14.5192	0.0354	3.7459	0.0267	3.7726	0.9936	0.0246	1.0182		3,520.307 6	3,520.307 6	0.1237		3,523.399 8
Total	2.8288	24.0450	19.9555	0.0871	4.9794	0.1517	5.1311	1.3488	0.1442	1.4930		8,927.191 8	8,927.191 8	0.6021		8,942.243 8

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8209	22.3503	5.4363	0.0517	1.2334	0.1251	1.3585	0.3552	0.1196	0.4748		5,406.884 2	5,406.884 2	0.4784		5,418.844 0
Worker	2.0079	1.6947	14.5192	0.0354	3.7459	0.0267	3.7726	0.9936	0.0246	1.0182		3,520.307 6	3,520.307 6	0.1237		3,523.399 8
Total	2.8288	24.0450	19.9555	0.0871	4.9794	0.1517	5.1311	1.3488	0.1442	1.4930		8,927.191 8	8,927.191 8	0.6021		8,942.243 8

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1
Paving	2.1022					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	3.4588	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013
Total	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5609	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	2.1022					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.6632	11.2952	17.2957	0.0228		0.0914	0.0914		0.0914	0.0914	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013
Total	0.0661	0.0558	0.4776	1.1600e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335		115.7996	115.7996	4.0700e-003		115.9013

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.4110					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	36.6532	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4007	0.3382	2.8975	7.0600e-003	0.7475	5.3200e-003	0.7529	0.1983	4.9000e-003	0.2032		702.5175	702.5175	0.0247		703.1346
Total	0.4007	0.3382	2.8975	7.0600e-003	0.7475	5.3200e-003	0.7529	0.1983	4.9000e-003	0.2032		702.5175	702.5175	0.0247		703.1346

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.4110					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928
Total	36.4705	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4007	0.3382	2.8975	7.0600e-003	0.7475	5.3200e-003	0.7529	0.1983	4.9000e-003	0.2032		702.5175	702.5175	0.0247		703.1346
Total	0.4007	0.3382	2.8975	7.0600e-003	0.7475	5.3200e-003	0.7529	0.1983	4.9000e-003	0.2032		702.5175	702.5175	0.0247		703.1346

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	21.8499	203.9184	290.6331	1.4223	112.6602	1.1453	113.8055	30.1774	1.0756	31.2530		145,024.6178	145,024.6178	5.8003		145,169.6251
Unmitigated	21.8499	203.9184	290.6331	1.4223	112.6602	1.1453	113.8055	30.1774	1.0756	31.2530		145,024.6178	145,024.6178	5.8003		145,169.6251

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	3,059,824	3,059,824
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	2,702.40	2,702.40	2,702.40	11,323,682	11,323,682
User Defined Recreational	5,061.61	5,061.61	5,061.61	32,462,448	32,462,448
Total	9,708.47	9,708.47	9,708.47	52,594,499	52,594,499

4.3 Trip Type Information

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	100	0	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	90	10	0
User Defined Recreational	9.50	9.50	25.00	19.00	19.40	61.60	90	10	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Parking Lot	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Arena	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Hotel	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Movie Theater (No Matinee)	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
User Defined Recreational	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Regional Shopping Center	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
NaturalGas Unmitigated	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	53.1289	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
Total		5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	lb/day										lb/day						
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0.0531289	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876	
Total		5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876	

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.6857	5.6100e-003	0.6192	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3307	1.3307	3.4600e-003		1.4172
Unmitigated	13.6857	5.6100e-003	0.6192	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3307	1.3307	3.4600e-003		1.4172

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0849					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.5438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0570	5.6100e-003	0.6192	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3307	1.3307	3.4600e-003		1.4172
Total	13.6857	5.6100e-003	0.6192	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3307	1.3307	3.4600e-003		1.4172

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0849					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.5438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0570	5.6100e-003	0.6192	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3307	1.3307	3.4600e-003		1.4172
Total	13.6857	5.6100e-003	0.6192	5.0000e-005		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003		1.3307	1.3307	3.4600e-003		1.4172

7.0 Water Detail

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
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10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (0 - 2 MMBTU)	0.1941	0.8640	3.4589	0.0212		0.2682	0.2682		0.2682	0.2682		4,235.3665	4,235.3665	0.0812		4,237.3959
Emergency Generator - Diesel (750 - 9999 HP)	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative E

Shasta County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.16	0.00	0.00	0.83	0.83	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.30	0.12	-0.03	0.00	0.77	0.77	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.38	0.24	-0.10	0.00	0.53	0.52	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.23	0.20	-0.17	0.00	0.88	0.87	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.77	0.58	-0.04	0.00	0.94	0.94	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	Tier 3	1	1	Level 3	0.00
Cranes	Diesel	Tier 3	1	1	Level 3	0.00
Excavators	Diesel	Tier 3	2	2	Level 3	0.00
Forklifts	Diesel	Tier 3	3	3	Level 3	0.00
Generator Sets	Diesel	Tier 3	1	1	Level 3	0.00
Graders	Diesel	Tier 3	1	1	Level 3	0.00
Pavers	Diesel	Tier 3	2	2	Level 3	0.00
Paving Equipment	Diesel	Tier 3	2	2	Level 3	0.00
Rollers	Diesel	Tier 3	2	2	Level 3	0.00
Rubber Tired Dozers	Diesel	Tier 3	4	4	Level 3	0.00
Scrapers	Diesel	No Change	0	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 3	9	9	Level 3	0.00
Welders	Diesel	Tier 3	1	1	Level 3	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	2.53100E-002	1.75960E-001	1.91380E-001	3.10000E-004	1.15900E-002	1.15900E-002	0.00000E+000	2.66815E+001	2.66815E+001	2.07000E-003	0.00000E+000	2.67332E+001
Cranes	5.44400E-002	6.47520E-001	2.53440E-001	6.90000E-004	2.67600E-002	2.46200E-002	0.00000E+000	6.04326E+001	6.04326E+001	1.95100E-002	0.00000E+000	6.09203E+001
Excavators	1.69500E-002	1.74320E-001	2.12110E-001	3.40000E-004	8.41000E-003	7.73000E-003	0.00000E+000	3.01396E+001	3.01396E+001	9.54000E-003	0.00000E+000	3.03779E+001
Forklifts	5.92800E-002	5.33700E-001	4.82010E-001	6.20000E-004	3.99000E-002	3.67100E-002	0.00000E+000	5.48893E+001	5.48893E+001	1.77200E-002	0.00000E+000	5.53324E+001
Generator Sets	5.47700E-002	4.76380E-001	5.04150E-001	8.90000E-004	2.70100E-002	2.70100E-002	0.00000E+000	7.68682E+001	7.68682E+001	4.37000E-003	0.00000E+000	7.69775E+001
Graders	1.58200E-002	2.13840E-001	5.97400E-002	2.20000E-004	6.86000E-003	6.31000E-003	0.00000E+000	1.93892E+001	1.93892E+001	6.13000E-003	0.00000E+000	1.95425E+001
Pavers	1.99600E-002	2.13580E-001	2.20270E-001	3.60000E-004	1.03800E-002	9.55000E-003	0.00000E+000	3.13892E+001	3.13892E+001	1.01500E-002	0.00000E+000	3.16430E+001
Paving Equipment	1.57700E-002	1.62740E-001	1.92610E-001	3.10000E-004	8.14000E-003	7.49000E-003	0.00000E+000	2.72012E+001	2.72012E+001	8.80000E-003	0.00000E+000	2.74211E+001
Rollers	1.58200E-002	1.58170E-001	1.43900E-001	2.00000E-004	1.00800E-002	9.28000E-003	0.00000E+000	1.75169E+001	1.75169E+001	5.67000E-003	0.00000E+000	1.76585E+001
Rubber Tired Dozers	1.13460E-001	1.20744E+000	4.28410E-001	8.50000E-004	5.88700E-002	5.41600E-002	0.00000E+000	7.66960E+001	7.66960E+001	2.42700E-002	0.00000E+000	7.73026E+001
Scrapers	6.92400E-002	8.39400E-001	5.23990E-001	9.80000E-004	3.28900E-002	3.02600E-002	0.00000E+000	8.84396E+001	8.84396E+001	2.79800E-002	0.00000E+000	8.91391E+001
Tractors/Loaders/Backhoes	1.11550E-001	1.12053E+000	1.17143E+000	1.59000E-003	7.23700E-002	6.65800E-002	0.00000E+000	1.40830E+002	1.40830E+002	4.51900E-002	0.00000E+000	1.41960E+002
Welders	4.70000E-002	2.14280E-001	2.40760E-001	3.50000E-004	1.19600E-002	1.19600E-002	0.00000E+000	2.55980E+001	2.55980E+001	3.82000E-003	0.00000E+000	2.56936E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	6.21000E-003	1.41800E-001	1.91490E-001	3.10000E-004	1.49000E-003	1.49000E-003	0.00000E+000	2.66815E+001	2.66815E+001	2.07000E-003	0.00000E+000	2.67331E+001
Cranes	1.68700E-002	3.26190E-001	3.65560E-001	6.90000E-004	1.86000E-003	1.86000E-003	0.00000E+000	6.04325E+001	6.04325E+001	1.95100E-002	0.00000E+000	6.09203E+001
Excavators	8.26000E-003	1.59690E-001	2.54670E-001	3.40000E-004	1.16000E-003	1.16000E-003	0.00000E+000	3.01395E+001	3.01395E+001	9.54000E-003	0.00000E+000	3.03779E+001
Forklifts	1.53700E-002	3.50960E-001	4.73920E-001	6.20000E-004	3.69000E-003	3.69000E-003	0.00000E+000	5.48893E+001	5.48893E+001	1.77200E-002	0.00000E+000	5.53323E+001
Generator Sets	1.78900E-002	4.08530E-001	5.51660E-001	8.90000E-004	4.29000E-003	4.29000E-003	0.00000E+000	7.68681E+001	7.68681E+001	4.37000E-003	0.00000E+000	7.69774E+001
Graders	5.27000E-003	1.01960E-001	1.14260E-001	2.20000E-004	5.80000E-004	5.80000E-004	0.00000E+000	1.93891E+001	1.93891E+001	6.13000E-003	0.00000E+000	1.95425E+001
Pavers	8.78000E-003	1.69790E-001	2.70790E-001	3.60000E-004	1.23000E-003	1.23000E-003	0.00000E+000	3.13892E+001	3.13892E+001	1.01500E-002	0.00000E+000	3.16430E+001
Paving Equipment	7.64000E-003	1.47780E-001	2.35680E-001	3.10000E-004	1.07000E-003	1.07000E-003	0.00000E+000	2.72011E+001	2.72011E+001	8.80000E-003	0.00000E+000	2.74211E+001
Rollers	4.89000E-003	1.11650E-001	1.50770E-001	2.00000E-004	1.17000E-003	1.17000E-003	0.00000E+000	1.75169E+001	1.75169E+001	5.67000E-003	0.00000E+000	1.76585E+001
Rubber Tired Dozers	2.09100E-002	4.04270E-001	4.53060E-001	8.50000E-004	2.30000E-003	2.30000E-003	0.00000E+000	7.66959E+001	7.66959E+001	2.42700E-002	0.00000E+000	7.73025E+001
Scrapers	6.92400E-002	8.39400E-001	5.23990E-001	9.80000E-004	3.28900E-002	3.02600E-002	0.00000E+000	8.84395E+001	8.84395E+001	2.79800E-002	0.00000E+000	8.91390E+001
Tractors/Loaders/Balckhoes	3.88900E-002	8.88010E-001	1.19914E+000	1.59000E-003	9.33000E-003	9.33000E-003	0.00000E+000	1.40830E+002	1.40830E+002	4.51900E-002	0.00000E+000	1.41960E+002
Welders	1.44000E-002	2.29890E-001	2.03570E-001	3.50000E-004	2.09000E-003	2.09000E-003	0.00000E+000	2.55980E+001	2.55980E+001	3.82000E-003	0.00000E+000	2.56936E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	7.54642E-001	1.94135E-001	-5.74773E-004	0.00000E+000	8.71441E-001	8.71441E-001	0.00000E+000	1.12437E-006	1.12437E-006	0.00000E+000	0.00000E+000	1.49627E-006
Cranes	6.90118E-001	4.96247E-001	-4.42393E-001	0.00000E+000	9.30493E-001	9.24452E-001	0.00000E+000	1.15832E-006	1.15832E-006	0.00000E+000	0.00000E+000	1.14904E-006
Excavators	5.12684E-001	8.39261E-002	-2.00651E-001	0.00000E+000	8.62069E-001	8.49935E-001	0.00000E+000	1.32716E-006	1.32716E-006	0.00000E+000	0.00000E+000	9.87559E-007
Forklifts	7.40722E-001	3.42402E-001	1.67839E-002	0.00000E+000	9.07519E-001	8.99482E-001	0.00000E+000	1.09311E-006	1.09311E-006	0.00000E+000	0.00000E+000	1.26508E-006
Generator Sets	6.73361E-001	1.42428E-001	-9.42378E-002	0.00000E+000	8.41170E-001	8.41170E-001	0.00000E+000	1.17084E-006	1.17084E-006	0.00000E+000	0.00000E+000	1.29908E-006
Graders	6.66877E-001	5.23195E-001	-9.12621E-001	0.00000E+000	9.15452E-001	9.08082E-001	0.00000E+000	1.03150E-006	1.03150E-006	0.00000E+000	0.00000E+000	1.53511E-006
Pavers	5.60120E-001	2.05029E-001	-2.29355E-001	0.00000E+000	8.81503E-001	8.71204E-001	0.00000E+000	1.27432E-006	1.27432E-006	0.00000E+000	0.00000E+000	1.26410E-006
Paving Equipment	5.15536E-001	9.19258E-002	-2.23612E-001	0.00000E+000	8.68550E-001	8.57143E-001	0.00000E+000	1.47053E-006	1.47053E-006	0.00000E+000	0.00000E+000	1.09405E-006
Rollers	6.90898E-001	2.94114E-001	-4.77415E-002	0.00000E+000	8.83929E-001	8.73922E-001	0.00000E+000	1.14176E-006	1.14176E-006	0.00000E+000	0.00000E+000	1.13260E-006
Rubber Tired Dozers	8.15706E-001	6.65184E-001	-5.75383E-002	0.00000E+000	9.60931E-001	9.57533E-001	0.00000E+000	1.17346E-006	1.17346E-006	0.00000E+000	0.00000E+000	1.29362E-006
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.13072E-006	1.13072E-006	0.00000E+000	0.00000E+000	1.23403E-006
Tractors/Loaders/Balkhoes	6.51367E-001	2.07509E-001	-2.36548E-002	0.00000E+000	8.71079E-001	8.59868E-001	0.00000E+000	1.13612E-006	1.13612E-006	0.00000E+000	0.00000E+000	1.19752E-006
Welders	6.93617E-001	-7.28486E-002	1.54469E-001	0.00000E+000	8.25251E-001	8.25251E-001	0.00000E+000	1.17197E-006	1.17197E-006	0.00000E+000	0.00000E+000	1.16761E-006

Fugitive Dust Mitigation

Yes/No Mitigation Measure Mitigation Input Mitigation Input Mitigation Input

Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	10.00	PM2.5 Reduction	10.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00

No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
Yes	Clean Paved Road	% PM Reduction	0.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.07	0.02	0.07	0.02	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.65	0.18	0.65	0.18	0.00	0.00
Grading	Fugitive Dust	0.40	0.13	0.18	0.06	0.55	0.55
Grading	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.41	0.22	0.18	0.10	0.55	0.55
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	29.60	29.04	29.13	29.60	29.60	29.30
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.18	0.44		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network			
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00		
No	Transit Improvements	Expand Transit Network	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00
No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		

No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	150.00
Yes	Use Low VOC Paint (Residential Exterior)	150.00
Yes	Use Low VOC Paint (Non-residential Interior)	150.00
Yes	Use Low VOC Paint (Non-residential Exterior)	150.00
Yes	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
Yes	Use Reclaimed Water	30.00	30.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
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Institute Recycling and Composting Services Percent Reduction in Waste Disposed	
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Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Annual

**Redding Rancheria FTT and Casino Project – Alternative E
Shasta County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.51	583,500.00	0
Parking Lot	600.00	Space	60.98	0.00	0
Arena	10.08	1000sqft	0.19	10,080.00	0
Hotel	250.00	Room	3.23	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	1.38	72,000.00	0
User Defined Recreational	150.33	User Defined Unit	2.88	150,326.00	0
Regional Shopping Center	120.00	1000sqft	2.49	120,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Off-road Equipment -

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	60.00	2.00

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tblConstructionPhase	PhaseEndDate	8/30/2019	7/2/2019
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	0.00	13.58
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	0.00	0.13
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	8.66	0.00
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00

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tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00
tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	16.51
tblLandUse	LotAcreage	5.40	60.98
tblLandUse	LotAcreage	3.24	0.19
tblLandUse	LotAcreage	8.33	3.23
tblLandUse	LotAcreage	1.70	1.38
tblLandUse	LotAcreage	0.00	2.88
tblLandUse	LotAcreage	2.75	2.49
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	126.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,288.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	4,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	3.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50

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tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	10.00
tblVehicleTrips	DV_TP	0.00	10.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00

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tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	90.00
tblVehicleTrips	PR_TP	0.00	90.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	ST_TR	0.00	33.67
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	SU_TR	0.00	33.67
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	42.70	22.52
tblVehicleTrips	WD_TR	0.00	33.67
tblWater	IndoorWaterUseRate	4,342,162.79	4,551,310.00
tblWater	IndoorWaterUseRate	6,341,692.50	16,639,197.00
tblWater	IndoorWaterUseRate	29,818,908.53	10,962,295.00
tblWater	IndoorWaterUseRate	8,888,702.58	10,228,213.00
tblWater	IndoorWaterUseRate	0.00	32,005,985.00
tblWater	OutdoorWaterUseRate	277,159.33	230,268.00

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tblWater	OutdoorWaterUseRate	704,632.50	841,839.00
tblWater	OutdoorWaterUseRate	1,903,334.59	554,623.00
tblWater	OutdoorWaterUseRate	5,447,914.48	517,483.00
tblWater	OutdoorWaterUseRate	0.00	1,619,302.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2019	9-30-2019	0.0358	0.0358
		Highest	0.0358	0.0358

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4923	5.0000e-004	0.0555	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1087	0.1087	2.8000e-004	0.0000	0.1157
Energy	1.0000e-004	9.5000e-004	8.0000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	594.9094	594.9094	0.0269	5.5700e-003	597.2425
Mobile	2.1947	27.8887	27.6957	0.2297	19.5153	0.0886	19.6039	5.2443	0.0831	5.3274	0.0000	21,358.4743	21,358.4743	0.8149	0.0000	21,378.8463
Stationary	0.0786	0.3507	0.7413	4.0700e-003		0.0553	0.0553		0.0553	0.0553	0.0000	721.2477	721.2477	0.0163	0.0000	721.6539
Waste						0.0000	0.0000		0.0000	0.0000	261.4524	0.0000	261.4524	15.4514	0.0000	647.7372
Water						0.0000	0.0000		0.0000	0.0000	23.5996	120.9262	144.5258	2.4294	0.0584	222.6527
Total	4.7658	28.2409	28.4933	0.2338	19.5153	0.1441	19.6595	5.2443	0.1387	5.3829	285.0519	22,795.6662	23,080.7181	18.7390	0.0639	23,568.2482

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4923	5.0000e-004	0.0555	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1087	0.1087	2.8000e-004	0.0000	0.1157
Energy	1.0000e-004	9.5000e-004	8.0000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	594.9094	594.9094	0.0269	5.5700e-003	597.2425
Mobile	2.1947	27.8887	27.6957	0.2297	19.5153	0.0886	19.6039	5.2443	0.0831	5.3274	0.0000	21,358.4743	21,358.4743	0.8149	0.0000	21,378.8463
Stationary	0.0786	0.3507	0.7413	4.0700e-003		0.0553	0.0553		0.0553	0.0553	0.0000	721.2477	721.2477	0.0163	0.0000	721.6539
Waste						0.0000	0.0000		0.0000	0.0000	261.4524	0.0000	261.4524	15.4514	0.0000	647.7372
Water						0.0000	0.0000		0.0000	0.0000	16.6141	85.8065	102.4206	1.7103	0.0411	157.4246
Total	4.7658	28.2409	28.4933	0.2338	19.5153	0.1441	19.6595	5.2443	0.1387	5.3829	278.0665	22,760.5465	23,038.6129	18.0200	0.0467	23,503.0201

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.45	0.15	0.18	3.84	27.00	0.28

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2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-129.3000
Total	-129.3000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/2/2019	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 77.49

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0181	0.0000	0.0181	9.9300e-003	0.0000	9.9300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0456	0.0221	4.0000e-005		2.3900e-003	2.3900e-003		2.2000e-003	2.2000e-003	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439
Total	4.3400e-003	0.0456	0.0221	4.0000e-005	0.0181	2.3900e-003	0.0205	9.9300e-003	2.2000e-003	0.0121	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439

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3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346
Total	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0181	0.0000	0.0181	9.9300e-003	0.0000	9.9300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0456	0.0221	4.0000e-005		2.3900e-003	2.3900e-003		2.2000e-003	2.2000e-003	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439
Total	4.3400e-003	0.0456	0.0221	4.0000e-005	0.0181	2.3900e-003	0.0205	9.9300e-003	2.2000e-003	0.0121	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439

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3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346
Total	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.1947	27.8887	27.6957	0.2297	19.5153	0.0886	19.6039	5.2443	0.0831	5.3274	0.0000	21,358.47 43	21,358.47 43	0.8149	0.0000	21,378.84 63
Unmitigated	2.1947	27.8887	27.6957	0.2297	19.5153	0.0886	19.6039	5.2443	0.0831	5.3274	0.0000	21,358.47 43	21,358.47 43	0.8149	0.0000	21,378.84 63

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	3,059,824	3,059,824
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	2,702.40	2,702.40	2,702.40	11,323,682	11,323,682
User Defined Recreational	5,061.61	5,061.61	5,061.61	32,462,448	32,462,448
Total	9,708.47	9,708.47	9,708.47	52,594,499	52,594,499

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	100	0	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	90	10	0
User Defined Recreational	9.50	9.50	25.00	19.00	19.40	61.60	90	10	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Parking Lot	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Arena	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Hotel	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Movie Theater (No Matinee)	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
User Defined Recreational	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Regional Shopping Center	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr										MT/yr						
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	593.8746	593.8746	0.0269	5.5600e-003	596.2015	
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	593.8746	593.8746	0.0269	5.5600e-003	596.2015	
NaturalGas Mitigated	1.0000e-004	9.5000e-004	8.0000e-004	1.0000e-005			7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0348	1.0348	2.0000e-005	2.0000e-005	1.0410
NaturalGas Unmitigated	1.0000e-004	9.5000e-004	8.0000e-004	1.0000e-005			7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0348	1.0348	2.0000e-005	2.0000e-005	1.0410

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr										MT/yr						
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	19392.1	1.0000e-004	9.5000e-004	8.0000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0348	1.0348	2.0000e-005	2.0000e-005	1.0410	
Total		1.0000e-004	9.5000e-004	8.0000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0348	1.0348	2.0000e-005	2.0000e-005	1.0410	

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	19392.1	1.0000e-004	9.5000e-004	8.0000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0348	1.0348	2.0000e-005	2.0000e-005	1.0410
Total		1.0000e-004	9.5000e-004	8.0000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0348	1.0348	2.0000e-005	2.0000e-005	1.0410

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	2.04143e+006	593.8746	0.0269	5.5600e-003	596.2015
Total		593.8746	0.0269	5.5600e-003	596.2015

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	2.04143e+006	593.8746	0.0269	5.5600e-003	596.2015
Total		593.8746	0.0269	5.5600e-003	596.2015

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.4923	5.0000e-004	0.0555	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1087	0.1087	2.8000e-004	0.0000	0.1157
Unmitigated	2.4923	5.0000e-004	0.0555	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1087	0.1087	2.8000e-004	0.0000	0.1157

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3805					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1068					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0800e-003	5.0000e-004	0.0555	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1087	0.1087	2.8000e-004	0.0000	0.1157
Total	2.4923	5.0000e-004	0.0555	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1087	0.1087	2.8000e-004	0.0000	0.1157

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3805					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1068					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0800e-003	5.0000e-004	0.0555	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1087	0.1087	2.8000e-004	0.0000	0.1157
Total	2.4923	5.0000e-004	0.0555	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.1087	0.1087	2.8000e-004	0.0000	0.1157

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	102.4206	1.7103	0.0411	157.4246
Unmitigated	144.5258	2.4294	0.0584	222.6527

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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	4.55131 / 0.230268	8.8427	0.1486	3.5700e-003	13.6228
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	16.6392 / 0.841839	32.3281	0.5434	0.0131	49.8039
Movie Theater (No Matinee)	10.9623 / 0.554623	21.2985	0.3580	8.6000e-003	32.8120
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	10.2282 / 0.517483	19.8723	0.3340	8.0300e-003	30.6148
User Defined Recreational	32.006 / 1.6193	62.1841	1.0453	0.0251	95.7993
Total		144.5257	2.4294	0.0584	222.6527

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	3.20412 / 0.202636	6.2665	0.1046	2.5100e-003	9.6319
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	11.714 / 0.740818	22.9099	0.3826	9.1900e-003	35.2134
Movie Theater (No Matinee)	7.71746 / 0.488068	15.0936	0.2521	6.0600e-003	23.1994
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	7.20066 / 0.455385	14.0828	0.2352	5.6500e-003	21.6459
User Defined Recreational	22.5322 / 1.42499	44.0678	0.7359	0.0177	67.7340
Total		102.4206	1.7103	0.0411	157.4246

8.0 Waste Detail

8.1 Mitigation Measures Waste

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	261.4524	15.4514	0.0000	647.7372
Unmitigated	261.4524	15.4514	0.0000	647.7372

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1288	261.4524	15.4514	0.0000	647.7372
Total		261.4524	15.4514	0.0000	647.7372

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8.2 Waste by Land Use

Mitigated

Land Use	Waste Disposed tons	Total CO2 MT/yr	CH4 MT/yr	N2O MT/yr	CO2e MT/yr
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	1288	261.4524	15.4514	0.0000	647.7372
Total		261.4524	15.4514	0.0000	647.7372

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Boiler - CNG (0 - 2 MMBTU)	0.0354	0.1577	0.6313	3.8600e-003		0.0490	0.0490		0.0490	0.0490	0.0000	701.2124	701.2124	0.0134	0.0000	701.5484
Emergency Generator - Diesel (750 - 9999 HP)	0.0432	0.1931	0.1101	2.1000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	20.0353	20.0353	2.8100e-003	0.0000	20.1055
Total	0.0786	0.3507	0.7413	4.0700e-003		0.0553	0.0553		0.0553	0.0553	0.0000	721.2477	721.2477	0.0163	0.0000	721.6539

11.0 Vegetation

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	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-129.3000	0.0000	0.0000	-129.3000

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	55 / 25	-129.3000	0.0000	0.0000	-129.3000
Total		-129.3000	0.0000	0.0000	-129.3000

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

Redding Rancheria FTT and Casino Project – Alternative E
Shasta County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.51	583,500.00	0
Parking Lot	600.00	Space	60.98	0.00	0
Arena	10.08	1000sqft	0.19	10,080.00	0
Hotel	250.00	Room	3.23	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	1.38	72,000.00	0
User Defined Recreational	150.33	User Defined Unit	2.88	150,326.00	0
Regional Shopping Center	120.00	1000sqft	2.49	120,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Off-road Equipment -

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	60.00	2.00

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tblConstructionPhase	PhaseEndDate	8/30/2019	7/2/2019
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	0.00	13.58
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	0.00	0.13
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	8.66	0.00
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00

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tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00
tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	16.51
tblLandUse	LotAcreage	5.40	60.98
tblLandUse	LotAcreage	3.24	0.19
tblLandUse	LotAcreage	8.33	3.23
tblLandUse	LotAcreage	1.70	1.38
tblLandUse	LotAcreage	0.00	2.88
tblLandUse	LotAcreage	2.75	2.49
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	126.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,288.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	4,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	3.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50

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tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	10.00
tblVehicleTrips	DV_TP	0.00	10.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	90.00
tblVehicleTrips	PR_TP	0.00	90.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	ST_TR	0.00	33.67
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	SU_TR	0.00	33.67
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	42.70	22.52
tblVehicleTrips	WD_TR	0.00	33.67
tblWater	IndoorWaterUseRate	4,342,162.79	4,551,310.00
tblWater	IndoorWaterUseRate	6,341,692.50	16,639,197.00
tblWater	IndoorWaterUseRate	29,818,908.53	10,962,295.00
tblWater	IndoorWaterUseRate	8,888,702.58	10,228,213.00
tblWater	IndoorWaterUseRate	0.00	32,005,985.00
tblWater	OutdoorWaterUseRate	277,159.33	230,268.00

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tblWater	OutdoorWaterUseRate	704,632.50	841,839.00
tblWater	OutdoorWaterUseRate	1,903,334.59	554,623.00
tblWater	OutdoorWaterUseRate	5,447,914.48	517,483.00
tblWater	OutdoorWaterUseRate	0.00	1,619,302.00

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.6852	5.5400e-003	0.6168	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3307	1.3307	3.4300e-003		1.4164
Energy	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
Mobile	14.1137	151.0766	177.6287	1.3369	112.5917	0.4864	113.0782	30.1313	0.4565	30.5879		136,870.9346	136,870.9346	4.8101		136,991.1862
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	35.1889	184.1281	200.0552	1.3927	112.5917	1.8157	114.4074	30.1313	1.7858	31.9171		144,794.7319	144,794.7319	5.4108	1.1000e-004	144,930.0372

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.6852	5.5400e-003	0.6168	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3307	1.3307	3.4300e-003		1.4164
Energy	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
Mobile	14.1137	151.0766	177.6287	1.3369	112.5917	0.4864	113.0782	30.1313	0.4565	30.5879		136,870.9346	136,870.9346	4.8101		136,991.1862
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	35.1889	184.1281	200.0552	1.3927	112.5917	1.8157	114.4074	30.1313	1.7858	31.9171		144,794.7319	144,794.7319	5.4108	1.1000e-004	144,930.0372

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/2/2019	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

Acres of Paving: 77.49

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Clean Paved Roads

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

4.0 Operational Detail - Mobile

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	14.1137	151.0766	177.6287	1.3369	112.5917	0.4864	113.0782	30.1313	0.4565	30.5879		136,870.9346	136,870.9346	4.8101		136,991.1862
Unmitigated	14.1137	151.0766	177.6287	1.3369	112.5917	0.4864	113.0782	30.1313	0.4565	30.5879		136,870.9346	136,870.9346	4.8101		136,991.1862

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	3,059,824	3,059,824
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	2,702.40	2,702.40	2,702.40	11,323,682	11,323,682
User Defined Recreational	5,061.61	5,061.61	5,061.61	32,462,448	32,462,448
Total	9,708.47	9,708.47	9,708.47	52,594,499	52,594,499

4.3 Trip Type Information

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	100	0	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	90	10	0
User Defined Recreational	9.50	9.50	25.00	19.00	19.40	61.60	90	10	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Parking Lot	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Arena	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Hotel	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Movie Theater (No Matinee)	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
User Defined Recreational	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Regional Shopping Center	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
NaturalGas Unmitigated	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	53.1289	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
Total		5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0.0531289	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
Total		5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.6852	5.5400e-003	0.6168	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3307	1.3307	3.4300e-003		1.4164
Unmitigated	13.6852	5.5400e-003	0.6168	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3307	1.3307	3.4300e-003		1.4164

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0849					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.5438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0564	5.5400e-003	0.6168	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3307	1.3307	3.4300e-003		1.4164
Total	13.6852	5.5400e-003	0.6168	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3307	1.3307	3.4300e-003		1.4164

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0849					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.5438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0564	5.5400e-003	0.6168	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3307	1.3307	3.4300e-003		1.4164
Total	13.6852	5.5400e-003	0.6168	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3307	1.3307	3.4300e-003		1.4164

7.0 Water Detail

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (0 - 2 MMBTU)	0.1941	0.8640	3.4589	0.0212		0.2682	0.2682		0.2682	0.2682		4,235.3665	4,235.3665	0.0812		4,237.3959
Emergency Generator - Diesel (750 - 9999 HP)	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Summer

11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

Redding Rancheria FTT and Casino Project – Alternative E
Shasta County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,650.00	Space	16.51	583,500.00	0
Parking Lot	600.00	Space	60.98	0.00	0
Arena	10.08	1000sqft	0.19	10,080.00	0
Hotel	250.00	Room	3.23	177,367.00	0
Movie Theater (No Matinee)	3,300.00	Seat	1.38	72,000.00	0
User Defined Recreational	150.33	User Defined Unit	2.88	150,326.00	0
Regional Shopping Center	120.00	1000sqft	2.49	120,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

Project Characteristics - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod Table in Appendix Q of the EIS.

Off-road Equipment -

Architectural Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	60.00	2.00

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

tblConstructionPhase	PhaseEndDate	8/30/2019	7/2/2019
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	LightingElect	1.55	0.00
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	0.00	13.58
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	0.00	0.13
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.33	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	18.08	0.00
tblEnergyUse	T24NG	17.11	0.00
tblEnergyUse	T24NG	8.66	0.00
tblLandUse	BuildingSpaceSquareFeet	660,000.00	583,500.00

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

tblLandUse	BuildingSpaceSquareFeet	240,000.00	0.00
tblLandUse	BuildingSpaceSquareFeet	363,000.00	177,367.00
tblLandUse	BuildingSpaceSquareFeet	74,250.00	72,000.00
tblLandUse	BuildingSpaceSquareFeet	0.00	150,326.00
tblLandUse	LandUseSquareFeet	660,000.00	583,500.00
tblLandUse	LandUseSquareFeet	240,000.00	0.00
tblLandUse	LandUseSquareFeet	363,000.00	177,367.00
tblLandUse	LandUseSquareFeet	74,250.00	72,000.00
tblLandUse	LandUseSquareFeet	0.00	150,326.00
tblLandUse	LotAcreage	14.85	16.51
tblLandUse	LotAcreage	5.40	60.98
tblLandUse	LotAcreage	3.24	0.19
tblLandUse	LotAcreage	8.33	3.23
tblLandUse	LotAcreage	1.70	1.38
tblLandUse	LotAcreage	0.00	2.88
tblLandUse	LotAcreage	2.75	2.49
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	136.88	0.00
tblSolidWaste	SolidWasteGenerationRate	126.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1,288.00
tblStationaryBoilersUse	AnnualHeatInput	0.00	4,380.00
tblStationaryBoilersUse	BoilerRatingValue	0.00	0.50
tblStationaryBoilersUse	DailyHeatInput	0.00	12.00
tblStationaryBoilersUse	NumberOfEquipment	0.00	3.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,923.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TL	7.30	9.50
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TL	7.30	25.00
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	17.00	0.00
tblVehicleTrips	DV_TP	35.00	10.00
tblVehicleTrips	DV_TP	0.00	10.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	17.00	0.00

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	54.00	90.00
tblVehicleTrips	PR_TP	0.00	90.00
tblVehicleTrips	ST_TR	10.71	67.01
tblVehicleTrips	ST_TR	8.19	2.04
tblVehicleTrips	ST_TR	2.24	0.23
tblVehicleTrips	ST_TR	49.97	22.52
tblVehicleTrips	ST_TR	0.00	33.67
tblVehicleTrips	SU_TR	10.71	67.01
tblVehicleTrips	SU_TR	5.95	2.04
tblVehicleTrips	SU_TR	1.85	0.23
tblVehicleTrips	SU_TR	25.24	22.52
tblVehicleTrips	SU_TR	0.00	33.67
tblVehicleTrips	WD_TR	10.71	67.01
tblVehicleTrips	WD_TR	8.17	2.04
tblVehicleTrips	WD_TR	1.76	0.23
tblVehicleTrips	WD_TR	42.70	22.52
tblVehicleTrips	WD_TR	0.00	33.67
tblWater	IndoorWaterUseRate	4,342,162.79	4,551,310.00
tblWater	IndoorWaterUseRate	6,341,692.50	16,639,197.00
tblWater	IndoorWaterUseRate	29,818,908.53	10,962,295.00
tblWater	IndoorWaterUseRate	8,888,702.58	10,228,213.00
tblWater	IndoorWaterUseRate	0.00	32,005,985.00
tblWater	OutdoorWaterUseRate	277,159.33	230,268.00

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

tblWater	OutdoorWaterUseRate	704,632.50	841,839.00
tblWater	OutdoorWaterUseRate	1,903,334.59	554,623.00
tblWater	OutdoorWaterUseRate	5,447,914.48	517,483.00
tblWater	OutdoorWaterUseRate	0.00	1,619,302.00

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.6852	5.5400e-003	0.6168	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3307	1.3307	3.4300e-003		1.4164
Energy	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
Mobile	11.7384	153.9968	152.4951	1.2346	112.5917	0.4880	113.0798	30.1313	0.4581	30.5894		126,587.3679	126,587.3679	5.2261		126,718.0191
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	32.8135	187.0483	174.9216	1.2904	112.5917	1.8173	114.4091	30.1313	1.7874	31.9187		134,511.1652	134,511.1652	5.8268	1.1000e-004	134,656.8701

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.6852	5.5400e-003	0.6168	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3307	1.3307	3.4300e-003		1.4164
Energy	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
Mobile	11.7384	153.9968	152.4951	1.2346	112.5917	0.4880	113.0798	30.1313	0.4581	30.5894		126,587.3679	126,587.3679	5.2261		126,718.0191
Stationary	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470
Total	32.8135	187.0483	174.9216	1.2904	112.5917	1.8173	114.4091	30.1313	1.7874	31.9187		134,511.1652	134,511.1652	5.8268	1.1000e-004	134,656.8701

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/2/2019	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

Acres of Paving: 77.49

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Clean Paved Roads

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

4.0 Operational Detail - Mobile

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	11.7384	153.9968	152.4951	1.2346	112.5917	0.4880	113.0798	30.1313	0.4581	30.5894		126,587.3679	126,587.3679	5.2261		126,718.0191
Unmitigated	11.7384	153.9968	152.4951	1.2346	112.5917	0.4880	113.0798	30.1313	0.4581	30.5894		126,587.3679	126,587.3679	5.2261		126,718.0191

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	675.46	675.46	675.46	3,059,824	3,059,824
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	510.00	510.00	510.00	2,310,290	2,310,290
Movie Theater (No Matinee)	759.00	759.00	759.00	3,438,255	3,438,255
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	2,702.40	2,702.40	2,702.40	11,323,682	11,323,682
User Defined Recreational	5,061.61	5,061.61	5,061.61	32,462,448	32,462,448
Total	9,708.47	9,708.47	9,708.47	52,594,499	52,594,499

4.3 Trip Type Information

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	9.50	25.00	0.00	81.00	19.00	100	0	0
Enclosed Parking Structure	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Hotel	9.50	9.50	25.00	19.40	61.60	19.00	100	0	0
Movie Theater (No Matinee)	9.50	9.50	25.00	1.80	79.20	19.00	100	0	0
Parking Lot	9.50	9.50	25.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	9.50	25.00	16.30	64.70	19.00	90	10	0
User Defined Recreational	9.50	9.50	25.00	19.00	19.40	61.60	90	10	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Parking Lot	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Arena	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Hotel	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Movie Theater (No Matinee)	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
User Defined Recreational	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Regional Shopping Center	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
NaturalGas Unmitigated	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	53.1289	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
Total		5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Movie Theater (No Matinee)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0.0531289	5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876
Total		5.7000e-004	5.2100e-003	4.3800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.2505	6.2505	1.2000e-004	1.1000e-004	6.2876

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.6852	5.5400e-003	0.6168	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3307	1.3307	3.4300e-003		1.4164
Unmitigated	13.6852	5.5400e-003	0.6168	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3307	1.3307	3.4300e-003		1.4164

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0849					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.5438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0564	5.5400e-003	0.6168	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3307	1.3307	3.4300e-003		1.4164
Total	13.6852	5.5400e-003	0.6168	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3307	1.3307	3.4300e-003		1.4164

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0849					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.5438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0564	5.5400e-003	0.6168	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3307	1.3307	3.4300e-003		1.4164
Total	13.6852	5.5400e-003	0.6168	5.0000e-005		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003		1.3307	1.3307	3.4300e-003		1.4164

7.0 Water Detail

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0.5	6	2923	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
Boiler	3	12	4380	0.5	CNG

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Boiler - CNG (0 - 2 MMBTU)	0.1941	0.8640	3.4589	0.0212		0.2682	0.2682		0.2682	0.2682		4,235.3665	4,235.3665	0.0812		4,237.3959
Emergency Generator - Diesel (750 - 9999 HP)	7.1953	32.1767	18.3464	0.0346		1.0585	1.0585		1.0585	1.0585		3,680.8497	3,680.8497	0.5161		3,693.7511
Total	7.3894	33.0408	21.8053	0.0558		1.3267	1.3267		1.3267	1.3267		7,916.2162	7,916.2162	0.5972		7,931.1470

Redding Rancheria FTT and Casino Project – Alternative E - Shasta County, Winter

11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative E

Shasta County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Rubber Tired Dozers	Diesel	No Change	0	3	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	4	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr						Unmitigated mt/yr						
Rubber Tired Dozers	3.40000E-003	3.62200E-002	1.28500E-002	3.00000E-005	1.77000E-003	1.62000E-003	0.00000E+000	2.30088E+000	2.30088E+000	7.30000E-004	0.00000E+000	2.31908E+000
Tractors/Loaders/Backhoes	9.30000E-004	9.35000E-003	9.21000E-003	1.00000E-005	6.20000E-004	5.70000E-004	0.00000E+000	1.11599E+000	1.11599E+000	3.50000E-004	0.00000E+000	1.12482E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr						Mitigated mt/yr						
Rubber Tired Dozers	3.40000E-003	3.62200E-002	1.28500E-002	3.00000E-005	1.77000E-003	1.62000E-003	0.00000E+000	2.30088E+000	2.30088E+000	7.30000E-004	0.00000E+000	2.31908E+000
Tractors/Loaders/Backhoes	9.30000E-004	9.35000E-003	9.21000E-003	1.00000E-005	6.20000E-004	5.70000E-004	0.00000E+000	1.11599E+000	1.11599E+000	3.50000E-004	0.00000E+000	1.12481E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.89031E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	10.00	PM2.5 Reduction
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction
No	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)
Yes	Clean Paved Road	% PM Reduction	0.00	Frequency (per day)
				2.00

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Site Preparation	Fugitive Dust	0.02	0.01	0.02	0.01	0.00	0.00
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	29.60	29.04	29.13	29.60	29.60	29.30
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.18	0.44		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network			
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00		
No	Transit Improvements	Expand Transit Network	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00
No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		

No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	150.00
Yes	Use Low VOC Paint (Residential Exterior)	150.00
Yes	Use Low VOC Paint (Non-residential Interior)	150.00
Yes	Use Low VOC Paint (Non-residential Exterior)	150.00
Yes	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
Yes	Use Reclaimed Water	30.00	30.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
---------------------	-------------

Institute Recycling and Composting Services Percent Reduction in Waste Disposed	
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Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Annual

**Redding Rancheria FTT and Casino Project – Alternative F
Shasta County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,710.00	Space	4.18	604,500.00	0
Arena	10.00	1000sqft	0.08	10,000.00	0
User Defined Recreational	9.83	User Defined Unit	0.00	9,826.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Annual

Project Characteristics - Refer to CalEEMod in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Tables in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod in Appendix Q of the EIS.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Annual

tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	18.00	99.00
tblConstructionPhase	NumDays	230.00	142.00
tblConstructionPhase	NumDays	8.00	15.00
tblConstructionPhase	NumDays	18.00	120.00
tblConstructionPhase	NumDays	5.00	8.00
tblConstructionPhase	PhaseEndDate	7/23/2020	2/28/2020
tblConstructionPhase	PhaseEndDate	6/3/2020	2/14/2020
tblConstructionPhase	PhaseEndDate	7/17/2019	7/31/2019
tblConstructionPhase	PhaseEndDate	6/29/2020	2/15/2020
tblConstructionPhase	PhaseEndDate	7/5/2019	7/10/2019

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tblConstructionPhase	PhaseStartDate	6/30/2020	10/15/2019
tblConstructionPhase	PhaseStartDate	7/18/2019	8/1/2019
tblConstructionPhase	PhaseStartDate	7/6/2019	7/11/2019
tblConstructionPhase	PhaseStartDate	6/4/2020	9/1/2019
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	0.00	0.24
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	0.00	2.3100e-003
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24NG	17.11	0.00
tblGrading	AcresOfGrading	7.50	4.00
tblLandUse	BuildingSpaceSquareFeet	684,000.00	604,500.00
tblLandUse	BuildingSpaceSquareFeet	0.00	9,826.00
tblLandUse	LandUseSquareFeet	684,000.00	604,500.00
tblLandUse	LandUseSquareFeet	0.00	9,826.00
tblLandUse	LotAcreage	15.39	4.18
tblLandUse	LotAcreage	3.21	0.08
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	58.00
tblVehicleTrips	CC_TTP	81.00	0.00
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	81.00

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tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	0.00	28.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	0.00	72.00
tblVehicleTrips	ST_TR	10.71	0.00
tblVehicleTrips	ST_TR	0.00	192.98
tblVehicleTrips	SU_TR	10.71	0.00
tblVehicleTrips	SU_TR	0.00	192.98
tblVehicleTrips	WD_TR	10.71	0.00
tblVehicleTrips	WD_TR	0.00	192.98
tblWater	IndoorWaterUseRate	4,307,701.18	0.00
tblWater	IndoorWaterUseRate	0.00	18,834,000.00
tblWater	OutdoorWaterUseRate	274,959.65	0.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2019	9-30-2019	1.4327	0.9763
2	10-1-2019	12-31-2019	2.0078	1.5602
3	1-1-2020	3-31-2020	0.9631	0.7926
		Highest	2.0078	1.5602

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1444	1.4000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0309	0.0309	8.0000e-005	0.0000	0.0329
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.6958	0.6958	3.0000e-005	1.0000e-005	0.6986
Mobile	0.5401	4.7424	5.0864	0.0240	1.5632	0.0179	1.5811	0.4205	0.0168	0.4373	0.0000	2,224.3100	2,224.3100	0.1305	0.0000	2,227.5730
Waste						0.0000	0.0000		0.0000	0.0000	11.7735	0.0000	11.7735	0.6958	0.0000	29.1683
Water						0.0000	0.0000		0.0000	0.0000	5.9752	29.6470	35.6222	0.6151	0.0148	55.3993
Total	0.6845	4.7425	5.1023	0.0240	1.5632	0.0179	1.5811	0.4205	0.0168	0.4373	17.7486	2,254.6837	2,272.4324	1.4415	0.0148	2,312.8721

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1444	1.4000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0309	0.0309	8.0000e-005	0.0000	0.0329
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.6958	0.6958	3.0000e-005	1.0000e-005	0.6986
Mobile	0.5401	4.7424	5.0864	0.0240	1.5632	0.0179	1.5811	0.4205	0.0168	0.4373	0.0000	2,224.3100	2,224.3100	0.1305	0.0000	2,227.5730
Waste						0.0000	0.0000		0.0000	0.0000	11.7735	0.0000	11.7735	0.6958	0.0000	29.1683
Water						0.0000	0.0000		0.0000	0.0000	4.2065	20.8715	25.0780	0.4330	0.0104	39.0011
Total	0.6845	4.7425	5.1023	0.0240	1.5632	0.0179	1.5811	0.4205	0.0168	0.4373	15.9800	2,245.9082	2,261.8882	1.2594	0.0104	2,296.4739

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.96	0.39	0.46	12.63	29.57	0.71

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/10/2019	5	8	
2	Grading	Grading	7/11/2019	7/31/2019	5	15	
3	Building Construction	Building Construction	8/1/2019	2/14/2020	5	142	
4	Paving	Paving	9/1/2019	2/15/2020	5	120	
5	Architectural Coating	Architectural Coating	10/15/2019	2/28/2020	5	99	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 4.18

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 29,739; Non-Residential Outdoor: 9,913; Striped Parking Area: 36,270 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	262.00	102.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	52.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

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3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0723	0.0000	0.0723	0.0397	0.0000	0.0397	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0173	0.1823	0.0883	1.5000e-004		9.5600e-003	9.5600e-003		8.8000e-003	8.8000e-003	0.0000	13.6675	13.6675	4.3200e-003	0.0000	13.7756
Total	0.0173	0.1823	0.0883	1.5000e-004	0.0723	9.5600e-003	0.0818	0.0397	8.8000e-003	0.0485	0.0000	13.6675	13.6675	4.3200e-003	0.0000	13.7756

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3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.8000e-004	2.6100e-003	1.0000e-005	5.6000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5380	0.5380	2.0000e-005	0.0000	0.5386
Total	3.3000e-004	2.8000e-004	2.6100e-003	1.0000e-005	5.6000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5380	0.5380	2.0000e-005	0.0000	0.5386

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0325	0.0000	0.0325	0.0179	0.0000	0.0179	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7200e-003	0.0763	0.0918	1.5000e-004		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0000	13.6675	13.6675	4.3200e-003	0.0000	13.7756
Total	3.7200e-003	0.0763	0.0918	1.5000e-004	0.0325	5.7000e-004	0.0331	0.0179	5.7000e-004	0.0185	0.0000	13.6675	13.6675	4.3200e-003	0.0000	13.7756

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3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.8000e-004	2.6100e-003	1.0000e-005	5.6000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5380	0.5380	2.0000e-005	0.0000	0.5386
Total	3.3000e-004	2.8000e-004	2.6100e-003	1.0000e-005	5.6000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5380	0.5380	2.0000e-005	0.0000	0.5386

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0473	0.0000	0.0473	0.0251	0.0000	0.0251	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2126	0.1222	2.2000e-004		0.0105	0.0105		9.6400e-003	9.6400e-003	0.0000	19.9817	19.9817	6.3200e-003	0.0000	20.1398
Total	0.0194	0.2126	0.1222	2.2000e-004	0.0473	0.0105	0.0578	0.0251	9.6400e-003	0.0347	0.0000	19.9817	19.9817	6.3200e-003	0.0000	20.1398

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3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	4.3000e-004	4.0800e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.9000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.8407	0.8407	3.0000e-005	0.0000	0.8415
Total	5.2000e-004	4.3000e-004	4.0800e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.9000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.8407	0.8407	3.0000e-005	0.0000	0.8415

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0213	0.0000	0.0213	0.0113	0.0000	0.0113	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4500e-003	0.1113	0.1424	2.2000e-004		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	19.9817	19.9817	6.3200e-003	0.0000	20.1397
Total	5.4500e-003	0.1113	0.1424	2.2000e-004	0.0213	8.5000e-004	0.0221	0.0113	8.5000e-004	0.0121	0.0000	19.9817	19.9817	6.3200e-003	0.0000	20.1397

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3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	4.3000e-004	4.0800e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.9000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.8407	0.8407	3.0000e-005	0.0000	0.8415
Total	5.2000e-004	4.3000e-004	4.0800e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.9000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.8407	0.8407	3.0000e-005	0.0000	0.8415

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1287	1.1488	0.9354	1.4700e-003		0.0703	0.0703		0.0661	0.0661	0.0000	128.1318	128.1318	0.0312	0.0000	128.9121
Total	0.1287	1.1488	0.9354	1.4700e-003		0.0703	0.0703		0.0661	0.0661	0.0000	128.1318	128.1318	0.0312	0.0000	128.9121

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3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0300	0.7494	0.1745	1.6200e-003	0.0362	5.8900e-003	0.0421	0.0105	5.6300e-003	0.0161	0.0000	153.8330	153.8330	0.0136	0.0000	154.1720
Worker	0.0664	0.0547	0.5173	1.1800e-003	0.1116	8.7000e-004	0.1124	0.0297	8.0000e-004	0.0305	0.0000	106.7010	106.7010	4.2100e-003	0.0000	106.8061
Total	0.0963	0.8041	0.6918	2.8000e-003	0.1477	6.7600e-003	0.1545	0.0402	6.4300e-003	0.0466	0.0000	260.5340	260.5340	0.0178	0.0000	260.9781

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0367	0.7753	0.9741	1.4700e-003		7.3900e-003	7.3900e-003		7.3900e-003	7.3900e-003	0.0000	128.1316	128.1316	0.0312	0.0000	128.9120
Total	0.0367	0.7753	0.9741	1.4700e-003		7.3900e-003	7.3900e-003		7.3900e-003	7.3900e-003	0.0000	128.1316	128.1316	0.0312	0.0000	128.9120

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3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0300	0.7494	0.1745	1.6200e-003	0.0362	5.8900e-003	0.0421	0.0105	5.6300e-003	0.0161	0.0000	153.8330	153.8330	0.0136	0.0000	154.1720
Worker	0.0664	0.0547	0.5173	1.1800e-003	0.1116	8.7000e-004	0.1124	0.0297	8.0000e-004	0.0305	0.0000	106.7010	106.7010	4.2100e-003	0.0000	106.8061
Total	0.0963	0.8041	0.6918	2.8000e-003	0.1477	6.7600e-003	0.1545	0.0402	6.4300e-003	0.0466	0.0000	260.5340	260.5340	0.0178	0.0000	260.9781

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0350	0.3166	0.2780	4.4000e-004		0.0184	0.0184		0.0173	0.0173	0.0000	38.2157	38.2157	9.3200e-003	0.0000	38.4487
Total	0.0350	0.3166	0.2780	4.4000e-004		0.0184	0.0184		0.0173	0.0173	0.0000	38.2157	38.2157	9.3200e-003	0.0000	38.4487

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3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.3400e-003	0.2066	0.0459	4.9000e-004	0.0110	1.1400e-003	0.0121	3.1700e-003	1.0900e-003	4.2600e-003	0.0000	46.2551	46.2551	3.7500e-003	0.0000	46.3489
Worker	0.0180	0.0144	0.1371	3.5000e-004	0.0338	2.5000e-004	0.0340	8.9900e-003	2.3000e-004	9.2300e-003	0.0000	31.2832	31.2832	1.0800e-003	0.0000	31.3103
Total	0.0253	0.2210	0.1830	8.4000e-004	0.0447	1.3900e-003	0.0461	0.0122	1.3200e-003	0.0135	0.0000	77.5383	77.5383	4.8300e-003	0.0000	77.6591

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0111	0.2347	0.2949	4.4000e-004		2.2400e-003	2.2400e-003		2.2400e-003	2.2400e-003	0.0000	38.2156	38.2156	9.3200e-003	0.0000	38.4487
Total	0.0111	0.2347	0.2949	4.4000e-004		2.2400e-003	2.2400e-003		2.2400e-003	2.2400e-003	0.0000	38.2156	38.2156	9.3200e-003	0.0000	38.4487

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3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.3400e-003	0.2066	0.0459	4.9000e-004	0.0110	1.1400e-003	0.0121	3.1700e-003	1.0900e-003	4.2600e-003	0.0000	46.2551	46.2551	3.7500e-003	0.0000	46.3489
Worker	0.0180	0.0144	0.1371	3.5000e-004	0.0338	2.5000e-004	0.0340	8.9900e-003	2.3000e-004	9.2300e-003	0.0000	31.2832	31.2832	1.0800e-003	0.0000	31.3103
Total	0.0253	0.2210	0.1830	8.4000e-004	0.0447	1.3900e-003	0.0461	0.0122	1.3200e-003	0.0135	0.0000	77.5383	77.5383	4.8300e-003	0.0000	77.6591

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0552	0.5551	0.5356	8.2000e-004		0.0313	0.0313		0.0289	0.0289	0.0000	72.7421	72.7421	0.0224	0.0000	73.3015
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0552	0.5551	0.5356	8.2000e-004		0.0313	0.0313		0.0289	0.0289	0.0000	72.7421	72.7421	0.0224	0.0000	73.3015

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3.5 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0400e-003	3.3300e-003	0.0315	7.0000e-005	6.8000e-003	5.0000e-005	6.8500e-003	1.8100e-003	5.0000e-005	1.8600e-003	0.0000	6.5012	6.5012	2.6000e-004	0.0000	6.5076
Total	4.0400e-003	3.3300e-003	0.0315	7.0000e-005	6.8000e-003	5.0000e-005	6.8500e-003	1.8100e-003	5.0000e-005	1.8600e-003	0.0000	6.5012	6.5012	2.6000e-004	0.0000	6.5076

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0191	0.3954	0.5887	8.2000e-004		3.4200e-003	3.4200e-003		3.4200e-003	3.4200e-003	0.0000	72.7420	72.7420	0.0224	0.0000	73.3014
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0191	0.3954	0.5887	8.2000e-004		3.4200e-003	3.4200e-003		3.4200e-003	3.4200e-003	0.0000	72.7420	72.7420	0.0224	0.0000	73.3014

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3.5 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0400e-003	3.3300e-003	0.0315	7.0000e-005	6.8000e-003	5.0000e-005	6.8500e-003	1.8100e-003	5.0000e-005	1.8600e-003	0.0000	6.5012	6.5012	2.6000e-004	0.0000	6.5076
Total	4.0400e-003	3.3300e-003	0.0315	7.0000e-005	6.8000e-003	5.0000e-005	6.8500e-003	1.8100e-003	5.0000e-005	1.8600e-003	0.0000	6.5012	6.5012	2.6000e-004	0.0000	6.5076

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0195	0.1947	0.2027	3.1000e-004		0.0107	0.0107		9.9100e-003	9.9100e-003	0.0000	27.0138	27.0138	8.4900e-003	0.0000	27.2260
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0195	0.1947	0.2027	3.1000e-004		0.0107	0.0107		9.9100e-003	9.9100e-003	0.0000	27.0138	27.0138	8.4900e-003	0.0000	27.2260

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Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3700e-003	1.1000e-003	0.0105	3.0000e-005	2.5800e-003	2.0000e-005	2.6000e-003	6.9000e-004	2.0000e-005	7.0000e-004	0.0000	2.3880	2.3880	8.0000e-005	0.0000	2.3901
Total	1.3700e-003	1.1000e-003	0.0105	3.0000e-005	2.5800e-003	2.0000e-005	2.6000e-003	6.9000e-004	2.0000e-005	7.0000e-004	0.0000	2.3880	2.3880	8.0000e-005	0.0000	2.3901

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.2400e-003	0.1500	0.2233	3.1000e-004		1.3000e-003	1.3000e-003		1.3000e-003	1.3000e-003	0.0000	27.0138	27.0138	8.4900e-003	0.0000	27.2260
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	7.2400e-003	0.1500	0.2233	3.1000e-004		1.3000e-003	1.3000e-003		1.3000e-003	1.3000e-003	0.0000	27.0138	27.0138	8.4900e-003	0.0000	27.2260

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3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3700e-003	1.1000e-003	0.0105	3.0000e-005	2.5800e-003	2.0000e-005	2.6000e-003	6.9000e-004	2.0000e-005	7.0000e-004	0.0000	2.3880	2.3880	8.0000e-005	0.0000	2.3901
Total	1.3700e-003	1.1000e-003	0.0105	3.0000e-005	2.5800e-003	2.0000e-005	2.6000e-003	6.9000e-004	2.0000e-005	7.0000e-004	0.0000	2.3880	2.3880	8.0000e-005	0.0000	2.3901

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1493					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.4600e-003	0.0514	0.0516	8.0000e-005		3.6100e-003	3.6100e-003		3.6100e-003	3.6100e-003	0.0000	7.1491	7.1491	6.0000e-004	0.0000	7.1642
Total	0.1568	0.0514	0.0516	8.0000e-005		3.6100e-003	3.6100e-003		3.6100e-003	3.6100e-003	0.0000	7.1491	7.1491	6.0000e-004	0.0000	7.1642

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3.6 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7700e-003	5.5700e-003	0.0528	1.2000e-004	0.0114	9.0000e-005	0.0115	3.0300e-003	8.0000e-005	3.1100e-003	0.0000	10.8801	10.8801	4.3000e-004	0.0000	10.8908
Total	6.7700e-003	5.5700e-003	0.0528	1.2000e-004	0.0114	9.0000e-005	0.0115	3.0300e-003	8.0000e-005	3.1100e-003	0.0000	10.8801	10.8801	4.3000e-004	0.0000	10.8908

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1493					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6600e-003	0.0380	0.0513	8.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	7.1491	7.1491	6.0000e-004	0.0000	7.1642
Total	0.1510	0.0380	0.0513	8.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	7.1491	7.1491	6.0000e-004	0.0000	7.1642

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3.6 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7700e-003	5.5700e-003	0.0528	1.2000e-004	0.0114	9.0000e-005	0.0115	3.0300e-003	8.0000e-005	3.1100e-003	0.0000	10.8801	10.8801	4.3000e-004	0.0000	10.8908
Total	6.7700e-003	5.5700e-003	0.0528	1.2000e-004	0.0114	9.0000e-005	0.0115	3.0300e-003	8.0000e-005	3.1100e-003	0.0000	10.8801	10.8801	4.3000e-004	0.0000	10.8908

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1146					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2100e-003	0.0362	0.0394	6.0000e-005		2.3900e-003	2.3900e-003		2.3900e-003	2.3900e-003	0.0000	5.4895	5.4895	4.3000e-004	0.0000	5.5001
Total	0.1198	0.0362	0.0394	6.0000e-005		2.3900e-003	2.3900e-003		2.3900e-003	2.3900e-003	0.0000	5.4895	5.4895	4.3000e-004	0.0000	5.5001

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3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6500e-003	3.7300e-003	0.0355	9.0000e-005	8.7400e-003	7.0000e-005	8.8000e-003	2.3300e-003	6.0000e-005	2.3900e-003	0.0000	8.0904	8.0904	2.8000e-004	0.0000	8.0974
Total	4.6500e-003	3.7300e-003	0.0355	9.0000e-005	8.7400e-003	7.0000e-005	8.8000e-003	2.3300e-003	6.0000e-005	2.3900e-003	0.0000	8.0904	8.0904	2.8000e-004	0.0000	8.0974

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1146					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2800e-003	0.0292	0.0394	6.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	5.4895	5.4895	4.3000e-004	0.0000	5.5001
Total	0.1159	0.0292	0.0394	6.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	5.4895	5.4895	4.3000e-004	0.0000	5.5001

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3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6500e-003	3.7300e-003	0.0355	9.0000e-005	8.7400e-003	7.0000e-005	8.8000e-003	2.3300e-003	6.0000e-005	2.3900e-003	0.0000	8.0904	8.0904	2.8000e-004	0.0000	8.0974
Total	4.6500e-003	3.7300e-003	0.0355	9.0000e-005	8.7400e-003	7.0000e-005	8.8000e-003	2.3300e-003	6.0000e-005	2.3900e-003	0.0000	8.0904	8.0904	2.8000e-004	0.0000	8.0974

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5401	4.7424	5.0864	0.0240	1.5632	0.0179	1.5811	0.4205	0.0168	0.4373	0.0000	2,224.3100	2,224.3100	0.1305	0.0000	2,227.5730
Unmitigated	0.5401	4.7424	5.0864	0.0240	1.5632	0.0179	1.5811	0.4205	0.0168	0.4373	0.0000	2,224.3100	2,224.3100	0.1305	0.0000	2,227.5730

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
User Defined Recreational	1,896.99	1,896.99	1,896.99	4,210,165	4,210,165
Total	1,896.99	1,896.99	1,896.99	4,210,165	4,210,165

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	7.30	7.30	81.00	0.00	19.00	100	0	0
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
User Defined Recreational	9.50	7.30	7.30	19.00	19.40	61.60	72	28	0

4.4 Fleet Mix

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Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Arena	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
User Defined Recreational	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.6946	0.6946	3.0000e-005	1.0000e-005	0.6973
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.6946	0.6946	3.0000e-005	1.0000e-005	0.6973
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2100e-003	1.2100e-003	0.0000	0.0000	1.2200e-003
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2100e-003	1.2100e-003	0.0000	0.0000	1.2200e-003

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	22.6981	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2100e-003	1.2100e-003	0.0000	0.0000	1.2200e-003
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2100e-003	1.2100e-003	0.0000	0.0000	1.2200e-003

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	22.6981	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2100e-003	1.2100e-003	0.0000	0.0000	1.2200e-003
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2100e-003	1.2100e-003	0.0000	0.0000	1.2200e-003

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	2387.72	0.6946	3.0000e-005	1.0000e-005	0.6973
Total		0.6946	3.0000e-005	1.0000e-005	0.6973

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	2387.72	0.6946	3.0000e-005	1.0000e-005	0.6973
Total		0.6946	3.0000e-005	1.0000e-005	0.6973

6.0 Area Detail

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6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1444	1.4000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0309	0.0309	8.0000e-005	0.0000	0.0329
Unmitigated	0.1444	1.4000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0309	0.0309	8.0000e-005	0.0000	0.0329

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1165					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4600e-003	1.4000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0309	0.0309	8.0000e-005	0.0000	0.0329
Total	0.1444	1.4000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0309	0.0309	8.0000e-005	0.0000	0.0329

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1165					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4600e-003	1.4000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0309	0.0309	8.0000e-005	0.0000	0.0329
Total	0.1444	1.4000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0309	0.0309	8.0000e-005	0.0000	0.0329

7.0 Water Detail

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7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	25.0780	0.4330	0.0104	39.0011
Unmitigated	35.6222	0.6151	0.0148	55.3993

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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	18.834 / 0	35.6222	0.6151	0.0148	55.3993
Total		35.6222	0.6151	0.0148	55.3993

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	13.2591 / 0	25.0780	0.4330	0.0104	39.0011
Total		25.0780	0.4330	0.0104	39.0011

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8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.7735	0.6958	0.0000	29.1683
Unmitigated	11.7735	0.6958	0.0000	29.1683

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	58	11.7735	0.6958	0.0000	29.1683
Total		11.7735	0.6958	0.0000	29.1683

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	58	11.7735	0.6958	0.0000	29.1683
Total		11.7735	0.6958	0.0000	29.1683

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
----------------	--------

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11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

**Redding Rancheria FTT and Casino Project – Alternative F
Shasta County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,710.00	Space	4.18	604,500.00	0
Arena	10.00	1000sqft	0.08	10,000.00	0
User Defined Recreational	9.83	User Defined Unit	0.00	9,826.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Refer to CalEEMod in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Tables in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod in Appendix Q of the EIS.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150

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tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	18.00	99.00
tblConstructionPhase	NumDays	230.00	142.00
tblConstructionPhase	NumDays	8.00	15.00
tblConstructionPhase	NumDays	18.00	120.00
tblConstructionPhase	NumDays	5.00	8.00
tblConstructionPhase	PhaseEndDate	7/23/2020	2/28/2020
tblConstructionPhase	PhaseEndDate	6/3/2020	2/14/2020
tblConstructionPhase	PhaseEndDate	7/17/2019	7/31/2019
tblConstructionPhase	PhaseEndDate	6/29/2020	2/15/2020
tblConstructionPhase	PhaseEndDate	7/5/2019	7/10/2019

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tblConstructionPhase	PhaseStartDate	6/30/2020	10/15/2019
tblConstructionPhase	PhaseStartDate	7/18/2019	8/1/2019
tblConstructionPhase	PhaseStartDate	7/6/2019	7/11/2019
tblConstructionPhase	PhaseStartDate	6/4/2020	9/1/2019
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	0.00	0.24
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	0.00	2.3100e-003
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24NG	17.11	0.00
tblGrading	AcresOfGrading	7.50	4.00
tblLandUse	BuildingSpaceSquareFeet	684,000.00	604,500.00
tblLandUse	BuildingSpaceSquareFeet	0.00	9,826.00
tblLandUse	LandUseSquareFeet	684,000.00	604,500.00
tblLandUse	LandUseSquareFeet	0.00	9,826.00
tblLandUse	LotAcreage	15.39	4.18
tblLandUse	LotAcreage	3.21	0.08
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	58.00
tblVehicleTrips	CC_TTP	81.00	0.00
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	81.00

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tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	0.00	28.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	0.00	72.00
tblVehicleTrips	ST_TR	10.71	0.00
tblVehicleTrips	ST_TR	0.00	192.98
tblVehicleTrips	SU_TR	10.71	0.00
tblVehicleTrips	SU_TR	0.00	192.98
tblVehicleTrips	WD_TR	10.71	0.00
tblVehicleTrips	WD_TR	0.00	192.98
tblWater	IndoorWaterUseRate	4,307,701.18	0.00
tblWater	IndoorWaterUseRate	0.00	18,834,000.00
tblWater	OutdoorWaterUseRate	274,959.65	0.00

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7992	1.6000e-003	0.1762	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		0.3786	0.3786	9.8000e-004		0.4032
Energy	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
Mobile	3.8768	25.7588	30.9694	0.1406	9.0184	0.0980	9.1164	2.4157	0.0920	2.5077		14,346.8268	14,346.8268	0.7750		14,366.2025
Total	4.6761	25.7604	31.1456	0.1406	9.0184	0.0987	9.1171	2.4157	0.0926	2.5083		14,347.2127	14,347.2127	0.7760	0.0000	14,366.6131

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7992	1.6000e-003	0.1762	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		0.3786	0.3786	9.8000e-004		0.4032
Energy	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
Mobile	3.8768	25.7588	30.9694	0.1406	9.0184	0.0980	9.1164	2.4157	0.0920	2.5077		14,346.8268	14,346.8268	0.7750		14,366.2025
Total	4.6761	25.7604	31.1456	0.1406	9.0184	0.0987	9.1171	2.4157	0.0926	2.5083		14,347.2127	14,347.2127	0.7760	0.0000	14,366.6131

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/10/2019	5	8	
2	Grading	Grading	7/11/2019	7/31/2019	5	15	
3	Building Construction	Building Construction	8/1/2019	2/14/2020	5	142	
4	Paving	Paving	9/1/2019	2/15/2020	5	120	
5	Architectural Coating	Architectural Coating	10/15/2019	2/28/2020	5	99	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 4.18

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 29,739; Non-Residential Outdoor: 9,913; Striped Parking Area: 36,270 (Architectural Coating – sqft)

OffRoad Equipment

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	262.00	102.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	52.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.9312	19.0656	22.9600	0.0380		0.1419	0.1419		0.1419	0.1419	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	0.9312	19.0656	22.9600	0.0380	8.1298	0.1419	8.2717	4.4688	0.1419	4.6107	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.3049	0.0000	6.3049	3.3408	0.0000	3.3408			0.0000			0.0000
Off-Road	2.5805	28.3480	16.2934	0.0297		1.3974	1.3974		1.2856	1.2856		2,936.8068	2,936.8068	0.9292		2,960.0361
Total	2.5805	28.3480	16.2934	0.0297	6.3049	1.3974	7.7023	3.3408	1.2856	4.6263		2,936.8068	2,936.8068	0.9292		2,960.0361

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0843	0.0534	0.6462	1.3900e-003	0.1232	9.1000e-004	0.1241	0.0327	8.4000e-004	0.0335		137.8907	137.8907	5.5500e-003		138.0295
Total	0.0843	0.0534	0.6462	1.3900e-003	0.1232	9.1000e-004	0.1241	0.0327	8.4000e-004	0.0335		137.8907	137.8907	5.5500e-003		138.0295

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.8372	0.0000	2.8372	1.5033	0.0000	1.5033			0.0000			0.0000
Off-Road	0.7263	14.8397	18.9906	0.0297		0.1133	0.1133		0.1133	0.1133	0.0000	2,936.8068	2,936.8068	0.9292		2,960.0361
Total	0.7263	14.8397	18.9906	0.0297	2.8372	0.1133	2.9505	1.5033	0.1133	1.6167	0.0000	2,936.8068	2,936.8068	0.9292		2,960.0361

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0843	0.0534	0.6462	1.3900e-003	0.1232	9.1000e-004	0.1241	0.0327	8.4000e-004	0.0335		137.8907	137.8907	5.5500e-003		138.0295
Total	0.0843	0.0534	0.6462	1.3900e-003	0.1232	9.1000e-004	0.1241	0.0327	8.4000e-004	0.0335		137.8907	137.8907	5.5500e-003		138.0295

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5431	13.4790	2.9741	0.0302	0.6913	0.1071	0.7984	0.1990	0.1025	0.3015		3,154.592 4	3,154.592 4	0.2606		3,161.106 2
Worker	1.4728	0.9334	11.2864	0.0242	2.1523	0.0159	2.1682	0.5709	0.0147	0.5855		2,408.491 2	2,408.491 2	0.0970		2,410.915 0
Total	2.0159	14.4124	14.2605	0.0544	2.8435	0.1230	2.9665	0.7699	0.1171	0.8871		5,563.083 6	5,563.083 6	0.3575		5,572.021 2

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5431	13.4790	2.9741	0.0302	0.6913	0.1071	0.7984	0.1990	0.1025	0.3015		3,154.592 4	3,154.592 4	0.2606		3,161.106 2
Worker	1.4728	0.9334	11.2864	0.0242	2.1523	0.0159	2.1682	0.5709	0.0147	0.5855		2,408.491 2	2,408.491 2	0.0970		2,410.915 0
Total	2.0159	14.4124	14.2605	0.0544	2.8435	0.1230	2.9665	0.7699	0.1171	0.8871		5,563.083 6	5,563.083 6	0.3575		5,572.021 2

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.063 1	2,553.063 1	0.6229		2,568.634 5

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4383	12.2981	2.5689	0.0300	0.6913	0.0685	0.7598	0.1990	0.0655	0.2646		3,133.5759	3,133.5759	0.2376		3,139.5147
Worker	1.3169	0.8148	9.9216	0.0235	2.1523	0.0153	2.1676	0.5709	0.0141	0.5850		2,332.6186	2,332.6186	0.0826		2,334.6847
Total	1.7552	13.1130	12.4905	0.0534	2.8435	0.0838	2.9274	0.7699	0.0796	0.8496		5,466.1945	5,466.1945	0.3202		5,474.1995

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4383	12.2981	2.5689	0.0300	0.6913	0.0685	0.7598	0.1990	0.0655	0.2646		3,133.5759	3,133.5759	0.2376		3,139.5147
Worker	1.3169	0.8148	9.9216	0.0235	2.1523	0.0153	2.1676	0.5709	0.0141	0.5850		2,332.6186	2,332.6186	0.0826		2,334.6847
Total	1.7552	13.1130	12.4905	0.0534	2.8435	0.0838	2.9274	0.7699	0.0796	0.8496		5,466.1945	5,466.1945	0.3202		5,474.1995

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2679	12.7604	12.3130	0.0189		0.7196	0.7196		0.6637	0.6637		1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.2679	12.7604	12.3130	0.0189		0.7196	0.7196		0.6637	0.6637		1,843.3191	1,843.3191	0.5671		1,857.4966

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.5 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393
Total	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4389	9.0888	13.5323	0.0189		0.0787	0.0787		0.0787	0.0787	0.0000	1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.4389	9.0888	13.5323	0.0189		0.0787	0.0787		0.0787	0.0787	0.0000	1,843.3191	1,843.3191	0.5671		1,857.4966

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.5 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393
Total	0.1124	0.0713	0.8616	1.8500e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		183.8543	183.8543	7.4000e-003		184.0393

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005		1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005		1,804.7070	1,804.7070	0.5670		1,818.8830

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1005	0.0622	0.7574	1.7900e-003	0.1643	1.1700e-003	0.1655	0.0436	1.0800e-003	0.0447		178.0625	178.0625	6.3100e-003		178.2202
Total	0.1005	0.0622	0.7574	1.7900e-003	0.1643	1.1700e-003	0.1655	0.0436	1.0800e-003	0.0447		178.0625	178.0625	6.3100e-003		178.2202

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4389	9.0888	13.5323	0.0189		0.0787	0.0787		0.0787	0.0787	0.0000	1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.4389	9.0888	13.5323	0.0189		0.0787	0.0787		0.0787	0.0787	0.0000	1,804.7070	1,804.7070	0.5670		1,818.8830

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1005	0.0622	0.7574	1.7900e-003	0.1643	1.1700e-003	0.1655	0.0436	1.0800e-003	0.0447		178.0625	178.0625	6.3100e-003		178.2202
Total	0.1005	0.0622	0.7574	1.7900e-003	0.1643	1.1700e-003	0.1655	0.0436	1.0800e-003	0.0447		178.0625	178.0625	6.3100e-003		178.2202

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.3318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	5.5982	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.6 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2923	0.1853	2.2400	4.8100e-003	0.4272	3.1500e-003	0.4303	0.1133	2.9100e-003	0.1162		478.0212	478.0212	0.0192		478.5022
Total	0.2923	0.1853	2.2400	4.8100e-003	0.4272	3.1500e-003	0.4303	0.1133	2.9100e-003	0.1162		478.0212	478.0212	0.0192		478.5022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.3318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0238		282.0423
Total	5.3912	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0238		282.0423

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.6 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2923	0.1853	2.2400	4.8100e-003	0.4272	3.1500e-003	0.4303	0.1133	2.9100e-003	0.1162		478.0212	478.0212	0.0192		478.5022
Total	0.2923	0.1853	2.2400	4.8100e-003	0.4272	3.1500e-003	0.4303	0.1133	2.9100e-003	0.1162		478.0212	478.0212	0.0192		478.5022

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.3318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	5.5740	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2614	0.1617	1.9692	4.6500e-003	0.4272	3.0400e-003	0.4302	0.1133	2.8000e-003	0.1161		462.9625	462.9625	0.0164		463.3725
Total	0.2614	0.1617	1.9692	4.6500e-003	0.4272	3.0400e-003	0.4302	0.1133	2.8000e-003	0.1161		462.9625	462.9625	0.0164		463.3725

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.3318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928
Total	5.3912	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2614	0.1617	1.9692	4.6500e-003	0.4272	3.0400e-003	0.4302	0.1133	2.8000e-003	0.1161		462.9625	462.9625	0.0164		463.3725
Total	0.2614	0.1617	1.9692	4.6500e-003	0.4272	3.0400e-003	0.4302	0.1133	2.8000e-003	0.1161		462.9625	462.9625	0.0164		463.3725

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.8768	25.7588	30.9694	0.1406	9.0184	0.0980	9.1164	2.4157	0.0920	2.5077		14,346.8268	14,346.8268	0.7750		14,366.2025
Unmitigated	3.8768	25.7588	30.9694	0.1406	9.0184	0.0980	9.1164	2.4157	0.0920	2.5077		14,346.8268	14,346.8268	0.7750		14,366.2025

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
User Defined Recreational	1,896.99	1,896.99	1,896.99	4,210,165	4,210,165
Total	1,896.99	1,896.99	1,896.99	4,210,165	4,210,165

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	7.30	7.30	81.00	0.00	19.00	100	0	0
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
User Defined Recreational	9.50	7.30	7.30	19.00	19.40	61.60	72	28	0

4.4 Fleet Mix

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Arena	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
User Defined Recreational	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
NaturalGas Unmitigated	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0.0621865	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
Total		0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	6.21865e-005	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
Total		0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003

6.0 Area Detail

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7992	1.6000e-003	0.1762	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		0.3786	0.3786	9.8000e-004		0.4032
Unmitigated	0.7992	1.6000e-003	0.1762	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		0.3786	0.3786	9.8000e-004		0.4032

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1446					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6384					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0162	1.6000e-003	0.1762	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		0.3786	0.3786	9.8000e-004		0.4032
Total	0.7992	1.6000e-003	0.1762	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		0.3786	0.3786	9.8000e-004		0.4032

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1446					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6384					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0162	1.6000e-003	0.1762	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		0.3786	0.3786	9.8000e-004		0.4032
Total	0.7992	1.6000e-003	0.1762	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		0.3786	0.3786	9.8000e-004		0.4032

7.0 Water Detail

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

**Redding Rancheria FTT and Casino Project – Alternative F
Shasta County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,710.00	Space	4.18	604,500.00	0
Arena	10.00	1000sqft	0.08	10,000.00	0
User Defined Recreational	9.83	User Defined Unit	0.00	9,826.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

Project Characteristics - Refer to CalEEMod in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Tables in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod in Appendix Q of the EIS.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Parking	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	18.00	99.00
tblConstructionPhase	NumDays	230.00	142.00
tblConstructionPhase	NumDays	8.00	15.00
tblConstructionPhase	NumDays	18.00	120.00
tblConstructionPhase	NumDays	5.00	8.00
tblConstructionPhase	PhaseEndDate	7/23/2020	2/28/2020
tblConstructionPhase	PhaseEndDate	6/3/2020	2/14/2020
tblConstructionPhase	PhaseEndDate	7/17/2019	7/31/2019
tblConstructionPhase	PhaseEndDate	6/29/2020	2/15/2020
tblConstructionPhase	PhaseEndDate	7/5/2019	7/10/2019

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

tblConstructionPhase	PhaseStartDate	6/30/2020	10/15/2019
tblConstructionPhase	PhaseStartDate	7/18/2019	8/1/2019
tblConstructionPhase	PhaseStartDate	7/6/2019	7/11/2019
tblConstructionPhase	PhaseStartDate	6/4/2020	9/1/2019
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	0.00	0.24
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	0.00	2.3100e-003
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24NG	17.11	0.00
tblGrading	AcresOfGrading	7.50	4.00
tblLandUse	BuildingSpaceSquareFeet	684,000.00	604,500.00
tblLandUse	BuildingSpaceSquareFeet	0.00	9,826.00
tblLandUse	LandUseSquareFeet	684,000.00	604,500.00
tblLandUse	LandUseSquareFeet	0.00	9,826.00
tblLandUse	LotAcreage	15.39	4.18
tblLandUse	LotAcreage	3.21	0.08
tblProjectCharacteristics	OperationalYear	2018	2025
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	58.00
tblVehicleTrips	CC_TTP	81.00	0.00
tblVehicleTrips	CC_TTP	0.00	19.40
tblVehicleTrips	CNW_TTP	0.00	61.60
tblVehicleTrips	CW_TTP	0.00	81.00

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

tblVehicleTrips	CW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	0.00	28.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	0.00	72.00
tblVehicleTrips	ST_TR	10.71	0.00
tblVehicleTrips	ST_TR	0.00	192.98
tblVehicleTrips	SU_TR	10.71	0.00
tblVehicleTrips	SU_TR	0.00	192.98
tblVehicleTrips	WD_TR	10.71	0.00
tblVehicleTrips	WD_TR	0.00	192.98
tblWater	IndoorWaterUseRate	4,307,701.18	0.00
tblWater	IndoorWaterUseRate	0.00	18,834,000.00
tblWater	OutdoorWaterUseRate	274,959.65	0.00

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7992	1.6000e-003	0.1762	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		0.3786	0.3786	9.8000e-004		0.4032
Energy	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
Mobile	2.8183	26.1936	29.1206	0.1281	9.0184	0.0988	9.1172	2.4157	0.0927	2.5084		13,088.1199	13,088.1199	0.8357		13,109.0129
Total	3.6176	26.1952	29.2968	0.1281	9.0184	0.0994	9.1178	2.4157	0.0933	2.5090		13,088.5058	13,088.5058	0.8367	0.0000	13,109.4235

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7992	1.6000e-003	0.1762	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		0.3786	0.3786	9.8000e-004		0.4032
Energy	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
Mobile	2.8183	26.1936	29.1206	0.1281	9.0184	0.0988	9.1172	2.4157	0.0927	2.5084		13,088.1199	13,088.1199	0.8357		13,109.0129
Total	3.6176	26.1952	29.2968	0.1281	9.0184	0.0994	9.1178	2.4157	0.0933	2.5090		13,088.5058	13,088.5058	0.8367	0.0000	13,109.4235

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/10/2019	5	8	
2	Grading	Grading	7/11/2019	7/31/2019	5	15	
3	Building Construction	Building Construction	8/1/2019	2/14/2020	5	142	
4	Paving	Paving	9/1/2019	2/15/2020	5	120	
5	Architectural Coating	Architectural Coating	10/15/2019	2/28/2020	5	99	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 4.18

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 29,739; Non-Residential Outdoor: 9,913; Striped Parking Area: 36,270 (Architectural Coating – sqft)

OffRoad Equipment

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	262.00	102.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	52.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.9312	19.0656	22.9600	0.0380		0.1419	0.1419		0.1419	0.1419	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	0.9312	19.0656	22.9600	0.0380	8.1298	0.1419	8.2717	4.4688	0.1419	4.6107	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.3049	0.0000	6.3049	3.3408	0.0000	3.3408			0.0000			0.0000
Off-Road	2.5805	28.3480	16.2934	0.0297		1.3974	1.3974		1.2856	1.2856		2,936.8068	2,936.8068	0.9292		2,960.0361
Total	2.5805	28.3480	16.2934	0.0297	6.3049	1.3974	7.7023	3.3408	1.2856	4.6263		2,936.8068	2,936.8068	0.9292		2,960.0361

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0738	0.0640	0.5479	1.2000e-003	0.1232	9.1000e-004	0.1241	0.0327	8.4000e-004	0.0335		119.5820	119.5820	4.8100e-003		119.7024
Total	0.0738	0.0640	0.5479	1.2000e-003	0.1232	9.1000e-004	0.1241	0.0327	8.4000e-004	0.0335		119.5820	119.5820	4.8100e-003		119.7024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.8372	0.0000	2.8372	1.5033	0.0000	1.5033			0.0000			0.0000
Off-Road	0.7263	14.8397	18.9906	0.0297		0.1133	0.1133		0.1133	0.1133	0.0000	2,936.8068	2,936.8068	0.9292		2,960.0361
Total	0.7263	14.8397	18.9906	0.0297	2.8372	0.1133	2.9505	1.5033	0.1133	1.6167	0.0000	2,936.8068	2,936.8068	0.9292		2,960.0361

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0738	0.0640	0.5479	1.2000e-003	0.1232	9.1000e-004	0.1241	0.0327	8.4000e-004	0.0335		119.5820	119.5820	4.8100e-003		119.7024
Total	0.0738	0.0640	0.5479	1.2000e-003	0.1232	9.1000e-004	0.1241	0.0327	8.4000e-004	0.0335		119.5820	119.5820	4.8100e-003		119.7024

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5668	13.7750	3.4947	0.0292	0.6913	0.1092	0.8005	0.1990	0.1045	0.3035		3,051.817 0	3,051.817 0	0.2929		3,059.138 3
Worker	1.2885	1.1173	9.5701	0.0210	2.1523	0.0159	2.1682	0.5709	0.0147	0.5855		2,088.699 6	2,088.699 6	0.0841		2,090.801 9
Total	1.8553	14.8922	13.0648	0.0502	2.8435	0.1251	2.9686	0.7699	0.1192	0.8891		5,140.516 6	5,140.516 6	0.3769		5,149.940 2

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5668	13.7750	3.4947	0.0292	0.6913	0.1092	0.8005	0.1990	0.1045	0.3035		3,051.8170	3,051.8170	0.2929		3,059.1383
Worker	1.2885	1.1173	9.5701	0.0210	2.1523	0.0159	2.1682	0.5709	0.0147	0.5855		2,088.6996	2,088.6996	0.0841		2,090.8019
Total	1.8553	14.8922	13.0648	0.0502	2.8435	0.1251	2.9686	0.7699	0.1192	0.8891		5,140.5166	5,140.5166	0.3769		5,149.9402

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4601	12.5260	3.0467	0.0290	0.6913	0.0701	0.7614	0.1990	0.0671	0.2661		3,030.2318	3,030.2318	0.2681		3,036.9346
Worker	1.1537	0.9737	8.3422	0.0203	2.1523	0.0153	2.1676	0.5709	0.0141	0.5850		2,022.6329	2,022.6329	0.0711		2,024.4096
Total	1.6137	13.4997	11.3889	0.0493	2.8435	0.0854	2.9290	0.7699	0.0812	0.8511		5,052.8647	5,052.8647	0.3392		5,061.3441

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	0.6739	14.2261	17.8738	0.0269		0.1355	0.1355		0.1355	0.1355	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4601	12.5260	3.0467	0.0290	0.6913	0.0701	0.7614	0.1990	0.0671	0.2661		3,030.2318	3,030.2318	0.2681		3,036.9346
Worker	1.1537	0.9737	8.3422	0.0203	2.1523	0.0153	2.1676	0.5709	0.0141	0.5850		2,022.6329	2,022.6329	0.0711		2,024.4096
Total	1.6137	13.4997	11.3889	0.0493	2.8435	0.0854	2.9290	0.7699	0.0812	0.8511		5,052.8647	5,052.8647	0.3392		5,061.3441

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2679	12.7604	12.3130	0.0189		0.7196	0.7196		0.6637	0.6637		1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.2679	12.7604	12.3130	0.0189		0.7196	0.7196		0.6637	0.6637		1,843.3191	1,843.3191	0.5671		1,857.4966

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.5 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032
Total	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4389	9.0888	13.5323	0.0189		0.0787	0.0787		0.0787	0.0787	0.0000	1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.4389	9.0888	13.5323	0.0189		0.0787	0.0787		0.0787	0.0787	0.0000	1,843.3191	1,843.3191	0.5671		1,857.4966

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.5 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032
Total	0.0984	0.0853	0.7305	1.6000e-003	0.1643	1.2100e-003	0.1655	0.0436	1.1200e-003	0.0447		159.4427	159.4427	6.4200e-003		159.6032

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005		1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005		1,804.7070	1,804.7070	0.5670		1,818.8830

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0881	0.0743	0.6368	1.5500e-003	0.1643	1.1700e-003	0.1655	0.0436	1.0800e-003	0.0447		154.3995	154.3995	5.4200e-003		154.5351
Total	0.0881	0.0743	0.6368	1.5500e-003	0.1643	1.1700e-003	0.1655	0.0436	1.0800e-003	0.0447		154.3995	154.3995	5.4200e-003		154.5351

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4389	9.0888	13.5323	0.0189		0.0787	0.0787		0.0787	0.0787	0.0000	1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.4389	9.0888	13.5323	0.0189		0.0787	0.0787		0.0787	0.0787	0.0000	1,804.7070	1,804.7070	0.5670		1,818.8830

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0881	0.0743	0.6368	1.5500e-003	0.1643	1.1700e-003	0.1655	0.0436	1.0800e-003	0.0447		154.3995	154.3995	5.4200e-003		154.5351
Total	0.0881	0.0743	0.6368	1.5500e-003	0.1643	1.1700e-003	0.1655	0.0436	1.0800e-003	0.0447		154.3995	154.3995	5.4200e-003		154.5351

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.3318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	5.5982	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.6 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2557	0.2218	1.8994	4.1700e-003	0.4272	3.1500e-003	0.4303	0.1133	2.9100e-003	0.1162		414.5511	414.5511	0.0167		414.9683
Total	0.2557	0.2218	1.8994	4.1700e-003	0.4272	3.1500e-003	0.4303	0.1133	2.9100e-003	0.1162		414.5511	414.5511	0.0167		414.9683

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.3318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0238		282.0423
Total	5.3912	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0238		282.0423

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.6 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2557	0.2218	1.8994	4.1700e-003	0.4272	3.1500e-003	0.4303	0.1133	2.9100e-003	0.1162		414.5511	414.5511	0.0167		414.9683
Total	0.2557	0.2218	1.8994	4.1700e-003	0.4272	3.1500e-003	0.4303	0.1133	2.9100e-003	0.1162		414.5511	414.5511	0.0167		414.9683

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.3318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	5.5740	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2290	0.1933	1.6557	4.0300e-003	0.4272	3.0400e-003	0.4302	0.1133	2.8000e-003	0.1161		401.4386	401.4386	0.0141		401.7912
Total	0.2290	0.1933	1.6557	4.0300e-003	0.4272	3.0400e-003	0.4302	0.1133	2.8000e-003	0.1161		401.4386	401.4386	0.0141		401.7912

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.3318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928
Total	5.3912	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0218		281.9928

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2290	0.1933	1.6557	4.0300e-003	0.4272	3.0400e-003	0.4302	0.1133	2.8000e-003	0.1161		401.4386	401.4386	0.0141		401.7912
Total	0.2290	0.1933	1.6557	4.0300e-003	0.4272	3.0400e-003	0.4302	0.1133	2.8000e-003	0.1161		401.4386	401.4386	0.0141		401.7912

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.8183	26.1936	29.1206	0.1281	9.0184	0.0988	9.1172	2.4157	0.0927	2.5084		13,088.1199	13,088.1199	0.8357		13,109.0129
Unmitigated	2.8183	26.1936	29.1206	0.1281	9.0184	0.0988	9.1172	2.4157	0.0927	2.5084		13,088.1199	13,088.1199	0.8357		13,109.0129

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
User Defined Recreational	1,896.99	1,896.99	1,896.99	4,210,165	4,210,165
Total	1,896.99	1,896.99	1,896.99	4,210,165	4,210,165

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	7.30	7.30	81.00	0.00	19.00	100	0	0
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
User Defined Recreational	9.50	7.30	7.30	19.00	19.40	61.60	72	28	0

4.4 Fleet Mix

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
Arena	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036
User Defined Recreational	0.545380	0.030786	0.179742	0.096075	0.023578	0.005330	0.012536	0.096768	0.001298	0.001145	0.005079	0.001245	0.001036

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
NaturalGas Unmitigated	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0.0621865	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
Total		0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	6.21865e-005	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
Total		0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003

6.0 Area Detail

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7992	1.6000e-003	0.1762	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		0.3786	0.3786	9.8000e-004		0.4032
Unmitigated	0.7992	1.6000e-003	0.1762	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		0.3786	0.3786	9.8000e-004		0.4032

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1446					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6384					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0162	1.6000e-003	0.1762	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		0.3786	0.3786	9.8000e-004		0.4032
Total	0.7992	1.6000e-003	0.1762	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		0.3786	0.3786	9.8000e-004		0.4032

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1446					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6384					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0162	1.6000e-003	0.1762	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		0.3786	0.3786	9.8000e-004		0.4032
Total	0.7992	1.6000e-003	0.1762	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004		0.3786	0.3786	9.8000e-004		0.4032

7.0 Water Detail

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative F

Shasta County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.03	0.21	0.00	0.00	0.86	0.86	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.41	0.18	-0.03	0.00	0.82	0.81	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.70	0.48	-0.16	0.00	0.92	0.91	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.60	0.27	-0.09	0.00	0.89	0.88	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.77	0.58	-0.04	0.00	0.94	0.94	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	Tier 3	1	1	Level 3	0.00
Cement and Mortar Mixers	Diesel	Tier 3	2	2	Level 3	0.00
Cranes	Diesel	Tier 3	1	1	Level 3	0.00
Excavators	Diesel	Tier 3	1	1	Level 3	0.00
Forklifts	Diesel	Tier 3	3	3	Level 3	0.00
Generator Sets	Diesel	Tier 3	1	1	Level 3	0.00
Graders	Diesel	Tier 3	1	1	Level 3	0.00
Pavers	Diesel	Tier 3	1	1	Level 3	0.00
Paving Equipment	Diesel	Tier 3	2	2	Level 3	0.00
Rollers	Diesel	Tier 3	2	2	Level 3	0.00
Rubber Tired Dozers	Diesel	Tier 3	4	4	Level 3	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 3	11	11	Level 3	0.00
Welders	Diesel	Tier 3	1	1	Level 3	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	1.26700E-002	8.75900E-002	9.09300E-002	1.50000E-004	5.99000E-003	5.99000E-003	0.00000E+000	1.26386E+001	1.26386E+001	1.03000E-003	0.00000E+000	1.26643E+001
Cement and Mortar Mixers	5.29000E-003	3.31400E-002	2.77500E-002	6.00000E-005	1.29000E-003	1.29000E-003	0.00000E+000	4.12449E+000	4.12449E+000	4.30000E-004	0.00000E+000	4.13519E+000
Cranes	3.05800E-002	3.64300E-001	1.39890E-001	3.60000E-004	1.53500E-002	1.41200E-002	0.00000E+000	3.20301E+001	3.20301E+001	1.01900E-002	0.00000E+000	3.22847E+001
Excavators	1.96000E-003	2.01100E-002	2.44700E-002	4.00000E-005	9.70000E-004	8.90000E-004	0.00000E+000	3.47764E+000	3.47764E+000	1.10000E-003	0.00000E+000	3.50515E+000
Forklifts	3.32800E-002	2.97760E-001	2.53670E-001	3.30000E-004	2.28800E-002	2.10500E-002	0.00000E+000	2.90920E+001	2.90920E+001	9.25000E-003	0.00000E+000	2.93233E+001
Generator Sets	3.07800E-002	2.63290E-001	2.64050E-001	4.70000E-004	1.55500E-002	1.55500E-002	0.00000E+000	4.01297E+001	4.01297E+001	2.48000E-003	0.00000E+000	4.01916E+001
Graders	3.65000E-003	4.93500E-002	1.37900E-002	5.00000E-005	1.58000E-003	1.46000E-003	0.00000E+000	4.47442E+000	4.47442E+000	1.42000E-003	0.00000E+000	4.50981E+000
Pavers	1.68500E-002	1.82290E-001	1.74040E-001	2.80000E-004	8.91000E-003	8.20000E-003	0.00000E+000	2.51845E+001	2.51845E+001	8.02000E-003	0.00000E+000	2.53849E+001
Paving Equipment	1.90300E-002	2.00240E-001	2.27380E-001	3.70000E-004	9.96000E-003	9.16000E-003	0.00000E+000	3.27323E+001	3.27323E+001	1.04200E-002	0.00000E+000	3.29927E+001
Rollers	1.99300E-002	1.97730E-001	1.71310E-001	2.40000E-004	1.29000E-002	1.18600E-002	0.00000E+000	2.10762E+001	2.10762E+001	6.71000E-003	0.00000E+000	2.12439E+001
Rubber Tired Dozers	2.21200E-002	2.35450E-001	8.35400E-002	1.70000E-004	1.14800E-002	1.05600E-002	0.00000E+000	1.49557E+001	1.49557E+001	4.73000E-003	0.00000E+000	1.50740E+001
Tractors/Loaders/Backhoes	6.49300E-002	6.51970E-001	6.54600E-001	8.80000E-004	4.30800E-002	3.96300E-002	0.00000E+000	7.91118E+001	7.91118E+001	2.51400E-002	0.00000E+000	7.97404E+001
Welders	2.66400E-002	1.14450E-001	1.27650E-001	1.80000E-004	6.87000E-003	6.87000E-003	0.00000E+000	1.33637E+001	1.33637E+001	2.17000E-003	0.00000E+000	1.34180E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	2.94000E-003	6.71700E-002	9.07000E-002	1.50000E-004	7.10000E-004	7.10000E-004	0.00000E+000	1.26386E+001	1.26386E+001	1.03000E-003	0.00000E+000	1.26643E+001
Cement and Mortar Mixers	0.00000E+000	0.00000E+000	0.00000E+000	6.00000E-005	0.00000E+000	0.00000E+000	0.00000E+000	4.12448E+000	4.12448E+000	4.30000E-004	0.00000E+000	4.13519E+000
Cranes	8.81000E-003	1.70290E-001	1.90840E-001	3.60000E-004	9.70000E-004	9.70000E-004	0.00000E+000	3.20301E+001	3.20301E+001	1.01900E-002	0.00000E+000	3.22847E+001
Excavators	9.50000E-004	1.84300E-002	2.93900E-002	4.00000E-005	1.30000E-004	1.30000E-004	0.00000E+000	3.47764E+000	3.47764E+000	1.10000E-003	0.00000E+000	3.50514E+000
Forklifts	8.02000E-003	1.83220E-001	2.47410E-001	3.30000E-004	1.93000E-003	1.93000E-003	0.00000E+000	2.90919E+001	2.90919E+001	9.25000E-003	0.00000E+000	2.93232E+001
Generator Sets	9.34000E-003	2.13280E-001	2.88000E-001	4.70000E-004	2.24000E-003	2.24000E-003	0.00000E+000	4.01297E+001	4.01297E+001	2.48000E-003	0.00000E+000	4.01916E+001
Graders	1.22000E-003	2.35300E-002	2.63700E-002	5.00000E-005	1.30000E-004	1.30000E-004	0.00000E+000	4.47441E+000	4.47441E+000	1.42000E-003	0.00000E+000	4.50981E+000
Pavers	6.93000E-003	1.34050E-001	2.13780E-001	2.80000E-004	9.70000E-004	9.70000E-004	0.00000E+000	2.51845E+001	2.51845E+001	8.02000E-003	0.00000E+000	2.53849E+001
Paving Equipment	9.05000E-003	1.75000E-001	2.79090E-001	3.70000E-004	1.27000E-003	1.27000E-003	0.00000E+000	3.27322E+001	3.27322E+001	1.04200E-002	0.00000E+000	3.29927E+001
Rollers	5.79000E-003	1.32220E-001	1.78540E-001	2.40000E-004	1.39000E-003	1.39000E-003	0.00000E+000	2.10762E+001	2.10762E+001	6.71000E-003	0.00000E+000	2.12439E+001
Rubber Tired Dozers	4.08000E-003	7.88300E-002	8.83500E-002	1.70000E-004	4.50000E-004	4.50000E-004	0.00000E+000	1.49557E+001	1.49557E+001	4.73000E-003	0.00000E+000	1.50740E+001
Tractors/Loaders/Balckhoes	2.16400E-002	4.94090E-001	6.67200E-001	8.80000E-004	5.19000E-003	5.19000E-003	0.00000E+000	7.91117E+001	7.91117E+001	2.51400E-002	0.00000E+000	7.97404E+001
Welders	7.52000E-003	1.20010E-001	1.06280E-001	1.80000E-004	1.09000E-003	1.09000E-003	0.00000E+000	1.33637E+001	1.33637E+001	2.17000E-003	0.00000E+000	1.34180E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	7.67956E-001	2.33132E-001	2.52942E-003	0.00000E+000	8.81469E-001	8.81469E-001	0.00000E+000	1.58245E-006	1.58245E-006	0.00000E+000	0.00000E+000	1.57924E-006
Cement and Mortar Mixers	1.00000E+000	1.00000E+000	1.00000E+000	0.00000E+000	1.00000E+000	1.00000E+000	0.00000E+000	2.42454E-006	2.42454E-006	0.00000E+000	0.00000E+000	0.00000E+000
Cranes	7.11903E-001	5.32556E-001	-3.64215E-001	0.00000E+000	9.36808E-001	9.31303E-001	0.00000E+000	1.24883E-006	1.24883E-006	0.00000E+000	0.00000E+000	1.23898E-006
Excavators	5.15306E-001	8.35405E-002	-2.01063E-001	0.00000E+000	8.65979E-001	8.53933E-001	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	2.85294E-006
Forklifts	7.59014E-001	3.84672E-001	2.46777E-002	0.00000E+000	9.15647E-001	9.08314E-001	0.00000E+000	1.03121E-006	1.03121E-006	0.00000E+000	0.00000E+000	1.02308E-006
Generator Sets	6.96556E-001	1.89943E-001	-9.07025E-002	0.00000E+000	8.55949E-001	8.55949E-001	0.00000E+000	1.24596E-006	1.24596E-006	0.00000E+000	0.00000E+000	1.24404E-006
Graders	6.65753E-001	5.23202E-001	-9.12255E-001	0.00000E+000	9.17722E-001	9.10959E-001	0.00000E+000	2.23493E-006	2.23493E-006	0.00000E+000	0.00000E+000	0.00000E+000
Pavers	5.88724E-001	2.64633E-001	-2.28338E-001	0.00000E+000	8.91134E-001	8.81707E-001	0.00000E+000	1.19121E-006	1.19121E-006	0.00000E+000	0.00000E+000	1.18180E-006
Paving Equipment	5.24435E-001	1.26049E-001	-2.27417E-001	0.00000E+000	8.72490E-001	8.61354E-001	0.00000E+000	9.16527E-007	9.16527E-007	0.00000E+000	0.00000E+000	9.09291E-007
Rollers	7.09483E-001	3.31310E-001	-4.22042E-002	0.00000E+000	8.92248E-001	8.82799E-001	0.00000E+000	1.42341E-006	1.42341E-006	0.00000E+000	0.00000E+000	1.41217E-006
Rubber Tired Dozers	8.15552E-001	6.65194E-001	-5.75772E-002	0.00000E+000	9.60801E-001	9.57386E-001	0.00000E+000	1.33728E-006	1.33728E-006	0.00000E+000	0.00000E+000	1.32679E-006
Tractors/Loaders/Balckhoes	6.66718E-001	2.42158E-001	-1.92484E-002	0.00000E+000	8.79526E-001	8.69039E-001	0.00000E+000	1.13763E-006	1.13763E-006	0.00000E+000	0.00000E+000	1.12866E-006
Welders	7.17718E-001	-4.85802E-002	1.67411E-001	0.00000E+000	8.41339E-001	8.41339E-001	0.00000E+000	7.48298E-007	7.48298E-007	0.00000E+000	0.00000E+000	1.49053E-006

Fugitive Dust Mitigation

Yes/No Mitigation Measure Mitigation Input Mitigation Input Mitigation Input

Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	10.00	PM2.5 Reduction	10.00	
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00	
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day) 2.00

No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
Yes	Clean Paved Road	% PM Reduction	0.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.02	0.01	0.02	0.01	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.19	0.05	0.19	0.05	0.00	0.00
Grading	Fugitive Dust	0.05	0.03	0.02	0.01	0.55	0.55
Grading	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.07	0.04	0.03	0.02	0.55	0.55
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	29.60	29.60	29.60	29.60	29.59	29.60
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.02	0.19		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network			
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00		
No	Transit Improvements	Expand Transit Network	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00
No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		

No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	150.00
Yes	Use Low VOC Paint (Residential Exterior)	150.00
Yes	Use Low VOC Paint (Non-residential Interior)	150.00
Yes	Use Low VOC Paint (Non-residential Exterior)	150.00
Yes	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
Yes	Use Reclaimed Water	30.00	30.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
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Institute Recycling and Composting Services Percent Reduction in Waste Disposed	
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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,710.00	Space	4.18	604,500.00	0
Arena	10.00	1000sqft	0.08	10,000.00	0
User Defined Recreational	9.83	User Defined Unit	0.00	9,826.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Refer to CalEEMod in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Tables in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod in Appendix Q of the EIS.

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	5.00	2.00

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tblConstructionPhase	PhaseEndDate	7/5/2019	7/2/2019
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	0.00	0.24
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	0.00	2.3100e-003
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24NG	17.11	0.00
tblLandUse	BuildingSpaceSquareFeet	684,000.00	604,500.00
tblLandUse	BuildingSpaceSquareFeet	0.00	9,826.00
tblLandUse	LandUseSquareFeet	684,000.00	604,500.00
tblLandUse	LandUseSquareFeet	0.00	9,826.00
tblLandUse	LotAcreage	15.39	4.18
tblLandUse	LotAcreage	3.21	0.08
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	58.00
tblVehicleTrips	CC_TTP	81.00	0.00
tblVehicleTrips	CC_TTP	0.00	81.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	0.00	66.00
tblVehicleTrips	PB_TP	0.00	34.00
tblVehicleTrips	ST_TR	10.71	0.00
tblVehicleTrips	ST_TR	0.00	192.98

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tblVehicleTrips	SU_TR	10.71	0.00
tblVehicleTrips	SU_TR	0.00	192.98
tblVehicleTrips	WD_TR	10.71	0.00
tblVehicleTrips	WD_TR	0.00	192.98
tblWater	IndoorWaterUseRate	4,307,701.18	0.00
tblWater	IndoorWaterUseRate	0.00	18,834,000.00
tblWater	OutdoorWaterUseRate	274,959.65	0.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2019	9-30-2019	0.0358	0.0358
		Highest	0.0358	0.0358

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1443	1.4000e-004	0.0158	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0309	0.0309	8.0000e-005	0.0000	0.0329
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.6958	0.6958	3.0000e-005	1.0000e-005	0.6986
Mobile	0.3726	3.7386	2.1267	9.2100e-003	0.3173	4.9100e-003	0.3222	0.0853	4.5800e-003	0.0899	0.0000	861.4896	861.4896	0.1125	0.0000	864.3023
Waste						0.0000	0.0000		0.0000	0.0000	11.7735	0.0000	11.7735	0.6958	0.0000	29.1683
Water						0.0000	0.0000		0.0000	0.0000	5.9752	29.6470	35.6222	0.6151	0.0148	55.3993
Total	0.5169	3.7387	2.1425	9.2100e-003	0.3173	4.9700e-003	0.3223	0.0853	4.6400e-003	0.0899	17.7486	891.8633	909.6120	1.4235	0.0148	949.6013

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1443	1.4000e-004	0.0158	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0309	0.0309	8.0000e-005	0.0000	0.0329
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.6958	0.6958	3.0000e-005	1.0000e-005	0.6986
Mobile	0.3726	3.7386	2.1267	9.2100e-003	0.3173	4.9100e-003	0.3222	0.0853	4.5800e-003	0.0899	0.0000	861.4896	861.4896	0.1125	0.0000	864.3023
Waste						0.0000	0.0000		0.0000	0.0000	11.7735	0.0000	11.7735	0.6958	0.0000	29.1683
Water						0.0000	0.0000		0.0000	0.0000	4.2065	20.8715	25.0780	0.4330	0.0104	39.0011
Total	0.5169	3.7387	2.1425	9.2100e-003	0.3173	4.9700e-003	0.3223	0.0853	4.6400e-003	0.0899	15.9800	883.0878	899.0678	1.2414	0.0104	933.2031

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.96	0.98	1.16	12.79	29.57	1.73

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/2/2019	5	2	

Acres of Grading (Site Preparation Phase): 0

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Acres of Grading (Grading Phase): 0

Acres of Paving: 4.18

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

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3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0181	0.0000	0.0181	9.9300e-003	0.0000	9.9300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0456	0.0221	4.0000e-005		2.3900e-003	2.3900e-003		2.2000e-003	2.2000e-003	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439
Total	4.3400e-003	0.0456	0.0221	4.0000e-005	0.0181	2.3900e-003	0.0205	9.9300e-003	2.2000e-003	0.0121	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346
Total	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346

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3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.1300e-003	0.0000	8.1300e-003	4.4700e-003	0.0000	4.4700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0456	0.0221	4.0000e-005		2.3900e-003	2.3900e-003		2.2000e-003	2.2000e-003	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439
Total	4.3400e-003	0.0456	0.0221	4.0000e-005	8.1300e-003	2.3900e-003	0.0105	4.4700e-003	2.2000e-003	6.6700e-003	0.0000	3.4169	3.4169	1.0800e-003	0.0000	3.4439

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346
Total	8.0000e-005	7.0000e-005	6.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1345	0.1345	1.0000e-005	0.0000	0.1346

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3726	3.7386	2.1267	9.2100e-003	0.3173	4.9100e-003	0.3222	0.0853	4.5800e-003	0.0899	0.0000	861.4896	861.4896	0.1125	0.0000	864.3023
Unmitigated	0.3726	3.7386	2.1267	9.2100e-003	0.3173	4.9100e-003	0.3222	0.0853	4.5800e-003	0.0899	0.0000	861.4896	861.4896	0.1125	0.0000	864.3023

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
User Defined Recreational	1,896.99	1,896.99	1,896.99	855,191	855,191
Total	1,896.99	1,896.99	1,896.99	855,191	855,191

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	7.30	7.30	0.00	0.00	0.00	66	28	6
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
User Defined Recreational	9.50	7.30	7.30	0.00	81.00	19.00	0	66	34

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Arena	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
User Defined Recreational	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.6946	0.6946	3.0000e-005	1.0000e-005	0.6973
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.6946	0.6946	3.0000e-005	1.0000e-005	0.6973
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2100e-003	1.2100e-003	0.0000	0.0000	1.2200e-003
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2100e-003	1.2100e-003	0.0000	0.0000	1.2200e-003

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	22.6981	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2100e-003	1.2100e-003	0.0000	0.0000	1.2200e-003
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2100e-003	1.2100e-003	0.0000	0.0000	1.2200e-003

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	22.6981	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2100e-003	1.2100e-003	0.0000	0.0000	1.2200e-003
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2100e-003	1.2100e-003	0.0000	0.0000	1.2200e-003

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	2387.72	0.6946	3.0000e-005	1.0000e-005	0.6973
Total		0.6946	3.0000e-005	1.0000e-005	0.6973

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	2387.72	0.6946	3.0000e-005	1.0000e-005	0.6973
Total		0.6946	3.0000e-005	1.0000e-005	0.6973

6.0 Area Detail

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6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1443	1.4000e-004	0.0158	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0309	0.0309	8.0000e-005	0.0000	0.0329
Unmitigated	0.1443	1.4000e-004	0.0158	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0309	0.0309	8.0000e-005	0.0000	0.0329

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1165					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4500e-003	1.4000e-004	0.0158	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0309	0.0309	8.0000e-005	0.0000	0.0329
Total	0.1444	1.4000e-004	0.0158	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0309	0.0309	8.0000e-005	0.0000	0.0329

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1165					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4500e-003	1.4000e-004	0.0158	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0309	0.0309	8.0000e-005	0.0000	0.0329
Total	0.1444	1.4000e-004	0.0158	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0309	0.0309	8.0000e-005	0.0000	0.0329

7.0 Water Detail

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7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	25.0780	0.4330	0.0104	39.0011
Unmitigated	35.6222	0.6151	0.0148	55.3993

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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	18.834 / 0	35.6222	0.6151	0.0148	55.3993
Total		35.6222	0.6151	0.0148	55.3993

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	13.2591 / 0	25.0780	0.4330	0.0104	39.0011
Total		25.0780	0.4330	0.0104	39.0011

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8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.7735	0.6958	0.0000	29.1683
Unmitigated	11.7735	0.6958	0.0000	29.1683

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	58	11.7735	0.6958	0.0000	29.1683
Total		11.7735	0.6958	0.0000	29.1683

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	58	11.7735	0.6958	0.0000	29.1683
Total		11.7735	0.6958	0.0000	29.1683

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

**Redding Rancheria FTT and Casino Project – Alternative F
Shasta County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,710.00	Space	4.18	604,500.00	0
Arena	10.00	1000sqft	0.08	10,000.00	0
User Defined Recreational	9.83	User Defined Unit	0.00	9,826.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

Project Characteristics - Refer to CalEEMod in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Tables in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod in Appendix Q of the EIS.

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	5.00	2.00

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

tblConstructionPhase	PhaseEndDate	7/5/2019	7/2/2019
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	0.00	0.24
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	0.00	2.3100e-003
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24NG	17.11	0.00
tblLandUse	BuildingSpaceSquareFeet	684,000.00	604,500.00
tblLandUse	BuildingSpaceSquareFeet	0.00	9,826.00
tblLandUse	LandUseSquareFeet	684,000.00	604,500.00
tblLandUse	LandUseSquareFeet	0.00	9,826.00
tblLandUse	LotAcreage	15.39	4.18
tblLandUse	LotAcreage	3.21	0.08
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	58.00
tblVehicleTrips	CC_TTP	81.00	0.00
tblVehicleTrips	CC_TTP	0.00	81.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	0.00	66.00
tblVehicleTrips	PB_TP	0.00	34.00
tblVehicleTrips	ST_TR	10.71	0.00
tblVehicleTrips	ST_TR	0.00	192.98

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tblVehicleTrips	SU_TR	10.71	0.00
tblVehicleTrips	SU_TR	0.00	192.98
tblVehicleTrips	WD_TR	10.71	0.00
tblVehicleTrips	WD_TR	0.00	192.98
tblWater	IndoorWaterUseRate	4,307,701.18	0.00
tblWater	IndoorWaterUseRate	0.00	18,834,000.00
tblWater	OutdoorWaterUseRate	274,959.65	0.00

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7991	1.5800e-003	0.1755	1.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		0.3786	0.3786	9.8000e-004		0.4030
Energy	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
Mobile	2.8649	20.6973	11.1104	0.0537	1.8308	0.0266	1.8574	0.4900	0.0249	0.5148		5,532.0646	5,532.0646	0.6447		5,548.1829
Total	3.6639	20.6989	11.2859	0.0537	1.8308	0.0273	1.8580	0.4900	0.0255	0.5154		5,532.4505	5,532.4505	0.6457	0.0000	5,548.5932

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7991	1.5800e-003	0.1755	1.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		0.3786	0.3786	9.8000e-004		0.4030
Energy	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
Mobile	2.8649	20.6973	11.1104	0.0537	1.8308	0.0266	1.8574	0.4900	0.0249	0.5148		5,532.0646	5,532.0646	0.6447		5,548.1829
Total	3.6639	20.6989	11.2859	0.0537	1.8308	0.0273	1.8580	0.4900	0.0255	0.5154		5,532.4505	5,532.4505	0.6457	0.0000	5,548.5932

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/2/2019	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 4.18

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHTD

3.1 Mitigation Measures Construction

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	8.1298	2.3904	10.5202	4.4688	2.1991	6.6679	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354
Total	0.1012	0.0641	0.7754	1.6600e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		165.4689	165.4689	6.6600e-003		165.6354

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.8649	20.6973	11.1104	0.0537	1.8308	0.0266	1.8574	0.4900	0.0249	0.5148		5,532.0646	5,532.0646	0.6447		5,548.1829
Unmitigated	2.8649	20.6973	11.1104	0.0537	1.8308	0.0266	1.8574	0.4900	0.0249	0.5148		5,532.0646	5,532.0646	0.6447		5,548.1829

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
User Defined Recreational	1,896.99	1,896.99	1,896.99	855,191	855,191
Total	1,896.99	1,896.99	1,896.99	855,191	855,191

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	7.30	7.30	0.00	0.00	0.00	66	28	6
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
User Defined Recreational	9.50	7.30	7.30	0.00	81.00	19.00	0	66	34

4.4 Fleet Mix

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Arena	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
User Defined Recreational	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
NaturalGas Unmitigated	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0.0621865	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
Total		0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	6.21865e-005	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
Total		0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003

6.0 Area Detail

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7991	1.5800e-003	0.1755	1.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		0.3786	0.3786	9.8000e-004		0.4030
Unmitigated	0.7991	1.5800e-003	0.1755	1.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		0.3786	0.3786	9.8000e-004		0.4030

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1446					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6384					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0161	1.5800e-003	0.1755	1.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		0.3786	0.3786	9.8000e-004		0.4030
Total	0.7991	1.5800e-003	0.1755	1.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		0.3786	0.3786	9.8000e-004		0.4030

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1446					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6384					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0161	1.5800e-003	0.1755	1.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		0.3786	0.3786	9.8000e-004		0.4030
Total	0.7991	1.5800e-003	0.1755	1.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		0.3786	0.3786	9.8000e-004		0.4030

7.0 Water Detail

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Summer

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

**Redding Rancheria FTT and Casino Project – Alternative F
Shasta County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,710.00	Space	4.18	604,500.00	0
Arena	10.00	1000sqft	0.08	10,000.00	0
User Defined Recreational	9.83	User Defined Unit	0.00	9,826.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

Project Characteristics - Refer to CalEEMod in Appendix Q of the EIS.

Land Use - Refer to CalEEMod Tables in Appendix Q of the EIS.

Construction Phase - Refer to CalEEMod in Appendix Q of the EIS.

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Refer to CalEEMod in Appendix Q of the EIS.

Vehicle Trips - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Coating - Refer to CalEEMod Table in Appendix Q of the EIS.

Energy Use - Refer to CalEEMod Table in Appendix Q of the EIS.

Water And Wastewater - Refer to CalEEMod Table in Appendix Q of the EIS.

Solid Waste - Refer to CalEEMod Table in Appendix Q of the EIS.

Land Use Change -

Construction Off-road Equipment Mitigation - Refer to CalEEMod Table in Appendix Q of the EIS.

Area Mitigation -

Water Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	5.00	2.00

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

tblConstructionPhase	PhaseEndDate	7/5/2019	7/2/2019
tblEnergyUse	LightingElect	2.78	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	0.00	0.24
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	0.00	2.3100e-003
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24NG	17.11	0.00
tblLandUse	BuildingSpaceSquareFeet	684,000.00	604,500.00
tblLandUse	BuildingSpaceSquareFeet	0.00	9,826.00
tblLandUse	LandUseSquareFeet	684,000.00	604,500.00
tblLandUse	LandUseSquareFeet	0.00	9,826.00
tblLandUse	LotAcreage	15.39	4.18
tblLandUse	LotAcreage	3.21	0.08
tblProjectCharacteristics	OperationalYear	2018	2040
tblSolidWaste	SolidWasteGenerationRate	0.28	0.00
tblSolidWaste	SolidWasteGenerationRate	0.00	58.00
tblVehicleTrips	CC_TTP	81.00	0.00
tblVehicleTrips	CC_TTP	0.00	81.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	DV_TP	0.00	66.00
tblVehicleTrips	PB_TP	0.00	34.00
tblVehicleTrips	ST_TR	10.71	0.00
tblVehicleTrips	ST_TR	0.00	192.98

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

tblVehicleTrips	SU_TR	10.71	0.00
tblVehicleTrips	SU_TR	0.00	192.98
tblVehicleTrips	WD_TR	10.71	0.00
tblVehicleTrips	WD_TR	0.00	192.98
tblWater	IndoorWaterUseRate	4,307,701.18	0.00
tblWater	IndoorWaterUseRate	0.00	18,834,000.00
tblWater	OutdoorWaterUseRate	274,959.65	0.00

2.0 Emissions Summary

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7991	1.5800e-003	0.1755	1.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		0.3786	0.3786	9.8000e-004		0.4030
Energy	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
Mobile	1.9068	20.3292	13.3525	0.0481	1.8308	0.0275	1.8583	0.4900	0.0257	0.5156		4,956.8384	4,956.8384	0.7348		4,975.2092
Total	2.7058	20.3308	13.5280	0.0481	1.8308	0.0281	1.8589	0.4900	0.0263	0.5162		4,957.2243	4,957.2243	0.7358	0.0000	4,975.6195

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7991	1.5800e-003	0.1755	1.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		0.3786	0.3786	9.8000e-004		0.4030
Energy	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
Mobile	1.9068	20.3292	13.3525	0.0481	1.8308	0.0275	1.8583	0.4900	0.0257	0.5156		4,956.8384	4,956.8384	0.7348		4,975.2092
Total	2.7058	20.3308	13.5280	0.0481	1.8308	0.0281	1.8589	0.4900	0.0263	0.5162		4,957.2243	4,957.2243	0.7358	0.0000	4,975.6195

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/2/2019	5	2	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 4.18

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHTD

3.1 Mitigation Measures Construction

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	8.1298	2.3904	10.5202	4.4688	2.1991	6.6679	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429
Total	0.0885	0.0768	0.6575	1.4400e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		143.4985	143.4985	5.7800e-003		143.6429

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.9068	20.3292	13.3525	0.0481	1.8308	0.0275	1.8583	0.4900	0.0257	0.5156		4,956.8384	4,956.8384	0.7348		4,975.2092
Unmitigated	1.9068	20.3292	13.3525	0.0481	1.8308	0.0275	1.8583	0.4900	0.0257	0.5156		4,956.8384	4,956.8384	0.7348		4,975.2092

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
User Defined Recreational	1,896.99	1,896.99	1,896.99	855,191	855,191
Total	1,896.99	1,896.99	1,896.99	855,191	855,191

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	7.30	7.30	0.00	0.00	0.00	66	28	6
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
User Defined Recreational	9.50	7.30	7.30	0.00	81.00	19.00	0	66	34

4.4 Fleet Mix

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
Arena	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484
User Defined Recreational	0.570205	0.028297	0.175699	0.082761	0.009256	0.003555	0.013572	0.108841	0.001271	0.000925	0.004036	0.001098	0.000484

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
NaturalGas Unmitigated	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0.0621865	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
Total		0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	6.21865e-005	0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003
Total		0.0000	1.0000e-005	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		7.3200e-003	7.3200e-003	0.0000	0.0000	7.3600e-003

6.0 Area Detail

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7991	1.5800e-003	0.1755	1.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		0.3786	0.3786	9.8000e-004		0.4030
Unmitigated	0.7991	1.5800e-003	0.1755	1.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		0.3786	0.3786	9.8000e-004		0.4030

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1446					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6384					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0161	1.5800e-003	0.1755	1.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		0.3786	0.3786	9.8000e-004		0.4030
Total	0.7991	1.5800e-003	0.1755	1.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		0.3786	0.3786	9.8000e-004		0.4030

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1446					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6384					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0161	1.5800e-003	0.1755	1.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		0.3786	0.3786	9.8000e-004		0.4030
Total	0.7991	1.5800e-003	0.1755	1.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		0.3786	0.3786	9.8000e-004		0.4030

7.0 Water Detail

Redding Rancheria FTT and Casino Project – Alternative F - Shasta County, Winter

7.1 Mitigation Measures Water

- Use Reclaimed Water
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Redding Rancheria FTT and Casino Project – Alternative F

Shasta County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Rubber Tired Dozers	Diesel	No Change	0	3	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	4	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr						Unmitigated mt/yr						
Rubber Tired Dozers	3.40000E-003	3.62200E-002	1.28500E-002	3.00000E-005	1.77000E-003	1.62000E-003	0.00000E+000	2.30088E+000	2.30088E+000	7.30000E-004	0.00000E+000	2.31908E+000
Tractors/Loaders/Backhoes	9.30000E-004	9.35000E-003	9.21000E-003	1.00000E-005	6.20000E-004	5.70000E-004	0.00000E+000	1.11599E+000	1.11599E+000	3.50000E-004	0.00000E+000	1.12482E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr						Mitigated mt/yr						
Rubber Tired Dozers	3.40000E-003	3.62200E-002	1.28500E-002	3.00000E-005	1.77000E-003	1.62000E-003	0.00000E+000	2.30088E+000	2.30088E+000	7.30000E-004	0.00000E+000	2.31908E+000
Tractors/Loaders/Backhoes	9.30000E-004	9.35000E-003	9.21000E-003	1.00000E-005	6.20000E-004	5.70000E-004	0.00000E+000	1.11599E+000	1.11599E+000	3.50000E-004	0.00000E+000	1.12481E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.89031E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input			
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	10.00	PM2.5 Reduction	10.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
Yes	Clean Paved Road	% PM Reduction	0.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Site Preparation	Fugitive Dust	0.02	0.01	0.01	0.00	0.55	0.55
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	29.60	29.60	29.60	29.60	29.59	29.60
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.02	0.19		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network			
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00		
No	Transit Improvements	Expand Transit Network	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00
No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		

No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	150.00
Yes	Use Low VOC Paint (Residential Exterior)	150.00
Yes	Use Low VOC Paint (Non-residential Interior)	150.00
Yes	Use Low VOC Paint (Non-residential Exterior)	150.00
Yes	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
Yes	Use Reclaimed Water	30.00	30.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
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Institute Recycling and Composting Services Percent Reduction in Waste Disposed	
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CO HOT SPOTS ANALYSIS CALCULATION TABLES

Simplified Caline4 Carbon Monoxide Analysis

Project Title

Redding Rancheria

Background Information

Nearest Air Monitoring Station measuring CO:	984 East Ave, Ste 4, Chico, CA 95926*
Background 1-hour CO Concentration (ppm):	2.4
Background 8-hour CO Concentration (ppm):	1.45
Persistence Factor:	0.7
Analysis Year:	2020/2035

**This is the closest air monitoring site for CO to the proposed project site. Background 1-hour CO Concentrations were determined from Sacramento Valley Air Basin yearly maximum values as this data cannot be acquired from the Chico Air Monitoring Site*

Project Title: Redding Rancheria

Background Information

Nearest Air Monitoring Station measuring CO: 984 East Ave, Ste 4, Chico, CA 95926
 Background 1-hour CO Concentration (ppm):¹ 2.40
 Background 8-hour CO Concentration (ppm):² 1.45
 Persistence Factor:³ 0.7
 Analysis Year: 2020

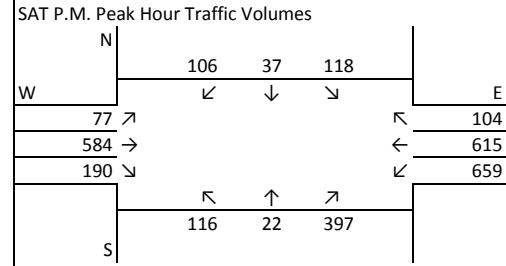
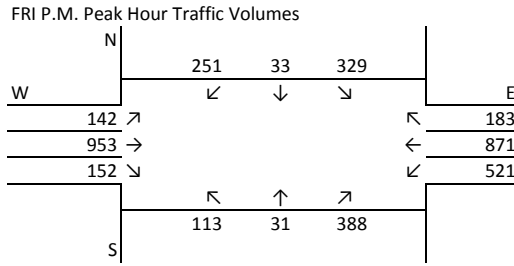
¹ Second highest concentration recorded during the last two years per CO Protocol (for Sacramento Valley Basin)

² Ambient average 8-hour CO concentration in the U.S. in 2013; EPA's ROE, 2013
 0.7 Urban Locations

Roadway Data

Intersection: S Bonnyview Rd @ Bechelli Ln
 Analysis Condition: Proposed Project (Alt. A) with North Access Alternative (Option 1)

	Roadway Type	No. of Lanes	Average Speed	
			Fri P.M.	Sat P.M.
North-South Roadway:	Bechelli Ln	2	30	30
East-West Roadway:	S Bonnyview Rd	4	50	50



Highest Traffic Volumes (Vehicles per Hour)

N-S Road: 1145
 E-W Road: 2822

N-S Road: 796
 E-W Road: 2229

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000⁴

Roadway	Reference CO Concentrations (ppm)				B Traffic Volume	C Emission Factors ⁵	Estimated CO Concentrations (ppm)			
	A1 E.O.R.	A2 25 Feet	A3 50 Feet	A4 100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
FRI P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	1145	2.75	0.12	0.09	0.07	0.05
East-West Road	11.9	7.0	5.4	3.8	2822	2.76	0.93	0.55	0.42	0.30
SAT P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	796	2.75	0.08	0.06	0.05	0.04
East-West Road	11.9	7.0	5.4	3.8	2229	2.76	0.73	0.43	0.33	0.23

⁴ Methodology from Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines (2011)

⁵ Emission factors from EMFAC2014 (2017)

Total Roadway CO Concentration

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration⁴

8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-Hour Concentration) x Persistence Factor) + Background 8-Hour Concentration⁴

	FRI P.M. Peak Hour	SAT P.M. Peak Hour	8-Hour
E.O.R.	3.44	3.21	2.18
25 Feet	3.03	2.89	1.89
50 Feet	2.89	2.78	1.79
100 Feet	2.75	2.67	1.69

Project Title: Redding Rancheria

Background Information

Nearest Air Monitoring Station measuring CO: 984 East Ave, Ste 4, Chico, CA 95926
 Background 1-hour CO Concentration (ppm):¹ 2.40
 Background 8-hour CO Concentration (ppm):² 1.45
 Persistence Factor:³ 0.7
 Analysis Year: 2020

¹ Second highest concentration recorded during the last two years per CO Protocol (for Sacramento Valley Basin)

² Ambient average 8-hour CO concentration in the U.S. in 2013; EPA's ROE, 2013

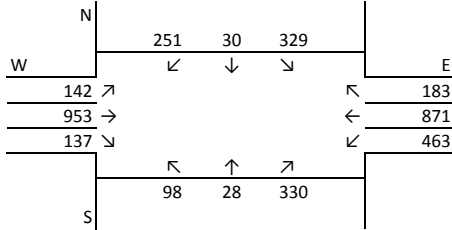
³ 0.6 Rural or Suburban; 0.7 Urban Locations; 0.8 Urban Sites with a recognized tendency for persistent stagnant meteorological condition and/or persistent traffic

Roadway Data

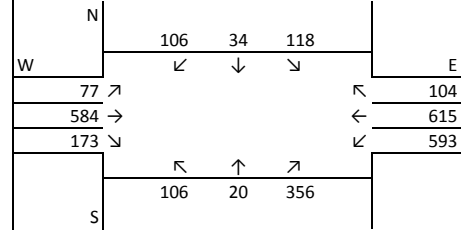
Intersection: S Bonnyview Rd @ Bechelli Ln
 Analysis Condition: Proposed Project (Alt. C) with North Access Alternative (Option 1)

	Roadway Type	No. of Lanes	Average Speed		
			Fri P.M.	Sat P.M.	
North-South Roadway:	Bechelli Ln	At Grade	2	30	30
East-West Roadway:	S Bonnyview Rd	At Grade	4	50	50

FRI P.M. Peak Hour Traffic Volumes



SAT P.M. Peak Hour Traffic Volume



Highest Traffic Volumes (Vehicles per Hour)

N-S Road: 1066
 E-W Road: 2749

N-S Road: 740
 E-W Road: 2146

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000⁴

Roadway	Reference CO Concentrations (ppm)				B Traffic Volume	C Emission Factors ⁵	Estimated CO Concentrations			
	A1 E.O.R.	A2 25 Feet	A3 50 Feet	A4 100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
FRI P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	1066	2.75	0.11	0.08	0.06	0.05
East-West Road	11.9	7.0	5.4	3.8	2749	2.76	0.90	0.53	0.41	0.29
SAT P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	740	2.75	0.08	0.05	0.04	0.03
East-West Road	11.9	7.0	5.4	3.8	2146	2.76	0.70	0.41	0.32	0.23

⁴ Methodology from Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines (2011)

⁵ Emission factors from EMFAC2014 (2017)

Total Roadway CO Concentration

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration⁴

8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-Hour Concentration) x Persistence Factor) + Background 8-Hour Concentration⁴

E.O.R.	FRI P.M.	SAT P.M.	8-Hour
	Peak Hour	Peak Hour	
E.O.R.	3.41	3.18	2.16
25 Feet	3.01	2.87	1.88
50 Feet	2.87	2.76	1.78
100 Feet	2.74	2.66	1.69

Project Title: Redding Rancheria

Background Information

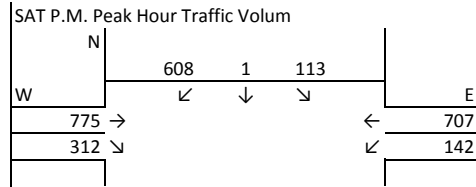
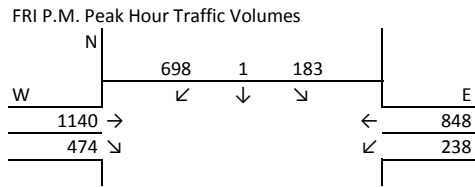
Nearest Air Monitoring Station measuring CO: 984 East Ave, Ste 4, Chico, CA 95926
 Background 1-hour CO Concentration (ppm):¹ 2.40
 Background 8-hour CO Concentration (ppm):² 1.45
 Persistence Factor:³ 0.7
 Analysis Year: 2020

¹ Second highest concentration recorded during the last two years per CO Protocol (for Sacramento Valley Basin)
² Ambient average 8-hour CO concentration in the U.S. in 2013; EPA's ROE, 2013
³ 0.6 Rural or Suburban; 0.7 Urban Locations; 0.8 Urban Sites with a recognized tendency for persistent stagnant meteorological condition and/or persistent traffic

Roadway Data

Intersection: S Bonnyview Rd @ I-5 SB Ramps
 Analysis Condition: Proposed Project (Alt. C) with North Access Alternative (Option 1)

	Roadway Type	No. of Lanes	Average Speed	
			Fri P.M.	Sat P.M.
North-South Roadway:	I-5 SB Ramps	2	15	15
East-West Roadway:	S Bonnyview Rd	4	45	45



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	882	722
E-W Road:	2700	1936

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000⁴

Roadway	Reference CO Concentrations (ppm)				B Traffic Volume	C Emission Factors ⁵	Estimated CO Concentrations			
	E.O.R.	25 Feet	50 Feet	100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
FRI P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	882	2.72	0.09	0.06	0.05	0.04
East-West Road	11.9	7.0	5.4	3.8	2700	2.76	0.89	0.52	0.40	0.28
SAT P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	722	2.72	0.07	0.05	0.04	0.03
East-West Road	11.9	7.0	5.4	3.8	1936	2.76	0.64	0.37	0.29	0.20

⁴ Methodology from Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines (2011)

⁵ Emission factors from EMFAC2014 (2017)

Total Roadway CO Concentration

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration⁴
 8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-Hour Concentration) x Persistence Factor) + Background 8-Hour Concentration⁴

E.O.R.	FRI P.M.	SAT P.M.	8-Hour
	Peak Hour	Peak Hour	
E.O.R.	3.37	3.11	2.13
25 Feet	2.99	2.83	1.86
50 Feet	2.85	2.73	1.77
100 Feet	2.72	2.64	1.68

Project Title: **Redding Rancheria**

Background Information

Nearest Air Monitoring Station measuring CO: 984 East Ave, Ste 4, Chico, CA 95926
 Background 1-hour CO Concentration (ppm):¹ 2.40
 Background 8-hour CO Concentration (ppm):² 1.45
 Persistence Factor:³ 0.7
 Analysis Year: 2020

¹ Second highest concentration recorded during the last two years per CO Protocol (for Sacramento Valley Basin)

² Ambient average 8-hour CO concentration in the U.S. in 2013; EPA's ROE, 2013

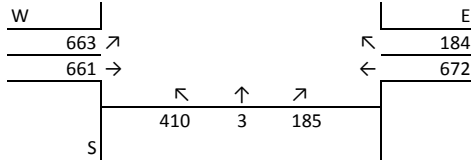
³ 0.6 Rural or Suburban; 0.7 Urban Locations; 0.8 Urban Sites with a recognized tendency for persistent stagnant meteorological condition and/or persistent traffic

Roadway Data

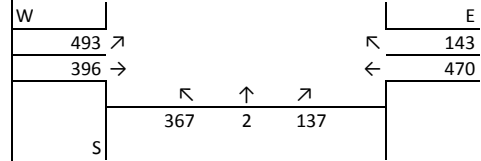
Intersection: S Bonnyview Rd @ I-5 NB Ramps
 Analysis Condition: Proposed Project (Alt. C) with North Access Alternative (Option 1)

	Roadway Type	No. of Lanes	Average Speed	
			Fri P.M.	Sat P.M.
North-South Roadway:	I-5 NB Ramps	2	15	15
East-West Roadway:	S Bonnyview Rd	4	45	45

FRI P.M. Peak Hour Traffic Volumes



SAT P.M. Peak Hour Traffic Volume



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	598	N-S Road:	506
E-W Road:	2180	E-W Road:	1502

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000⁴

Roadway	Reference CO Concentrations (ppm)				Traffic Volume	Emission Factors ⁵	Estimated CO Concentrations			
	E.O.R.	25 Feet	50 Feet	100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
FRI P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	598	2.72	0.06	0.04	0.04	0.03
East-West Road	11.9	7.0	5.4	3.8	2180	2.76	0.72	0.42	0.32	0.23
SAT P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	506	2.72	0.05	0.04	0.03	0.02
East-West Road	11.9	7.0	5.4	3.8	1502	2.76	0.49	0.29	0.22	0.16

⁴ Methodology from Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines (2011)

⁵ Emission factors from EMFAC2014 (2017)

Total Roadway CO Concentration

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration⁴

8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-Hour Concentration) x Persistence Factor) + Background 8-Hour Concentration⁴

E.O.R.	FRI P.M.	SAT P.M.	8-Hour
	Peak Hour	Peak Hour	
E.O.R.	3.18	2.94	1.99
25 Feet	2.86	2.73	1.78
50 Feet	2.76	2.65	1.70
100 Feet	2.66	2.58	1.63

Project Title: Redding Rancheria

Background Information

Nearest Air Monitoring Station measuring CO: 984 East Ave, Ste 4, Chico, CA 95926
 Background 1-hour CO Concentration (ppm):¹ 2.40
 Background 8-hour CO Concentration (ppm):² 1.45
 Persistence Factor:³ 0.7
 Analysis Year: 2035

¹ Second highest concentration recorded during the last two years per CO Protocol (for Sacramento Valley Basin)

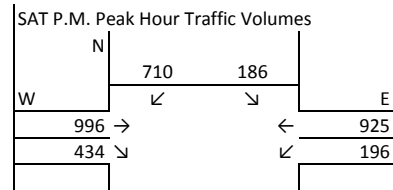
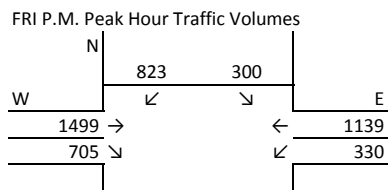
² Ambient average 8-hour CO concentration in the U.S. in 2013; EPA's ROE, 2013

³ 0.6 Rural or Suburban; 0.7 Urban Locations; 0.8 Urban Sites with a recognized tendency for persistent stagnant meteorological condition and/or persistent traffic

Roadway Data

Intersection: S Bonnyview Rd @ I-5 SB Ramps
 Analysis Condition: Proposed Project (Alt. D) with North Access Alternative (Option 1)

	Roadway Type	No. of Lanes	Average Speed		
			Fri P.M.	Sat P.M.	
North-South Roadway:	I-5 SB Ramps	At Grade	2	15	15
East-West Roadway:	S Bonnyview Rd	At Grade	4	45	45



Highest Traffic Volumes (Vehicles per Hour)

N-S Road: 1123
 E-W Road: 3673

N-S Road: 896
 E-W Road: 2551

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000⁴

Roadway	Reference CO Concentrations (ppm)				Traffic Volume	Emission Factors ⁵	Estimated CO Concentrations			
	A1 E.O.R.	A2 25 Feet	A3 50 Feet	A4 100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
FRI P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	1123	2.75	0.11	0.08	0.07	0.05
East-West Road	11.9	7.0	5.4	3.8	3673	2.76	1.21	0.71	0.55	0.39
SAT P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	896	2.75	0.09	0.07	0.05	0.04
East-West Road	11.9	7.0	5.4	3.8	2551	2.76	0.84	0.49	0.38	0.27

⁴ Methodology from Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines (2011)

⁵ Emission factors from EMFAC2014 (2017)

Total Roadway CO Concentration

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration⁴

8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-Hour Concentration) x Persistence Factor) + Background 8-Hour Concentration⁴

E.O.R.	FRI P.M.	SAT P.M.	8-Hour
	Peak Hour	Peak Hour	
E.O.R.	3.72	3.33	2.37
25 Feet	3.19	2.96	2.01
50 Feet	3.01	2.83	1.88
100 Feet	2.84	2.71	1.76

Project Title: Redding Rancheria

Background Information

Nearest Air Monitoring Station measuring CO: 984 East Ave, Ste 4, Chico, CA 95926
 Background 1-hour CO Concentration (ppm):¹ 2.40
 Background 8-hour CO Concentration (ppm):² 1.45
 Persistence Factor:³ 0.7
 Analysis Year: 2035

¹ Second highest concentration recorded during the last two years per CO Protocol (for Sacramento Valley Basin)

² Ambient average 8-hour CO concentration in the U.S. in 2013; EPA's ROE, 2013

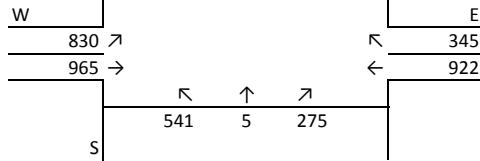
³ 0.6 Rural or Suburban; 0.7 Urban Locations; 0.8 Urban Sites with a recognized tendency for persistent stagnant meteorological condition and/or persistent traffic

Roadway Data

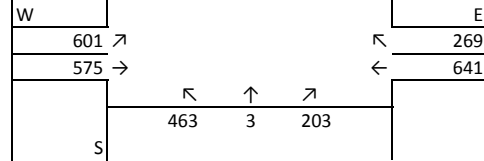
Intersection: S Bonnyview Rd @ I-5 NB Ramps
 Analysis Condition: Proposed Project (Alt. A) with North Access Alternative (Option 1)

	Roadway Type	No. of Lanes	Average Speed	
			Fri P.M.	Sat P.M.
North-South Roadway:	I-5 NB Ramps	2	15	15
East-West Roadway:	S Bonnyview Rd	4	45	45

FRI P.M. Peak Hour Traffic Volumes



SAT P.M. Peak Hour Traffic Volume



Highest Traffic Volumes (Vehicles per Hour)

N-S Road: 821
 E-W Road: 3062

N-S Road: 669
 E-W Road: 2086

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000⁴

Roadway	Reference CO Concentrations (ppm)				Traffic Volume	C Emission Factors ⁵	Estimated CO Concentrations			
	A1 E.O.R.	A2 25 Feet	A3 50 Feet	A4 100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
FRI P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	821	2.72	0.08	0.06	0.05	0.04
East-West Road	11.9	7.0	5.4	3.8	3062	2.76	1.01	0.59	0.46	0.32
SAT P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	669	2.72	0.07	0.05	0.04	0.03
East-West Road	11.9	7.0	5.4	3.8	2086	2.76	0.69	0.40	0.31	0.22

⁴ Methodology from Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines (2011)

⁵ Emission factors from EMFAC2014 (2017)

Total Roadway CO Concentration

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration⁴

8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-Hour Concentration) x Persistence Factor) + Background 8-Hour Concentration⁴

E.O.R.	FRI P.M.	SAT P.M.	8-Hour
	Peak Hour	Peak Hour	
E.O.R.	3.49	3.15	2.21
25 Feet	3.05	2.85	1.91
50 Feet	2.90	2.75	1.80
100 Feet	2.76	2.65	1.70

Project Title: Redding Rancheria

Background Information

Nearest Air Monitoring Station measuring CO: 984 East Ave, Ste 4, Chico, CA 95926
 Background 1-hour CO Concentration (ppm):¹ 2.40
 Background 8-hour CO Concentration (ppm):² 1.45
 Persistence Factor:³ 0.7
 Analysis Year: 2035

¹ Second highest concentration recorded during the last two years per CO Protocol (for Sacramento Valley Basin)

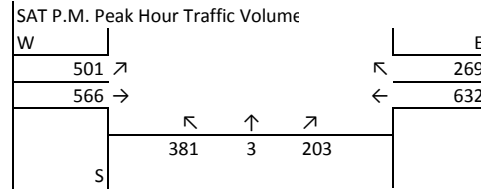
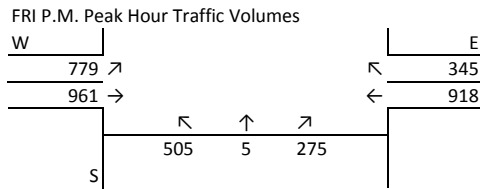
² Ambient average 8-hour CO concentration in the U.S. in 2013; EPA's ROE, 2013

³ 0.6 Rural or Suburban; 0.7 Urban Locations; 0.8 Urban Sites with a recognized tendency for persistent stagnant meteorological condition and/or persistent traffic

Roadway Data

Intersection: S Bonnyview Rd @ I-5 NB Ramps
 Analysis Condition: Proposed Project (Alt. B) with North Access Alternative (Option 1)

	Roadway Type	No. of Lanes	Average Speed	
			Fri P.M.	Sat P.M.
North-South Roadway:	I-5 NB Ramps	2	15	15
East-West Roadway:	S Bonnyview Rd	4	45	45



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	785	587
E-W Road:	3003	1968

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000⁴

Roadway	Reference CO Concentrations (ppm)				Traffic Volume	Emission Factors ⁵	Estimated CO Concentrations			
	A1 E.O.R.	A2 25 Feet	A3 50 Feet	A4 100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
FRI P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	785	2.72	0.08	0.06	0.05	0.04
East-West Road	11.9	7.0	5.4	3.8	3003	2.76	0.99	0.58	0.45	0.31
SAT P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	587	2.72	0.06	0.04	0.04	0.03
East-West Road	11.9	7.0	5.4	3.8	1968	2.76	0.65	0.38	0.29	0.21

⁴ Methodology from Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines (2011)

⁵ Emission factors from EMFAC2014 (2017)

Total Roadway CO Concentration

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration⁴

8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-Hour Concentration) x Persistence Factor) + Background 8-Hour Concentration⁴

E.O.R.	FRI P.M.	SAT P.M.	8-Hour
	Peak Hour	Peak Hour	
E.O.R.	3.46	3.10	2.20
25 Feet	3.04	2.82	1.90
50 Feet	2.89	2.73	1.80
100 Feet	2.75	2.63	1.70

Project Title: Redding Rancheria

Background Information

Nearest Air Monitoring Station measuring CO: 984 East Ave, Ste 4, Chico, CA 95926
 Background 1-hour CO Concentration (ppm):¹ 2.40
 Background 8-hour CO Concentration (ppm):² 1.45
 Persistence Factor:³ 0.7
 Analysis Year: 2035

¹ Second highest concentration recorded during the last two years per CO Protocol (for Sacramento Valley Basin)

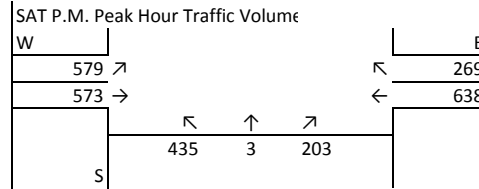
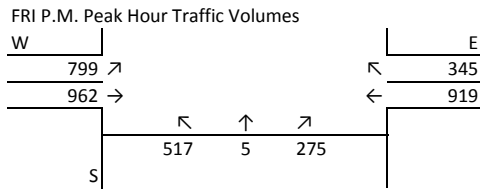
² Ambient average 8-hour CO concentration in the U.S. in 2013; EPA's ROE, 2013

³ 0.6 Rural or Suburban; 0.7 Urban Locations; 0.8 Urban Sites with a recognized tendency for persistent stagnant meteorological condition and/or persistent traffic

Roadway Data

Intersection: S Bonnyview Rd @ I-5 NB Ramps
 Analysis Condition: Proposed Project (Alt. C) with North Access Alternative (Option 1)

	Roadway Type	No. of Lanes	Average Speed		
			Fri P.M.	Sat P.M.	
North-South Roadway:	I-5 NB Ramps	At Grade	2	15	15
East-West Roadway:	S Bonnyview Rd	At Grade	4	45	45



Highest Traffic Volumes (Vehicles per Hour)

N-S Road: 797
 E-W Road: 3025

N-S Road: 641
 E-W Road: 2059

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000⁴

Roadway	Reference CO Concentrations (ppm)				Traffic Volume	Emission Factors ⁵	Estimated CO Concentrations			
	A1 E.O.R.	A2 25 Feet	A3 50 Feet	A4 100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
FRI P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	797	2.72	0.08	0.06	0.05	0.04
East-West Road	11.9	7.0	5.4	3.8	3025	2.76	0.99	0.58	0.45	0.32
SAT P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	641	2.72	0.06	0.05	0.04	0.03
East-West Road	11.9	7.0	5.4	3.8	2059	2.76	0.68	0.40	0.31	0.22

⁴ Methodology from Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines (2011)

⁵ Emission factors from EMFAC2014 (2017)

Total Roadway CO Concentration

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration⁴

8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-Hour Concentration) x Persistence Factor) + Background 8-Hour Concentration⁴

E.O.R.	FRI P.M.	SAT P.M.	8-Hour
	Peak Hour	Peak Hour	
E.O.R.	3.47	3.14	2.20
25 Feet	3.04	2.84	1.90
50 Feet	2.90	2.74	1.80
100 Feet	2.75	2.64	1.70

Project Title: Redding Rancheria

Background Information

Nearest Air Monitoring Station measuring CO: 984 East Ave, Ste 4, Chico, CA 95926
 Background 1-hour CO Concentration (ppm):¹ 2.40
 Background 8-hour CO Concentration (ppm):² 1.45
 Persistence Factor:³ 0.7
 Analysis Year: 2035

¹ Second highest concentration recorded during the last two years per CO Protocol (for Sacramento Valley Basin)

² Ambient average 8-hour CO concentration in the U.S. in 2013; EPA's ROE, 2013

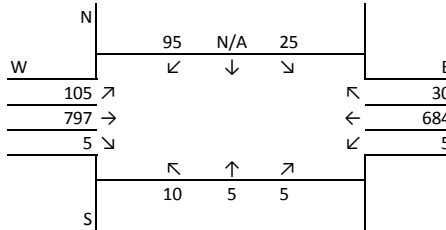
³ 0.6 Rural or Suburban; 0.7 Urban Locations; 0.8 Urban Sites with a recognized tendency for persistent stagnant meteorological condition and/or persistent traffic

Roadway Data

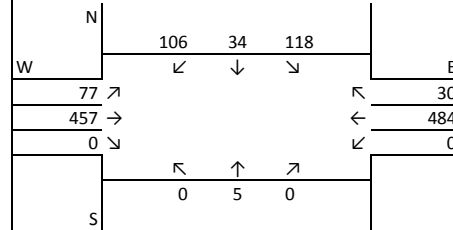
Intersection: Churn Creek Rd @ Alrose Ln
 Analysis Condition: Proposed Project (Alt. B) with North Access Alternative (Option 1)

	Roadway Type	No. of Lanes	Average Speed	
			Fri P.M.	Sat P.M.
North-South Roadway:	Alrose Ln	At Grade	25	25
East-West Roadway:	Churn Creek Rd	At Grade	45	45

FRI P.M. Peak Hour Traffic Volumes



SAT P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road: 140
 E-W Road: 1626

N-S Road: 263
 E-W Road: 1048

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000⁴

Roadway	Reference CO Concentrations (ppm)				B Traffic Volume	C Emission Factors ⁵	Estimated CO Concentrations			
	E.O.R.	25 Feet	50 Feet	100 Feet			E.O.R.	25 Feet	50 Feet	100 Feet
FRI P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	140	2.74	0.01	0.01	0.01	0.01
East-West Road	14.0	7.6	5.7	4.0	1626	2.76	0.63	0.34	0.26	0.18
SAT P.M. Peak Traffic Hour										
North-South Road	3.7	2.7	2.2	1.7	263	2.75	0.03	0.02	0.02	0.01
East-West Road	14.0	7.6	5.7	4.0	1048	2.76	0.40	0.22	0.16	0.12

⁴ Methodology from Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines (2011)

⁵ Emission factors from EMFAC2014 (2017)

Total Roadway CO Concentration

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration⁴

8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-Hour Concentration) x Persistence Factor) + Background 8-Hour Concentration⁴

E.O.R.	FRI P.M.	SAT P.M.	8-Hour
	Peak Hour	Peak Hour	
E.O.R.	3.04	2.83	1.90
25 Feet	2.75	2.64	1.70
50 Feet	2.66	2.58	1.63
100 Feet	2.59	2.53	1.58

*OFF-SITE ACCESS IMPROVEMENT
CONSTRUCTION EMISSIONS*

Off-Site Access Improvement Construction Emissions

Pieces of Equipment	Construction Equipment ¹	Horsepower ²	Load Factor ²	Hours in Use ² (hours/day)	Emission Factors (g/bhp/hr) ⁵						Emission (tons/year)							
					CO	ROG	NO ₂	SO ₂	PM ₁₀	PM _{2.5}	CO	ROG	NO ₂	SO ₂	PM ₁₀	PM _{2.5}		
Preparation and Grading⁶																		
1	Excavator	501	0.38	8	0.15	0.17	1.80	0.01	0.06	0.06	0.009	0.010	0.106	0.000	0.004	0.003		
1	Grader	427	0.41	8	1.56	0.32	3.34	0.01	0.43	0.12	0.085	0.018	0.181	0.000	0.023	0.006		
2	Tractors/Loaders/Backhoes	148	0.37	8	3.14	0.30	3.17	0.01	0.16	0.15	0.106	0.010	0.107	0.000	0.005	0.005		
Employee Trips (miles) ³			3,052		17.946	0.735	1.156	0.0078	0.0371	0.0215	0.060	0.002	0.004	0.000	0.000	0.000		
Fugitive Dust (Acres)			4.30												0.002	0.001		
2019 Site Preparation and Grading Emissions											0.259	0.040	0.397	0.001	0.032	0.015		
Construction																		
1	Rough Terrain Forklift	94	0.475	8	7.76	1.98	8.56	0.95	1.39	1.35	0.11	0.03	0.12	0.01	0.02	0.02		
1	Tractors/Loader/Backhoe	148	0.42	8	3.14	0.30	3.17	0.01	0.16	0.15	0.06	0.01	0.06	0.00	0.00	0.00		
1	Generator Set	148	0.74	8	2.93	0.32	2.989	0.006	0.133	0.133	0.10	0.01	0.10	0.00	0.00	0.00		
Paving																		
1	Paver	132	0.59	8	8.5	1.0	5.8	0.17	0.16	0.15	0.20	0.02	0.14	0.00	0.00	0.00		
1	Paving Equipment	111	0.53	8	8.5	1.0	5.8	0.14	0.16	0.15	0.15	0.02	0.11	0.00	0.00	0.00		
1	Rollers	114	0.43	8	8.5	1.0	5.8	0.14	0.16	0.15	0.13	0.02	0.09	0.00	0.00	0.00		
Architectural Coating																		
1	Air Compressor	148	0.48	8	3.205	0.435	3.228	0.006	0.17	0.17	0.07	0.01	0.07	0.00	0.00	0.00		
Fugitive VOC from Coatings ⁶			7,825			0.0115						0.04						
Employee Trips (miles) ⁴			6,104		17.946	0.735	1.156	0.0078	0.0371	0.0215	0.12	0.00	0.01	0.00	0.00	0.00		
2020 Construction Emissions											0.94	0.16	0.69	0.02	0.04	0.04		
Total Construction Emissions											1.20	0.20	1.09	0.02	0.07	0.05		

¹ Construction equipment list from USEPA approved EmFac 2014 air model.

² Default load factors and hours per normal work day from OffRoad 2011.

³ Based on 10.9 mile trip length, 8 trips per day, and EMFAC, 2014 emission factors (grams/mile).

⁴ Based on 10.9 mile trip length, 16 trips per day, and EMFAC, 2014 emission factors (grams/mile).

⁵ Emission factors provided by EPA approved OFFROAD 2011, based on equipment age distribution in the U.S. in g/bhp/hr = grams per brake horsepower per hour

⁶ based on 3000 sqft and 0.0115 pounds per sqft (CalEEMod, 2016).

Source: EmFac, 2014

APPENDIX J

NRCS FARMLAND CONVERSION IMPACT RATING

FORM AD-1006

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request	1/23/17
Name Of Project	Redding Rancheria Fee-to-Trust and Casino Project	Federal Agency Involved	Bureau of Indian Affairs
Proposed Land Use	Commercial Development	County And State	Shasta County, CA

PART II (To be completed by NRCS)		Date Request Received By NRCS	1/23/17
Does the site contain prime, unique, statewide or local important farmland? <i>(If no, the FPPA does not apply -- do not complete additional parts of this form).</i>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Major Crop(s) Wild Rice, Hay, Alfalfa		Farmable Land In Govt. Jurisdiction Acres: 40,180 % 2	Average Farm Size 265ac
Name Of Land Evaluation System Used CA Storie System		Name Of Local Site Assessment System None	Date Land Evaluation Returned By NRCS 2/3/17
		Acres Irrigated	48,690
		Amount Of Farmland As Defined in FPPA Acres: 25,727 % 1	

PART III (To be completed by Federal Agency)		Alternative Site Rating			
		Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly		39.0	40.0		
B. Total Acres To Be Converted Indirectly		189.8	14.0		
C. Total Acres In Site		228.8	54.0	0.0	0.0

PART IV (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland		114.1	34.9		
B. Total Acres Statewide And Local Important Farmland		32.3	0.0		
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted		<1%	<1%		
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value		DATA NOT AVAILABLE			

PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value Of Farmland To Be Converted <i>(Scale of 0 to 100 Points)</i>	32	0	0	0
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PART VI (To be completed by Federal Agency) Site Assessment Criteria <i>(These criteria are explained in 7 CFR 658.5(b))</i>	Maximum Points				
1. Area In Nonurban Use	15	11	6		
2. Perimeter In Nonurban Use	10	9	2		
3. Percent Of Site Being Farmed	20	0	0		
4. Protection Provided By State And Local Government	20	20	0		
5. Distance From Urban Builtup Area	15	0	0		
6. Distance To Urban Support Services	15	0	0		
7. Size Of Present Farm Unit Compared To Average	10	9	0		
8. Creation Of Nonfarmable Farmland	10	6	10		
9. Availability Of Farm Support Services	5	5	5		
10. On-Farm Investments	20	0	0		
11. Effects Of Conversion On Farm Support Services	10	0	0		
12. Compatibility With Existing Agricultural Use	10	3	0		
TOTAL SITE ASSESSMENT POINTS	160	63	23	0	0

PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland <i>(From Part V)</i>	100	32	0	0	0
Total Site Assessment <i>(From Part VI above or a local site assessment)</i>	160	63	23	0	0
TOTAL POINTS <i>(Total of above 2 lines)</i>	260	95	23	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input type="checkbox"/>
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Reason For Selection:

APPENDIX K

EXECUTIVE SUMMARY TABLE

TABLE 1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Mitigation Measures / Best Management Practices	Original Impact / Residual Impact with Mitigation						
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
SECTION 4.2. Geology and Soils	SECTION 5.2. Geology and Soils Mitigation							
Site Topography – The project alternatives could result in changes to site topography from grading activities	No mitigation required	LS	LS	LS	LS	LS	LS	NI
Soils and Geology – Construction and grading activities could cause soil erosion and alterations of site topography	<p>The following Best Management Practices (BMPs) shall be implemented for Alternatives A through F:</p> <p>Mitigation Measure 5.2(A): The Tribe shall comply with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit from the United States Environmental Protection Agency (USEPA) for off-site infrastructure improvements, for construction site runoff during the construction phase in compliance with the Clean Water Act (CWA). A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared, implemented, and maintained throughout the construction phase of the development, consistent with Construction General Permit requirements. The SWPPP shall detail the BMPs to be implemented during construction and post-construction operation of the selected project alternative to reduce impacts related to soil erosion and water quality. The BMPs shall include, but are not limited to, the following:</p> <ol style="list-style-type: none"> Existing vegetation shall be retained where practicable. To the extent feasible, grading activities shall be limited to the immediate area required for construction and remediation. Temporary erosion control measures (such as silt fences, fiber rolls, vegetated swales, a velocity dissipation structure, staked straw bales, temporary re-vegetation, rock bag dams, erosion control blankets, and sediment traps) shall be employed for disturbed areas. To the maximum extent feasible, no disturbed surfaces shall be left without erosion control measures in place. Construction activities shall be scheduled to minimize land disturbance during peak runoff periods. Soil conservation practices shall be completed during the fall or late winter to reduce erosion during spring runoff. 	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI

(Legend: NI = No Impact; BI = Beneficial Impact; LS = Less-than-Significant; PS = Potentially Significant; S = Significant)

TABLE 1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Mitigation Measures / Best Management Practices	Original Impact / Residual Impact with Mitigation						
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
	<ol style="list-style-type: none"> 5. Creating construction zones and grading only one area or part of a construction zone at a time shall minimize exposed areas. If practicable during the wet season, grading on a particular zone shall be delayed until protective cover is restored on the previously graded zone. 6. Disturbed areas shall be re-vegetated following construction activities. 7. Construction area entrances and exits shall be stabilized with large-diameter rock. 8. Sediment shall be retained on site by a system of sediment basins, traps, or other appropriate measures. 9. A spill prevention and countermeasure plan shall be developed which identifies proper storage, collection, and disposal measures for potential pollutants (such as fuel, fertilizers, pesticides, etc.) used on site. 10. Petroleum products shall be stored, handled, used, and disposed of properly in accordance with provisions of the CWA (33 United States Code [USC] §§1251 to 1387). 11. Construction materials, including topsoil and chemicals, shall be stored, covered, and isolated to prevent runoff losses and contamination of surface and groundwater. 12. Fuel and vehicle maintenance areas shall be established away from all drainage courses and designed to control runoff. 13. Sanitary facilities shall be provided for construction workers. 14. Disposal facilities shall be provided for soil wastes, including excess asphalt during construction and demolition. 15. Other potential BMPs include use of wheel wash or rumble strips and sweeping of paved surfaces to remove any and all tracked soil. <p>Mitigation Measure 5.2(B): Contractors involved in the project shall be trained on the potential environmental damage resulting from soil erosion prior to construction in a</p>							

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TABLE 1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Mitigation Measures / Best Management Practices	Original Impact / Residual Impact with Mitigation						
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
	pre-construction meeting. Copies of the project's SWPPP shall be distributed at that time. Construction bid packages, contracts, plans, and specifications shall contain language that requires adherence to the SWPPP. Mitigation Measure 5.2(C): In order to prevent damage to concrete and steel from corrosive soils, construction will utilize non-corrosive materials and protective coatings for buried facilities.							
Seismicity – Construction near an active fault zone could yield adverse effects associated with seismic activity	No mitigation required	LS	LS	LS	LS	LS	LS	NI
Volcanic Hazard – Construction near an active volcano could endanger infrastructure	No mitigation required	LS	LS	LS	LS	LS	LS	NI
Mineral Resources – Development and operation of the alternatives could disturb mineral resources	No mitigation required	LS	LS	LS	LS	LS	LS	NI
SECTION 4.3. Water Resources	SECTION 5.3. Water Resources Mitigation							
Surface Water – Impacts related to surface water could include:								
1) Flooding – Development within a floodplain could generate adverse effects related to inundation	Implement Mitigation Measures 5.5(R) through 5.5(U) . The following measure shall be implemented for Alternative E: Mitigation Measure 5.3(A): Prior to construction of Alternative E, the Tribe shall file a "Letter of Map Revision – Fill" with Federal Emergency Management Agency (FEMA) that describes the portions of the existing 100-year floodplain on the Anderson Site that will be filled as a result of site grading activities.	LS/LS	LS/LS	LS/LS	LS/LS	LS/LS	LS	NI
2) Construction Impacts – Construction activities could increase the discharge of sediment and pollutants to surface waters	Implement Mitigation Measures 5.2(A) through 5.2(C) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	LS/LS	NI

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TABLE 1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Mitigation Measures / Best Management Practices	Original Impact / Residual Impact with Mitigation						
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
3) Stormwater Runoff – Project alternatives could alter stormwater quantity, quality, and/or drainage patterns	Implement Mitigation Measures 5.2(A) through 5.2(C) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	LS	NI
4) Sacramento River Streambank Stabilization – Project operation could contribute to erosion and sedimentation of the Sacramento River	Implement Mitigation Measures 5.5(R) through 5.5(U) .	LS/LS	LS/LS	LS/LS	LS/LS	NI	NI	NI
5) Surface Water Supply – Project operation could impact surface water supply	The use of BMPs would minimize impacts to surface water supply.	LS	LS	LS	LS	NI	LS	NI
Groundwater – The following characteristics of groundwater resources could be impacted by the project alternatives:								
1) Groundwater Supply – The project alternatives could result in the drawdown of groundwater aquifers	The use of BMPs would minimize impacts to groundwater supply.	LS	LS	LS	LS	LS	LS	NI
2) Groundwater Recharge – The project alternatives could impact groundwater recharge through the development of impervious surfaces	No mitigation required	LS	LS	LS	LS	LS	LS	NI
3) Groundwater Quality – Impacts to groundwater quality could occur as a result of:								
a) Polluted Stormwater Runoff	Implement Mitigation Measures 5.2(A) through 5.2(C)	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI
b) Irrigation with Tertiary Treated Water	No mitigation required	LS	LS	LS	LS	NI	NI	NI
c) Application of Treated Effluent to the Leach Field Complex	No mitigation required	LS	LS	LS	LS	NI	NI	NI

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TABLE 1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Mitigation Measures / Best Management Practices	Original Impact / Residual Impact with Mitigation						
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
SECTION 4.4. Air Quality	SECTION 5.4. Air Quality Mitigation							
Construction Emissions – Construction activities could adversely affect air quality through the emission of particulate matter less than 10 microns in diameter (PM ₁₀), nitrogen oxides (NO _x), sulfur dioxide (SO ₂), carbon monoxide (CO), reactive organic gases (ROG), greenhouse gases (GHGs), and hazardous air pollutants (HAPs; primarily in the form of diesel particulate matter [DPM])	The use of BMPs would minimize impacts to air quality caused by construction emissions.	LS	LS	LS	LS	LS	LS	NI
Operational Vehicle and Area Emissions – Project alternatives could adversely affect air quality through the emission of criteria pollutants from vehicles and project facilities	The use of BMPs would minimize impacts to air quality caused by operational vehicle and area emissions.	LS	LS	LS	LS	LS	LS	NI
SECTION 4.5. Biological Resources	SECTION 5.5. Biological Resources Mitigation							
Potential Effects to Habitats – Development of project alternatives could disturb federally-designated critical or sensitive habitats	Implement Mitigation Measures 5.2(A) through 5.2(C) .	LS/LS	LS/LS	LS/LS	LS/LS	LS	LS	NI
Potential Effects to Federally Listed or Protected Special-Status Species – The following special-status species could be impacted by the project alternatives:								
1) Valley Elderberry Longhorn Beetle (VELB)	The following mitigation measures, consistent with United States Fish and Wildlife Service (USFWS) Framework, shall be implemented for Alternatives A through D prior to commencement of construction activities occurring within 50 meters of Valley Elderberry Longhorn Beetle (VELB) the elderberry shrub: Mitigation Measure 5.5(A): The elderberry shrub along the northwest corner of the Strawberry Fields Site along the	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI	NI

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TABLE 1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Mitigation Measures / Best Management Practices	Original Impact / Residual Impact with Mitigation						
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
	<p>Sacramento River shall be fenced or flagged for avoidance. Construction activities potentially impacting the shrub (e.g. trenching) shall apply a buffer of at least 6 meters (approximately 20 feet) from the drip-line. To the degree feasible, activities occurring within 50 meters (165 feet) of an elderberry shrub shall be limited to the season when VELB are not active (August to February).</p> <p>Mitigation Measure 5.5(B): Should mechanical weed removal occur within the drip-line of the elderberry shrub, it shall be limited to the season when adults are not active (August to February) and shall avoid damaging the elderberry.</p> <p>Mitigation Measure 5.5(C): Construction staging areas shall be located a minimum of 30 feet away from the elderberry shrub. Temporary stockpiling of excavated or imported material shall occur in approved construction staging areas. Excess excavated soil shall be used on site or disposed of at a regional landfill or other appropriate facility.</p> <p>Mitigation Measure 5.5(D): A qualified biologist shall provide training for construction personnel. Training shall include the status of the VELB, its host plant and habitat, the need to avoid damaging the elderberry shrub, and the possible penalties for noncompliance.</p> <p>Mitigation Measure 5.5(E): Herbicides shall not be used within the drip-line of the shrub. Insecticides shall not be used within 30 meters (98 feet) of the elderberry shrub. Chemicals shall be applied using a backpack sprayer or similar direct application method.</p> <p>Mitigation Measure 5.5(F): A qualified biologist shall monitor the work area at project-appropriate intervals to assure avoidance and conservation measures are being implemented. The amount and duration of monitoring depend on project specifics and shall be discussed with USFWS.</p> <p>Mitigation Measure 5.5(G): Should removal of the elderberry shrub be necessary as part of future bank stabilization measures, the shrub will be relocated following USFWS protocols (USFWS, 1999) to suitable riparian habitat approximately 1,800 feet southwest of its original location, as</p>							

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TABLE 1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Mitigation Measures / Best Management Practices	Original Impact / Residual Impact with Mitigation							
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G	
	approved by USFWS. Additionally, two credits will be purchased from a USFWS-approved conservation bank. After relocation, monitoring and annual reporting will occur for five years. Additional mitigation may be required pursuant to consultation with USFWS.								
2) California Red-legged Frog (CRLF)	<p>The following mitigation measures shall be implemented for Alternatives A through E:</p> <p>Mitigation Measure 5.5(K): A qualified biologist will conduct a preconstruction habitat assessment survey for California red legged frogs (CRLFs) following Appendix D of USFWS (2005) <i>Revised Guidance of Site Assessments and Field Surveys for the California Red-legged Frog</i>. The survey shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance, construction activities, and/or any project activity likely to impact the CRLF. The survey will be conducted in all potential CRLF habitat on and within 200 feet of the Action Area. If CRLF is detected within or immediately adjacent to the Action Area, the USFWS shall be contacted immediately to determine the best course of action.</p> <p>Mitigation Measure 5.5(L): Should CRLF be identified during surveys, additional silt fencing will be installed after surveys have been completed to further protect this species from construction impacts, should it be present. The fencing shall remain in place until construction activities cease. If identified on site, USFWS may be contacted for additional consultation.</p> <p>Mitigation Measure 5.5(M): Prior to the start of construction, the applicant will retain a qualified biologist to conduct an informational meeting to educate all construction staff on the CRLF. This training will include a description of the CRLF and its habitat needs; an explanation of the status of the species and its protection under the FESA; and a list of the measures being taken to reduce effects to the species during project construction and implementation. The training will include a handout containing training information. The project manager will use this handout to train any additional construction</p>	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI	

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SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Mitigation Measures / Best Management Practices	Original Impact / Residual Impact with Mitigation						
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
	personnel that were not in attendance at the first meeting, prior to starting work on the project.							
3) Bald Eagle	<p>The following mitigation measures shall be implemented for Alternatives A through E:</p> <p>Mitigation Measure 5.5(I): If construction activities (e.g., building, grading, ground disturbance, removal of vegetation) are scheduled to occur during the nesting season for bald eagles (nesting season in the Pacific Northwest is from January 1 through August 15), a qualified biologist shall conduct a preconstruction nest survey for bald eagles within one-mile of the Strawberry Fields Site prior to the start of construction. If an active nest is located within one mile of construction activities, the Tribe will comply with the recommendations identified in the USFWS (2007) <i>National Bald Eagle Management Guidelines and Conservation</i> to avoid disturbing nesting bald eagles and their young. If the active nest is visible from the Strawberry Fields Site, recommendations include maintaining a buffer of at least 660 feet between construction activities and the nest, restricting all clearing, external construction, and landscaping activities within 660 feet of the nest until the nesting season is over and maintaining and establishing landscape buffers. If the active nest is not visible from the Strawberry Fields Site recommendations include maintaining a buffer of at least 660 feet between construction activities and the nest and maintaining and establishing landscape buffers. Implementation of the mitigation discussed in Section 5.5.2 will further reduce potential adverse effects to bald eagles.</p> <p>The following mitigation measures shall be implemented for Alternatives A through F: Implement Mitigation Measures 5.5(O) through 5.5(Q), described below.</p>	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI
Potential Effects to Special-Status Fish Species – Special-status fish species could be impacted by the project alternatives	Implement Mitigation Measures 5.2(A) through 5.2(C) .	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI	NI

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TABLE 1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Mitigation Measures / Best Management Practices	Original Impact / Residual Impact with Mitigation						
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
Potential Effects to State Listed Special-Status Species – The following special-status species could be impacted by the project alternatives:								
1) Western Red Bat	The following mitigation measures shall be implemented for Alternative E: Mitigation Measure 5.5(N): A qualified biologist shall conduct a habitat assessment of the oak woodland habitat within the Anderson Site no more than three days prior to the start of construction occurring within 100 feet of the oak woodland. If the habitat assessment reveals suitable tree cavities large enough to accommodate roosting bats, the qualified biologist shall conduct a sunset fly-out survey on trees with identified cavities. Should bats be detected, the identified trees shall be flagged and buffered by 100 feet. Should the avoidance of identified bat-roosting trees not be feasible, replacement of suitable bat roosting habitat shall occur at a 1:1 ratio elsewhere on the Anderson Site outside of clearing limits. Replacement habitat may consist of bat boxes or similar structures. A qualified biologist shall determine bat box placement and a 100-foot avoidance buffer will be placed around each box. Trees identified to contain roosting bats that are proposed for removal shall be removed as late in the day as possible to reduce the likelihood of potential bat mortality. On the first day, remaining limbs may be removed as late in the day as possible. This amount of disturbance should cause roosting bats to seek other roosting habitat. The rest of the tree can then be harvested on the afternoon of the second day. A qualified biologist shall be present for the removal of these trees in the event that bats are found to have been roosting.	NI	NI	NI	NI	PS/LS	NI	NI
2) Western Spadefoot Toad	The following mitigation measures shall be implemented for Alternatives A through E: Mitigation Measure 5.5(J): A qualified biologist will conduct a preconstruction survey of the potential upland grassland habitat for western spadefoot toad. Mitigation discussed in Section 5.5.3 will be implemented to protect potential	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI

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TABLE 1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Mitigation Measures / Best Management Practices	Original Impact / Residual Impact with Mitigation						
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
	breeding habitat. Additional silt fencing will be installed after surveys have been completed to further protect this species from construction impacts, should it be present. The fencing shall remain in place until all construction activities on the site have been completed.							
	The following measures shall be implemented for Alternatives A through D: Implement Mitigation Measures 5.5(R) through 5.5(U) , described below.							
3) Red Bluff Dwarf Rush	The following mitigation measures shall be implemented for Alternatives A through E: Mitigation Measure 5.5(H): A qualified botanist will conduct a preconstruction survey for Red Bluff dwarf rush within the identifiable bloom season (March through June) directly prior to construction. If the species is not identified within the area of impact, no further mitigation is required. Should the species be identified within the area of impact, a 25-foot “no construction” buffer will be established and maintained using fencing. If avoidance is not possible, impacts to identified populations of Red Bluff dwarf rush shall be offset by preserving remaining populations to the extent feasible and/or replanting at a 1:1 ratio. Transplants shall be planted in suitable areas ecologically similar to the original sites as determined by the qualified biologist. A 25-foot buffer shall be established around preserved populations and replanting sites. The qualified biologist shall place orange construction fencing around avoided and replanted populations prior to construction activities to ensure populations are protected. Final replanting density shall be consistent with what is impacted.	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI
4) Tricolored Blackbird	Implement Mitigation Measures 5.5(O) through 5.2(Q) , described below.	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI
5) Bank Swallow	Implement Mitigation Measures 5.5(O) through 5.2(Q) , described below.	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI

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SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Mitigation Measures / Best Management Practices	Original Impact / Residual Impact with Mitigation						
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
Potential Effects to Migratory Birds and Other Birds of Prey – The following elements of the project alternatives could impact migratory birds:								
1) Construction Activities: Active nests could be disturbed if construction occurred during the nesting season	The following measures shall be implemented for Alternatives A through F to avoid and/or reduce impacts to any potentially nesting migratory, raptor, and/or special-status bird species: Mitigation Measure 5.5(O): If construction activities (e.g., building, grading, ground disturbance, removal of vegetation) are scheduled to occur during the nesting season (February 15-September 15), a preconstruction nesting bird survey shall be conducted by a qualified wildlife biologist throughout the areas of suitable habitat within 500 feet of proposed construction activity. The surveys shall occur no more than 14 days prior to the scheduled onset of construction. If construction is delayed or halted for more than 14 days, another preconstruction survey for nesting bird species shall be conducted. If no nesting birds are detected during the preconstruction survey, no additional surveys or mitigation measures are required. Mitigation Measure 5.5(P): If nesting bird species are observed within 500 feet of construction areas during the surveys, appropriate “no construction” buffers shall be established. The size and scale of nesting bird buffers shall be determined by a qualified biologist and shall be dependent upon the species observed and the location of the nest. Buffers shall be established around active nest locations. The nesting bird buffers shall be completely avoided during construction activities. The qualified biologist shall also determine an appropriate monitoring plan and decide whether construction monitoring is necessary during construction activities. Monitoring requirements are dependent upon the species observed, the location of the nests, and the number of nests observed. The buffers may be removed when the qualified wildlife biologist confirms that the nest(s) is no longer occupied and all birds have fledged.	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI

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TABLE 1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Mitigation Measures / Best Management Practices	Original Impact / Residual Impact with Mitigation						
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
	Mitigation Measure 5.5(Q): If impacts (i.e., take) to migratory nesting bird species are unavoidable, consultation with USFWS shall be initiated. Through consultation, an appropriate and acceptable course of action shall be established.							
2) Lighting: Lighting could increase collisions of birds with structures or cause avian disorientation	The incorporation of design features would minimize impacts to birds caused by lighting	LS	LS	LS	LS	LS	LS	NI
Potential Effects to Wetlands and Waters of the U.S. – Construction could impact wetlands within project site and improvement area boundaries	Implement Mitigation Measures 5.2(A) through 5.2(C) . The following measures shall be implemented for Alternatives A through D to minimize or avoid potential impacts to wetlands and Waters of the U.S.: Mitigation Measure 5.5(R): Prior to the start of construction, wetlands and jurisdictional features shall be fenced, and excluded from activity. Fencing shall be located as far as feasible from the edge of wetlands and riparian habitats and installed prior to the dry season, after special-status species surveys have been conducted and prior to construction. The fencing shall remain in place until all construction activities on the site have been completed. 1. Construction activities within 50 feet of any United States Army Corps of Engineers (USACE) jurisdictional features identified in the formal delineation process shall be conducted during the dry season to minimize erosion. 2. Staging areas shall be located away from the areas of wetland habitat that are fenced off. Temporary stockpiling of excavated or imported material shall occur only in approved construction staging areas. Excess excavated soil shall be used on site or disposed of at a regional landfill or other appropriate facility. Stockpiles that are to remain on the site through the wet season shall be protected to prevent erosion (e.g. with tarps, silt fences, or straw bales). 3. Standard precautions shall be employed by the construction contractor to prevent the accidental release	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI

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	<p>of fuel, oil, lubricant, or other hazardous materials associated with construction activities into jurisdictional features. A contaminant program shall be developed and implemented in the event of release of hazardous materials.</p> <p>4. If impacts to Waters of the U.S. and wetland habitat are unavoidable, a 404 permit and 401 Certification under CWA shall be obtained from the USACE and USEPA. Mitigation measures may include creation or restoration of wetland habitats either on site or at an appropriate off-site location, or the purchase of approved credits in a wetland mitigation bank approved by the USACE. Compensatory mitigation shall occur at a minimum of 1:1 ratio or as required by the USACE and USEPA.</p> <p>Mitigation Measure 5.5(S): Prior to the construction of streambank stabilization measures along the Sacramento River, the Tribe shall consult with the USEPA and USACE regarding the need to obtain a CWA 404 permit and 401 Water Quality Certification. Additionally, the Tribe shall consult with FEMA regarding the need for FEMA review of potential floodplain impacts. The Tribe shall adhere to all conditions of the permits to ensure the protection of the floodplain and water quality during construction activities.</p> <p>The following measures shall be implemented for Alternatives A through E to minimize or avoid potential impacts to wetlands and Waters of the U.S.:</p> <p>Mitigation Measure 5.5(T): Compliance with the NPDES General Construction Permit, as required in Mitigation Measure 5.2(A), will provide additional protection to wetlands, Waters of the U.S., and the fish and wildlife species that depend on them.</p> <p>The following measures shall be implemented for Alternative E to minimize or avoid potential impacts to wetlands and Waters of the U.S.:</p>							

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	<p>Mitigation Measure 5.5(U): Prior to the start of construction on any site, a formal Jurisdictional Delineation shall be conducted and the results of that survey shall be verified by the USACE. A 404 permit and 401 Certification under CWA shall be obtained from the USACE and USEPA. Mitigation measures may include creation or restoration of wetland habitats either on site or at an appropriate off-site location, or the purchase of approved credits in a wetland mitigation bank approved by the USACE. Compensatory mitigation shall occur at a minimum of 1:1 ratio or as required by the USACE and USEPA.</p>							
SECTION 4.6. Cultural and Paleontological Resources	SECTION 5.6. Cultural and Paleontological Resources Mitigation							
<p>Cultural Resources – Ground-disturbing activities could uncover and/or damage archaeological sites</p>	<p>The following mitigation measures shall be implemented for Alternatives A through F:</p> <p>Mitigation Measure 5.6(A): In the event of inadvertent discovery of prehistoric or historic archaeological resources during construction-related earth-moving activities within the site, traffic mitigation locations, or Off-site Access Improvement Areas, all such finds shall be subject to Section 106 of the National Historic Preservation Act (NHPA) as amended (36 CFR 800), and the Bureau of Indian Affairs (BIA) shall be notified. Specifically, procedures for post-review discoveries without prior planning pursuant to 36 CFR 800.13 shall be followed. All work within 50 feet of the find shall be halted until a professional archaeologist meeting the Secretary of the Interior’s qualifications (36 CFR 61) can assess the significance of the find.</p> <p>If the find can be associated with archaeological site CA-SHA-4413 and appears to represent a new feature, activity, time period, or is anything other than emblematic of the site as it is currently understood, then the National Register eligibility of CA-SHA-4413 shall be reassessed in light of the new finds.</p> <p>Any find not related to CA-SHA-4413 shall be evaluated by the archaeologist in consultation with the Tribe and BIA; if the site appears to be eligible to the National Register of Historic Places (NRHP), the archaeologist in consultation with the</p>	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI

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		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
	<p>Tribe and BIA shall determine the appropriate course of action, including the development and implementation of a Treatment Plan or Monitoring Plan if necessary. All significant cultural materials recovered shall be subject to scientific analysis, professional curation or repatriation, and a report prepared by the professional archaeologist according to current professional standards.</p> <p>Mitigation Measure 5.6(B): In the event of inadvertent discovery of paleontological resources during construction-related earth-moving activities, all such finds shall be subject to Section 101 (b)(4) of NEPA (40 CFR §§1500-1508), and the BIA shall be notified. All work within 50 feet of the find shall be halted until a professional paleontologist can assess the significance of the find. If the find is determined to be significant by the paleontologist, then representatives of the BIA shall meet with the paleontologist to determine the appropriate course of action, including the development of an Evaluation Report and/or Mitigation Plan, if necessary. All significant paleontological materials recovered shall be subject to scientific analysis, professional curation, and a report prepared by the professional paleontologist according to current professional standards.</p> <p>Mitigation Measure 5.6(C): If human remains are discovered during ground-disturbing activities on tribal lands, the Tribe, BIA, and County Coroner shall be contacted immediately. No further disturbances shall occur until the County Coroner has determined that the remains are not connected to criminal activity. If the remains are determined to be of Native American origin, the provisions of the Native American Graves Protection and Repatriation Act (NAGPRA) shall apply. Construction shall not resume in the vicinity until final disposition of the remains has been determined.</p> <p>Prior to undertaking construction of off-site infrastructure, a qualified archaeologist shall conduct a survey for any areas to be disturbed during construction. If significant resources or significant archaeological sites are present, they shall be avoided, as feasible. If avoidance of such resources is not feasible, recordation of the sites shall be required, along with</p>							

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	<p>treatment as is recommended by the archaeologist after consultation with the State Historic Preservation Officer (SHPO) and, if the find is prehistoric, the Native American Heritage Commission (NAHC). If unknown resources are encountered during construction, recommendations, including the management recommendations listed in Mitigation Measures 5.6(A) and 5.6(B), shall be implemented to ensure that the resources are avoided, protected, and/or recorded.</p> <p>The following mitigation measure shall be implemented for Alternatives A through D:</p> <p>Mitigation Measure 5.6(D): Prior to construction of the northern access improvements along Bechelli Lane, the BIA shall consult with the SHPO to develop an appropriate mitigation plan to address the potential for adverse effects to CA-SHA-266, an NRHP-eligible site that would be impacted by construction. Section 106 of the NHPA requires that these effects be resolved in a Memorandum of Agreement, Programmatic Agreement, or by incorporation of a description of its binding commitment to measures to avoid, minimize, or mitigate adverse effects to historic properties in the Record of Decision. It is anticipated that such measures would include development and implementation of archaeological and burial treatment plans.</p> <p>The archaeological and burial treatment plans shall include details regarding the method and timing of the investigation of the North Access Improvement Area Area of Potential Effects (APE), data collection and analysis methodology, burial recordation and analysis methodology, decision points, artifact and burial storage, and repatriation schedules. It is strongly recommended that the North Access Improvement Area APE be graded to subsoil or to anticipated construction impacts (whichever comes first) prior to Proposed Project construction wherever possible. This would help avoid unnecessary and potentially expensive construction delays by uncovering any features of CA-SHA-266 or other resources in advance, allowing time appropriately implement measures in accordance with the stipulations of the treatment plans.</p>							

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	All construction within the North Access Improvement Area APE below sterile subsoil shall be monitored by a team comprised of qualified professional archaeologists and Native American monitors.							
Paleontological Resources – Paleontological resources could be uncovered and/or damaged by ground-disturbing activities	Implement Mitigation Measures 5.6(A) and 5.6(B) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI
SECTION 4.7. Socioeconomic Conditions	SECTION 5.7. Socioeconomic Conditions Mitigation							
Economic Effects								
1) Economic Output								
a) Construction – Construction of the project alternatives could impact spending and labor demand in the region	No mitigation required	BI	BI	BI	BI	BI	BI	NI
b) Operation – Operation of the project alternatives could impact spending and labor demand in the region	No mitigation required	BI	BI	BI	BI	BI	BI	NI
2) Substitution Effects								
a) Existing Tribal Casino Gaming Market Substitution Effects – Operation of the project alternatives could reduce revenues at existing tribal casinos	No mitigation required	LS	LS	LS	NI	LS	LS	NI
b) Non-Gaming Substitution Effects – Operation of the project alternatives could reduce revenues at existing hotels, restaurants, and retail facilities	No mitigation required	LS	LS	LS	LS	LS	NI	NI

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3) Fiscal Effects – The project alternatives could adversely impact County and/or City tax revenues and operating budgets	Implement Mitigation Measures 5.10(E) through 5.10(H) .	BI	BI	BI	BI	BI	BI	NI
4) Property Values – Development of the project alternatives could cause a reduction in regional property values	No mitigation required	LS	LS	LS	LS	LS	LS	NI
Employment								
1) Construction – Construction of the project alternatives could impact wages, job availability, and/or employment rates	No mitigation required	BI	BI	BI	BI	BI	BI	NI
2) Operation – Operation of the project alternatives could impact wages, job availability, and/or employment rates	No mitigation required	BI	BI	BI	BI	BI	BI	NI
Housing – Employment-driven in-migration could cause or exacerbate housing supply issues	No mitigation required	LS	LS	LS	LS	LS	LS	NI
Social Effects – The following social impacts could result from operation of the project alternatives:								
1) Problem and Pathological Gambling – Operation of the project alternatives could increase the prevalence of problem or pathological gaming	The following mitigation measure shall be implemented for Alternatives A, B, C, and E: Mitigation Measure 5.7(A): The Tribe shall implement problem gambling policies similar to those in effect at the existing Win-River Casino, which include self-help brochures available on site, and self-banning procedures to help those who may be affected by problem gaming.	LS/LS	LS/LS	LS/LS	NI	LS/LS	LS	NI
2) Crime – Operation of the project alternatives could increase the incidence of crime in the region	The use of BMPs and implementation of Mitigation Measures 5.10(G) and 5.10(H) would minimize impacts related to increased crime.	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI

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Community Effects – Impacts to the following areas could result from development of the project alternatives:								
1) Schools – Employment-driven in-migration could introduce a number of new students in excess of the regional enrollment capacity	No mitigation required	LS	LS	LS	LS	LS	LS	NI
2) Libraries and Parks – Employment-driven in-migration could overburden existing recreational facilities	No mitigation required	LS	LS	LS	LS	LS	LS	NI
Effects to the Redding Rancheria	No mitigation required	BI	BI	BI	BI	BI	BI	NI
Environmental Justice: Minority and Low-Income Communities – There are some identified minority and low-income populations in the vicinity of the alternative sites that could be affected	No mitigation required	LS	LS	LS	LS	LS	LS	NI
SECTION 4.8. Transportation/Circulation	SECTION 5.8. Transportation/Circulation Mitigation							
Construction Traffic – Vehicle trips associated with project construction could negatively impact roadways and significantly increase traffic volumes	The following mitigation measures shall be implemented under Alternatives A through F to minimize transportation impacts associated with construction: Mitigation Measure 5.8(A): A traffic management plan shall be prepared in accordance with standards set forth in the California Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways (FHWA, 2009). The traffic management plan shall be submitted to each affected local jurisdiction and/or agency. Also, prior to construction, the contractor shall coordinate with emergency service providers to avoid obstructing emergency response service. Police, fire, ambulance, and other emergency response providers shall be notified in advance of the details of the construction schedule, location of construction activities, duration of the construction period, and any access	LS/LS	LS/LS	LS/LS	LS/LS	LS/LS	LS/LS	NI

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	restrictions that could impact emergency response services. Traffic management plans shall include details regarding emergency service coordination. Copies of the traffic management plans shall be provided to all affected emergency service providers.							
Project Traffic – Vehicle trips associated with the operation of the project alternatives could significantly increase traffic volume and exceed the designed capacity of regional roadways	Implement (as applicable) Mitigation Measures 5.8(B) through 5.8(R) in Section 5.8 .	S/LS	S/LS	S/LS	S/LS	S/LS	LS	NI
Transit, Bicycle, and Pedestrian Facilities – Traffic generated by the project alternatives could adversely impact other transportation facilities	No mitigation required	LS	LS	LS	LS	LS	LS	NI
SECTION 4.9. Land Use	SECTION 5.9. Land Use Mitigation							
Land Use Plans – The project alternatives could conflict with City and/or County land use plans and ordinances	No mitigation required	LS	LS	LS	LS	LS	LS	NI
Land Use Compatibility – The project alternatives could conflict with neighboring land uses	The use of BMPs and implementation of Mitigation Measures 5.8(A) through 5.8(R) would minimize impacts related to land use compatibility	LS/LS	LS/LS	LS/LS	LS/LS	LS/LS	LS/LS	NI
Agriculture – The project alternatives could conflict with state and federal farmland designations	No mitigation required	LS	LS	LS	LS	LS	LS	NI
SECTION 4.10. Public Services	SECTION 5.10. Public Services Mitigation							
Water Supply – The project alternatives could exceed the capacity of the municipal water supply or require significant improvements to the existing municipal water distribution infrastructure	Implementation of the mitigation measures below shall minimize potential impacts related to water and wastewater services. The following mitigation measure shall be implemented for Alternatives A through D: Mitigation Measure 5.10(A): For off-site water and/or wastewater provision options, the Tribe shall enter into a service agreement with the City of Redding prior to project operation. The service agreement shall include provisions for	Option 1: LS/LS Option 2: NI	Option 1: LS/LS Option 2: NI	Option 1: LS/LS Option 2: NI	Option 1: LS/LS Option 2: NI	Option 1: LS/LS Option 2: NI	LS/LS	NI

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	<p>monthly services charges consistent with rates paid by other commercial users within the city.</p> <p>Mitigation Measure 5.10(B): Should the project be operational prior to the completion of improvements to the West Side Interceptor, the Tribe shall construct an equalization storage tank with a capacity of at least 362,000 gallons for storage of wastewater generated during 10-year, 24-hour storm events when the City’s conveyance system is over capacity until the peak event has resided and flows are below the capacity of the pipeline conveyance system.</p> <p>The following mitigation measure shall be implemented for Alternative E:</p> <p>Mitigation Measure 5.10(C): For the off-site water and/or wastewater provision option, the Tribe shall enter into a service agreement with the City of Anderson prior to project operation. The service agreement shall include provisions for monthly services charges consistent with rates paid by other commercial users within the city.</p> <p>The following mitigation measure shall be implemented for Alternative F:</p> <p>Mitigation Measure 5.10(D): The existing 2012 Master Service Agreement between the City of Redding and the Tribe shall be renegotiated to account for the increase in water and wastewater demand as a result of Alternative F. The Tribe would continue to pay for water and wastewater services on per-use basis.</p>							
Wastewater Service – Operation of the project alternatives could exceed the capacity of the existing municipal wastewater treatment and disposal infrastructure	Implement Mitigation Measures 5.10(A) through 5.10(C) .	Option 1: LS/LS Option 2: NI	Option 1: LS/LS Option 2: NI	Option 1: LS/LS Option 2: NI	Option 1: LS/LS Option 2: NI	LS/LS	LS/LS	NI
Solid Waste Service								
1) Construction – Construction of the project alternatives could	The use of BMPs would minimize impacts to solid waste services from project construction.	LS	LS	LS	LS	LS	LS	NI

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generate quantities or types of waste that cannot be accommodated by regional waste disposal facilities								
2) Operation – Operation of the project alternatives could generate quantities or types of waste that cannot be accommodated by regional waste disposal facilities	The use of BMPs would minimize impacts to solid waste services from project operation.	LS	LS	LS	LS	LS	LS	NI
Law Enforcement – Service calls to local law enforcement agencies could increase due to the project alternatives.	<p>The following mitigation measure shall be implemented for Alternatives A through D. Mitigation Measure 5.10(E): Prior to operation the Tribe shall enter into agreements to reimburse the Redding Police Department (RPD) and/or the Shasta County Sheriff's Office (SCSO) for quantifiable direct and indirect costs incurred in conjunction with providing law enforcement services.</p> <p>The following mitigation measure shall be implemented for Alternative E: Mitigation Measure 5.10(F): Prior to operation the Tribe shall enter into agreements to reimburse the Anderson Police Department (APD) for quantifiable direct and indirect costs incurred in conjunction with providing law enforcement services.</p>	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI
Fire Protection and Emergency Medical Services								
1) Construction – Construction activities could increase the risk of fire	The use of BMPs would minimize impacts to fire protection and emergency services from project construction.	LS	LS	LS	LS	LS	LS	NI
2) Operation – The project alternatives could increase the number of service calls to local fire protection/emergency medical service providers	<p>The following mitigation measure shall be implemented for Alternatives A through D and F: Mitigation Measure 5.10(G): Prior to operation the Tribe shall enter into a service agreement to reimburse the Shasta County Fire Department (SCFD) for additional demands</p>	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI

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	caused by the operation of the facilities on trust property. The agreement shall address any required conditions and standards for emergency access and fire protection systems.							
	The following mitigation measure shall be implemented for Alternative E: Mitigation Measure 5.10(H): Prior to operation the Tribe shall enter into a service agreement to reimburse the Anderson Fire Department (AFD) for additional demands caused by the operation of the facilities on trust property. The agreement shall address any required conditions and standards for emergency access and fire protection systems.							
Electricity and Natural Gas								
1) Construction – Construction activities could damage underground utilities	The use of BMPs would minimize impacts to electricity and natural gas from project construction.	LS	LS	LS	LS	LS	LS	NI
2) Operation – Operation of the project alternatives could necessitate improvements to electrical and natural gas infrastructure that generate adverse environmental effects	No mitigation required.	LS	LS	LS	LS	LS	LS	NI
SECTION 4.11. Noise	SECTION 5.11. Noise Mitigation							
Construction Noise – Noise associated with construction activities could adversely affect human health and/or the physical environment	The use of BMPs would minimize impacts caused by construction noise.	LS	LS	LS	LS	LS	LS	NI
1) Construction Traffic Noise	The use of BMPs would minimize impacts caused by construction traffic noise.	LS	LS	LS	LS	LS	LS	NI
Construction Vibration – Vibration associated with construction activities could adversely affect human health and/or the physical environment	The use of BMPs would minimize impacts caused by construction vibration.	LS	LS	LS	LS	LS	LS	NI

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Operational Noise – Noise from the following sources associated with the project alternatives could adversely affect the physical environment:								
1) Traffic – Operation of the project alternatives could increase traffic-related noise in the vicinity of roads surrounding the project sites, with the exception of the roads analyzed separately below:	No mitigation required.	LS	LS	LS	LS	LS	LS	NI
a) Bechelli Lane south of South Bonnyview Road		LS	LS	LS	LS	NI	NI	NI
b) Churn Creek Road between Smith Road and Knighton Road	No mitigation required	LS	LS	LS	LS	NI	NI	NI
c) Smith Road between Churn Creek Road and Adra Way	No mitigation required	LS	LS	LS	LS	NI	NI	NI
d) Adra Way north of Smith Road	No mitigation required	LS	LS	LS	LS	NI	NI	NI
2) Other Noise Sources – Roof-mounted air handling units, idling vehicles, patron conversations, and doors opening and closing in parking lots could increase ambient noise levels	The use of BMPs would minimize impacts caused by other noise sources. Additionally, the following measure shall be implemented for Alternatives A, B, and C: Mitigation Measure 5.11(A): Sound levels shall be monitored at initial performances or “practice sessions” at the outdoor amphitheater to determine the sound levels at the nearest receptors based upon a reference sound level at 100 feet from the stage. To quantify this relationship, sound levels shall be monitored simultaneously at a point 100 feet from the stage and at one or more points near the northern boundary of the Strawberry Fields Site close to the nearest residential receptors. Once this relationship is established for the specifics of the venue, sound levels at the point 100 feet from	PS/LS	PS/LS	PS/LS	LS/LS	LS/LS	LS/LS	NI

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	the stage shall be monitored during events and, if necessary, the volume shall be reduced to ensure that the ambient sound level in the vicinity of residential receptors remains below 67 A-weighted decibels (dBA) equivalent noise level (Leq). Performers shall be required by contract to turn down the volume at the request of the Tribe if event conditions indicate this is necessary.							
Operational Vibration – Vibration associated with operation could adversely affect human health and/or the physical environment	No mitigation required	LS	LS	LS	LS	LS	LS	NI
SECTION 4.12. Hazardous Materials	SECTION 5.12. Hazardous Materials Mitigation							
Construction – Construction of the project alternatives could disturb existing hazardous materials or introduce new hazardous materials into the environment	The use of BMPs would minimize impacts from hazardous materials during construction.	LS	LS	LS	LS	LS	LS	NI
Operation – Operation of the project alternatives could introduce hazardous materials into the physical environment	The use of BMPs would minimize impacts from hazardous materials during operation.	LS	LS	LS	LS	LS	LS	NI
SECTION 4.13. Aesthetics	SECTION 5.13. Aesthetics Mitigation							
Construction Impacts – Construction activities could obstruct views of scenic resources	No mitigation required	LS	LS	LS	LS	LS	LS	NI
Operational Impacts – Development of the project alternatives could generate significant adverse aesthetic impacts, including those impacts addressed separately below	The incorporation of design features would minimize impacts to aesthetics during operation.	LS	LS	LS/LS	LS	LS	LS	NI
1) Effects on Viewsheds Surrounding the Project	The incorporation of design features would minimize impacts to viewsheds during operation.	LS	LS	LS	LS	LS	LS	NI
2) Shadow, Light, and Glare	The incorporation of design features would minimize impacts caused by shadow, light, and glare during operation.	LS	LS	LS	LS	LS	LS	NI

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		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
SECTION 4.14. Indirect and Growth-Inducing Effects								
SECTION 4.14.1. Indirect Effects from Off-Site Traffic Mitigation Improvements								
Geology and Soils – Construction of roadway improvements could increase the potential for soil erosion and geological hazards	Implement Mitigation Measures 5.2(A) through 5.2(C) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI
Water Resources – Construction of roadway improvements could increase stormwater runoff and erosion and adversely impact water quality	Implement Mitigation Measures 5.2(A) through 5.2(C) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI
Air Quality – Construction of roadway improvements could adversely impact air quality through the emission of air pollutants	The use of BMPs will minimize air quality impacts caused by construction of roadway improvements.	LS	LS	LS	LS	LS	NI	NI
Biological Resources – Habitat could be lost and special-status species could be disturbed due to the construction of roadway improvements	Implement Mitigation Measures 5.2(A) through 5.2(C) and Mitigation Measure 5.5(R) through 5.5(U) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI
Cultural Resources – Construction of roadway improvements has the potential to disturb archaeological resources	Implement Mitigation Measures 5.6(A) through 5.6(D) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI
Socioeconomic Conditions – Roadway improvements could cause disturbances in traffic flow and/or the loss of access to businesses and communities	No mitigation required	LS	LS	LS	LS	LS	NI	NI
Transportation/Circulation – Roadway improvements could disrupt traffic flow and/or access to surrounding land uses	No mitigation required	LS	LS	LS	LS	LS	NI	NI

(Legend: NI = No Impact; BI = Beneficial Impact; LS = Less-than-Significant; PS = Potentially Significant; S = Significant)

TABLE 1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Mitigation Measures / Best Management Practices	Original Impact / Residual Impact with Mitigation						
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
Land Use – Roadway improvements could conflict with City or County planning ordinances or adversely impact adjacent property owners	No mitigation required	LS	LS	LS	LS	LS	NI	NI
Public Services – Roadway improvements could significantly disrupt the provision of public services	Implement Mitigation Measures 5.8(A) and 5.10(G) and 5.10(H) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI
Noise – Construction of the roadway improvements could result in significant increases in ambient noise levels	The use of BMPs will minimize impacts from construction noise from roadway improvements.	LS	LS	LS	LS	LS	NI	NI
Hazardous Materials – Hazardous materials could be released inadvertently and dry vegetation could be ignited during grading and construction activities	The use of BMPs will minimize impacts from inadvertent hazard material releases.	LS	LS	LS	LS	LS	NI	NI
Aesthetics – Roadway improvements could significantly alter viewsheds	No mitigation required	LS	LS	LS	LS	LS	NI	NI
SECTION 4.14.2. Indirect Effects from Off-Site Utility/Infrastructure Improvements								
Geology and Soils – Construction of utility improvements could increase the potential for soil erosion and geological hazards	Implement Mitigation Measures 5.2(A) through 5.2(C) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI
Water Resources – Construction of utility improvements could increase stormwater runoff and erosion and adversely impact water quality	Implement Mitigation Measures 5.2(A) through 5.2(C) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI
Air Quality – Construction of utility improvements could adversely impact air quality through the emission of air pollutants	The use of BMPs will minimize impacts to air quality from construction.	LS	LS	LS	LS	LS	NI	NI
Biological Resources – Habitat could be lost and special-status species could	Implement Mitigation Measure 5.5(R) through 5.5(U) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI

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Impact	Mitigation Measures / Best Management Practices	Original Impact / Residual Impact with Mitigation						
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
be disturbed due to the construction of utility improvements								
Cultural Resources – Construction of utility improvements has the potential to disturb archaeological resources	Implement Mitigation Measures 5.6(A) through 5.6(D) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI
Socioeconomic Conditions – Utility improvements could cause disturbances in traffic flow and/or the loss of access to businesses and communities	No mitigation required	LS	LS	LS	LS	LS	NI	NI
Transportation/Circulation – Utility improvements could disrupt traffic flow and/or access to surrounding land uses	Implement Mitigation Measures 5.8(A) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI
Land Use – Utility improvements could conflict with City or County planning ordinances or adversely impact adjacent property owners	No mitigation required	LS	LS	LS	LS	LS	NI	NI
Public Services – Utility improvements could significantly disrupt the provision of public services	Implement Mitigation Measures 5.8(A), 5.10(G), and 5.10(H) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI	NI
Noise – Construction of the utility improvements could result in significant increases in ambient noise levels	The use of BMPs will minimize impacts from noise caused by construction of utility improvements.	LS	LS	LS	LS	LS	NI	NI
Hazardous Materials – Hazardous materials could be released inadvertently and dry vegetation could be ignited during grading and construction activities	The use of BMPs will minimize impacts from inadvertent hazardous material releases.	LS	LS	LS	LS	LS	NI	NI
Aesthetics – Utility improvements could significantly alter viewsheds	No mitigation required	LS	LS	LS	LS	LS	NI	NI
SECTION 4.14.3. Growth-Inducing Effects – Development of the project alternatives could promote population growth and/or the construction of additional housing, which could	No mitigation required	LS	LS	LS	LS	LS	LS	NI

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adversely impact the physical and human environments								
SECTION 4.15. Cumulative Effects								
Geology and Soils – Development of the project alternatives could, when taken together with other foreseeable developments, result in significant topographic changes and/or soil loss	Implement Mitigation Measures 5.2(A) through 5.2(C) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI
Water Resources								
1) Surface Water and Flooding – Development of the project alternatives in conjunction with other proposed developments could significantly increase sedimentation, pollution, and stormwater runoff	The use of BMPs would minimize cumulative impacts to surface water and flooding.	LS	LS	LS	LS	LS	LS	NI
2) Water Quality – The project alternatives, taken together with other foreseeable developments, could result in an increase in pollution and sedimentation	Implement Mitigation Measures 5.2(A) through 5.2(C) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI
3) Groundwater Supply – The project alternatives, in conjunction with the buildout of County and/or City General Plans, could significantly impact groundwater supply if the total water demand exceeds the rate of groundwater recharge	Implement Mitigation Measures 5.2(A) through 5.2(C) , and 5.3(A) .	PS/LS	PS/LS	PS/LS	PS/LS	LS/LS	LS	NI
4) Groundwater Quality – Development of the project alternatives, taken together with other foreseeable regional developments, could result in the contamination of groundwater	Implement Mitigation Measures 5.2(A) through 5.2(C) .	LS	LS	LS	LS	LS	PS/LS	NI

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		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G
Air Quality								
1) Operational Emissions – Development of the project alternatives, in conjunction with other regional projects, could contribute to the nonattainment of National Ambient Air Quality Standards (NAAQS)	The use of BMPs would minimize cumulative impacts to air quality resulting from operational emissions.	LS	LS	LS	LS	LS	LS	NI
2) Carbon Monoxide Hot Spot Analysis – Development of the project alternatives, taken together with the buildout of the City and/or County general plans, could cause an increase in delay at some intersections in the cumulative year 2040 sufficient to warrant a Hot Spot Analysis	No mitigation required	LS	LS	LS	LS	LS	LS	NI
3) Climate Change – Development of the project alternatives in conjunction with other foreseeable projects could significantly contribute to climate change through the emission of GHGs	The use of BMPs would minimize cumulative impacts related to climate change.	LS	LS	LS	LS	LS	LS	NI
Biological Resources								
1) Wildlife and Habitats – The project alternatives, in conjunction with other foreseeable developments, could adversely impact critical or sensitive habitat	No mitigation required	LS	LS	LS	LS	LS	LS	NI
2) Special-Status Species – Development of the project alternatives, taken together with the buildout of the City and	See Mitigation Measure 5.5(A) through 5.5(Q) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	LS	NI

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County general plans, could adversely impact special-status species								
3) Migratory Birds – The project alternatives, taken together with the development of other foreseeable projects, could disturb migratory birds	See Mitigation Measures 5.5(O) through 5.5(Q)	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI
4) Wetlands and/or Waters of the U.S. – The project alternatives and other foreseeable developments could adversely impact wetlands and/or water of the U.S. by increasing erosion or through the discharge of runoff or wastewater	See Mitigation Measures 5.2(A) through 5.2(C) , and Mitigation Measure 5.5(R) through 5.5(U) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	LS	NI
Cultural Resources – Construction activities, in conjunction with the development of other foreseeable projects, could disturb archaeological or paleontological resources	See Mitigation Measure 5.6(A) through 5.6(D) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	NI
Socioeconomic Conditions – The project alternatives, taken together with the buildout of the City and County general plans, could yield adverse impacts to the local labor market, housing availability, and local governments	No mitigation required	LS	LS	LS	LS	LS	LS	NI
Transportation								
1) 2040 Cumulative Traffic Conditions – Development of the project alternatives, taken together with the buildout of the City and County General Plans, could regional intersections to	See Mitigation Measures 5.8(S) through 5.8(JJ) in Section 5.8 .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	LS	NI

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operate at an unacceptable level of service (LOS)								
2) Transit, Bicycle, and Pedestrian Facilities – Development of the project alternatives and other foreseeable alternatives could disrupt existing or planned transit, bicycle, and pedestrian facilities	No mitigation required	LS	LS	LS	LS	LS	LS	NI
Land Use – Development of the project alternatives in conjunction with other development projects could disrupt or impede access to neighboring land uses	No mitigation required	LS	LS	LS	LS	LS	LS	NI
Public Services								
1) Water Supply – Development of the project alternatives, taken together with other foreseeable developments, could adversely impact the provision of water	Implement Mitigation Measures 5.10(A) through 5.10(D) .	Option 1: PS/LS Option 2: NI	Option 1: PS/LS Option 2: NI	Option 1: PS/LS Option 2: NI	Option 1: PS/LS Option 2: NI	Option 1: PS/LS Option 2: NI	PS/LS	NI
2) Wastewater – Development of the project alternatives in conjunction with the buildout of the City and County general plans could adversely impact the treatment and disposal of wastewater	Implement Mitigation Measures 5.10(A) through 5.10(D) .	Option 1: PS/LS Option 2: NI	Option 1: PS/LS Option 2: NI	Option 1: PS/LS Option 2: NI	Option 1: PS/LS Option 2: NI	PS/LS	PS/LS	NI
3) Solid Waste – The project alternatives, taken together with other foreseeable developments, could adversely impact the disposal of solid waste	No mitigation required	LS	LS	LS	LS	LS	LS	NI
4) Law Enforcement – Development of the project	See Mitigation Measures 5.10(E) and 5.10(F) .	PS/LS	PS/LS	PS/LS	PS/LS	PS/LS	LS	NI

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alternatives and other foreseeable projects could adversely impact the provision of law enforcement services								
5) Fire Protection and Emergency Medical Services – Operation of the project alternatives, taken together with other foreseeable development projects, could impede the provision of fire protection and emergency medical services	See Mitigation Measures 5.10(G) and 5.10(H) .	LS/LS	LS/LS	LS/LS	LS/LS	LS/LS	LS/LS	NI
6) Energy and Natural Gas – Development of the project alternatives, in conjunction with the buildout of the City and County General Plans, could adversely impact the provision of electrical and natural gas services and the physical environment	No mitigation required	LS	LS	LS	LS	LS	LS	NI
Noise								
1) Traffic Noise – Development of the project alternatives could contribute to a cumulatively significant increase in traffic noise levels	No mitigation required.	LS	LS	LS	LS	LS	LS	NI
2) Vibration and Other Noise Sources – Vibration and other noise sources associated with the project alternatives, in conjunction with noise from other foreseeable projects, could contribute to a significant increase in noise levels	The use of BMPs and implementation of Mitigation Measure 5.11(A) would minimize cumulative impacts related to vibration and other noise sources.	PS/LS	LS/LS	LS/LS	LS/LS	PS/LS	PS/LS	NI

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Hazardous Materials – Development of the project alternatives, in combination with other foreseeable projects, could disturb existing hazardous materials or introduce new hazardous materials to the physical environment	The use of BMPs would minimize cumulative impacts related to hazardous materials.	LS	LS	LS	LS	LS	LS	NI
Aesthetics – The project alternatives, in combination with other foreseeable alternatives, could be visually incompatible with existing land uses or otherwise adversely impact aesthetic resources	The incorporation of design features would minimize cumulative impacts to aesthetics.	LS	LS	LS	LS	LS	LS	NI

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