03-Pla-65-PM6.5/12.8
03-1F1700 – EFIS#
0300001103
Congestion Mitigation and Air Quality Improvement Program
MPO ID –PLA25529
November 2016

Draft Project Report
for the SR 65 Capacity and Operational Improvements
to Authorize the Public Release of the Draft Environmental Document

On Route 65

Between Galleria Boulevard/Stanford Ranch Road (PM 6.5)

And Lincoln Boulevard (PM 12.8)

I have reviewed the right of way information contained in this report and the R/W Data attached hereto, and find the data to be complete, current and accurate:

JOHN BALLANTYNE, *DISTRICT DIVISION CHIEF, RIGHT OF WAY*

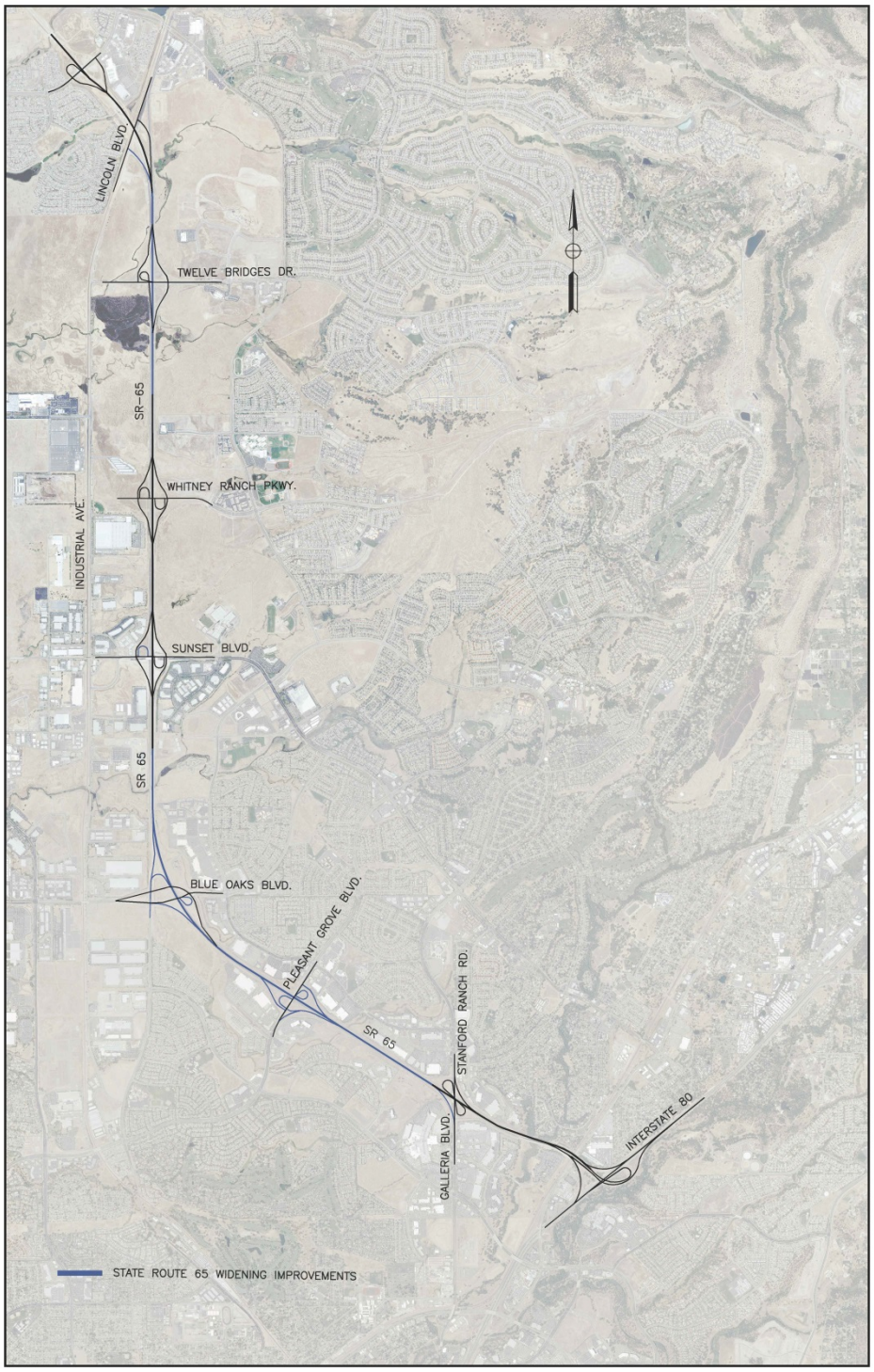
APPROVAL RECOMMENDED:

RODNEY MURPHY, *PROJECT MANAGER*

APPROVED:

AMARJEET BENIPAL, *DISTRICT DIRECTOR* 2-2-17 *DATE*

Vicinity Map



This project report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

4/14/2017

ZACHARY JAMES SIVIGLIA, REGISTERED CIVIL ENGINEER *DATE*

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ACRONYMS AND ABBREVIATIONS

ADL	aerially deposited lead
ASAS	Traffic Accident Surveillance and Analysis System
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHP	California Highway Patrol
COZEEP	Construction Zone Enhanced Enforcement Program
CSMP	*State Route 65 Corridor System Management Plan*
dBA Leq(h)	A-weighted equivalent sound level
DPR	Draft Project Report
FHWA	Federal Highway Administration
GP	General Purpose
HOV	High Occupancy Vehicle
I-80	Interstate 80
ICF	ICF International
IS/MND	Draft Initial Study/Mitigated Negative Declaration
ISA	initial site assessment
LOS	level of service
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MTIP	2015/2018 Metropolitan Transportation Improvement Program
MTP/SCS	2016 Metropolitan Transportation Plan/Sustainable Communities Strategy
NEPA	National Environmental Policy Act
OD	origin–destination
PA&ED	Project Approval and Environmental Document
PCTPA	Placer County Transportation Planning Agency
PDT	Project Development Team
PM_{10}	particles of 10 micrometers or smaller
$PM_{2.5}$	particles of 2.5 micrometers and smaller
PS&E	Plans, Specifications, and Estimate
PSR-PDS	Project Study Report – Project Development Support

RCB	reinforced concrete box
RTP	regional transportation plan
SACOG	Sacramento Area Council of Government
SPRTA	South Placer Regional Transportation Authority
SR	State Route
TMP	Transportation Management Plan
UCL	Upper Confidence Limit
VA	Value Analysis

1. INTRODUCTION

Project Description:

The California Department of Transportation (Caltrans), in cooperation with the Placer County Transportation Planning Agency (PCTPA), Placer County, and the Cities of Roseville, Rocklin, and Lincoln, proposes to widen State Route (SR) 65 from north of Galleria Boulevard/Stanford Ranch Road to Lincoln Boulevard. This project has been assigned the Project Development Processing Category 4A for widening the existing freeway without requiring a revised freeway agreement. The project is subject to federal and state environmental review requirements. Caltrans is the lead agency under the National Environmental Policy Act and under the California Environmental Quality Act.

The project is needed to relieve traffic operation and safety issues stemming from recurring morning and evening peak-period demand that exceeds the current design capacity along SR 65. The additional mainline capacity will accommodate future growth along the corridor.

The project proposes to relieve existing mainline congestion by adding capacity to improve traffic operations and safety. The additional capacity would help planned and anticipated growth along the corridor and would help achieve the mobility and economic development goals of PCTPA. The construction cost is estimated at $51.5M, with $50,000 for utilities. Two viable alternatives are being considered and include the following features:

1. Alternative 1 (Carpool Lane) – This alternative would add a 12-foot-wide carpool/high occupancy vehicle (HOV) lane in the southbound direction of SR 65 in the median from the Blue Oaks Boulevard interchange to north of the Galleria Boulevard/Stanford Ranch Road interchange. The carpool/HOV lane would conform to the carpool/HOV lanes proposed from the I-80/SR 65 Interchange Improvements Project.

   The separate I-80/SR 65 Interchange Improvements project will add a third lane in each direction of SR 65 from I-80 to Pleasant Grove Boulevard. This SR 65 Capacity and Operational Improvements project alternative would also add one 12-foot general purpose lane through the Pleasant Grove Boulevard interchange, to create a third lane on SR 65 in both directions from I-80 to Blue Oaks Boulevard, and add the following auxiliary lanes in each direction of SR 65:

   - The Galleria Boulevard/Stanford Ranch Road interchange to the Pleasant Grove Boulevard interchange
   - The Blue Oaks Boulevard Interchange to the Sunset Boulevard interchange
   - The Whitney Ranch Parkway Interchange to the Twelve Bridges Drive interchange

2. Alternative 2 (General Purpose Lane) – This alternative would add a 12-foot general purpose lane in the southbound direction of SR 65 from the Blue Oaks

Boulevard interchange to the Galleria Boulevard/Stanford Ranch Road off-ramp. The separate I-80/SR 65 Interchange Improvements project will add a third lane in each direction of SR 65 from I-80 to Pleasant Grove Boulevard. For added capacity on southbound SR 65, as recommended by the VA study, this alternative also includes an additional general purpose lane from the Blue Oaks Boulevard slip on-ramp to the Pleasant Grove Boulevard loop on-ramp. On northbound SR 65, a 12-foot general purpose lane would be added through the Pleasant Grove Boulevard interchange. These improvements would result in a third lane in both directions of SR 65 from I-80 to Blue Oaks Boulevard.

This alternative would also add an auxiliary lane on northbound SR 65 from the Galleria Boulevard interchange to the Pleasant Grove Boulevard interchange; and in both directions of SR 65 from the Blue Oaks Boulevard interchange to the Sunset Boulevard interchange, and from the Whitney Ranch Parkway interchange to the Twelve Bridges Drive interchange.

The project is listed in the Sacramento Area Council of Governments (SACOG) 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS). The project is programmed in the SACOG 2015/2018 Metropolitan Transportation Improvement Program (MTIP) for preliminary engineering.

The project design and construction will be locally funded by the South Placer Regional Transportation Authority (SPRTA) Regional Transportation and Air Quality Mitigation Fee Program, which includes Placer County and the Cities of Roseville, Rocklin, and Lincoln. Exhibits showing the proposed improvements are contained in Attachment A.

Project Limits	03-Pla-65 PM 6.5/12.8
Number of Alternatives	Three: 1. Carpool/High Occupancy Vehicle [HOV] Lane 2. General Purpose Lane 3. No Build Alternative
Current Capital Outlay Construction Estimate	Carpool/HOV Lane: $51.5M (2015 dollars) General Purpose Lane: $50.4M (2015 dollars)
Current Capital Outlay Right-of-Way and Utility Estimate	Carpool/HOV Lane: $50,000 (2015 dollars) General Purpose Lane: $50,000 (2015 dollars)
Funding Source	Local Agency
Funding Year	2016
Type of Facility	Freeway
Number of Structures	2
Environmental Determination or Document	Draft Initial Study/Mitigated Negative Declaration (IS/MND) – California Environmental Quality Act (CEQA) Categorical Exclusion – National Environmental Policy Act (NEPA)

Legal Description	In Placer County in the Cities of Rocklin, Roseville, and Lincoln. Construct high-occupancy vehicle lanes or general purpose lanes and operational improvements.
Project Development Category	4A

2. RECOMMENDATION

It is recommended that the Draft Project Report (DPR) be approved and that the IS/MND be circulated for public review and comment and that a public hearing be held.

3. BACKGROUND

SR 65 was part of the first State Highway System authorized by the State Highway Act of 1909. The original construction from Roseville to Lincoln took place between 1912 and 1914. This section of highway was adopted as freeway by the California Highway Commission on May 20, 1964.

SR 65 begins at the Interstate 80 (I-80) junction and is an important interregional route that serves local and regional traffic. SR 65 generally runs north/south and serves as a major connector for automobile and truck traffic originating from the I-80 corridor in the Roseville/Rocklin area to the SR 70/99 corridor in the Marysville/ Yuba City area. SR 65 is a vital economic link from residential areas to shopping and employment centers in southern Placer County. It is also an important route for transporting aggregate, lumber, and other commodities that is shaped by a significant growth of industrial, commercial, and residential development. The southern Placer County region is one of the fastest growing areas in California, both in terms of housing and economic development.

SR 65 was constructed as a two-lane expressway in 1971. The Roseville Bypass from I-80 to Blue Oaks Boulevard was constructed in 1985. SR 65 from Blue Oaks Boulevard to Twelve Bridges Drive was widened to a four-lane facility in 1999. The SR 65 Corridor System Management Plan (Caltrans, 2009) identified major mobility challenges including highway and roadway traffic congestion, lack of roadway capacity, and inadequate transit funding. A supplemental traffic report (Caltrans, 2012) indicated that the segment of SR 65 from Galleria Boulevard/Stanford Ranch Road to Lincoln Boulevard was experiencing operational problems caused by high peak-period traffic volumes, vehicles hours of delay, average speeds, travel time, and other traffic performance measures that were deteriorating by the increasing growth in the surrounding areas.

PCTPA identified the proposed project as a high-priority regional network project in the 2036 Placer County Regional Transportation Plan (RTP) (PCTPA, 2010). This project is included in the SPRTA Regional Traffic Congestion and Air Quality Mitigation Fee Program.

The Project Study Report – Project Development Support (PSR-PDS) for Capital Support was completed and approved on January 1, 2013 (EA-2F920K). The PSR-PDS identified and estimated the necessary project scope, schedule, and support

cost to complete the studies and work needed for the Project Approval and Environmental Document (PA&ED) phase. Several alternatives were also developed for adding one vehicle lane in each direction in the median of SR 65 from 0.5 mile north of Galleria Boulevard/Stanford Ranch Road to Lincoln Boulevard.

Other Related Projects

Rocklin Road Interchange Improvements

The City of Rocklin is proposing to improve Rocklin Road and the on- and off-ramps at the I-80 Interchange. The PSR-PDS has been completed and PA&ED is in progress.

Galleria Boulevard/Stanford Ranch Road/SR 65 Northbound Ramps

The Highway 65 Joint Powers Authority, including the PCTPA and the cities of Rocklin and Roseville, completed the PA&ED phase of this project, which proposes to reconfigure the northbound ramps of the Galleria Boulevard/Stanford Ranch Road interchange to improve operations and add capacity.

I-80/SR 65 Interchange Improvements

The project is currently in the PA&ED phase, led by the PCTPA, to improve the I-80/SR 65 interchange with high-speed connector ramps, add one additional lane to each connector ramp, add an HOV direct connector between I-80 and SR 65, and local interchange ramp improvements and street widening to accommodate these improvements.

Phase 1 of the I-80/SR 65 Interchange Improvements Project are scheduled to commence in spring 2017. The Phase 1 improvements were selected based on their ability to address the highest priority congestion and safety issues in the I-80 and SR 65 corridors. Phase 1 will widen the East Roseville Viaduct to accommodate the addition of a third northbound lane along SR 65 from I-80 to just north of the Galleria Boulevard/Stanford Ranch Road interchange. Phase 1 will include the proposed Galleria Boulevard/Stanford Ranch Road/SR 65 Northbound Ramps project improvements and improvements to the southbound Galleria Boulevard/Stanford Ranch Road slip on-ramp.

The proposed geometrics have been coordinated with the SR 65 Capacity and Operational Improvements Project to provide the appropriate and contiguous improvements along the SR 65 corridor.

Placer Parkway Phase 1

Placer County led the PA&ED phase of this project to provide access and improve circulation between and across SR 65 to support current and planned urban development within the county and the city of Rocklin. The interchange and associated improvements are needed to improve traffic capacity and enhance traffic operations and mobility that will accommodate future traffic demands in the region. The project is currently in the Plans, Specifications, and Estimate (PS&E) phase.

Whitney Ranch Interim Interchange

Construction is currently in progress for an interim interchange to connect to the existing Whitney Ranch Parkway/University Avenue. The interim improvements represent the most cost effective solution for providing adequate access to the city while maintaining an acceptable level of service on SR 65 and adjacent interchanges within the proposed project limits.

Community Interaction

The following public outreach efforts were conducted through August 2016:

- PCTPA Board Public Meeting on May 5, 2014
- Community open house on July 24, 2014
- Community meeting flyers
- Web site updates
- PCTPA e-newsletter updates
- Press releases to various publications
- PCTPA Board Public Meeting on March 25, 2015

Project stakeholders consisting of business owners, tenants, residents, and other interested organizations and individuals that may be directly affected by the proposed project were contacted including the following:

- Adventure Christian Church
- Best Step Transportation Collaborative
- Bureau of Indian Affairs
- California Trucking Association
- Cattlemen's Restaurant
- Cinemark Century Theater
- Cirby Hills Town Homes
- Courtyard Marriott Residence Inn
- Creekside Town Center
- Cresthaven
- Dry Creek Conservancy
- Golfland Sunsplash
- Hearthstone Condos
- Kaiser Permanente
- Larkspur Landing
- Lincoln Chamber of Commerce
- Lincoln Crossing Community Association
- Lincoln Transit
- Maidu Neighborhood Association
- Meadow Oaks
- Placer County Transit
- Roseville Coalition of Neighborhood Associations
- Renesus/Telfunken
- Rocklin Chamber of Commerce
- Roseville Unified School District
- Roseville Galleria
- Roseville Transit
- Stoneridge Village 1 Owners Association
- Sun City Lincoln Hills Community Association
- Sunset Plaza
- Sutter Roseville
- The Fountains
- The Preserve at Creekside
- Thunder Valley Casino Resort
- Western Placer Unified School District
- Whitney Oaks Community Association
- William Jessup University

Support and Opposition

To date, feedback regarding the proposed project, particularly during the Community Open House, has been generally supportive.

Existing Facility

In the northbound direction, SR 65 begins at I-80 as a three-lane facility consisting of the two eastbound I-80 to northbound SR 65 connector ramp lanes joined with the one-lane westbound I-80 to northbound SR 65 connector ramp. The outside lane immediately ends along the East Roseville Viaduct, and SR 65 continues north with two lanes through the Galleria Boulevard/Stanford Ranch Road interchange. A partial auxiliary lane begins prior to the Pleasant Grove Boulevard interchange and ends at the northbound off-ramp, with an overall length of approximately 1,300 feet. Past the Pleasant Grove Boulevard, northbound SR 65 continues toward the city of Lincoln as a two-lane facility with an auxiliary lane between the Pleasant Grove Boulevard and Blue Oaks Boulevard interchanges, a partial auxiliary lane for the northbound Sunset Boulevard off-ramp, and an auxiliary lane between the Twelve Bridge Drive interchange and the Lincoln Boulevard interchange.

In the southbound direction from the city of Lincoln, SR 65 has two lanes with an auxiliary lane between the Lincoln Boulevard and the Twelve Bridges Drive interchanges, a partial auxiliary lane at the southbound Sunset Boulevard off-ramp, and an auxiliary lane between the Blue Oaks Boulevard and Pleasant Grove Boulevard interchanges. A third mainline lane develops under the Galleria Boulevard/ Stanford Ranch Road interchange prior to the southbound Galleria Boulevard/ Stanford Ranch Road slip on-ramp. The three lanes continue across the East Roseville Viaduct and split into four lanes, two serving the southbound SR 65 to westbound I-80 connector ramp and two serving the SR 65 to eastbound I-80 connector ramp.

4. PURPOSE AND NEED

Purpose:

The primary purpose of the proposed project is to relieve existing mainline congestion by adding additional mainline capacity. Adding additional capacity would help planned and anticipated growth along the corridor and would help achieve the mobility and economic development goals of the PCTPA.

The project will improve traffic operations and safety in this segment of the highway.

Need:

Recurring morning and evening peak-period demand exceeds the current design capacity along SR 65, creating traffic operations and safety issues. These issues result in high delays and wasted fuel, all of which will be exacerbated by traffic from future population and employment growth.

Projected growth along the SR 65 corridor in Roseville, Lincoln, Rocklin, and South Placer County will result in additional mainline congestion. SR 65 connects major regional routes and must operate efficiently in order to serve commuter traffic, goods movement, and regional traffic in south Placer County.

4A. Problem, Deficiencies, Justification

Prior to the recent downturn in the economy, the SR 65 corridor included some of the fastest growing communities in the Sacramento region – Roseville, Rocklin, and Lincoln. The SACOG 2016 MTP/SCS estimates that these communities will continue to grow toward build-out conditions by the year 2036. Although growth in these areas will continue at a slower pace than originally estimated, the continued growth will place additional travel demands on the SR 65 and I-80 corridors and the regional roadway network. Congestion delay currently exists in the southbound and northbound directions all day, from 7 AM to 7 PM.

Because of planned development, the 2040 projected traffic volumes anticipate significantly increased congestion along SR 65.

4B. Regional and System Planning

A. State Planning

SR 65 is the principal north/south freeway connecting Placer County and Yuba County. In Caltrans District 3, the SR 65 corridor extends from the I-80/SR 65 junction north to the SR 70/SR 65 junction in Yuba County. SR 65 is important as a major lifeline route for industrial, commercial and agricultural purposes and serves as a major commuter route within and between cities located along its length.

The *State Route 65 Corridor System Management Plan* (CSMP) (Caltrans, 2009) is the State's plan for the SR 65 corridor and covers the segment between I-80 and SR 70 in Yuba County. The CSMP reviewed. The CSMP reviewed existing traffic data and projected it to a Design Year 2027. In addition, the plan determined that the freeway currently operates at Level of Service (LOS) D and that, without expanding the freeway, it will operate at LOS F.

SR 65 is identified as a principal arterial route on the National Highway System and is a Terminal Access (Surface Transportation Assistance Act) route.

The State's concept facility is a six-lane freeway plus two HOV lanes and two auxiliary lanes; the ultimate facility is an eight-lane freeway plus two HOV lanes and two auxiliary lanes.

B. Regional Planning

The proposed project is included in the 2036 Placer County RTP, with SPRTA as the lead agency.

C. Local Planning

The proposed project design and construction will be locally funded by the SPRTA Regional Transportation and Air Quality Mitigation Fee Program, which includes the county and the cities of Roseville, Rocklin, and Lincoln.

4C. Traffic

The transportation analysis used an integrated modeling approach that has three levels of detail (or modeling platforms): (1) macro, (2) meso, and (3) micro. At the macro level, the regional travel forecasting model (i.e., SACMET) was used to forecast peak period origin–destination (OD) traffic volume flows between traffic analysis zones

internal and external to the study area. At the meso level, the peak period OD flows were divided into four 1-hour trip tables and disaggregated into three modes—single occupant vehicle (SOV), HOV, and truck—and then assigned to the sub-area roadway network by using Visum software. The assignment process was based on congested travel times that reflect roadway link speeds and capacity. At the micro level, the traffic volumes were converted to individual vehicles that were assigned to the operational study area using the Vissim software, which contains detailed inputs governing traffic controls (signal timings), geometrics (lane configurations), and driver behavior.

The traffic forecasts were developed using the first two modeling platforms (macro and meso). The first platform uses a modified version of the regional SACMET model developed by the SACOG for the MTP/SCS. The second modeling platform uses the Visum sub-area trip assignment model, which was used to assign the trips generated from the SACMET model to a detailed roadway network within the study area.

The SACMET and Visum models were calibrated and validated according to the 2010 California Regional Transportation Guidelines (California Transportation Commission, 2010) and criteria approved by the Project Development Team (PDT). Both models passed applicable static and dynamic validation tests. The detailed validation results are contained in Chapter 4 of the *I-80/SR 65 Interchange Improvements Transportation Analysis Report* (Fehr and Peers, 2014).

Traffic volume forecasts are derived from future socioeconomic projections that started with regional socioeconomic projections developed by SACOG for the regional MTP/SCS. These were reviewed by the I-80/SR 65 Interchange Improvements Project Development Team and modified to better reflect local plans. Socioeconomic projections have the greatest influence on volume forecasts and will affect volume projections to a greater extent than roadway network changes or other modeling components. If these forecasts vary in reality, it will have a direct effect on future traffic volumes.

The traffic volume forecasts (and operations analysis) are also influenced by modifications to the existing transportation network caused by improvement projects anticipated to be implemented by the Construction Year and Design Year. This includes projects identified in the financially constrained project list in the MTP/SCS and projects the I-80/SR 65 Interchange Improvements Project Development Team believes would likely be constructed by the Design Year. The rationale for adding projects to the MTP/SCS list was that the Design Year is 5 years beyond the 2035 horizon of the MTP/SCS. This creates a longer timeframe for revenue to accumulate. Furthermore, the additional socioeconomic growth added to the model would also contribute to transportation revenue to help pay for these improvements.

A Transportation Analysis Report (Fehr and Peers, 2015) for the SR 65 Capacity and Operational Improvements Project; a copy of the report can be found in Attachment B. The base year used is 2012, the Construction Year used is 2020, and the Design Year is 2040. The report identified needed improvements along SR 65 to support population and economic growth through the year 2040.

Existing (2012) Conditions

Traffic operations were analyzed for baseline conditions under AM and PM peak hour conditions. Table 1 shows the LOS and average delay at the studied ramps along SR 65 under the baseline conditions. Congestion occurs at the I-80 on-ramp and along southbound SR 65 between the Pleasant Grove Boulevard and Blue Oaks Boulevard interchanges because of the high demand along the mainline combined with the Pleasant Grove on-ramp volume.

Table 1. Baseline (2012) Conditions Freeway Operations Results

Freeway	Location	Type	LOS/Average Density	
			AM Peak Hour	PM Peak Hour
NB SR 65	I-80 WB on-ramp	Merge	**F/53**	**F/95**
	I-80 to Stanford Ranch Rd	Basic	D/32	**F/77**
	Stanford Ranch Rd Off-ramp	Diverge	D/33	**F/62**
SB SR 65	Blue Oaks Blvd WB On-ramp	Merge	**F/60**	B/20
	Blue Oaks Blvd to Pleasant Grove Blvd	Weave	**F/75**	C/21
	Pleasant Grove Blvd Off- to On-ramp	Basic	**F/89**	C/25
	Pleasant Grove Blvd WB On-ramp	Merge	**F/72**	D/31
	Pleasant Grove Blvd EB On-ramp	Merge	**F/53**	E/39
	Pleasant Grove Blvd to Galleria Blvd	Basic	E/36	D/32
	Galleria Blvd Off-ramp	Diverge	E/35	D/32
EB I-80	Eureka Rd Off-ramp	Diverge	C/26	**F/46**
	Eureka Rd Off to On-ramp	Basic	C/21	C/23
	Eureka Rd EB On-ramp	Merge	B/19	B/20
	Eureka Rd to Taylor Rd	Weave	C/23	E/42
	Taylor Rd. to SR 65	Basic	D/28	E/42
	SR 65 Off-ramp	Diverge	C/28	**F/52**
WB I-80	SR 65 Off-ramp	Diverge	B/18	E/35
	Douglas Blvd Off-ramp	Diverge	D/32	C/26
	Douglas Blvd WB On-ramp	Merge	E/36	D/34
	Douglas Blvd EB On-ramp	Merge	E/42	E/37
	Douglas Blvd to Riverside Ave	Basic	D/33	D/31
	Riverside Ave Off-ramp	Diverge	E/40	E/36

Source: Fehr & Peers, 2015
Notes:
Bold and underline font indicate LOS F conditions.
The LOS and average density for the study segment are reported.

In the baseline year existing conditions, the traffic analysis shows that the intersections within the proposed project area operate at an acceptable LOS, except for at two locations. The intersection at Blue Oaks Boulevard/Washington Boulevard/SR 65 southbound ramps in the AM peak hour operates at LOS D because it serves inbound (employees) and outbound (residents) commuters for west Roseville. The Rocklin Road/Granite Drive intersection, in the PM peak hour, operates at LOS D. Table 2 shows the LOS and average delay at the study intersections under baseline conditions.

Table 2. Baseline (2012) Intersection Operations Results			
Intersection	Minimum Acceptable LOS	AM Peak Hour (LOS/delay)	PM Peak Hour (LOS/delay)
6. Blue Oaks Blvd/Washington Blvd/SR 65 SB Ramps	C	**D/43**	C/33
10. Stanford Ranch Rd/Five Star Blvd	C	B/19	C/32
11. Stanford Ranch Rd/SR 65 NB Ramps	D	A/9	B/15
12. Galleria Blvd/SR 65 SB Ramps	D	B/13	B/19
13. Galleria Blvd/Antelope Creek Drive	C	B/10	C/24
14. Galleria Blvd/Roseville Pkwy	E	C/30	D/36
15. Roseville Pkwy/Creekside Ridge Drive	C	A/6	B/17
16. Roseville Pkwy/Taylor Rd	D	C/30	C/28
17. Roseville Pkwy/Sunrise Avenue	E	D/37	D/37
18. Atlantic Street/Wills Rd	C	B/10	B/12
19. Atlantic Street/I-80 WB Ramps	C	A/7	B/11
20. Eureka Rd/Taylor Rd/I-80 EB Ramps	E	C/26	E/61
21. Eureka Rd/Sunrise Avenue	C	C/24	C/30
26. Douglas Blvd/Sunrise Avenue	D	C/26	D/35
28. Pacific Street/Sunset Blvd	C	B/18	C/29
29. Rocklin Rd/Granite Drive	C	B/15	**D/37**
30. Rocklin Rd/I-80 WB Ramps	C	C/21	B/17
31. Rocklin Rd/I-80 EB Ramps	C	B/17	B/20
32. Rocklin Rd/Aguilar Rd	C	A/8	B/13

Source: Fehr & Peers, 2015
Notes:
Bold and underline font indicate unacceptable operations.
The LOS and average delay in seconds per vehicle are reported.

Construction Year (2020)

In the Construction Year (2020), during the AM peak hour, the Build alternatives operate unacceptably at the Sunset Boulevard westbound off-ramp to on-ramp segment and at the Sunset Boulevard westbound on-ramp; potential mitigation includes more restrictive ramp metering at the upstream on-ramps. Alternative 1 (Carpool Lane) would have an impact at the Galleria Boulevard on-ramp to southbound SR 65 during the AM peak hour. A potential mitigation could include more restrictive ramp metering at the upstream on-ramps or construction of the ultimate phase of the planned I-80/SR 65 Interchange Improvements Project.

All three alternatives would operate at LOS D or better during the PM peak hour. Table 3 shows the LOS and delay for the freeway operations under Construction Year No Build and Build conditions.

Table 3. Construction Year (2020) Conditions Freeway Operations Results

Freeway	Location	Type[a]	Alternative 1 Carpool Lane (LOS/density)		Alternative 2 GP Lane (LOS/density)		Alternative 3 No Build (LOS/density)	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
NB SR 65	I-80 Eastbound Connector Ramp	Basic	**F/45**	**F/61**	**F/47**	**F/63**	**E/44**	**F/61**
	Stanford Ranch Rd to Pleasant Grove Blvd	Weave	C/24	C/26	C/24	C/26	D/31	D/32
							E/36	E/36
	Pleasant Grove Blvd On-ramp	Merge	D/33	D/39	D/33	D/40	C/27	D/29
	Blue Oaks Blvd Off-ramp	Diverge	C/27	D/32	C/27	D/32		
	Blue Oaks Blvd to Sunset Blvd	Basic	C/19	D/26	C/19	D/27	C/25	D/29
	Whitney Ranch Pkwy to Twelve Bridges Drive	Weave	B/13	C/23	B/13	C/23	B/16	D/29
							B/17	D/30
SB SR 65	Twelve Bridges Drive to Placer Pkwy	Weave	C/28	B/16	D/28	B/16	D/33	B/19
							D/31	B/19
	Sunset Blvd WB On-ramp	Merge	**F/68**	C/25	**F/75**	C/25	D/29	C/21
	Blue Oaks Blvd WB On-ramp	Merge	D/30	C/26	C/24	C/21	**F/56**	C/26
	Pleasant Grove Blvd to Galleria Blvd	Basic	D/29	C/25	C/27	C/24	D/31	D/27
	Galleria Blvd On-ramp	Merge	**F/54**	D/34	E/42	D/33	E/39	D/33
	I-80 WB Connector Ramp	Basic	E/41	D/32	E/40	D/32	E/38	D/32
EB I-80	Auburn Blvd to Douglas Blvd	Basic	D/34	**F/108**	E/35	D/34	E/39	**F/81**
	Eureka Rd Off-ramp	Diverge	D/30	**F/118**	D/30	**F/110**	D/39	**F/106**
	SR 65 Off-ramp	Diverge	D/33	**F/91**	D/32	**F/95**	D/31	**F/92**
	SR 65 to Rocklin Rd	Basic	C/22	C/22	C/22	C/23	C/21	C/23
WB I-80	Rocklin Rd to Carpool Lane Start	Basic	D/29	C/24	D/28	C/24	D/29	C24
	Atlantic Street On-ramp	Merge	E/37	D/30	E/37	D/30	E/38	D/30
	Douglas Blvd Off-ramp	Diverge	D/33	C/27	D/33	C/28	D/33	C/27
	Douglas Blvd EB On-ramp	Merge	E/35	D/33	E/37	D/30	E/39	D/31
	Riverside Avenue Off-ramp	Diverge	D/34	D/31	D/33	D/31	D/33	D/31

Table 3. Construction Year (2020) Conditions Freeway Operations Results

Freeway	Location	Type[a]	Alternative 1 Carpool Lane (LOS/density)		Alternative 2 GP Lane (LOS/density)		Alternative 3 No Build (LOS/density)	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
	Antelope Rd Off-ramp	Diverge	**F/53**	D/29	**F/53**	D/29	**F/61**	D/29
	Truck Scales On-ramp	Merge	**F/92**	C/26	**F/94**	C/26	**F/95**	C/27
	Elkhorn Blvd EB On-ramp	Merge	**F/77**	D/28	**F/77**	D/28	**F/77**	D/28

Source: Fehr & Peers, 2015

[a] The facility type reported is for Alternative 1. The other results are contained in the Technical Appendix in the Transportation Analysis Report (Fehr and Peers, 2015).

Notes:

Bold and underline font indicate LOS F conditions.

Shaded cells indicate a project impact.

The LOS and average density for the study segment are reported.

EB = eastbound

GP = General Purpose

NB = northbound

SB = southbound

WB = westbound

As shown in Table 4, the following intersections operate at an unacceptable level under the Construction Year No Build and Build conditions:

- Blue Oaks Boulevard/Washington Boulevard/SR 65 Southbound Ramps (PM peak hour only)
- Stanford Ranch Road/Five Star Avenue (PM peak only)
- Rocklin Road/Granite Drive (PM peak only)
- Rocklin Road/I-80 Eastbound Ramps (AM peak only)

During the PM peak, the proposed project would have impacts at the following study intersections:

- Stanford Ranch Road/Five Star Boulevard
- Atlantic Street/Willis Road
- Douglas Boulevard/Harding Boulevard (Alternative 2 only)
- Douglas Boulevard/I-80 Eastbound Ramps
- Douglas Boulevard/Sunrise Avenue (Alternative 2 only)
- Rocklin Road/Granite Drive
- Rocklin Road/Aguilar Road

Signal timing adjustments are a potential mitigation for the Stanford Ranch Road, Atlantic Street, and Douglas Boulevard intersections. The impacts at the Rocklin Road intersections can be mitigated by the planned improvements to the I-80/Rocklin

Road interchange. These intersections would need capacity enhancements with and without the proposed project to operate at acceptable levels.

Table 4 shows the LOS and delay for the study intersections under Construction Year No Build and Build conditions.

Table 4. Construction Year (2020) Conditions Intersection Operations Results

Intersection	Threshold	Alternative 1 Carpool Lane (LOS/delay)		Alternative 2 GP Lane (LOS/delay)		Alternative 3 No Build (LOS/delay)	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
6. Blue Oaks Blvd/ Washington Blvd/SR 65 SB Ramps	C	C/31	**D/47**	C/35	**D/44**	**D/53**	**F/126**
10. Stanford Ranch Rd/ Five Star Blvd	C	C/27	**F/92**	C/27	**E/76**	C/29	**D/48**
11. Stanford Ranch Rd/ SR 65 NB Ramps	D	B/15	C/23	B/20	C/25	B/18	B/12
12. Galleria Blvd/SR 65 SB Ramps	D	B/17	B/16	B/17	B/17	B/17	B/16
16. Roseville Pkwy/ Taylor Rd	D	D/49	D/51	D/46	D/53	**F/133**	D/42
18. Atlantic Street/Wills Rd	C	C/24	**D/39**	C/24	**D/36**	B/19	C/22
20. Eureka Rd/Taylor Rd/ I-80 EB Ramps	E	C/25	D/52	C/25	E/72	C/22	D/41
21. Eureka Rd/Sunrise Avenue	C	C/32	**D/44**	C/33	**D/44**	C/26	**E/62**
23. Douglas Blvd/Harding Blvd	E	D/51	E/77	C/30	**F/128**	D/36	**F/92**
24. Douglas Blvd/I-80 WB Ramps	C	C/23	C/35	C/24	C/31	B/20	C/31
25. Douglas Blvd/I-80 EB Ramps	C	B/20	**D/41**	A/10	**D/35**	B/12	C/29
26. Douglas Blvd/Sunrise Avenue	D	C/33	D/54	C/33	**F/86**	C/28	D/39
28. Pacific Street/Sunset Blvd	C	C/24	C/30	C/24	C/29	C/27	**F/86**
29. Rocklin Rd/Granite Drive	C	B/17	**F/130**	B/18	**F/130**	B/19	**F/127**
30. Rocklin Rd/I-80 WB Ramps	C	C/23	C/27	C/29	C/25	C/21	**D/38**
31. Rocklin Rd/I-80 EB Ramps	C	**D/42**	**E/57**	**D/49**	**D/46**	**D/37**	C/33

Source: Fehr & Peers, 2015
Notes:
Bold and underline font indicate unacceptable operations.
Shaded cells indicate a project impact.
The LOS and average delay in seconds per vehicle are reported.

Phase 1

A Phase 1 analysis was conducted to determine what additional benefits would improve the AM peak period during the Construction Year (2020). Phase 1 would widen SR 65 to provide an additional lane between the Pleasant Grove Boulevard off-ramp and loop on-ramp, resulting in three lanes in each direction from I-80 to the Blue Oaks Boulevard interchange. Auxiliary lanes would also be added in both directions between the Galleria Boulevard/Stanford Ranch Road and Pleasant Grove Boulevard interchanges. Table 5 compares the Phase 1 improvements to the baseline conditions, which assumes that Phase 1 of the I-80/SR 65 Interchange Improvements Project would also be in place to reduce the majority of congestion that currently occurs along mainline SR 65.

Construction of Phase 1 would improve conditions at the Blue Oaks Boulevard ramps but would deliver more volume to the Galleria Boulevard interchange, causing a minor bottleneck until the future phases of the I-80/SR 65 Interchange Improvements Project are constructed. The Traffic Analysis Memorandum – Phase 1 (Fehr & Peers, 2016) is included in Attachment C.

Table 5. Construction Year AM Peak Hour – Phase 1 and Baseline Alternative Freeway Operations

		Baseline Alternative		Phase 1 Alternative	
Freeway	Location	Type	LOS/ Density	Type	LOS/ Density
NB SR 65	I-80 to Stanford Ranch Rd	Basic	D/27	Basic	D/26
	Stanford Ranch Rd Off-ramp	Diverge	C/24	Diverge	C/24
	Stanford Ranch Rd On-ramp	Merge	D/31	-	-
	Pleasant Grove Blvd Off-Ramp	Diverge	E/36	-	-
	Stanford Ranch Rd to Pleasant Grove Blvd	-	-	Weave	C/23
	Pleasant Grove Blvd Off-ramp to On-ramp	Basic	E/36	Basic	C/23
	Pleasant Grove Blvd to Blue Oaks Blvd	Weave	C/27	-	-
	Pleasant Grove Blvd On-ramp	-	-	Merge	D/31
	Blue Oaks Blvd Off-ramp	-	-	Diverge	C/25
SB SR 65	Blue Oaks Blvd WB On-ramp	Merge	**F/78**	Merge	E/40
	Blue Oaks Blvd to Pleasant Grove Blvd	Weave	**F/54**	--	
	Blue Oaks Blvd EB On-Ramp	-	-	Merge	D/32
	Pleasant Grove Blvd Off-ramp	-	-	Diverge	C/27
	Pleasant Grove Blvd Off-ramp to On-ramp	Basic	E/36	Basic	C/24
	Pleasant Grove Blvd WB On-ramp	Merge	D/30	Merge	C/22
	Pleasant Grove Blvd EB On-ramp	Merge	D/29	Merge	C/24
	Pleasant Grove Blvd to Galleria Blvd	Basic	D/31	Basic	D/28
	Galleria Blvd Off-ramp	Diverge	D/32	Diverge	C/27
	Galleria Blvd On-ramp	Merge	E/37	Merge	F/46
	I-80 Off-ramp	Diverge	D/33	Diverge	D/33

Source: Fehr & Peers, 2015

Table 5. Construction Year AM Peak Hour – Phase 1 and Baseline Alternative Freeway Operations					
		Baseline Alternative		Phase 1 Alternative	
Freeway	Location	Type	LOS/ Density	Type	LOS/ Density
Note: Bold and underline font indicate unacceptable operations.					

Design Year (2040)

Table 6 compares the daily forecast volumes for mainline SR 65 in the Design Year with the existing conditions for all vehicles and trucks in the proposed project area.

Table 6. Average Annual Daily Traffic Volume								
			Design Year Conditions					
	Existing Conditions[a]		Alternative 1 Carpool Lane		Alternative 2 General Purpose Lane		Alternative 3 No Build	
Segment	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
I-80 to Galleria Blvd/Stanford Ranch Rd	106,100	3,500	168,100	6,300	169,000	6,400	158,000	6,200
Stanford Ranch Rd/ Galleria Blvd to Pleasant Grove Blvd	104,400	3,500	169,200	6,600	170,900	6,700	152,400	6,300
Pleasant Grove Blvd to Blue Oaks Blvd	83,400	3,100	159,800	6,300	162,300	6,400	140,800	6,000
Blue Oaks Blvd to Sunset Blvd	65,300	2,400	134,600	4,900	135,700	4,900	112,100	4,600
Sunset Blvd to Whitney Ranch Pkwy/Placer Pkwy	54,000	1,900	114,000	3,700	114,600	3,700	96,900	3,300
Whitney Ranch Pkwy/Placer Pkwy to Twelve Bridges Dr			126,500	3,500	127,000	3,500	112,700	3,400
Twelve Bridges Drive to Lincoln Blvd[b]	48,800	1,900	104,300	3,200	104,500	3,200	93,600	3,000
Lincoln Blvd to Ferrari Ranch Rd	-	-	61,100	2,700	61,400	2,700	56,300	2,600
Source: Fehr & Peers, 2015 [a] The existing conditions total volume data is from 2009 as reported in the PeMS database. The existing truck volumes are estimated from the base year SACMET model.								

Freeway operations improve under Build conditions, except for one location for each alternative:

- Alternative 1 (Carpool Lane) – Westbound I-80 at Elkhorn Boulevard eastbound On-ramp (Carpool Lane alternative) (AM peak)
- Alternative 2 (General Purpose Lane) – Westbound I-80 at Truck Scales On-ramp AM peak)

Table 7. Design Year (2040) Conditions Freeway Operations Results

Freeway	Location	Type[a]	Alternative 1 Carpool Lane (LOS/density)		Alternative 2 General Purpose Lane (LOS/density)		Alternative 3 No Build (LOS/density)	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
NB SR 65	I-80 to Stanford Ranch Rd	Weave	C/28	D/33	C/28	D/32	C/26	F/79
	Stanford Ranch Rd to Pleasant Grove Blvd	Weave	D/30	D/33	D/30	D/34	E/40	F/67
							E/40	E/40
	Pleasant Grove Blvd On-ramp	Merge	D/31	D/33	D/31	D/35	C23	C/22
	Blue Oaks Blvd Off-ramp	Diverge	C/27	D/31	C/28	D/32		
	Blue Oaks Blvd to Sunset Blvd	Basic	C/19	C/26	C/19	C/26	C/21	C/21
	Whitney Ranch Pkwy to Twelve Bridges Drive	Weave	B/15	C/24	B/16	C/24	C/19	C/24
SB SR 65	Lincoln Blvd to Twelve Bridges Drive	Weave	D/34	B/17	D/33	B/17	D/28	B/17
	Twelve Bridges Drive to Placer Pkwy	Weave	D/30	B/17	D/29	C/22	D/30	C/19
	Sunset Blvd to Blue Oaks Blvd	Weave	D/34	C/24	D/34	C/24	F/102	D/29
	Blue Oaks Blvd WB On-ramp	Merge	D/32	C/27	D/32	C/27	F/107	F/48
	Blue Oaks Blvd to Pleasant Grove Blvd	Weave	D/33	C/28	D/32	D/28	F/79	F/48
					D/32	D/29		
	Pleasant Grove Blvd EB On-ramp	Merge	D/33	D/30	F/46	D/34	F/82	F/89
	Pleasant Grove Blvd to Galleria Blvd	Basic	E/35	D/34	E/36	D/33	E/37	E/37
EB I-80	Auburn Blvd to Douglas Blvd	Basic	E/39	D/32	D/32	E/36	E/42	E/35
	Douglas Blvd to Eureka Rd	Weave	C/27	C/27	C/23	C/27	C/27	E/41
	SR 65 Off-ramp	Diverge	C/24	C/24	C/22	C/25	C/24	F/58
	SR 65 to Rocklin Rd	Basic	C/26	C/26	C/24	D/27	C/24	D/26
WB I-80	Rocklin Rd to Carpool Lane Start	Basic	D/31	D/30	D/27	D/33	D/30	D/30
	SR 65 to Atlantic Street	Weave	C/27	C/23	C/24	C/24	C/25	C/24

Table 7. Design Year (2040) Conditions Freeway Operations Results

Freeway	Location	Type[a]	Alternative 1 Carpool Lane (LOS/density)		Alternative 2 General Purpose Lane (LOS/density)		Alternative 3 No Build (LOS/density)	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
	Atlantic Street On-ramp	Merge	E/41	E/37	E/36	E/38	E/38	E/39
	Douglas Blvd Off-ramp	Diverge	E/36	D/34	D/32	D/32	D/34	D/32
	Douglas Blvd EB On-ramp	Merge	E/39	D/33	D/31	E/35	E/35	E/36
	Riverside Avenue Off-ramp	Diverge	D/35	D/33	D/33	D/34	D/34	D/35
	Antelope Rd to Truck Scales	Weave	F/48	C/26	F/59	C/26	F/70	C/28
	Truck Scales On-ramp	Merge	F/79	C/27	F/88	D/29	F/87	D/29
	Elkhorn Blvd EB On-ramp	Merge	F/91	C/27	F/54	C/28	F/61	C/28

Source: Fehr & Peers, 2015

[a] The facility type reported is for Alternative 1. The other results are contained in the Technical Appendix in the Transportation and Analysis Report (Fehr and Peers, 2015)

Notes:

Bold and underline font indicate LOS F conditions.

Shaded cells indicate a project impact.

The LOS and average density for the study segment are reported.

Table 8 shows the LOS and delay for the study intersections under Design Year, No Build and Build conditions. Fourteen study intersections are projected to operate at an unacceptable level under No Build conditions.

The project would eliminate unacceptable operations at 2 or 3 out of 11 intersections, depending on the Build alternative (Roseville Parkway/Sunrise Avenue and Rocklin Road/I-80 Eastbound Ramps for both alternatives and Eureka Road/Taylor Road/I-80 Eastbound Ramps for Alternative 1 Carpool Lane. Compared to the No Build scenario, the Build alternatives would increase delays at the following locations:

- Roseville Parkway/Taylor Road (AM peak)
- Douglas Boulevard/Harding Boulevard (PM peak)
- Douglas Boulevard/Sunrise Avenue (PM peak)
- Rocklin Road/I-80 Westbound Ramps (PM peak)

Signal timing may be adjusted to mitigate delays at the Roseville Parkway/Taylor Road intersection.

Table 8 shows the LOS and delay for the freeway operations under Design Year No Build and Build conditions.

Table 8. Design Year (2040) Conditions Intersection Operations Results							
		Alternative 1 Carpool Lane (LOS/delay)		Alternative 2 General Purpose Lane (LOS/delay)		Alternative 3 No Build (LOS/delay)	
Intersection	Minimum Acceptable LOS	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
6. Blue Oaks Blvd/Washington Blvd/SR 65 SB Ramps	C	**E/57**	**F/140**	**E/59**	**F/153**	**F/90**	**F/214**
7. Blue Oaks Blvd/SR 65 NB Ramps	C	B/17	**D/45**	B/16	**D/49**	B/17	**F/94**
10. Stanford Ranch Rd/Five Star Blvd	C	C/27	**F/82**	C/26	**E/57**	C/26	**F/85**
11. Stanford Ranch Rd/SR 65 NB Ramps	D	B/11	D/36	B/12	B/19	B/19	C/21
12. Galleria Blvd/SR 65 SB Ramps	D	B/19	C/25	B/17	B/19	D/55	C/27
13. Galleria Blvd/Antelope Creek Rd	C	A/10	C/28	A/10	C/29	A/8	C/28
14. Galleria Blvd/Roseville Pkwy	E	D/47	**F/93**	D/45	**F/82**	D/41	**F/93**
15. Roseville Pkwy/Creekside Ridge Drive	C	A/8	**D/50**	A/8	**D/47**	A/8	**D/50**
16. Roseville Pkwy/Taylor Rd	D	**E/70**	D/52	**E/66**	D/52	**E/60**	**E/55**
17. Roseville Pkwy/Sunrise Avenue	E	C/33	E/70	C/35	E/57	C/33	**F/89**
20. Eureka Rd/Taylor Rd/I-80 EB Ramps	E	C/30	E/75	C/30	**F/81**	C/30	**F/99**
21. Eureka Rd/Sunrise Avenue	C	**D/41**	**F/94**	**D/41**	**F/103**	**D/41**	**F/104**
23. Douglas Blvd/Harding Blvd	E	C/26	**F/91**	C/28	**F/96**	C/26	E/69
24. Douglas Blvd/I-80 WB Ramps	C	C/21	C/28	B/19	C/33	C/22	C/20
25. Douglas Blvd/I-80 EB Ramps	C	C/28	**D/37**	C/24	**D/37**	C/29	**D/39**
26. Douglas Blvd/Sunrise Avenue	D	D/54	**F/254**	D/44	**F/241**	D/43	**F/239**
29. Rocklin Rd/Granite Drive	C	C/29	**F/95**	C/28	**F/84**	C/26	**F/101**
30. Rocklin Rd/I-80 WB Ramps	C	C/23	**E/68**	C/24	**E/63**	C/22	**D/54**
31. Rocklin Rd/I-80 EB Ramps	C	C/30	C/21	C/26	B/20	**D/41**	C/21

Source: Fehr & Peers, 2015

Notes:

Bold and underline font indicate unacceptable operations.

Shaded cells indicate a project impact.

The LOS and average delay in seconds per vehicle are reported.

Collision Analysis

Caltrans Traffic Accident Surveillance and Analysis System (TASAS) traffic collision data for mainline SR 65 and the ramp connections were compiled for the 3-year period between October 1, 2009 and September 30, 2012.

A total of 247 collisions were reported on the freeway sections in both directions of SR 65, including 3 fatalities. As shown in Table 9, the actual accident rate on SR 65 is lower than the statewide average for a similar type facility. The accident rates for fatal accidents are higher than the statewide average, but the incidents occurred at different locations along the freeway segment. Actual fatal and injury accidents are lower than the statewide average.

During the 3-year period, the following types of accidents occurred on SR 65:

- 124 rear-ends (50 percent)
- 57 hit objects (23 percent)
- 37 sideswipes (15 percent
- 13 overturns (5 percent)
- 8 broadsides (3 percent)
- 5 auto-pedestrian (2 percent)
- 2 other factors (1 percent)
- 1 head on (0.4 percent)

The most frequent collision type (50 percent) is a rear end collision, which is typical of congested conditions. The next most frequent collision types are hit objects and sideswipes. The remaining types of collisions make up less than 12 percent of all collisions.

Table 9. Actual and Average Accident Rates from 10/1/2009 to 9/30/2012

Direction	Total Accidents	Total Fatalities	Actual Collision Rate			Average Collision Rate		
			F	F&I	Total	F	F&I	Total
Northbound	116	0						
Southbound	131	3	**0.008**	0.14	0.38	0.007	0.23	0.66
Total	247	3	0.004	0.14	0.37	0.007	0.23	0.66

Source: Caltrans District 3 TASAS Table B, October 1, 2009 to September 30, 2012
Notes:
Bold and underline font indicate unacceptable conditions.
F = Fatalities
F&I = Fatalities and Injuries

5. ALTERNATIVES

5A. Viable Alternatives

Build Alternatives

There are two Build alternatives being considered in this project: Alternative 1 (Carpool Lane) and Alternative 2 (General Purpose Lane). These alternatives are shown on the Geometric Approval Drawings in Attachment A. This section summarizes the features that are common to both Build alternatives. Unique features

of each alternative are described in their respective sections. Both Build alternatives described below would:

- Allow for inside highway widening as a future project along SR 65 from north of the Blue Oaks Boulevard interchange to Lincoln Boulevard
- Accommodate the I-80/SR 65 project improvements
- Take into consideration the carpool/HOV lane restrictions and weaving volumes from the carpool/HOV lanes proposed by the I-80/SR 65 project

Structures

The northbound and southbound bridges over Pleasant Grove Creek would need to be widened to accommodate the median widening and auxiliary lanes. Widened bridge structures would be similar to the existing reinforced concrete slab bridges with piles.

A tie-back wall would be needed at the Pleasant Grove Boulevard interchange to accommodate the highway and ramp widening (see Advanced Planning Studies in Attachment D).

Existing box culverts would need to be extended at various locations to accommodate the proposed auxiliary lanes along the corridor. The following culverts would need to be extended:

- Double 72-inch reinforced concrete pipe between Galleria Boulevard and Pleasant Grove Boulevard
- Double 10- by 5-foot RCB between Blue Oaks Boulevard and Sunset Boulevard
- 7- by 5-foot RCB between Whitney Ranch Parkway and Twelve Bridges Drive

Enforcement Areas

California Highway Patrol (CHP) pull-out areas would be provided on each on-ramp adjacent to HOV lanes and ramp metering points. These pull-out areas would be intended to enforce the ramp-meter area of the interchange.

HOV (Bus and Carpool) Lanes

All of the on-ramps for both Build alternatives include a preferential 12-foot-wide HOV lane, except for the Pleasant Grove Boulevard Northbound loop on-ramp, the Blue Oaks Boulevard Northbound Loop On-ramp, and the Sunset Boulevard southbound loop on-ramp. The ingress to the HOV lanes is standard on all ramps.

Ramp Metering

Accepting the recommendation from the Value Analysis (VA) study (CH2M, 2015), both Build alternatives would include ramp metering modifications for the slip on-ramps to a 2+1 configuration (two metered lanes plus one carpool preferential lane) and a 1+1 configuration (one metered general purpose lane plus one carpool preferential lane) for the loop on-ramps. These modifications, which would be constructed along SR 65 from the Galleria Boulevard interchange to Lincoln Boulevard, where not already planned by another project.

The southbound Pleasant Grove Boulevard slip and loop on-ramps, Blue Oaks Boulevard slip and loop on-ramps, and Lincoln Boulevard slip on-ramp would be modified to include these ramp metering changes. Table 10 summarizes ramp metering modification locations, by project.

Park-and-Ride Facilities

There are several existing park-and-ride facilities near the proposed project area that are enroute to the SR 65 corridor, including the following:

- Foothills Boulevard and Junction Boulevard (California Family Fitness) – 25 parking spaces available
- 1000 Pleasant Grove Boulevard (Highland Crossing Shopping Center) – 25 parking spaces available
- Pleasant Grove Boulevard and Michener Drive (Mahany Park) – 42 parking spaces available
- Galleria Circle and West Drive (Galleria Transfer Point) – 50 parking spaces available
- Stanford Ranch Road and Five Star Boulevard – 35 parking spaces available

Table 10. SR 65 Ramp Configuration

Ramp		Existing		Proposed (Alternatives 1 and 2)	
		Lanes	HOV	Lanes	HOV
Northbound	Stanford Ranch Rd[a]	1	No	3	Yes
	Pleasant Grove Blvd	2	No	2	No
	Blue Oaks Blvd	1	No	2	No
	Sunset Blvd EB	2	Yes	2	Yes
	Sunset Blvd WB	2	Yes	2	Yes
	Whitney Ranch Pkwy EB[b]	Not Applicable		2	Yes
	Whitney Ranch Pkwy WB[c]	Not Applicable		2	Yes
	Twelve Bridges Dr[d]	2	No	3	Yes
Southbound	Lincoln Blvd	2	No	3	Yes
	Twelve Bridges Dr	2	No	2	No
	Placer Pkwy WB[c]	Not Applicable		2	Yes
	Placer Pkwy EB[b]	Not Applicable		2	Yes
	Sunset Blvd WB	2	Yes	2	No
	Sunset Blvd EB	3	Yes	3	Yes
	Blue Oaks Blvd WB	1	No	2	Yes
	Blue Oaks Blvd EB	2	Yes	3	Yes
	Pleasant Grove Blvd WB	2	Yes	2	Yes
	Pleasant Grove Blvd EB	2	No	3	Yes
	Galleria Blvd[e]	1	No	3	Yes

Table 10. SR 65 Ramp Configuration

Ramp	Existing		Proposed (Alternatives 1 and 2)	
	Lanes	HOV	Lanes	HOV

Source: Fehr & Peers, 2015

Notes:

Shading indicates a change from the existing configuration.

[a] To be constructed under the Galleria Boulevard/Stanford Ranch Road/SR 65 Northbound Ramps Project

[b] To be constructed under the Placer Parkway project

[c] To be constructed under the SR 65/Whitney Ranch Parkway Interchange Project

[d]. To be constructed under the SR 65/Twelve Bridges Drive Interchange Project

[e]. To be constructed under the I-80/SR 65 Interchange Phase 1 Project

Right-of-way

All proposed project improvements are anticipated to remain within the existing State right-of-way. Approximately $100,000 has been estimated for right-of-way for the utility relocations described in the following section. Per the Master Agreement between State and PG&E, the liability will be split 50-50 and local agency's share will be $50,000 and owner's share will be $50,000. Right-of-Way Data Sheets for each Build alternative are included in Attachment E.

Utility and Other Owner Involvement

Existing utilities have been approximately located, based on available as-built plans obtained from Caltrans and the local utility companies. Utility A letters were sent out to the following utility owners:

- AT&T
- Comcast
- Consolidated Communications
- Frontier Communications
- PG&E
- Sprint
- Verizon
- Wave Broadband
- Kinder Morgan
- Placer County Water Agency
- City of Roseville
- Electric Lightwave

The following existing utilities have been identified as being within the proposed project limits and are described in the Right-of-Way Data Sheets (see Attachment E).

- PG&E owns utility poles east and west of SR 65 at the Pleasant Grove Creek Bridge. PG&E overhead lines between the poles are anticipated to be protected in place or be temporarily relocated to address potential conflicts with pile-driving activities associated with the bridge widening for both Build alternatives.

- City of Roseville Sewer owns a 50-inch-diameter sewer line that runs beneath the Pleasant Grove Creek Bridge. Based on preliminary utility alignment and the existing bridge piers, it is anticipated that the bridge widening will avoid conflicts with the sewer line.

Erosion Control

The draft Storm Water Data Report (Mark Thomas and Company, 2016) was prepared for this project (see Attachment F). Best management practices will be implemented during the construction to meet the water quality discharge requirements under the Storm Water Pollution Prevention Plan. Proposed embankment slopes will be primarily at 4:1 (horizontal:vertical) with the exception of the design exceptions described in the Nonstandard Design Features section below. All graded areas will be vegetated and erosion control measures will be implemented, such as slope rounding, seeding, and planting. Approximately 55 acres of disturbed soil are anticipated for this project. Proposed permanent best management practices include biofiltration strips and swales to treat water quality flow and carry storm runoff. The draft Storm Water Data Report will be finalized upon selection of the preferred alternative.

Noise Barriers

The project area consists of residential subdivisions, a place of worship, schools, a jail, a hospital, a hotel, several commercial uses that do not include apparent outdoor areas of frequent human use, and undeveloped land as identified in the Noise Study Report (ICF International [ICF], 2016a). The residential subdivisions in the study area are generally set back from SR 65 and buffered by commercial use and undeveloped land. Existing traffic noise levels range from 47 to 73 A-weighted equivalent sound level (dBA Leq[h]) at modeled receiver locations. Predicted worst-case traffic noise levels range from 51 to 76 dBA Leq (h) for Design Year No Build conditions and 52 to 77 dBA Leq(h) for Design Year Build conditions.

Traffic noise levels under Design Year conditions are predicted to approach or exceed the noise abatement criteria for six land uses adjacent to SR 65 including: The Placer County Jail (institutional use), Placer Center for Health, the Western Sierra Collegiate Academy, Rocklin Academy Gateway, and Creekside Church. However, there are no areas of frequent outdoor human use associated with these locations. In accordance with 23 Code of Federal Regulations (CFR) 772, noise abatement is considered only for areas of frequent human use that would benefit from a lower noise level. Therefore, noise abatement was not considered.

Interim Improvements

Because of funding constraints, the proposed project considers implementing phased improvements. The proposed interim phase for both Build alternatives would construct northbound and southbound auxiliary lanes from Galleria Boulevard/ Stanford Ranch Road to Pleasant Grove Boulevard on SR 65. In addition, the proposed project would widen SR 65 from four to six lanes with one general purpose lane southbound and northbound from north of Galleria Boulevard/Stanford Ranch Road to Blue Oaks Boulevard.

Any potential phased improvements are being considered/sequenced in coordination with the planned phased improvements for the I-80/SR 65 Interchange Improvements Project. The I-80/SR 65 Interchange Improvements Project is currently in the design

phase and is being completed by the PCTPA. The proposed geometrics have been coordinated with the SR 65 Capacity and Operational Improvements Project to provide appropriate and contiguous improvements along the SR 65 corridor.

Cost Estimate

The roadway, structure, and utility costs for the Alternatives 1, Carpool Lane and Alternative 2, General Purpose Lane are summarized in Table 11.

Table 11. Preliminary Project Costs for Ultimate Condition

Item	Alternative 1 Carpool Lane	Alternative 2 General Purpose Lane
Roadway	$49,418,400	$48,248,600
Structure	$2,063,000	$2,063,000
Utilities	$50,000	$50,000
Total	$51,532,000	$50,362,000

Attachment G provides a full preliminary cost estimate for each alternative.

Alternative 1: Carpool Lane

In addition to the features that are common to both Build alternatives, this alternative adds a 12-foot-wide carpool/HOV lane in the southbound direction of SR 65 in the median from the Blue Oaks Boulevard interchange to north of Galleria Boulevard/Stanford Ranch Road. The carpool/HOV lane would connect to the carpool/HOV lanes proposed as part of the I-80/SR 65 Interchange Improvements project.

The separate I-80/SR 65 Interchange Improvements project will add a third lane in each direction of SR 65 from I-80 to Pleasant Grove Boulevard. This SR 65 Capacity and Operational Improvements project alternative would add one 12-foot general purpose lane through the Pleasant Grove Boulevard interchange, to create a third lane on SR 65 in both directions from I-80 to Blue Oaks Boulevard. This alternative would also add an auxiliary lane in each direction of SR 65 from the Galleria Boulevard interchange to the Pleasant Grove Boulevard interchange, from the Blue Oaks Boulevard interchange to the Sunset Boulevard interchange, and from the Whitney Ranch Parkway interchange to the Twelve Bridge Drive interchange.

Alternative 2: General Purpose Lane

In addition to the features that are common to both Build alternatives, this alternative would add a 12-foot-wide general purpose lane in the southbound direction of SR 65 from the Blue Oaks Boulevard interchange to the Galleria Boulevard/Stanford Ranch Road off-ramp. The separate I-80/SR 65 Interchange Improvements project will add a third lane in each direction of SR 65 from I-80 to Pleasant Grove Boulevard. For added capacity on southbound SR 65, as recommended by the VA study, this alternative also includes an additional general purpose lane from the Blue Oaks Boulevard slip on-ramp to the Pleasant Grove Boulevard loop on-ramp. On northbound SR 65, a 12-foot general purpose lane would be added through the Pleasant Grove Boulevard interchange. These improvements would result in a third lane in both directions of SR 65 from I-80 to Blue Oaks Boulevard.

This alternative would also add an auxiliary lane on SR 65 from the Galleria Boulevard/Standard Ranch Road interchange to the Pleasant Grove Boulevard interchange; and in both directions of SR 65 from the Blue Oaks Boulevard interchange to the Sunset Boulevard interchange, and from Whitney Ranch Parkway interchange to the Twelve Bridges Drive interchange.

Alternative 3 (No Build Alternative)
The No Build Alternative is the basis for comparison of the Build Alternatives. It satisfies the statutory requirements under CEQA and NEPA for an alternative that does not include any new action or project beyond what is already committed. The No Build Alternative represents the state and local transportation system in its current condition. It includes implementation of programs or projects projected in RTPs that have identified funds for implementation and that are expected to be in place by 2040; it also reflects major planned land use changes.

The No Build Alternative includes programs and projects identified in the SACOG financially constrained project list in the 2035 Metropolitan Transportation Plan/Sustainable Communities Strategy (SACOG 2012) and input from the I-80/ SR 65 PDT regarding projects that would be built by the Design Year.

Under the No Build Alternative, the proposed project would not be implemented. The I-80/SR 65 Interchange Improvement project would be constructed starting in 2017. The I-80/SR 65 Interchange Improvement project would be in place with added HOV direct connectors in each direction between I-80 and SR 65, eastbound I-80 to northbound SR 65 flyover connector, southbound SR 65 to eastbound I-80 flyover connector, widening the East Roseville Viaduct, replacing the Taylor Road overcrossing, and widening southbound SR 65 to westbound I-80 and westbound I-80 to northbound SR 65 connectors with added capacity and associated auxiliary lanes and ramp realignment.

Nonstandard Design Features

Caltrans design standards were used to develop the preliminary geometrics within State right-of-way. A summary of exceptions to mandatory and advisory design standards is in included in Attachment H. Four design standards (at the locations listed below) will need an exception.

The exceptions to Caltrans advisory design standards are as follows:

A. Advisory Design Exception Feature 1

Non-standard Feature: Superelevation Transition

Location 1: Blue Oaks Boulevard northbound loop on-ramp (B1) will have a runoff length of 166.67 feet.

The standard runoff length for a 10 percent superelevation rate along a two-lane ramp is 240 feet.

Location 2: Pleasant Grove Boulevard southbound off-ramp (P3) will have a runoff length of 223 feet

The standard runoff length for a 12 percent superelevation rate along a two-lane ramp is 300 feet

Location 3: Pleasant Grove Boulevard southbound off-ramp (P3) will have a runoff length of 186 feet

The standard runoff length for a 10 percent superelevation rate along a two-lane ramp is 210 feet

A standard design would require substantial reconstruction of the ramp intersection including both ramp structures and the northbound exit lane, resulting in right of way impacts and added cost.

B. Advisory Design Exception Feature 2

Non-standard Feature: Side Slope Standards

Location 1: Galleria Boulevard off-ramp from STA 164+00 to 171+50 will have a side slope steeper than 4:1 (H:V).

For new construction, widening, or where slopes are otherwise being modified, embankment (fill) slopes should be 4:1 or flatter.

Location 2: SR 65 – southbound direction from STA 191+00 to 202+00 will have a side slope as steep as 2:1 or flatter.

Location 2: SR 65 – NB direction from STA 191+00 to 200+00 will have a side slope as steep as 2:1 or flatter.

For new construction, widening, or where slopes are otherwise being modified, embankment (fill) slopes should be 4:1 or flatter.

Location 3: SR 65 – southbound direction from STA 241+50 to 248+00 will have a side slope as steep as 2:1 or flatter.

For new construction, widening, or where slopes are otherwise being modified, embankment (fill) slopes should be 4:1 or flatter.

Each nonstandard location is steeper than a standard 4:1 to avoid right-of-way and environmental impacts, similar to existing conditions. The current design improvements remain within existing State right-of-way throughout the entire project limits.

The exceptions to Caltrans mandatory design standards are as follows:

A. Mandatory Design Exception Feature 1

Location A: The proposed shoulder width of the inside shoulder along southbound SR 65 at the Pleasant Grove overcrossing from STA 218+50 to 219+50 will be ±.9 feet

Left paved shoulder width should be 10 feet for six or more lanes

Location B: The proposed shoulder width of the inside shoulder along southbound SR 65, at the Blue Oaks Boulevard Overcrossing from STA 269+30 to 270+30 will be 9 feet ±.

Left paved shoulder width should be 10 feet for six or more lanes

Location C: The proposed shoulder width of the inside shoulder along the Blue Oaks southbound off-ramp Overcrossing from STA 273+90 to 274+40 will be 9 feet ±.

Left paved shoulder width should be 10 feet for six or more lanes

The three locations mentioned above are physically constrained by the existing bridge column. Providing a standard design would require outside widening, impacting the SB on ramps of the Pleasant Grove Boulevard and Blue Oaks Boulevard interchanges. The required ramp reconstruction and ground anchor walls would be cost prohibitive.

A. Mandatory Design Exception Feature 2

Curve C24 along the Blue Oaks Boulevard northbound loop on-ramp ("B1" Line) has a radius of 159 ft with a non-standard superelevation rate of 10%.

The standard superelevation rate for a 159' curve radius is 12%.

A standard design would require increasing the tangent runoff length on either side of the curve to provide adequate runoff for a 12% superelevation transition. Providing this length would impact the Blue Oaks Boulevard overcrossing and negatively impact operations and safety of the freeway and interchange.

Ramp Metering

The proposed ramp metering is common to both Build alternatives. Table 12 shows the existing and proposed ramp configuration. The table includes number of ramp lanes and HOV lane restrictions.

Table 12 SR65 Ramp Configuration

Ramp		Existing		Proposed	
		Lanes	HOV	Lanes	HOV
Northbound	Stanford Ranch Rd	1	No	3	Yes
	Pleasant Grove Blvd	2	No	2	No
	Blue Oaks Blvd	1	No	2	No
	Sunset Blvd Eastbound	2	Yes	2	Yes
	Sunset Blvd Westbound	2	Yes	2	Yes
	Whitney Ranch Pkwy Eastbound[2]	n/a		2	Yes
	Whitney Ranch Pkwy Westbound[3]	n/a		2	Yes
	Twelve Bridges Dr[4]	2	No	3	Yes

Southbound	Lincoln Blvd	2	No	3	Yes
	Twelve Bridges Dr	2	No	2	No
	Placer Pkwy Westbound[3]	n/a		2	Yes
	Placer Blvd Eastbound[2]	n/a		2	Yes
	Sunset Blvd Westbound	2	Yes	2	No
	Sunset Blvd Eastbound	3	Yes	3	Yes
	Blue Oaks Blvd Westbound	1	No	2	Yes
	Blue Oaks Blvd Eastbound	2	Yes	3	Yes
	Pleasant Grove Blvd Westbound	2	Yes	2	Yes
	Pleasant Grove Blvd Eastbound	2	No	3	Yes
	Galleria Blvd[5]	1	No	3	Yes

Notes:

1. To be constructed under the Stanford Ranch Road/SR65 NB Ramp Project

2. To be constructed under the Placer Parkway Project

3. To be constructed under the SR65/Whitney Ranch Interim Interchange project

4. To be constructed under the SR65/Twelve Bridges Drive Interchange project

5. To be constructed under the I-80/SR65 Interchange Phase 1 project

Source: Fehr & Peers, 2015

Ramp meter installation will be provided under separate projects for the Stanford Ranch Road/Galleria Boulevard, Whitney Ranch Parkway/Placer Parkway, and Twelve Bridges Drive interchanges. In the northbound direction, the Blue Oaks Boulevard on-ramp would be widened to provide an additional lane for storage. In the southbound direction, widening for an HOV preferential lane would also be provided at Lincoln Boulevard, Blue Oaks Boulevard westbound, and Pleasant Grove Boulevard eastbound on-ramps.

At the Sunset Boulevard westbound on-ramp, design year demand volume would increase such that a second lane of storage would be needed to prevent ramp meter queues from extending onto the local street. As a result, the existing HOV preferential lane would be converted to a general purpose lane.

At Blue Oaks Boulevard, widening for a third lane to maintain the HOV preferential lane is not feasible due to the geometry of the loop ramp. At the Blue Oaks Boulevard eastbound on-ramp, the ramp would be widened to provide a second general purpose lane for storage.

5B. Rejected Alternatives

The following alternatives were considered and rejected by the PDT:

- **Build Alternative with Full Carpool Lane –** This alternative would add a 12-foot-wide carpool/HOV lane in the median and an auxiliary lane in each

direction of SR 65 from Galleria Boulevard/Stanford Ranch Rd interchange to Lincoln Boulevard. The PDT reviewed and rejected the alternative because of the low demand for HOV lanes north of Blue Oaks Boulevard interchange.

- **Build Alternative with Mix Flow to Bus/Carpool Conversion –** This alternative would convert an existing mixed-flow lane for carpool/HOV use within the proposed project limits. The alternative was reviewed and rejected by the PDT as infeasible because the highway is a four-lane facility (two lanes in each direction) and the low demand for HOV lanes north of Blue Oaks Boulevard.
- **Reversible Lanes** – This alternative would add one or two reversible lanes in the median of SR 65, generally between the Blue Oaks Boulevard and Galleria Boulevard/Stanford Ranch Road interchanges. The motivation for reversible lanes, in general, is to minimize the pavement required by allowing vehicles in both directions to use the reversible median lanes, by reversing the direction of flow twice a day (at least) for the peak direction. Operations of reversible lanes are generally controlled with a series of gates, moveable and static barriers, and/or delineators. Reversible lanes are relatively uncommon, although they are used regularly on the Golden Gate (San Francisco) and Coronado (San Diego) bridges, and at times on the I-15 Express Lanes in San Diego. Assembly Bill (AB) 2542 requires consideration of reversible lanes.

  A reversible lanes alternative was evaluated for SR 65, but determined to be infeasible for several reasons. First, reversible lanes work best when volumes are unbalanced in the peak period (much higher in one direction). For SR 65, 2040 peak hour volumes are only 50 to 55 percent in the peak direction (nearly balanced). Adding reversible lanes would only help traffic in one direction. Second, reversible lanes are typically implemented on extended segments of freeway, especially where there is limited access (at bridges or express lanes). The SR 65 corridor is a relatively short segment with closely-spaced interchanges, including the system interchange at I-80. Finally, construction and maintenance costs would be high with reversible lanes. Some type of barrier infrastructure would be needed in both directions. The wide median would necessitate long access connections between the mainline traffic on both sides. After construction, the maintenance costs and safety risks associated with the twice-daily direction switches would be substantial.

6. CONSIDERATIONS REQUIRING DISCUSSION

6A. Hazardous Waste

The Phase I Initial Site Assessment (ISA) (Blackburn Consulting, Inc., 2014) identified recognized environmental conditions at the site. The ISA was performed in general conformance with ASTM E1527-13 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process." The investigations included a review of aerial photographs and topographic maps for historical uses of the property, and a database search for records of known storage tank sites and known sites of hazardous materials generation, storage, or contamination. The ISA also included a

visual inspection of the proposed project site to evaluate the potential for existing sources of contamination on or nearby the site. The ISA report is included in Attachment I.

Based on the information obtained as part of the ISA, the following conclusions were made:

- No site was identified with known or potential hazardous material issues within or adjacent to the proposed project site that is likely to have an impact on the proposed project.
- The project is not within a rock formation that is likely to include naturally occurring asbestos.
- An aerially deposited lead (ADL) investigation was conducted along SR 65. A total of 66 samples were collected along the northbound shoulders within the top 6 inches and southbound shoulders and median within the top 24 inches of soil. No trace of lead was detected along the northbound lanes and the concentration of total lead vary from 52 to 160 milligrams per kilogram (mg/kg) along the southbound lanes. This is probably because the southbound lanes were the original SR 65, and the northbound lanes were built after leaded gasoline was discontinued. All of results are less than the 1,000 mg/kg concentration at which the soil would be considered contaminated. The Waste Extraction Test was performed on the six samples with the highest total lead concentrations to determine if they exceed the 5 milligrams per liter (mg/L) hazardous waste threshold. The tests results ranged from 3.8 to 15 mg/L; three of the six samples analyzed exhibit soluble lead levels above the 5 mg/L threshold. Of those three samples, two were obtained from one sampling location; the surrounding sampling locations detected lead concentrations below the 50 mg/kg criteria. The sampling location was deemed not representative of the proposed project site. In addition, the regression analysis to predict soluble lead levels indicates the 95 percent UCL for soluble lead levels is below the threshold of 5 mg/L. Therefore, based on the concentrations of total lead and soluble lead and the depth of the proposed improvements, specialized soil management is not warranted. The ADL assessment report is included in Attachment I.

Yellow Traffic Stripe

Yellow traffic stripes may contain heavy metals, such as lead and chromium, at concentrations that exceed the hazardous waste thresholds established by the California Code of Regulations; the stripes may produce toxic fumes when heated. Consequently, removal or disturbance of any yellow traffic striping within the proposed project area will require development of an appropriate lead compliance plan.

Asbestos-containing Material (ACM) and Lead Based Paint (LBP)

The *Hazardous Materials Survey Report* (Entek Consulting, 2014) evaluated the presence of ACM and LBP at the Pleasant Grove Creek bridges. The report concluded that ACM is not present in the concrete that comprises the bridge deck and supporting columns beneath the bridges. Entek Consulting did not observe existing paints or coatings associated with the bridges that would require sampling for LBP.

Although asbestos was not found during the survey, written notification to the California Air Resources Board may be required.

Metal Beam Guardrail Wood Post

If metal beam guardrail wood posts are removed as part of the proposed project, the contractor shall prepare and submit a safety and health work practices plan for handling treated wood waste by an American Board of Industrial Hygene, Certified Industrial Hygienist. Treated wood waste must be disposed of in an approved treated wood waste facility.

6B. Value Analysis

The estimated project cost is above $50 million; therefore, a VA study is required if federal funding will be used for the proposed project (including right-of-way, construction, and support). A VA study was held at Caltrans District 3 Field Office in Rocklin February 9–12, 2015. Findings from the final VA study (CH2M, 2015) were issued in May 2015. The VA team consisted of representatives from Caltrans, Placer County, and the City of Roseville from multiple disciplines and independent from the project team.

Three VA alternatives were accepted (two with modifications):

1. The first alternative concept for both Build alternatives would modify all slip on-ramps to southbound and northbound SR 65 to a 2+1 configuration (two metered lanes plus one carpool preferential lane). All southbound and northbound loop on-ramps would be modified to a 1+1 configuration (one metered lane plus one carpool preferential lane) from Galleria Boulevard to Twelve Bridges Drive. Metering improvements would only be added within the proposed project limits along SR 65 and on-ramps where metering is not already proposed as part of another project.
2. The second alternative concept would build upon the General Purpose Lane alternative by adding an additional general purpose lane in the southbound direction from Blue Oaks Boulevard to Galleria Boulevard/Stanford Ranch Road.

   After the implementation meeting, the design team modified the second alternative to provide additional capacity. The modified alternative connects the auxiliary lanes on either side of Pleasant Grove Boulevard so that a fourth lane is provided between Blue Oaks Boulevard and Galleria Boulevard. This modification would allow the Galleria Boulevard off-ramp traffic to use two mainline lanes at the Pleasant Grove Boulevard off-ramp rather than be concentrated in just one lane.
3. The third alternative concept would build on the General Purpose Lane alternative by adding an additional general purpose lane in the southbound direction from Blue Oaks Boulevard to Galleria Boulevard/Stanford Ranch Road. In the northbound direction, the proposed general purpose lane would be eliminated north of Galleria Boulevard.

After the implementation meeting, the design team modified this alternative to add an auxiliary lane between each of the interchanges along SR 65 from Galleria Boulevard to Ferrari Ranch Rd, with the following outside widening for the General Purpose Lane alternative:

- Galleria Boulevard to Pleasant Grove Boulevard Northbound – four lanes (three general purpose lanes and one auxiliary lane)
- Pleasant Grove Boulevard to Blue Oaks Boulevard Northbound – three general purpose lanes
- Blue Oaks Boulevard to Galleria Boulevard Southbound – four general purpose lanes

6C. Resource Conservation

Features to reduce wasteful, inefficient, and unnecessary consumption of energy and nonrenewable resources in construction, operations and maintenance of the proposed project will be included wherever possible, including recycling the existing structural sections and concrete structures, such as aggregate base, through provisions in the contract documents. Other measures include recycling structural steel and other steel materials within the proposed project limits, using concrete washout materials on the job site, not idling construction equipment, and adding HOV lanes and HOV bypass lanes to encourage carpooling.

6D. Right-of-way Issues

Right-of-way acquisitions are not anticipated to be necessary to construct the proposed project. A Right of-Way Data Sheet for each alternative can be found in Attachment E.

The utility impacts described in Section 5 will require the permanent relocation of utilities.

6E. Environmental Issues

Caltrans is the lead agency under CEQA, and Caltrans, under authority delegated by Federal Highway Administration (FHWA), and is also the lead agency under NEPA. The project is Categorically Excluded under NEPA. The Mitigated Negative Declaration has been prepared in accordance with Caltrans environmental procedures, as well as State and federal environmental regulations. The attached IS/MND is the appropriate document for the proposal. A draft IS/MND was prepared for this project by the PCTPA, pursuant to CEQA, and is included in Attachment J.

Waters of the United States

The wetland delineation (ICF, 2016b) was performed in accordance with the *Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers [USACE], 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE, 2008) and the *Minimum Standards for Acceptance of Preliminary Wetlands Delineations* (USACE, 2001). The USACE regulations in 33 CFR 328 were used to determine the presence of waters of the United States other than wetlands. The *U.S. Army Corps of Engineers Jurisdictional*

Determination Form Instructional Guidebook (USACE, 2007) was consulted in evaluating the jurisdictional status of the various waterbodies existing within the study area. The *National Wetland Plant List* (USACE, 2016) was used to determine the wetland indicator status of species observed in the study area.

Of the approximately 589 acres of study area, 19.359 acres of water features were mapped, including the following:

- 2.786 acres of vernal pools
- 4.101 acres of depressed seasonal wetlands
- 8.807 acres of emergent wetlands
- 0.517 acre of riparian scrub wetlands
- 1.198 acres of perennial streams
- 0.683 acre of ephemeral streams
- 1.267 acres of drainage ditches

Table 13 summarizes the mitigation agreements that will be implemented during the project to ensure that the proposed project minimizes effects on wetlands and other waters of the United States within and adjacent to the construction area.

Table 13. Avoidance and Minimization Efforts and Compensatory Mitigation

Avoidance and Minimization Efforts	
Measure	Description of Measure
Measure 1:	Install Fencing and/or Flagging to Protect Biological Resources
Measure 2:	Conduct Mandatory Environmental Awareness Training for Construction Personnel
Measure 3:	Retain a Qualified Biologist to Conduct Periodic Monitoring during Construction in Sensitive Habitat
Measure 4:	Protect Water Quality and Minimize Sedimentation Runoff in Wetlands and Other Waters
Measure 7:	Avoid and Minimize Potential Indirect Impacts on Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp Habitat
Measure 9:	Provide Escape Ramps for Wildlife and Inspect Pits and Trenches Daily
Measure 10:	Conduct a Pre-Construction Survey for Northern Western Pond Turtle and Exclude Turtles from the Work Area
Measure 11:	Conduct Pre-Construction Surveys for Burrowing Owl and Establish Exclusion Zones, if Necessary
Measure 12:	Conduct Pre-Construction Surveys for Swainson's Hawk and Establish Exclusion Zones, if Necessary
Measure 13:	Conduct Vegetation Removal during the Non-Breeding Season and Conduct Pre-Construction Surveys for Nesting Migratory Birds and Raptors
Measure 14:	Conduct Occupancy Surveys for California Black Rail and Implement Avoidance Measures, if Necessary
Measure 15:	Modify Existing Structures during the Non-Breeding Season for Purple Martin and Other Structure-Nesting Migratory Birds or Implement Exclusion Measures to Deter Nesting
Measure 16:	Conduct Pre-Construction Surveys for Roosting Bats and Implement Protection Measures
Measure 17:	Avoid and Minimize the Spread of Invasive Plant Species during Project Construction
Compensatory Mitigation	
Measure 5:	Compensate for the Placement of Permanent Fill into Wetlands
Measure 6:	Compensate for the Placement of Permanent Fill into Waters of the United States/Waters of the State

Table 13. Avoidance and Minimization Efforts and Compensatory Mitigation	
Avoidance and Minimization Efforts	
Measure	Description of Measure
Measure 8:	Compensate for Direct and Indirect Impacts on Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp Habitat
Source: ICF International	

Floodplains

Encroachment on existing FEMA Floodplains have been evaluated and documented in the project Preliminary Drainage Report (PDR). The project crosses FEMA defined 100-year floodplain for:

Pleasant Grove Creek Tributary 1

Pleasant Grove Creek

Orchard Creek Tributary 2

Orchard Creek Tributary 2-1

Orchard Creek North Branch

Orchard Creek

The hydrologic and hydraulic analysis of the cross culverts involved demonstrated that they are capable of passing the 50-year or 100-year event without overtopping of the adjacent roadway.

Endangered Species

The proposed project has the potential to affect two federally listed wildlife species, vernal pool fairy shrimp and vernal pool tadpole shrimp. Because the project is likely to result in direct modification of vernal pool fairy shrimp and vernal pool tadpole shrimp habitat i.e. permanent and/or temporary fill and/or excavation, the project may affect, and is likely to adversely affect vernal pool fairy shrimp and vernal pool tadpole shrimp. The minimization and avoidance measure described in Table 12 above are intended to mitigate some of these impacts.

Air Quality Conformity

The Air Quality Study Report (ICF, 2016c) identifies several impacts that could result from implementing the proposed. Each project alternative is fully compatible with the design concept and scope described in the current 2036 Placer County RTP (PCTPA, 2016). Table 14 summarizes the impacts, mitigation measures, and significance conclusions discussed in the Air Quality Study Report.

Table 14. Air Quality Study Report Summary		
Build Alternatives	Impacts	Avoidance, Minimization and Mitigation Measures
AQ-1: Conformity with the RTP with the State Implementation Plan	The complete project is included in the regional emissions and conformity analysis for the 2036 MTP/SCS and 2015–2018 MTIP.	None required

Table 14. Air Quality Study Report Summary

Build Alternatives	Impacts	Avoidance, Minimization and Mitigation Measures
AQ-2: Potential Violations of Carbon Monoxide NAAQS or CAAQS	The Build Alternatives are not anticipated to exceed 1- or 8-hour NAAQS or CAAQS for CO.	None required
AQ-3: Potential Violations of $PM_{2.5}$ NAAQS or CAAQS	Placer County is currently classified as a nonattainment area for the federal $PM_{2.5}$ NAAQS. However, due to minimal change in AADT between the No Build and Build Alternatives, the proposed project is determined not be a Project of Air Quality Concern. SACOG's PLCG issued concurrence that the proposed project is not a Project of Air Quality Concern August 9, 2016.	None required
AQ-4: Potential for Generation of MSAT Emissions	The project is not anticipated to have meaningful impacts on traffic volumes, thus based on FHWA's 2012 MSAT guidance, this project is considered to have No Meaningful Potential MSAT Effects, and a quantitative analysis of MSAT emissions is not required.	None required
AQ-5: Generation of Operation-related Emissions of O_3 Precursors, Carbon Monoxide, and Particulate Matter	The project would result in decreases in ROG, NO_X, and CO but minor increases in PM_{10} and $PM_{2.5}$ between existing (2012) and design year (2040) conditions. The project would also result in increases in ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions between the No Build and Build alternatives.	None required
AQ-6: Potential Temporary Increase in O_3 Precursors (ROG and NO_X), CO, and Particulate Matter Emissions during Grading and Construction Activities	The project would result in temporary increases in O_3 precursors, CO, PM_{10}, and $PM_{2.5}$ during construction.	Addressed by construction-related PM_{10} emission minimization measures in Caltrans Standard Specifications Section 14
AQ-7: Potential for Generation of GHG Contaminant Emissions	The project would result in minor increases in GHG emissions during construction and long-term operation. Operational emissions increases are a result of background growth in VMT between the existing (2012) and design (2040) years and increased VMT between the No Build and Build alternatives.	GHG reduction strategies identified in Chapter 3 of the Air Quality Conformity Report contained in the draft IS/MND (ICF, 2016d)

Notes:
CAAQS = California Ambient Air Quality Standards
CO = carbon monoxide
GHG = greenhouse gas
MSAT = mobile source air toxics
MTIP = Metropolitan Transportation Improvement Program
MTP = Metropolitan Transportation Plan
NAAQS = National ambient air quality standards
NO_X = nitrogen oxides

Table 14. Air Quality Study Report Summary		
Build Alternatives	Impacts	Avoidance, Minimization and Mitigation Measures

O_3	=	ozone
PLCG	=	Project Level Conformity Group
PM_{10}	=	particles of 10 micrometers or smaller
$PM_{2.5}$	=	particles of 2.5 micrometers and smaller
ROG	=	reactive organic compounds
RTP	=	2035 Placer County Regional Transportation Plan
SACOG	=	Sacramento Area Council of Governments
SCS	=	Sustainable Communities Strategy
VMT	=	vehicle miles travelled

Cultural Resources

The Historical Property Survey Report (HPSR) and Archaeological Survey Report (ASR) concluded that there are no cultural resources that are listed or are eligible for listing in the National Register of Historic Places (NRHP) within the Area of Potential Effect (APE). Also there are no previously unevaluated cultural resources present within the APE. All previously recorded resources within the APE have since been destroyed or displaced by modern development and original highway construction and therefore no longer exist within the project limits.

6G. Title VI Considerations

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have been included in this project. Caltrans' commitment to upholding the mandates of Title VI is evidenced by its Title VI Policy Statement, signed by the Director.

6H. Noise Abatement Decision Report

This section represents the Noise Abatement Decision Report, which:

- Is an evaluation of the reasonableness and feasibility of incorporating noise abatement measures into this project;
- Constitutes the preliminary decision on noise abatement measures to be incorporated into the Draft Environmental Document; and
- Is required for Caltrans to meet the conditions of Title 23 Code of Federal Regulations, Part 772 in accordance with the Federal Highway Administration noise standards.

The Noise Study Report (ICF, 2016a) was approved by Kendall Schinke, Chief Environmental Management M1 Branch on February 22, 2016.

The project area consists of residential subdivisions, a church, schools, a jail, a hospital, a hotel, several commercial uses that include no apparent outdoor areas of frequent human use, and undeveloped land. The residential subdivisions in the study area are generally set back from SR 65 and buffered by commercial use and undeveloped land. In accordance to 23 CFR 772, noise abatement is considered only for areas of frequent human use that would benefit from a lower noise level. Because

the traffic noise impacts are not predicted to occur in areas where there is frequent human use, noise abatement was not considered for this project.

6I. Fish Passage

The SR 65 corridor includes numerous crossings over permanent and seasonal waterways. Those crossings are generally classified as either bridges or culverts. Typical culvert design of the crossing extension due to highway widening would take passage of aquatic organisms into consideration. The crossing design would be in conformance with California Department of Fish and Wildlife and NOAA Fisheries requirements.

7. OTHER CONSIDERATIONS AS APPROPRIATE

7A. Public Hearing Process

A public workshop was conducted on July 24, 2014, to review the project need preliminary goals, preliminary alternative concepts, and schedule.

The IS/MND and the DPR will be available for public review and comment, and a public hearing will be held.

7B. Route Matters

An updated Freeway Agreement is not required for SR 65 within the proposed project limits.

7C. Permits

Table 15 lists the permits that are anticipated to be required prior to construction of the proposed improvements project:

Table 135. Anticipated Approvals, Permits, and Coordination

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service	Section 7 consultation for threatened and endangered species.	Formal consultation for impacts on vernal pool branchiopod species will need to be completed before the PA&ED milestone can be met.
USACE Sacramento District	Section 404 Nationwide Permit for filling or dredging waters of the United States.	Pending completion of the PS&E phase of the process.
Federal Highways Administration	Executive Order 11990: Protection of Wetlands	Pending completionin the PS&E phase of the process
Federal Highways Administration	Executive Order 13112: Prevention and Control of Invasive Species	Pending completion in the PS&E phase of the process
Central Valley Regional Water Quality Control Board	Section 401 Water Quality Certification. Waste Discharge Permit Review and approval of storm water discharge treatments.	Pending completion in the PS&E phase of the process.
Central Valley Regional Water Quality Control Board	Section 402 National Pollutant Discharge Elimination System.	Pending completion of the PS&E phase of the process.
California Department of Fish and Wildlife	Section 1602 Lake or Streambed Alteration Agreement may be needed for crossing the tributaries of Orchard	Pending completion in the PS&E phase of the process.

Table 135. Anticipated Approvals, Permits, and Coordination		
Agency	Permit/Approval	Status
	Creek	
California Department of Fish and Wildlife	California Fish and Game Code Sections 3503 and 3503.5: protection of birds and raptors	Pending completion in the PS&E phase of the process
California Department of Fish and Wildlife	California Fish and Game Code Sections 3511, 3513, 4700 and 5050: fully protected species	Pending completion in the PS&E phase of the process
Caltrans	Encroachment permit for construction of improvements within State right-of-way.	Pending completion of the PS&E phase of the process.

7D. Cooperative Agreements

The project is a PCTPA lead effort. The existing cooperative agreement between the PCTPA and the State of California was executed on April 16, 2013, and it covers all work including the PA&ED. A separate design and construction cooperative agreement will be executed prior to construction.

Any additional required cooperative agreements will be in place as needed prior to construction.

7E. Other Agreements

Other agreements are not anticipated to be required.

7F. Transportation Management Plan for Use during Construction

The Transportation Management Plan (TMP) Datasheet (Mark Thomas and Company, 2016) is included as Attachment K. Consistent with Caltrans District 3 policy and procedures, it is expected that construction of the proposed project, especially staging and traffic control systems, would be coordinated closely with the district TMP coordinator. These traffic control systems would include appropriate work zone measures, including extinguishable message signs and changeable message sign. It is also anticipated that there will be a Construction Zone Enhanced Enforcement Program (COZEEP) in place as part of traffic management during construction, including setting and removal of K-rails. It is expected that no work will be allowed on holiday weekends or the Friday preceding holiday weekends.

The alternatives considered in this report cannot be constructed without traffic impacts, primarily due to driver curiosity, construction area signs and controls. These impacts can be reduced by implementing a well-planned stage construction/traffic management plan and aggressive public awareness education during construction. It is anticipated that a project this large will require the following traffic control features:

- Temporary striping to shift traffic away from construction zones
- Temporary railing (Type K) to separate construction zones from traffic
- Work-period lane closures (e.g., during pavement removal, pavement delineations, and setting K-rails and pavement conforms)

7G. Staged Construction

Temporary striping will be necessary to shift traffic away from construction zones, with continuous temporary railing (Type K) to separate construction zones from traffic. Work-period lane closures (e.g., while removing delineations and setting K-rails and pavement conforms) would be performed during non-peak traffic hours.

7H. Phased Construction

Recommended Project Phasing:

The SR 65 Capacity and Operational Improvements Project will consider implementing phased improvements to coincide with the approved planning document and phased improvements for the I-80/SR 65 Interchange Improvements Project. The phased improvements would construct auxiliary lanes on SR 65 from Stanford Ranch Road/Galleria Boulevard to Pleasant Grove Boulevard (northbound and southbound). SR 65 will be widened from four to six lanes, with one general purpose lane southbound and northbound from north of Galleria Boulevard/Stanford Ranch Road to Blue Oaks Boulevard.

The PCTPA conducted a sequencing study (T.Y. Lin International, 2015) to determine when and what phases of planned transportation infrastructure projects, using limited funding, should be constructed in the next 10 years to provide the best value. The first phase of the SR 65 Capacity and Operational Improvements Project was identified as the highest ranking Tier 2 project of the freeway improvement projects when considering travel time, traffic congestion, economic development, goods movement, cost effectiveness, traffic safety, and other criteria. Subsequent phases of the proposed project were ranked in the middle of Tier 3, with lower priority than the I-80/SR 65 Interchange Improvements Project Phases 3A, 3B, and 4, and higher priority than the eastbound I-80 auxiliary lane.

7I. Landscape Assessment

A Landscape Assessment Sheet (see Attachment L) was prepared taking into account the SR 65 Aesthetic Corridor Master Plan (Caltrans District 3, 2012). The landscape architecture approach is pending coordination with Caltrans District 3, Landscape.

7J. Accommodation of Oversize Loads

The segment of SR 65 within the proposed project limits will maintain the required minimum height capabilities during freeway operating hours during the proposed project.

7K. Graffiti Control

Placer County is not considered a graffiti-prone area, and no special measures necessary for this project.

8. FUNDING, PROGRAMMING, AND ESTIMATE

8A. Programming

Project design and construction will be locally funded by the SPRTA Regional Transportation and Air Quality Mitigation Fee Program, which includes the county

and the cities of Roseville, Rocklin, and Lincoln. However, it has been determined that this project is eligible for federal funding.

Table 16 indicates the proposed capital and support cost for the proposed project; the construction capital cost for the two Build alternatives is included.

Table 16 – Capital and Support Cost

Fund Source	Fiscal Year Estimate								
20.10.400.610	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	Total
Component	(in thousands of dollars)								
PA&ED Support	300	300	750	400					1,750
PS&E Support				1,150	1,150				2,300
Right-of-way Support				75	75				150
Construction Support						1,500	1,500	500	3,500
Right-of-way Capital						50			50
Construction Capital						5,000	15,000	31,500	51,500
Total	300	300	750	1,625	1,225	6,550	16,500	32,000	59,250

The support cost ratio is 16.8 percent.

8B. Funding

Funding for the proposed project can be summarized as follows:

PA&ED	1,750,000
PS&E	2,300,000
Right of Way Support	150,000
Construction Support	3,500,000
Right of Way Capital	50,000
Construction Capital	51,500,000
Total	$59,250,000

8C. Preliminary Cost Estimate

A preliminary cost estimate was prepared for each Build alternative (see Attachment G). Both Build alternatives include $2.06M for structures and $50,000 for utility relocation costs.

9. SCHEDULE

Table 17 summarizes the schedule of project milestones.

Table 17– Project Milestone Schedule

Project Milestones		Scheduled Delivery Date
Program Project	M015	December 2012
Begin Environmental	M020	February 2015
Notice of Intent (NOI)	M035	May 2016
Circulate DPR and DED Externally	M120	November 2016

Table 17– Project Milestone Schedule		
Project Milestones		Scheduled Delivery Date
PA&ED	M200	May 2017
Project PS&E	M380	2017
Right-of-way Certification	M410	2017
Ready to List	M460	2018
Award	M495	2018
Approve Contract	M500	2018
Contract Acceptance	M600	2020
End Project	M800	2020
Notes: DPR = draft project report DED = draft environmental document		

10. RISKS

Twenty risks are involved with the proposed project. Seven of the risks are in the design category, 12 are in the environmental category, and 1 is in the right-of-way category. The right-of-way risk is categorized as high because the design exception for nonstandard side slopes has not been approved. These risks would delay the project, add cost to the project, or both, and could result in a funding issue. The risk register is provided in Attachment M.

11. PROJECT REVIEWS

In accordance with the stewardship agreement, the project does not require FHWA approval. The PCTPA and Caltrans Headquarters Design will review this project report, and all comments will be addressed or incorporated. Constructability and safety reviews will also be required and addressed for this project report.

District Maintenance	Mike Gunn	Date:_____
Headquarters Design Coordinator	Tim Sobelman	Date:_____
Project Manager	Rodney Murphy	Date:_____
District 3 TMP, Signing, and Striping	Joyce Loftus	Date:_____
District Landscape Architect	Jeff Pietrzak	Date:_____
District 3 Design	Scott Mann	Date:_____
District 3 Right of Way	Steve Mattos	Date:_____
District 3 Right of Way Utilities	Brian Goldman	Date:_____

12. PROJECT PERSONNEL

Celia McAdam	PCTPA	(530) 823-4030
Luke McNeel-Caird	PCTPA	(530) 823-4033
Matt Brogan	Project Manager Mark Thomas & Company	(916) 381-9100

Zach Siviglia	Project Manager Mark Thomas & Company	(916) 381-9100
Rodney Murphy	Caltrans Special Funded Project Management	(530) 701-1305
Thaleena Bhattal	Caltrans Office of Environmental Management	(530) 741-4597
Brent Massey	Caltrans Structures	
Christine Zdunkiewicz	Caltrans District 3 Traffic Operations	
Jennifer Elwood	CH2M HILL, Inc. – Structures Design	
Ron Milam	Fehr & Peers – Traffic Analysis	(916) 773-1900
Claire Bromund	ICF International –Environmental Coordinator	(916) 737-3000
Dave Palmer	City of Rocklin	(916) 625-5118
Scott Gandler	City of Roseville	(916) 746-5339
Rhon Herndon	City of Roseville	(916) 746-1300
Richard Moorehead	Senior Civil Engineer Placer County	(530) 745-7533
Ray Leftwich	City of Lincoln	(916) 434-2457
Gladys Cornell	Public Outreach AIM Consulting	

13. LIST OF ATTACHMENTS

A. Attachment A. Geometric Approval Drawings
B. Attachment B. Transportation Analysis Report
C. Attachment C. Traffic Analysis Memorandum – Phase 1
D. Attachment D. Advanced Planning Studies
E. Attachment E. Right-of-Way Data Sheets (DRAFT)
F. Attachment F. Storm Water Data Report (DRAFT)
G. Attachment G. Preliminary Cost Estimate
H. Attachment H. Exceptions to Design Standards (DRAFT)
I. Attachment I. Initial Site Assessment and Aerially Deposited Lead Assessment
J. Attachment J. Draft Environmental Document
K. Attachment K. Transportation Management Plan Checklist and Data Sheet
L. Attachment L. Landscape Architecture Assessment Sheet (DRAFT)
M. Attachment M. Risk Register

14. WORKS CITED

Blackburn Consulting, Inc. 2014. Phase I Initial Site Assessment (ISA).

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California Department of Transportation (Caltrans). 2012. Supplemental Traffic Report. District 3 Office of Freeway Operations.

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U.S. Army Corps of Engineers (USACE). 2001. *Minimum Standards for Acceptance of Preliminary Wetlands Delineations*.

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Attachment A
Geometric Approval Drawings

Alternative 1 – Carpool Lane

STATE ROUTE 65 WIDENING
PRELIMINARY GEOMETRICS
CARPOOL LANE ALTERNATIVE

03-PLA-65 PM 6.2/12.8

MARK THOMAS & COMPANY
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SACRAMENTO, CALIFORNIA 95826
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DATE 4/12/2017	RCE NO.		
SCALE 1"=200'			

STATE ROUTE 65 WIDENING
PRELIMINARY GEOMETRICS
CARPOOL LANE ALTERNATIVE

03-PLA-65 PM 6.2/12.8

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BY
RCE NO.

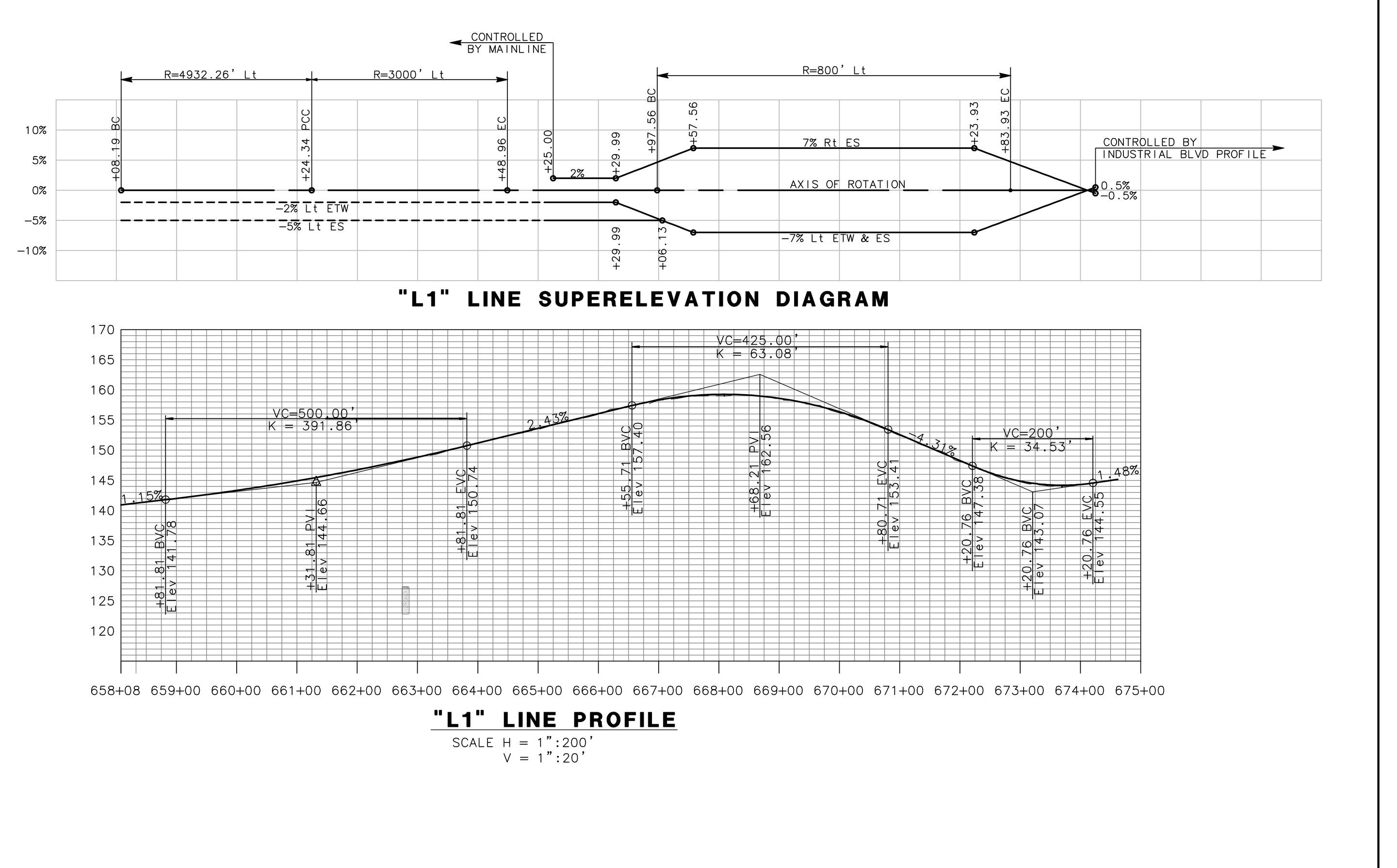
JOB NO. SA-13143
FILE NO.
SHEET NO. 2 OF 2

CURVE DATA

No.	R	Δ	T	L
C1	6499.48'	57°59'29"	3602.09'	6578.39'
C2	5825.28'	18°02'09"	221.41'	433.20'
C3	1100.00'	51°48'42"	534.27'	994.71'
C4	175.00'	237°39'30"	317.94'	725.89'
C5	6000.00'	01°08'00"	59.34'	118.68'
C6	3000.00'	06°00'08"	157.28'	314.28'
C7	3000.00'	03°11'29"	83.57'	167.10'
C8	900.00'	35°33'41"	271.39'	527.18'
C9	3000.00'	03°11'29"	83.57'	167.10'
C10	170.00'	175°39'50"	4490.47'	521.21'
C11	522.39'	31°18'54"	146.42'	285.51'
C12	1000.00'	28°05'10"	250.13'	490.20'
C13	1050.00'	27°16'17"	254.72'	499.78'
C14	525.46'	31°59'34"	150.64'	293.40'
C15	174.00'	170°46'08"	2155.32'	518.60'
C16	3000.00'	08°05'07"	212.02'	423.34'
C17	6546.11'	02°37'40"	150.14'	300.22'
C18	3000.00'	03°11'29"	83.57'	167.10'
C19	1750.00'	45°32'03"	734.45'	1390.76'
C20	230.00'	149°37'03"	847.06'	600.60'
C21	3000.00'	03°11'29"	83.57'	167.10'
C22	6546.68'	02°37'35"	150.08'	300.10'
C23	147.00'	84°20'02"	133.14'	216.37'
C24	159.00'	161°09'09"	957.98'	447.21'
C25	300.00'	04°56'19"	129.37'	258.58'
C26	1525.49'	19°21'36"	260.23'	515.49'
C27	1525.53'	16°46'04"	224.83'	446.45'
C28	4999.99'	03°43'21"	1884.32'	3604.04'
C29	4932.26'	03°40'21"	158.13'	316.15'
C30	3000.00'	06°12'00"	162.47'	324.63'
C31	800.00'	41°59'46"	307.06'	586.38'

LINE DATA

No.	BEARING	DISTANCE
L1	N 57°56'07" W	9605.64'
L2	N 53°34'41" W	332.58'
L3	N 57°56'07" W	450.33'
L4	N 59°04'07" W	812.51'
L5	N 53°03'59" W	341.74'
L6	N 59°04'52" W	300.06'
L7	N 62°16'21" W	444.51'
L8	S 41°40'55" W	156.26'
L9	N 59°04'52" W	300.06'
L10	N 62°16'21" W	315.51'
L11	S 57°56'11" E	266.31'
L12	N 56°53'30" W	189.51'
L13	N 25°11'36" W	273.51'
L14	N 53°16'46" W	431.55'
L15	N 53°11'06" W	285.98'
L16	N 25°54'49" W	296.60'
L17	N 57°48'46" W	184.44'
L18	S 57°56'07" E	225.80'
L19	N 59°04'52" W	300.06'
L20	N 32°03'49" E	2466.59'
L21	N 44°27'54" W	204.55'
L22	N 89°59'57" W	69.57'
L23	S 00°03'28" W	735.01'
L24	N 30°19'28" W	194.31'
L25	N 78°22'57" E	137.46'
L26	S 17°17'00" E	180.26'
L27	N 29°51'38" W	299.97'
L28	N 73°14'01" E	671.17'
L29	N 30°19'28" W	194.31'
L30	N 00°03'22" E	6885.51'
L31	N 00°03'29" E	12511.56'
L32	N 15°29'07" W	248.59'
L33	N 57°28'53" W	248.59'



Alternative 2 – General Purpose Lane

STATE ROUTE 65 WIDENING
PRELIMINARY GEOMETRICS
GENERAL PURPOSE LANE ALTERNATIVE

03-PLA-65 PM 6.2/12.8

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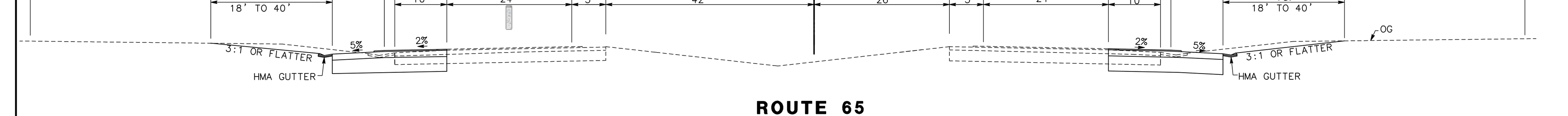
PLEASANT GROVE CREEK BRIDGE
"A3" LINE
BR. NO. 19-0136L/R



ROUTE 65
"A3" LINE
BETWEEN BLUE OAKS BLVD TO LINCOLN BLVD

SOUTHBOUND SLIP ON-RAMP
"L1" LINE
(LOOKING IN DIRECTION OF TRAVEL)

CURVE DATA

No.	R	Δ	T	L
C1	6499.48'	57°59'29"	3602.09'	6578.39'
C2	5825.28'	18°02'09"	221.41'	433.20'
C3	1100.00'	51°48'42"	534.27'	994.71'
C4	175.00'	237°39'30"	317.94'	725.89'
C5	6000.00'	01°08'00"	59.34'	118.68'
C6	3000.00'	06°00'08"	157.28'	314.28'
C7	3000.00'	03°11'29"	83.57'	167.10'
C8	825.00'	76°38'47"	652.09'	1103.63'
C9	3000.00'	03°11'29"	83.57'	167.10'
C10	168.00'	175°39'50"	4437.64'	515.07'
C11	522.39'	31°18'54"	146.42'	285.51'
C12	1000.00'	27°52'23"	248.15'	496.48'
C13	1050.00'	27°16'17"	254.72'	499.78'
C14	525.46'	31°59'34"	150.64'	293.40'
C15	174.00'	170°46'08"	2155.32'	518.60'
C16	3000.00'	08°05'07"	212.02'	423.34'
C17	6336.00'	02°42'46"	150.03'	300.00'
C18	3000.00'	03°11'29"	83.57'	167.10'
C19	1600.00'	44°39'39"	657.20'	1247.17'
C20	230.00'	149°37'03"	847.06'	600.60'
C21	3000.00'	03°11'29"	83.57'	167.10'
C22	6546.68'	02°37'35"	150.08'	300.10'
C23	147.00'	84°20'02"	133.14'	216.37'
C24	159.00'	161°09'09"	957.98'	447.21'
C25	300.00'	04°56'19"	129.37'	258.58'
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C27	1525.53'	16°46'04"	224.83'	446.45'
C28	4999.99'	03°43'21"	1884.32'	3604.04'
C29	4932.26'	03°40'21"	158.13'	316.15'
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LINE DATA

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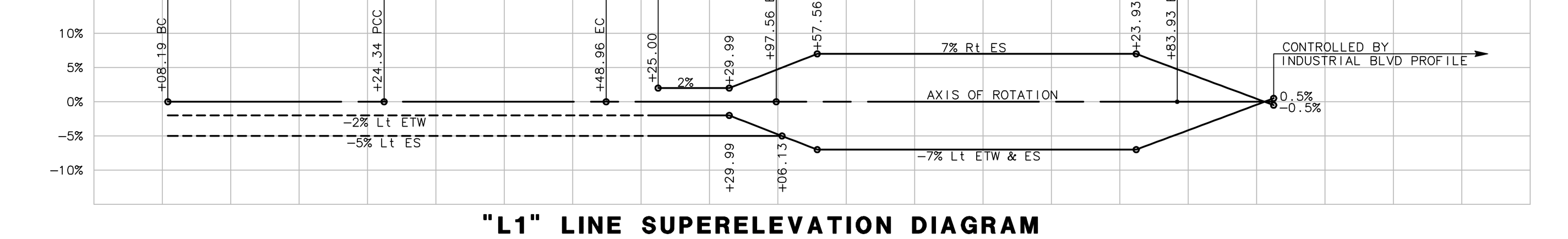
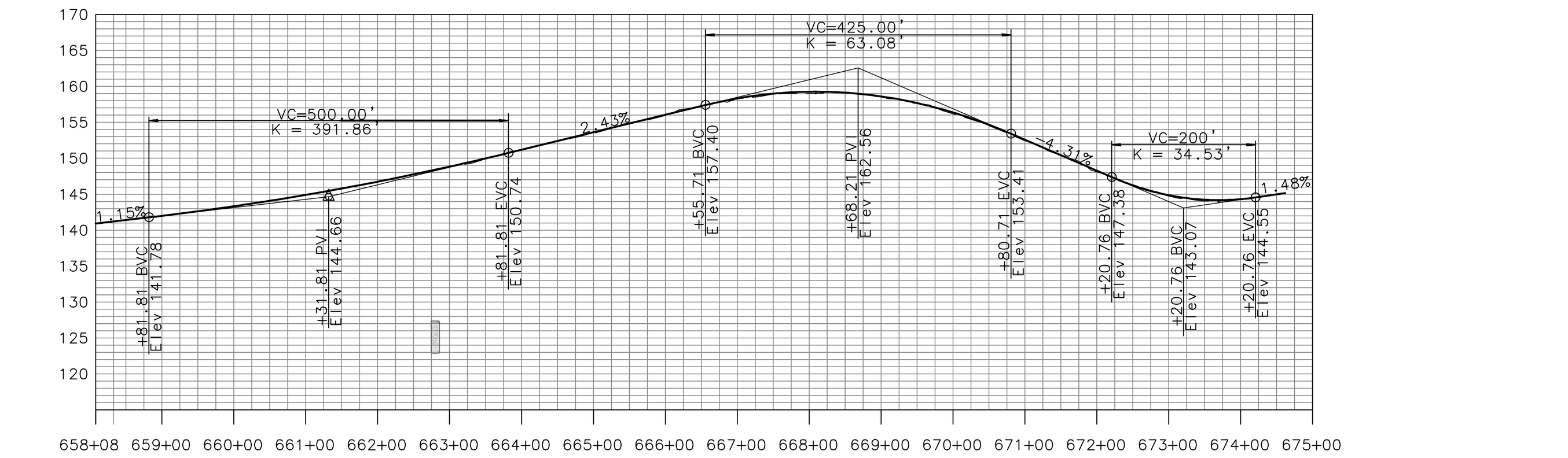
L2	N 53°34'41" W	332.58'
L3	N 57°56'07" W	450.33'
L4	N 59°04'07" W	812.51'
L5	N 53°03'59" W	341.74'
L6	N 59°04'52" W	300.06'
L7	N 62°16'21" W	481.04'
L8	S 41°04'52" W	151.33'
L9	N 59°04'52" W	300.06'
L10	N 62°16'21" W	209.65'
L11	S 57°56'11" E	266.31'
L12	S 56°53'30" E	189.51'
L13	N 25°11'36" W	273.13'
L14	S 53°03'59" E	277.39'
L15	N 53°11'06" W	285.98'
L16	N 25°54'49" W	296.60'
L17	N 57°48'46" W	184.44'
L18	S 57°56'07" E	225.80'
L19	N 59°04'52" W	300.06'
L20	N 32°03'49" E	2466.59'
L21	N 45°20'18" W	452.14'
L22	N 89°59'57" W	94.69'
L23	S 00°03'28" W	735.01'
L24	N 30°19'28" W	194.31'
L25	N 78°22'57" E	137.46'
L26	S 17°17'00" E	180.26'
L27	N 29°51'38" W	299.97'
L28	N 73°14'01" E	671.17'
L29	N 30°19'28" W	194.31'
L30	N 00°03'22" E	6885.51'
L31	N 00°03'29" E	12511.56'
L32	N 15°29'07" W	248.59'
L33	N 57°28'53" W	248.59'



"L1" LINE SUPERELEVATION DIAGRAM



"L1" LINE PROFILE
SCALE H = 1"=200'
V = 1"=20'

STATE ROUTE 65 WIDENING
PRELIMINARY GEOMETRICS
GENERAL PURPOSE LANE ALTERNATIVE

03-PLA-65 PM 6.2/12.8

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SCALE 1"=200'			

Attachment B
Transportation Analysis Report

State Route 65

Capacity and Operational Improvements

Transportation Analysis Report

Placer County, CA

03-PLA-65-PM R6.5 to R12.9

EA 03-1F1700
Project ID 0300001103

September 2015

Caltrans

PLACER COUNTY
TRANSPORTATION
PLANNING AGENCY

Transportation Analysis Report

State Route 65

Capacity and Operational Improvements

03-PLA-65-PM R6.5 to R12.9

EA 03-1F1700
Project ID 0300001103

September 2015

Prepared By: David Stanek, PE
Ronald T. Milam, AICP, PTP

Date:

Phone Number 916-773-1900
Firm Name Fehr & Peers
Location Roseville, CA

Planning
Approved By:

Date: 10/15/15

Name NICHOLAS DEAL
Title SR. TRANSPORTATION PLANNER
Phone Number (530) 741-5151
Office Name DTFM
District/Region 03/NR

Traffic Operations
Approved By:

Date: October 15, 2015

Name Christine M. Zdunkiewicz
Title Transportation Engineer
Phone Number (916) 859 - 7949
Office Name Caltrans District 3 Freeway Operations
District/Region District 3/North Region

Transportation Analysis Report

State Route 65

Capacity and Operational Improvements

03-PLA-65-PM R6.5 to R12.9

EA 03-1F1700
Project ID 0300001103

September 2015

This report was prepared under my direction and responsible charge. I attest to the technical information contained herein and have judged the qualification of any technical specialists providing engineering data upon which recommendations, conclusions, and decisions are based.

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Registered Professional Civil Engineer
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RS14-3201

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Chapter 1. Introduction

This transportation analysis report was prepared for the State Route 65 (SR 65) Capacity and Operational Improvements project. The report contains the results and findings of the traffic forecasts and traffic operation analysis, while the detailed analysis calculations are compiled in the separately bound Technical Appendix.

1.1. Purpose of the Transportation Analysis Report

The purpose of this report is to analyze project design alternatives and their effects on the highway and arterial transportation network. The report focuses on a comparison of alternatives that are each designed to improve future traffic operations and safety for the SR 65 corridor consistent with the purpose and need statement. Portions of the analysis results will also be used to comply with environmental impact analysis requirements for the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA).

1.2. Project Description

The proposed project is located on SR 65 in Placer County from the Galleria Boulevard/Stanford Ranch Road Interchange in Roseville to the Ferrari Ranch Road Interchange in Lincoln. Figure 1 shows the project vicinity and location map. The project would increase capacity for the SR 65 corridor with the following improvements.

- Widen southbound SR 65 from Blue Oaks Boulevard to Pleasant Grove Boulevard by one lane in the median
- Widen northbound and southbound SR 65 to add a lane to the outside at Pleasant Grove Boulevard
- Construct an auxiliary lane in each direction between Galleria Boulevard/Stanford Ranch Road and Pleasant Grove Boulevard, Blue Oaks Boulevard and Sunset Boulevard, and Placer Parkway/Whitney Ranch Parkway (a future interchange) and Twelve Bridges Drive
- Install ramp meters and widen ramps as needed to provide storage from Pleasant Grove Boulevard to Lincoln Boulevard

Along with the separate projects for the I-80/SR 65 interchange and the SR 65/Placer Parkway/Whitney Ranch Parkway interchange, auxiliary lanes ultimately would be provided between all interchanges on SR 65 between I-80 in Roseville and Lincoln Boulevard in Lincoln.

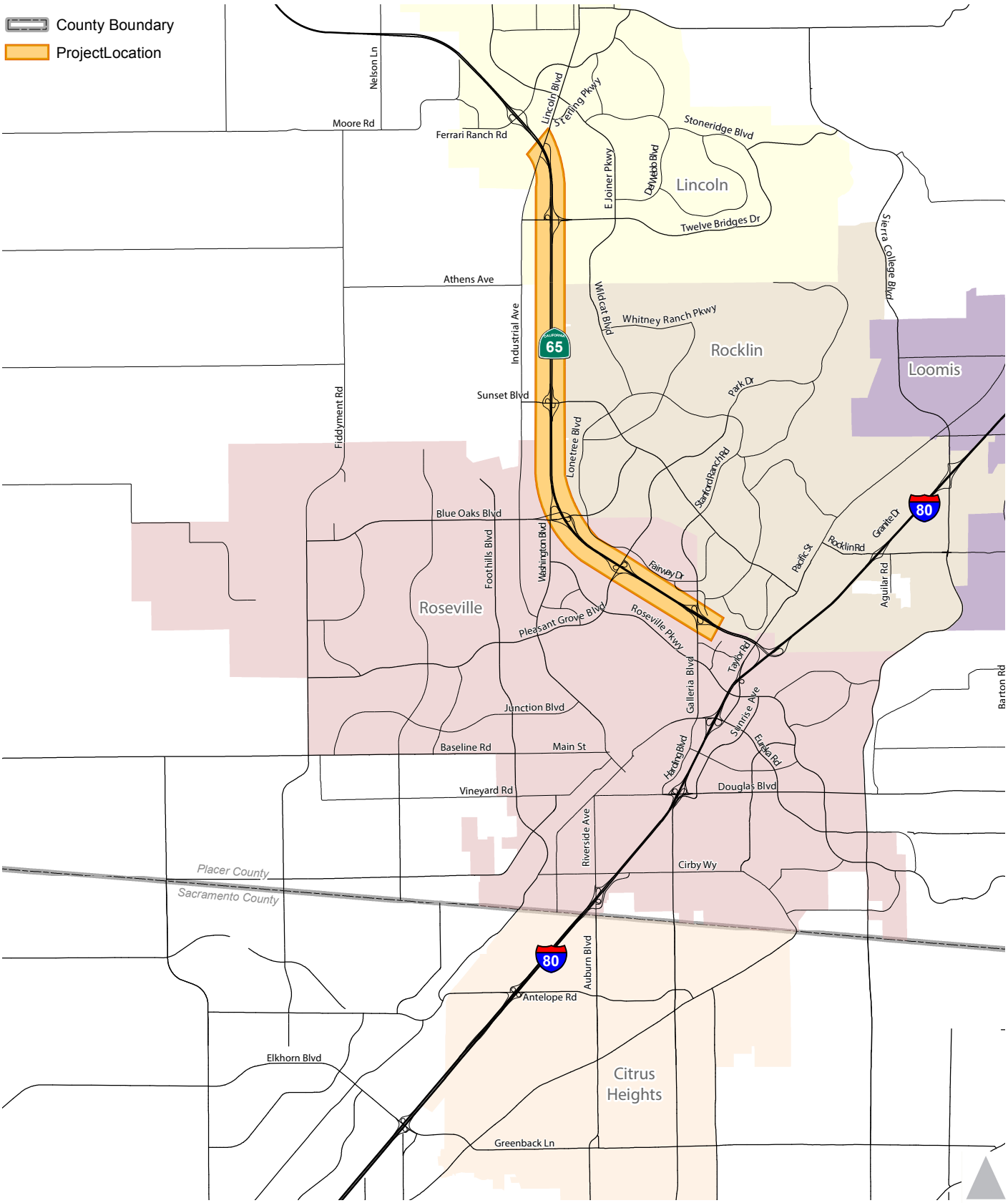

Figure 1

Project Vicinity

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1.3. Project Purpose and Need

The current purpose and need statement for the SR 65 Capacity and Operational Improvements project is provided below.

The primary purpose of this project is to relieve existing mainline congestion by adding additional mainline capacity. Adding additional capacity would help planned and anticipated growth along the corridor and would help achieve the mobility and economic development goals of the PCTPA. The project will improve traffic operations and safety in this segment of the highway.

The project is needed for the following reasons.

- Recurring morning and evening peak-period demand exceeds the current design capacity along SR 65, creating traffic operations and safety issues. These issues result in high delays and wasted fuel, all of which will be exacerbated by traffic from future population and employment growth.
- Projected growth along the SR 65 corridor in Roseville, Lincoln, Rocklin, and South Placer County will result in additional mainline congestion. This state route connects major regional routes and must operate efficiently in order to serve commuter traffic, goods movement, and regional traffic in South Placer County.

1.3.1. Logical Termini and Independent Utility

Project limits for proposed improvements were developed through an iterative process involving engineering design and traffic operations analysis. Preliminary design concepts were tested with the traffic operations analysis model to evaluate how lane transitions and weaving influenced peak hour conditions. Refinements were made to ensure that mainline lane balance was logical and that transitions did not cause unacceptable traffic operations such as extensive queuing or reduced speeds.

1.4. Project Alternatives

The project study report (PSR) evaluated two main build alternatives: widen to provide carpool or general purpose lanes between Roseville and Lincoln. Through an alternative assessment and screening process, the project development team (PDT) refined the alternatives and deferred the mainline widening north of Blue Oaks Boulevard to a separate future project. The final set of alternatives is listed below.

1. Carpool Lane
2. General Purpose Lane
3. No Build

Each of the alternatives is described below. See Figures 13, 14, and 15 for lane configuration details.

Both build alternatives would have the following three elements.

- An additional general purpose lane would be constructed to the outside in both directions at the Pleasant Grove Boulevard overcrossing to connect the existing auxiliary lanes between Pleasant Grove Boulevard and Blue Oaks Boulevard with future lanes to be built south of Pleasant Grove Boulevard under the separate I-80/SR 65 Interchange Improvements Phase 1 project.
- Auxiliary lanes would be constructed in both directions between Galleria Boulevard/Stanford Ranch Road and Pleasant Grove Boulevard, Blue Oaks Boulevard and Sunset Boulevard, and Placer Parkway/Whitney Ranch Parkway (a future interchange) and Twelve Bridges Drive.
- Ramp meters would be installed at all ramps in both directions from Pleasant Grove Boulevard to Lincoln Boulevard with some ramps widened to provide an HOV preferential lane or a second storage lane. See Section 5.1.3 for the recommended ramp meter configurations.

The Carpool Lane Alternative would widen southbound SR 65 in the median to provide a lane restricted to HOVs – carpools, vanpools, buses, motorcycles, or any non-truck vehicle with two or more occupants – during the AM and PM peak periods from just north of the Blue Oaks Boulevard westbound on-ramp to the Galleria Boulevard overcrossing. The lane is designed to fit with the ultimate configuration of the I-80/SR 65 Interchange, which has a median direct connector ramp from southbound SR 65 to westbound I-80. Under construction year conditions, the HOV restriction would end midway between Pleasant Grove Boulevard and Galleria Boulevard. A lane drop would be needed south of the Galleria Boulevard off-ramp to conform to the Phase 1 of the I-80/SR 65 Interchange Improvements project that is anticipated to be built by construction year conditions[1]. In the General Purpose Lane Alternative, the added southbound median lane would be open to all traffic. The median widening would end just after the Pleasant Grove Boulevard interchange under this alternative because no lane drop would be needed to conform to the I-80/SR 65 Interchange Phase 1 project improvements.

Under the No Build (or No Project) Alternative, no widening of the SR 65 mainline would be made at Pleasant Grove Boulevard or in the southbound direction between Blue Oaks Boulevard and Galleria Boulevard. Additionally, the auxiliary lanes at the three locations noted above would not be constructed. However, numerous transportation capacity expansion projects are planned to be constructed within the study area under construction year (2020) and design year (2040) conditions as displayed in Figures 2 and 3, respectively. In addition, the ramp meter installations are assumed to be provided under a separate project if one of the build alternatives is not built. All of these projects are assumed to be in place under

[1] Subsequent to the traffic analysis, the PDT determined that the initial phase of the Carpool Lane Alternative would not construct the southbound HOV lane to traffic until the I-80/SR 65 Interchange's ultimate phase was completed. Give the low HOV lane demand under construction year conditions, the analysis results without the HOV lane would be similar to the results presented in this report.

all alternatives. The Lincoln Bypass and the Eureka Road widening at Taylor Road are shown as future projects because the traffic data for existing conditions was collected before these project were completed. Please see Chapter 2 for further details.

1.5. **Design Options**

As mentioned above, the PSR considered widening of SR 65 from Roseville to Lincoln. When developing the initial set of project alternatives, the build alternatives included mainline widening throughout the project limits. In particular, the initial Carpool Lane Alternative had the additional mainline lane restricted to high-occupancy vehicles. The initial build alternatives were evaluated at a conceptual level. While the initial Carpool Lane Alternative showed lower travel time for HOVs, the delay for all vehicles in the network was higher. In addition, the design year peak hour demand volume in the carpool lane north of Sunset Boulevard was less than 1,000 vehicles per hour (vph). The Caltrans guideline that the carpool lane should have a peak hour volume of at least 800 vph within five years of construction would be difficult to meet for this segment. As a result, the full-length carpool lane alternative was dropped from further consideration. For further details, please see the technical memorandum on this topic in the Appendix.

The initial operations analysis using the Vissim software showed a bottleneck for the General Purpose Lane Alternative under design year AM peak hour conditions at Pleasant Grove Boulevard. As a result, a southbound through lane was added through the interchange. This lane would connect the auxiliary lanes on either side of the Pleasant Grove Boulevard interchange (see Figure 14 for the final configuration).

For the Carpool Lane Alternative, the initial operations analysis showed a bottleneck in the northbound direction at Blue Oaks Boulevard during the design year PM peak hour. At the Blue Oaks Boulevard overcrossing, northbound SR 65 was two general purpose lanes and an HOV lane compared to three general purpose lanes with the other build alternative.

To comply with air quality conformity and funding limitations, the build alternatives were modified to defer mainline widening into the median to a separate project. In the southbound direction, mainline inside widening was dropped north of the Blue Oaks Boulevard westbound on-ramp. In the northbound direction, all mainline widening into the median was removed. The inside widening is assumed to occur as a separate project to construct a general purpose lane by the 2040 design year.

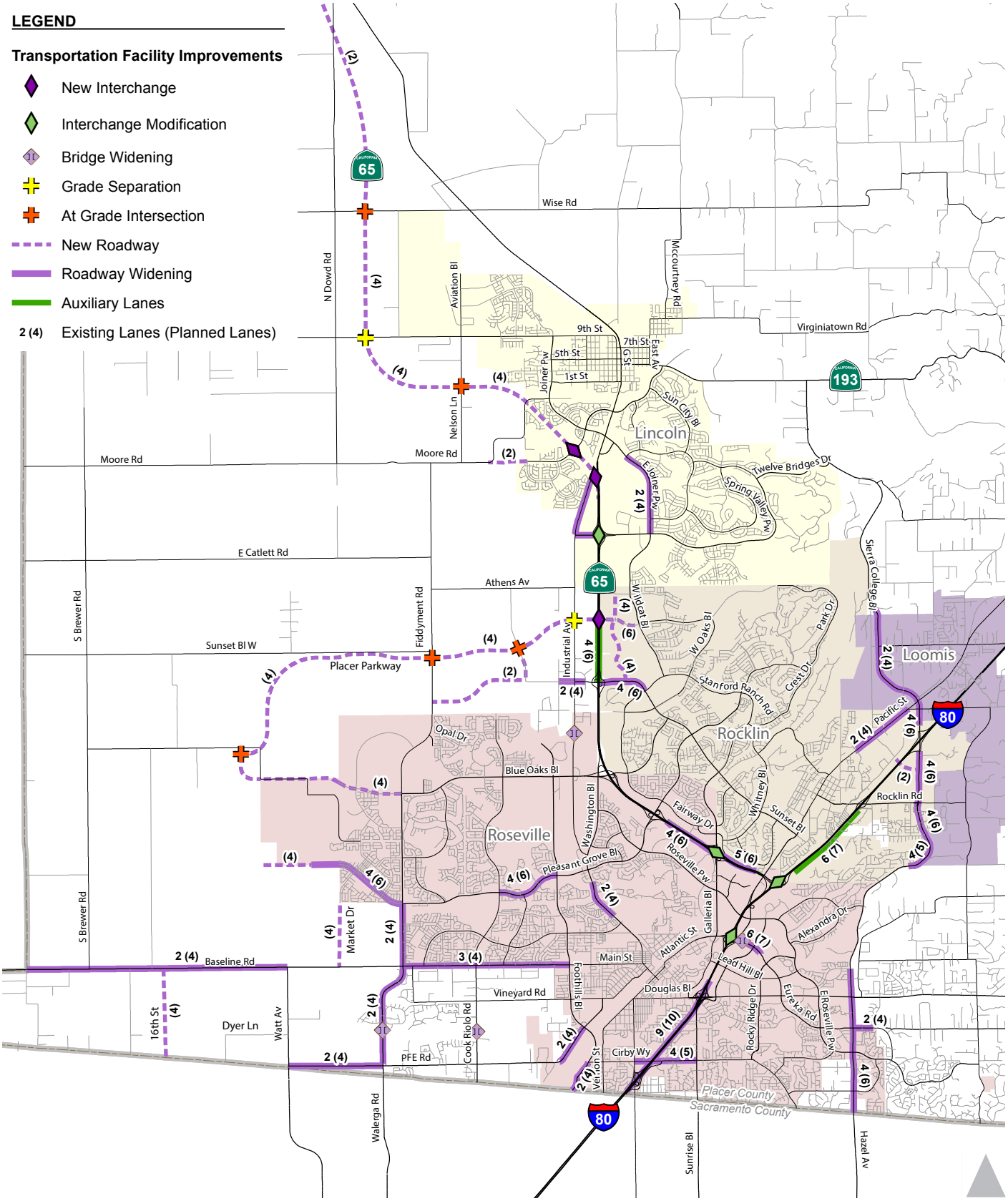

Figure 2

Roadway Improvements Assumed to be Constructed by 2020

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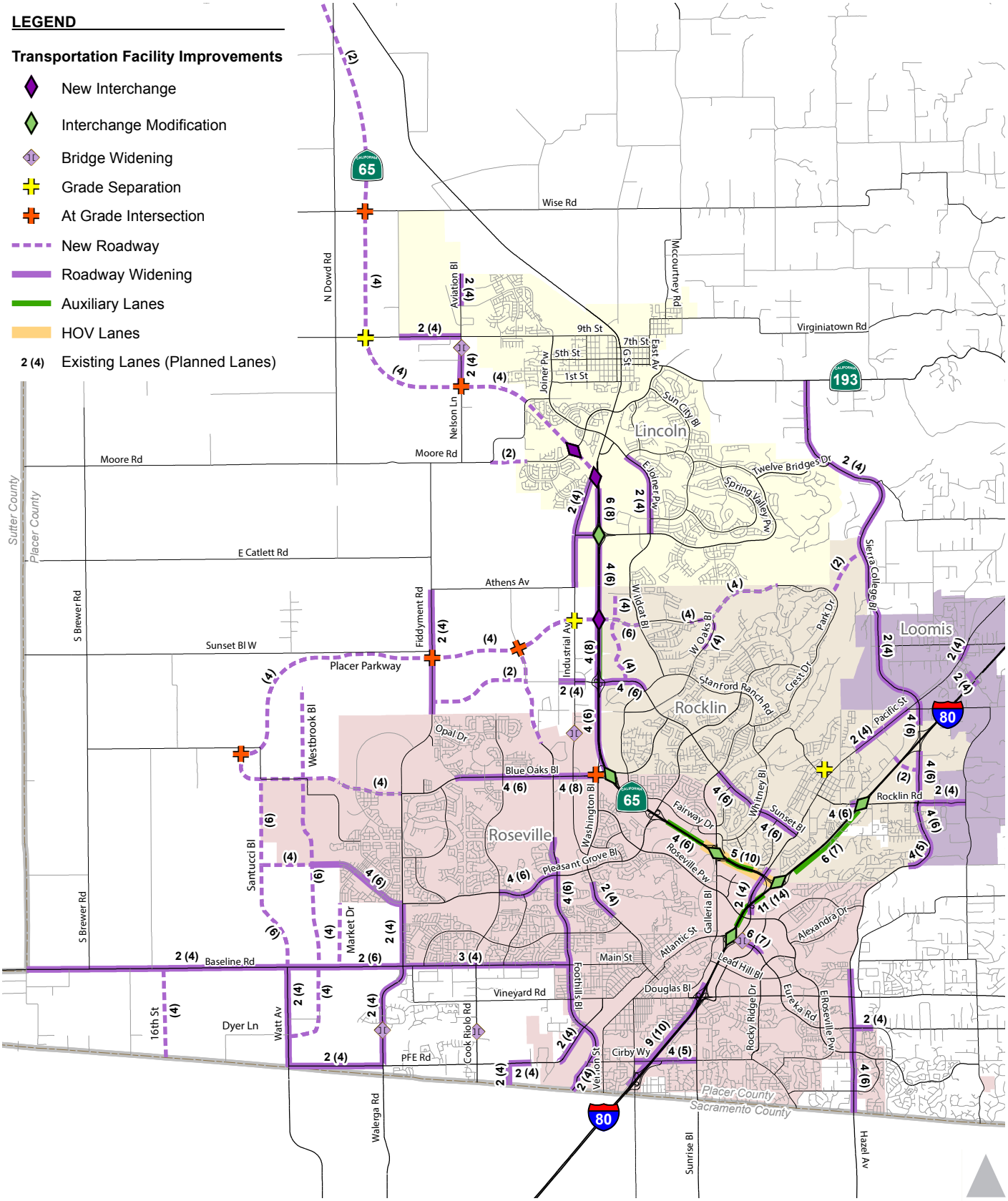

Figure 3

Roadway Improvements Assumed to be Constructed by 2040

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An alternate configuration for the final Carpool Lane Alternative was tested. In this option, the lane addition starting just upstream of the Blue Oaks Boulevard westbound on-ramp would be a general purpose lane. The carpool lane would start downstream of the Blue Oaks Boulevard eastbound on-ramp. This configuration was evaluated under construction year conditions during the AM peak period. Both the regular and alternate configurations showed acceptable operations. Under design year conditions, the two configurations would be the same since the separate median widening project would construct the additional lanes. The option with the carpool lane starting farthest north was retained so that vehicles eligible for the carpool lane would have an advantage and to allow for the option of the future median widening to be a carpool lane.

Chapter 2. Analysis Methodology

2.1. **Study Area**

The project study area for transportation analysis extends beyond the immediate vicinity of the SR 65 corridor as shown in Figure 4. The larger study area for transportation analysis purposes was based on two key factors.

1. The area needed to be large enough to capture the influence of potential changes along the SR 65 corridor. This was determined through field observations and travel forecasting analysis that assessed traffic volume changes associated with the project's general purpose and carpool lane changes. This information revealed peak period traffic operations on SR 65 influence upstream and downstream conditions through multiple local interchanges and the adjacent I-80 corridor.

2. The Placer County Transportation Planning Agency (PCTPA) developed a travel forecasting and traffic operations model for the I-80/SR 65 Interchange Improvements project that would be used for future projects such as SR 65 Capacity and Operational Improvement project.

Depending on the analysis scenario, up to 155 individual analysis locations are included in the study area. These locations consist of freeway mainline segments, freeway ramp junctions, freeway weaving areas, and intersections. For a complete listing of all analysis locations, refer to the Technical Appendix.

2.2. **Data Collection Methods**

This section describes the data that were collected for use in the traffic analysis.

2.2.1. Geometric Data

Roadway geometric data were gathered using aerial photographs, design plans (for the I-80 carpool lane project through the City of Roseville), and field observations. The lane configurations that were taken initially from aerial photographs were confirmed or revised based on field observations.

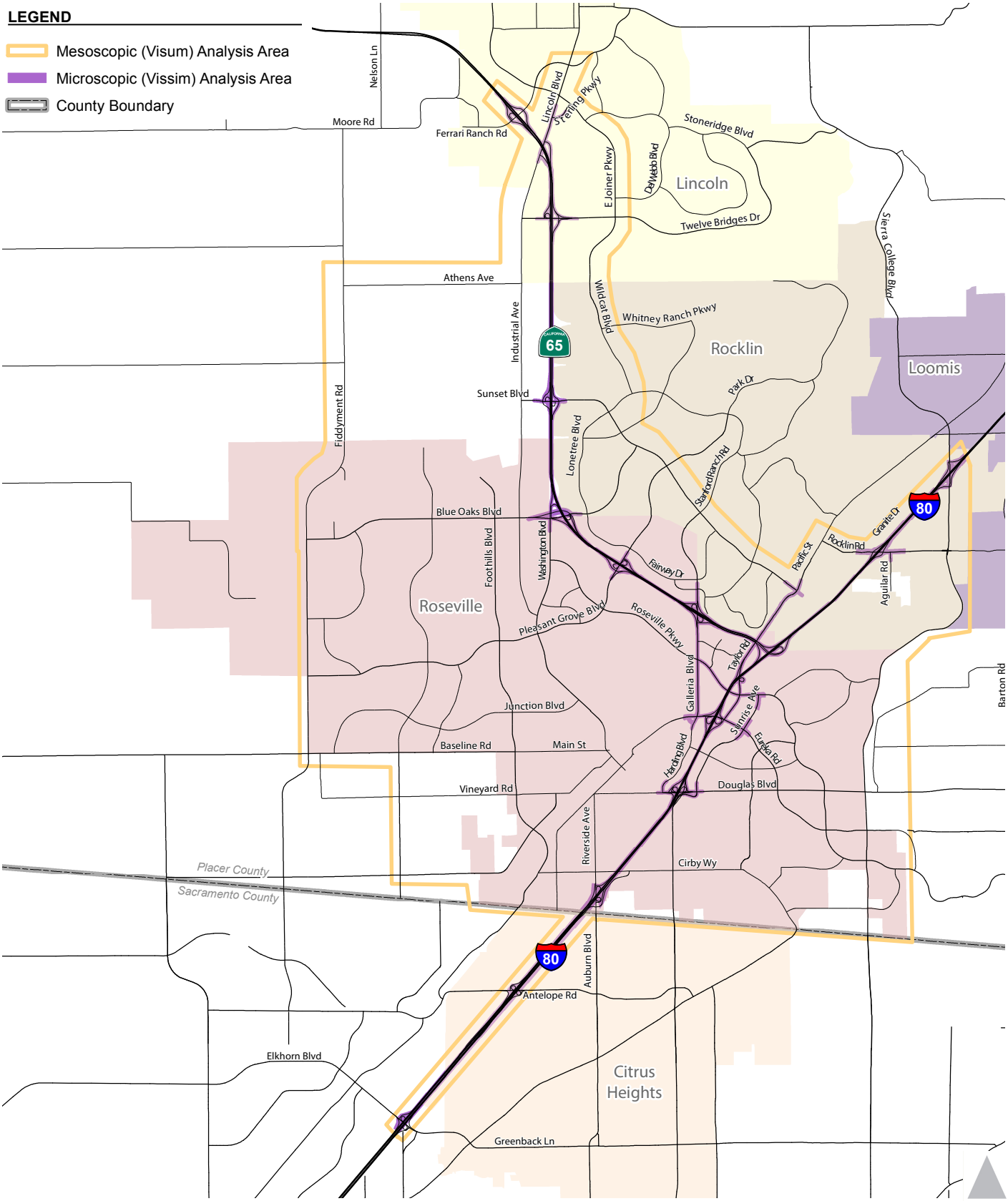

Figure 4

Study Area

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2.2.2. Traffic Control Data

Traffic control data (i.e., signal phasing/timings) were provided by the responsible operating agencies including Caltrans, the City of Roseville, the City of Rocklin, and Placer County. The Caltrans Traffic Operations Sacramento Area office provided timing information for the ramp meters that were operating when the traffic counts were collected. The posted speed limits for the network were collected during field observations.

Traffic signals are modeled as either free operation or coordinated according to the control plans specified in the controller. Traffic control at unsignalized intersections were taken from aerial photographs and confirmed during field observations.

2.2.3. Traffic Flow Data

Freeway and intersection traffic counts were collected in 15-minute intervals for the 6 to 10 AM and 3 to 7 PM peak periods during January and February 2012. At intersections, cars, trucks, bicycles, and pedestrians were counted by turning movement. For freeways, traffic counts include vehicle classification by number of occupants for passenger cars and vehicle type. Table 1 contains the hourly HOV and truck percentages at the freeway gateway locations from the traffic counts (complete traffic count data are contained in the Technical Appendix).

TABLE 1: HOURLY HOV AND TRUCK PERCENTAGE

Hour	Eastbound I-80 at Riverside Ave		Westbound I-80 at Sierra College Blvd		Southbound SR 65 at Twelve Bridges Dr	
	HOV	Truck	HOV	Truck	HOV	Truck
6 to 7 AM	12.4%	7.9%	11.6%	3.8%	13.1%	1.8%
7 to 8 AM	13.7%	3.7%	10.7%	3.8%	10.5%	1.4%
8 to 9 AM	15.6%	4.0%	13.9%	5.2%	14.8%	1.1%
9 to 10 AM	18.3%	5.3%	18.1%	5.9%	19.0%	2.2%
3 to 4 PM	20.0%	3.2%	24.3%	7.5%	31.1%	1.7%
4 to 5 PM	19.2%	2.6%	24.5%	5.1%	26.6%	0.9%
5 to 6 PM	13.9%	2.2%	18.8%	5.1%	31.0%	1.0%
6 to 7 PM	12.7%	2.8%	17.1%	5.2%	29.5%	1.5%

Source: Fehr & Peers, 2015

2.2.4. Travel Time Data

Travel time surveys were conducted during the same day of the mainline counts using global positioning system (GPS) units. The following routes were traveled for a minimum of every 15 minutes during the morning and evening peak periods.

- Southbound SR 65 at Blue Oaks Boulevard to westbound I-80 at Elkhorn Boulevard
- Eastbound I-80 at Elkhorn Boulevard to northbound SR 65 at Blue Oaks Boulevard
- Westbound I-80 from Sierra College Boulevard to Elkhorn Boulevard
- Eastbound I-80 from Elkhorn Boulevard to Sierra College Boulevard

2.3. Travel Forecasting Methodology

The transportation analysis used an integrated modeling approach that has three different levels of detail: macro, meso, and micro. At the macro level, the regional travel forecasting model (SACMET) was used to forecast peak period origin-destination (OD) traffic volume flows between traffic analysis zones both internal and external to the study area. At the meso level, the peak period OD flows were divided into four one-hour trip tables and disaggregated into three modes – single occupant vehicle (SOV), HOV, and truck – and then assigned to the sub-area roadway network using the Visum software. The assignment process was based on congested travel times that reflect roadway link speeds and capacity. At the micro level, the traffic volumes were converted to individual vehicles that were assigned to the operational study area using the Vissim software that contains detailed inputs governing traffic controls (signal timings), geometrics (lane configurations), and driver behavior.

The traffic forecasts were developed using the first two modeling platforms (macro and meso). The first platform is a modified version of the regional SACMET model developed by the Sacramento Area Council of Governments (SACOG) for the Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategy (SCS). The second platform is the Visum sub-area trip assignment model, which was used to assign the trips generated from the SACMET model to a detailed roadway network within the study area. Figure 4 above shows the mesoscopic and microscopic analysis areas.

The SACMET and Visum models were calibrated and validated according to the *2010 California Regional Transportation Guidelines (*California Transportation Commission, 2010) and criteria approved by the PDT. Both models passed applicable static and dynamic validation tests. The detailed validation results are contained in Chapter 4 of the *I-80/SR 65 Interchange Improvements Transportation Analysis Report* (August 2014).

Traffic volume forecasts were developed for construction year (2020) and design year (2040) conditions. The forecasts relied on modified inputs to the MTP/SCS SACMET model based on refinements by the I-80/SR 65 Interchange Improvements PDT to land use projections and the planned roadway network as explained below.

2.3.1. Socioeconomic Forecasts

The traffic volume forecasts are derived from future socioeconomic projections that started with regional socioeconomic projections developed by SACOG for the regional MTP/SCS. These were reviewed by the I-80/SR 65 Interchange Improvements PDT and modified to better reflect local plans. Figure 5 displays the final growth projections within the study area. Socioeconomic projections are the largest single influence on traffic volume forecasts, so they will affect volume projections to a greater extent than the roadway network changes or any other modeling component. If these forecasts vary in reality, it will have a direct effect on future traffic volumes.

2.3.2. Planned Transportation Network

The traffic volume forecasts (and operations analysis) are influenced by modifications to the existing transportation network according to improvement projects anticipated to be constructed by the construction and design years (refer to Figures 2 and 3). These projects are based on the financially constrained project list contained in the MTP/SCS, but also consider projects the I-80/SR 65 Interchange Improvements PDT agreed would likely be constructed by the design year. The rationale for adding projects to the MTP/SCS list was that the design year is five years beyond the 2035 horizon of the MTP/SCS. This creates a longer timeframe for revenue to accumulate. Further, the additional socioeconomic growth added to the model would also be contributing to transportation revenue to help pay for these improvements.

A list of the planned projects is provided in Table 2. Related projects are shown in bold. The SR 65/Galleria Boulevard Interchange Improvements Phase II project area overlaps with the Stanford Ranch Road/SR 65 Northbound Ramps project. For this analysis, the Phase II project is assumed to cover only improvements at the Stanford Ranch Road/Fairway Drive intersection (a third northbound through lane and a northbound right-turn lane). Descriptions of the projects located in the analysis area are provided below.

As discussed above, the separate project to widen into the median north of Blue Oaks Boulevard in the southbound direction and north of Pleasant Grove in the northbound direction was originally part of the proposed project. The forecasts for design and construction years were developed with these definitions of the project alternatives. To minimize disruption to the project development process, the forecasts were not updated when the build alternatives were revised since the design year network changes would be minor for the build alternatives and would generate higher volumes for the no build alternative. So,

revising the forecasted volumes would have shown about the same impacts for the build alternatives and worse conditions for the no build alternative. This outcome was verified with a test of the forecast models.

The unadjusted forecast model volumes were prepared for the final project alternatives and compared with the original unadjusted model volumes. For Alternative 1, the AM and PM peak hour volumes were less than 100 vph higher between Stanford Ranch Road/Galleria Boulevard and Pleasant Grove Boulevard in both directions. For Alternative 2, the AM and PM peak hour volumes at the same location were about 100 vph lower in the southbound direction and less than 50 vph lower in the northbound direction. The differences are largely due to changes in location of the HOV lane.

For the No Build Alternative, the volume difference in the southbound direction was similar to the differences for Alternative 1. In contrast, the northbound direction had much higher volumes – 550 to 750 vph higher during the AM and PM peak hours, respectively. These higher volumes would generate even worse levels of congestion than are reported below in Chapter 5.

2.4. **Traffic Operations Analysis Methodology**

Because the study area already experiences peak period congestion, which is forecast to worsen, the traffic operations analysis required the use of simulation-based analysis. A congested network is very sensitive to any change in capacity or demand and the analysis tools need to be able to capture how changes in one location of the network affect the overall performance. Therefore, a Vissim traffic simulation model was developed as follows.

- The model was constructed from roadway network (lane configuration), traffic volume (traffic counts), and traffic control (traffic signal and ramp meter) data.
- Additional detail was incorporated into the Vissim network (posted speed limits, grades, etc.) to reflect observed field conditions.

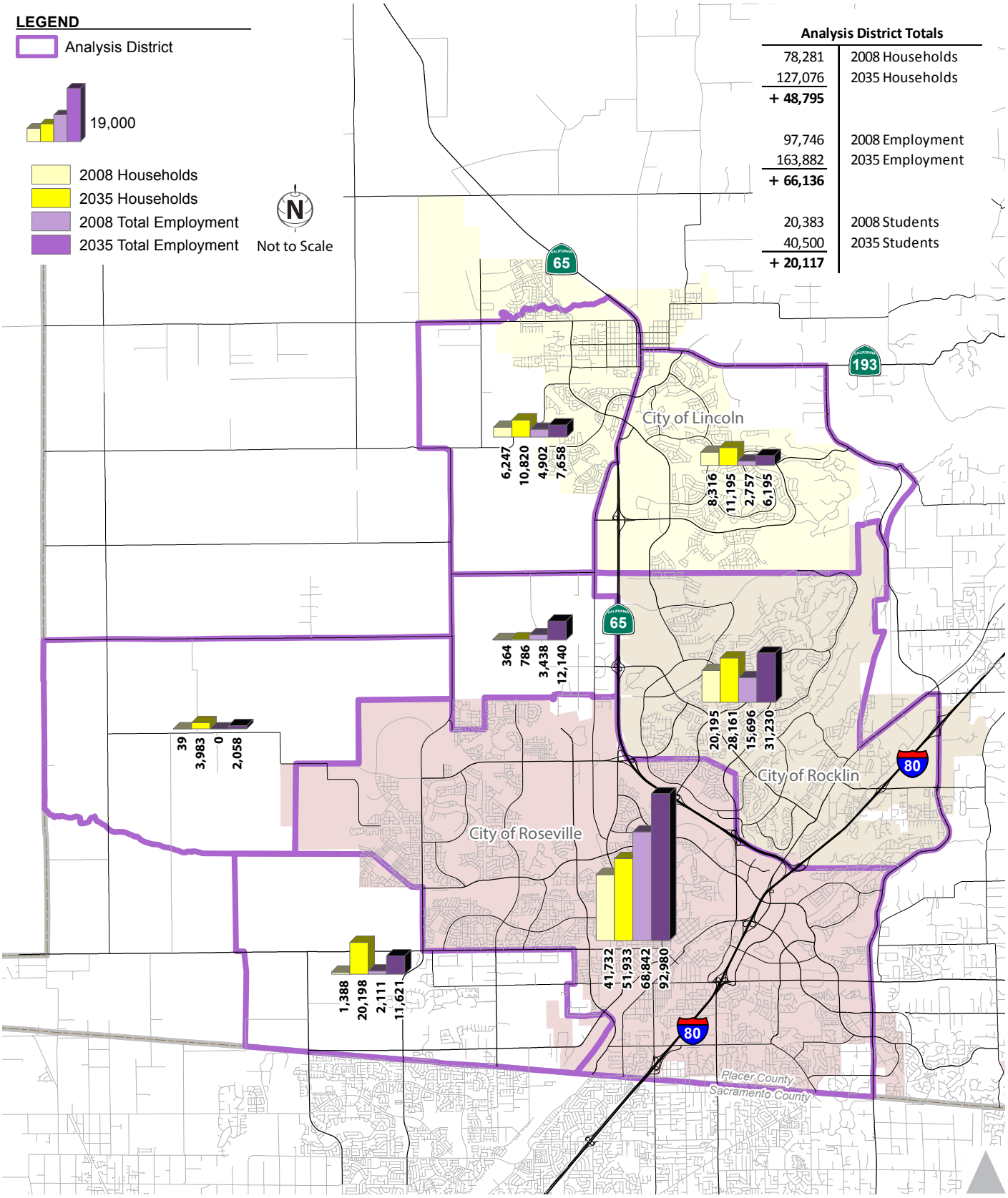

Figure 5

Modified SACMET Land Use Summary by Analysis District

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TABLE 2: PLANNED SEPARATE PROJECTS	
Category	**Project**
Complete by 2020 (Construction Year)	• Atkinson St: widen from 2 to 4 lanes from Foothills Blvd to south of Dry Creek • Baseline Rd: widen from 3 to 4 lanes from Brady Ln to Fiddyment Rd • Baseline Rd: widen from 2 to 4 lanes from Fiddyment Rd to Watt Ave • Baseline Rd: widen from 2 to 4 lanes from Watt Ave to (future) 16th St • Baseline Rd: widen from 2 to 4 lanes from (future) 16th St to county line • Blue Oaks Blvd: construct 4 lanes from Fiddyment Rd to Hayden Pkwy and 2 lanes from Hayden Pkwy to Westbrook Blvd • Blue Oaks Blvd: widen from 2 to 4 lanes from Hayden Pkwy to Westbrook Blvd and construct 4 lanes from Westbrook Blvd to Santucci Blvd • Blue Oaks Blvd/Washington Blvd widening • Cirby Way: widen from 4 to 5 lanes from Riverside Ave to Regency Ave • Cook Riolo Rd: widen from 1 to 2 lanes Dry Creek Bridge • Domiguez Rd: construct 2 lanes from Granite Dr to Sierra College Blvd • East Joiner Pkwy: widen from 2 to 4 lanes from Del Webb Pkwy to Twelve Bridges Dr • Eureka Rd: widen from 2 to 4 lanes from Sierra College Blvd to city limits • Ferrari Ranch Rd: construct 2 lanes from city limit to Moore Rd • Fiddyment Rd: widen to 4 lanes from Pleasant Grove Blvd to Baseline Rd • I-80/Eureka Rd On-ramp Improvements • **I-80/SR 65 Interchange Improvements Phase 1** • Industrial Ave: widen from 2 to 4 lanes from SR 65 to Twelve Bridges Dr • Industrial Ave: replace 2 lane bridge at Pleasant Grove Creek • Market St: construct 2 lanes from Baseline Road to Pleasant Grove Blvd • Pacific St: widen to 4 lanes from Sierra Meadows Dr to Loomis town limits • PFE Rd: widen from 2 to 4 lanes from Watt Ave to Walerga Rd • **Placer I-80 Auxiliary Lanes: Eastbound Auxiliary Lane and Westbound 5th Lane Alternative** • Placer Pkwy: construct 4-lane expressway from SR 65 to Santucci Blvd • Pleasant Grove Blvd: widen from 4 to 6 lanes from Foothills Blvd to Woodcreek Oaks Blvd • Pleasant Grove Blvd: widen from 2 to 4 lanes from Fiddyment Road to Santucci Blvd • Rocklin Rd: widen from 4 to 6 lanes from Granite Dr to I-80 Westbound Ramps • Roseville Rd: widen from 2 to 4 lanes from city limits to Cirby Way • Santucci Blvd: construct 4 lanes from Baseline Road to Blue Oaks Blvd • Sierra College Blvd: widen to 6 lanes from county line to Olympus Dr • Sierra College Blvd: widen from 4 to 5 lanes from Nightwatch Dr to Aguilar Tributary • Sierra College Blvd: widen from 4 to 6 lanes from Aguilar Tributary to I-80 • Sierra College Blvd: widen from 4 to 6 lanes from Granite Dr to Bankhead Rd • Sierra College Blvd: widen from 2 to 4 lanes from Taylor Rd to north town limits • SR 65 Lincoln Bypass – Phase 1 & 2A • SR 65/Ferrari Ranch Rd Interchange • SR 65/Whitney Ranch Pkwy: construct interchange • **Stanford Ranch Road/Northbound SR 65 Ramps** • Sunset Blvd: construct 2 lanes from Fiddyment Rd to Foothills Blvd • Sunset Blvd: widen from 2 to 4 lanes from Cincinnati Ave to SR 65 • Sunset Blvd: widen to 6 lanes from SR 65 to West Stanford Ranch Rd • Twelve Bridges Dr: widen from 2 to 4 lanes from Industrial Ave to SR 65 including interchange • University Ave: construct 4 lanes from Sunset Blvd to Ranch View Dr • Walerga Rd: widen from 2 to 4 lanes from Baseline Rd to county line • Washington Blvd: widen to 4 lanes from Sawtell Rd to Pleasant Grove Blvd • Whitney Ranch Pkwy: construct 6 lanes from SR 65 to east of Wildcat Blvd

TABLE 2: PLANNED SEPARATE PROJECTS	
Category	**Project**
Complete by 2035	• Aviation Blvd: widen from 2 to 4 lanes from Venture Dr to 0.5 mi north of Venture Dr • Dyer Ln: construct 4 lanes from Watt Ave to Baseline Rd • Fiddyment Rd: widen from 2 to 4 lanes from Roseville city limits to Athens Rd • Foothills Blvd: construct 2 lanes from Roseville city limits to Sunset Blvd • I-80/Horseshoe Bar Rd Interchange: widen overcrossing from 2 to 4 lanes • I-80/Rocklin Rd Interchange improvements • Industrial Ave: widen from 2 to 4 lanes from Twelve Bridges Dr to Athens Ave • Nicolaus Rd: widen from 2 to 4 lanes from Airport Rd to Aviation Blvd • Midas Ave: construct grade separation at UPRR • Rocklin Rd: widen from 2 to 4 lanes from Sierra College Blvd to Loomis town limits • Rocklin Rd: widen from 2 to 4 lanes from west Loomis town limits to Barton Rd • North Antelope Rd: widen from 2 to 4 lanes from county line to PFE Rd • Sierra College Blvd: widen from 2 to 4 lanes from SR 193 to Loomis town limits • Sierra College Blvd: widen to 4 lanes from (future) Valley View Pkwy to Loomis town limits • SR 65/Blue Oaks Blvd Interchange Improvements • **SR 65/Galleria Blvd Interchange Improvements (Phase II)**[1] • Sunset Blvd: widen from 4 to 6 lanes from Stanford Ranch Rd to Topaz Ave • Sunset Blvd: widen from 4 to 6 lanes from Topaz Ave to Whitney Blvd • Sunset Blvd: widen from 4 to 6 lanes from Whitney Blvd to Pacific St • Taylor Rd: widen from 2 to 4 lanes from Horseshoe Bar Rd to King Rd • Valley View Pkwy: construct 2 lanes from Park Dr to Sierra College Blvd • West Oaks Blvd: construct 4 lanes from terminus to (future) Whitney Ranch Pkwy • Whitney Ranch Pkwy: construct 4 lanes from terminus to Whitney Oaks Dr • Watt Ave: widen from 2 to 4 lanes from Baseline Rd to county line
Assumed to be Complete by 2040 (Design Year)	• Baseline Rd: widen from 4 to 6 lanes from Fiddyment Rd to Watt Ave • Blue Oaks Blvd: widen to 6 lanes from Crocker Ranch Rd to Foothills Blvd • Blue Oaks Blvd: widen to 8 lanes from Foothills Blvd to Washington Blvd • Foothills Blvd: widen to 6 lanes from Cirby Way to Misty Wood Dr • **I-80/SR 65 Interchange Improvements: Collector-Distributor System Ramps Alternative** • Nelson Ln: widen from 2 to 4 lanes from SR 65 (Lincoln Bypass) to Nicolaus Rd • PFE Rd: widen from 2 to 4 lanes from North Antelope Rd to Roseville city limits • Santucci Blvd: construct 6 lanes from Baseline Road to Blue Oaks Blvd • **SR 65 Widening from Pleasant Grove Blvd to Ferrari Ranch Rd** • Taylor Rd: widen from 2 to 4 lanes from Roseville Pkwy to I-80 • Taylor Rd: widen from 2 to 4 lanes from I-80 to city limits • Westbrook Blvd: construct new road from Baseline Rd to Pleasant Grove Blvd • Westbrook Blvd: construct new road from Pleasant Grove Blvd to Blue Oaks Blvd • Westbrook Blvd: construct new road from Blue Oaks Blvd to city limits
Note: 1. Stanford Ranch Road/Fairway Drive improvements only. Sources: SACOG, 2012 and Fehr & Peers, 2015	

- Driver behavior parameters were adjusted based on field observations.
- The distribution of vehicle types was calibrated to local conditions so that the percentages of trucks and HOVs match the traffic counts.

The Vissim model was validated to existing conditions using the criteria contained in *Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulation Modeling Software* (Federal Highway Administration, 2004). The default Vissim parameters for geometrics and driver behavior were iteratively adjusted until the model was validated to observed conditions (refer to the Technical Appendix for a complete summary of the Vissim model validation). Since microsimulation models, like Vissim, rely on the random arrival of vehicles, multiple runs are needed to provide a reasonable level of statistical accuracy and validity. Therefore, the results of 10 separate runs (each using a different random seed number) were averaged to determine the final results.

The calibrated and validated model was used to generate a variety of traffic operations performance measures including person throughput, vehicle throughput, vehicle delay, passenger car density, travel time, speed, and percent demand served. Some of these measures were used to determine level of service (LOS) values for analysis locations consistent with the methodology contained in the *Highway Capacity Manual* (HCM) (Transportation Research Board, 2011).

The HCM methods use quantitative performance measures to determine LOS for analysis locations under AM and PM peak hour conditions. LOS is a qualitative measure of traffic operations from a driver's perspective, which varies from LOS A (the best) to LOS F (the worst), and is one of the main evaluation criteria for this study. Tables 3 and 4 describe the LOS thresholds from the HCM for freeway sections and signalized intersections, respectively.

To analyze construction year and design year conditions, Vissim models were built for each alternative based on the calibrated/validated existing conditions model. The network changes for each alternative were coded into the respective models. All models included separately planned projects (listed in Table 2) that were located in the microsimulation analysis area.

The roadway assumptions for the separately planned projects are listed below.

- Blue Oaks Boulevard Widening (design year only) – widening of the eastbound approach to Washington Boulevard to four lanes
- Blue Oaks Boulevard/Washington Boulevard Widening – widening of Washington Boulevard to provide a second northbound right turn pocket lane

TABLE 3: FREEWAY LOS THRESHOLDS			
LOS	Average Density (vplpm)		Description
	Basic Sections	Ramp Junction & Weave Sections	
A	< 11	< 10	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver.
B	> 11 to 18	> 10 to 20	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.
C	> 18 to 26	> 20 to 28	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.
D	> 26 to 35	> 28 to 35	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.
E	> 35 to 45	> 35 to 43	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.
F	> 45	> 43	Represents a breakdown in flow.
Notes: vplpm = vehicles per lane per mile Source: Fehr & Peers, 2015			

TABLE 4: SIGNALIZED INTERSECTION LOS THRESHOLDS		
LOS	Average Delay (sec/veh)	Description
A	< 10	Very low delay occurs with favorable progression and/or short cycle length.
B	> 10 to 20	Low delay occurs with good progression and/or short cycle lengths.
C	> 20 to 35	Average delays result from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.
D	> 35 to 55	Longer delays occur due to a combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop and individual cycle failures are noticeable.
E	> 55 to 80	High delay values indicate poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.
F	> 80	Delays are unacceptable to most drivers due to over-saturation, poor progression, or very long cycle lengths.
Notes: sec/veh = seconds per vehicle Source: Fehr & Peers, 2015		

- I-80/Eureka Road On-ramp Improvements – widening westbound Eureka Road from Sunrise Avenue to Taylor Road and the westbound to eastbound on-ramp to I-80 (project completed in 2013)
- I-80/Rocklin Road Interchange (design year only) – widening Rocklin Road to six lanes from Granite Drive to Aguilar Road, with dual left-turn lanes eastbound at Granite Drive, westbound at westbound I-80, and eastbound at eastbound I-80[2]
- I-80/SR 65 Interchange Improvements Phase 1 (construction year only) – adding a lane to the westbound I-80 to northbound SR 65 connector ramp, the northbound SR 65 mainline from the I-80 westbound connector ramp to Pleasant Grove Boulevard, and the southbound SR 65 mainline from the Pleasant Grove Boulevard westbound on-ramp to the Galleria Boulevard overcrossing[3]
- I-80/SR 65 Interchange Improvements (design year only) – reconfiguring the interchange to provide a direct connector for the eastbound to northbound movement, widening of all connector ramps by one lane, adding median HOV-only connector ramps from eastbound to northbound and southbound to westbound, widening of SR 65 from I-80 to Pleasant Grove Boulevard, widening of Taylor Road to four lane between Roseville Parkway and the Rocklin city limits, adding a collector-distributor roadway on eastbound I-80 between Eureka Road and SR 65, and widening of westbound I-80 between SR 65 at Atlantic Street
- Placer I-80 Auxiliary Lanes – adding a fifth lane to westbound I-80 from the westbound Douglas Boulevard off-ramp to the Riverside Avenue northbound on-ramp, adding an eastbound I-80 lane from the lane drop east of SR 65 to the deceleration lane at the Rocklin Road off-ramp, and widening of the Rocklin Road eastbound off-ramp to two lanes
- Stanford Ranch Road/SR 65 Northbound Ramps – reconfiguring the northbound ramp terminal intersection to control all movements at the signal and adding a second northbound left-turn lane, a third northbound through lane, a second eastbound right-turn lane, and a southbound right turn pocket lane
- SR 65 Lincoln Bypass Phase 1 – realigning SR 65 and constructing the Lincoln Boulevard and Ferrari Ranch Road interchanges (project completed in 2013)
- SR 65/Twelve Bridges Drive Interchange – widening Twelve Bridges Drive from one to two through lanes in both directions, widening the southbound off-ramp to provide a second left-turn pocket lane, and widening the northbound on-ramp to provide an HOV preferential lane

[2] This configuration is based on one of the alternatives developed for the I-80/Rocklin Road Interchange PSR. In the meantime, the City of Rocklin has moved ahead with plans to construct a roundabout at Rocklin Road/Granite Drive by the construction year of 2020. Since this occurred after the start of this project, the planned roundabout is not included.

[3] Funding for this project was secured after the forecasts were prepared, so the project is only included in the Vissim operational models.

- SR 65/Placer Parkway/Whitney Ranch Parkway Interchange – constructing a partial cloverleaf interchange with connections to Whitney Ranch Parkway to the east and Placer Parkway to the west and auxiliary lanes to and from Sunset Boulevard to the south
- SR 65 Widening from Pleasant Grove Boulevard to Ferrari Ranch Road (design year only) – widening to provide an additional general purpose lane northbound from south of Pleasant Grove Boulevard off-ramp to Ferrari Ranch Road and southbound from Ferrari Ranch Road to south of the Blue Oaks Boulevard off-ramp[4]
- Sunset Boulevard Widening (design year only) – widening of Sunset Boulevard at Pacific Street to provide a third northbound and eastbound left-turn lanes and a second southbound right-turn lane.

2.5. **Evaluation Criteria**

The analysis evaluation criteria from the I-80/SR 65 Interchange Improvements project are applied to this project since the study area is the same. The criteria were developed in collaboration with the PDT because the project has the potential to affect traffic operations across multiple jurisdictions. The main criteria used for this study is LOS as described below since each affected agency has establish policies and thresholds related to LOS expectations.

According to the *Interstate 80 and Capital City Freeway Corridor System Management Plan* and the *State Route 65 Corridor System Management Plan* (Caltrans District 3, May 2009), Caltrans has identified the route concept LOS for the following segments.

- LOS F for I-80 from Riverside Avenue/Auburn Boulevard to Sierra College Boulevard
- LOS F for SR 65 from I-80 to Blue Oaks Boulevard
- LOS E for SR 65 from Blue Oaks Boulevard to Industrial Avenue (Lincoln Boulevard)

LOS E conditions are desired when feasible but LOS F conditions are likely to occur in the study area under no build conditions as recognized by the concept LOS thresholds. The LOS E threshold will be used to identify minimum acceptable operations (that is, deficiencies) and potential impacts to State highway mainline segments, ramp junctions, and weaving segments. For locations with LOS F under the no build condition, an impact would occur if the project alternatives would worsen the LOS F condition based on the quantitative performance measure associated with the specific type of analysis.

[4] This project was originally part of the SR 65 Capacity and Operational Improvements project. The project was assumed to be a general purpose lane to be consistent with the initial operations analysis, which had a general purpose lane for most of the project length.

For study intersections within the City of Lincoln, the City of Lincoln General Plan (Adopted March 2008) contains the following LOS policies:

- Strive to maintain a LOS C at all signalized intersections in the City during the PM peak hours.
- The City shall coordinate with Caltrans in order to strive to maintain a minimum LOS "D" for SR 65 and SR 193.

With the construction of the SR 65 bypass, the analysis locations on Lincoln Boulevard in Lincoln are local intersections. As a result, LOS C will serve as the minimum acceptable LOS for the intersections on Lincoln Boulevard and Twelve Bridges Drive for both AM and PM peak hours.

For study intersections within the City of Roseville, the City of Roseville General Plan (Adopted May 5, 2010) LOS policy states:

- Maintain a level of service (LOS) "C" standard at a minimum of 70 percent of all signalized intersections and roadway segments in the City during the PM peak hours.

Some of the study intersections are shown in the General Plan to operate at worse than LOS C under 2025 conditions. For this project, the following criteria are proposed.

- For intersections shown to be operating at LOS C or better in the General Plan under 2025 conditions, LOS C will be used as the minimum acceptable LOS.
- For intersections shown to be operating at LOS D in the General Plan under 2025 conditions, LOS D will be used as the minimum acceptable LOS.
- For intersections shown to be operating at LOS E in the General Plan under 2025 conditions, LOS E will be used as the minimum acceptable LOS.
- For intersections shown to be operating at LOS F in the General Plan under 2025 conditions, LOS F and the corresponding delay will be used as the minimum acceptable LOS.

Using the above criteria, the Stanford Ranch Road/SR 65 Northbound Ramps, Galleria Boulevard/SR 65 Southbound Ramps, Roseville Parkway/Taylor Road, and Douglas Boulevard/Sunrise Avenue intersections will have a LOS D threshold, and the Galleria Boulevard/Roseville Parkway, Roseville Parkway/Sunrise Avenue, Eureka Road/Taylor Road/I-80 Eastbound Ramps, and Douglas Boulevard/Harding Boulevard intersections will have a LOS E threshold. All other Roseville intersections will have a LOS C threshold. These thresholds will be used for both the AM and PM peak hours in both the construction and design year analysis.

For study intersections within the City of Rocklin, the City of Rocklin General Plan (October 2012), Policy C-10 states (in part):

- Maintain a minimum traffic Level of Service "C" for all signalized intersections during the p.m. peak hour on an average weekday

Based on this standard and for the purposes of this study, LOS C is the minimum acceptable LOS for intersections in the City of Rocklin during both AM and PM peak hours.

For this report, a project impact must satisfy two conditions. First, the study location must operate at a worse LOS than the threshold identified above. Second, the study location must operate at a worse condition (higher delay for intersections or higher density for freeway segments) than the similar case for Alternative 3 (No Build).

Chapter 3. Existing (2012) Conditions

The existing conditions analysis includes meso-scale network performance, micro-scale traffic operations, and traffic safety. The meso-scale network performance evaluates the entire network within the meso-scale study area based on vehicle miles of travel (VMT), vehicle hours of travel (VHT), vehicle hours of delay (VHD), and freeway VHD. VHD includes all hours of travel below the free-flow speed (for example, the free-flow speed on freeways is 65 miles per hour). Freeway VHD includes only hours of freeway travel below 35 miles per hour (mph). The operations analysis is more detailed and analyzes individual facilities with separate discussions for freeways and arterial intersections. The traffic safety evaluation focuses on freeway facilities.

3.1. **Meso-Scale Network Performance**

Table 5 contains estimates of existing (2012) meso-scale study area VMT, VHT, VHD, and Freeway VHD for AM and PM peak period conditions. This information shows that the PM peak period has the highest level of travel with VHD equal to almost 35 percent of all VHT. The AM peak period also experiences congested conditions with a VHD at approximately 25 percent of all VHT.

TABLE 5: PEAK PERIOD MESO-SCALE NETWORK PERFORMANCE SUMMARY – EXISTING (2012) CONDITIONS

Measure of Effectiveness	AM Peak Period (6:00 to 10:00)	PM Peak Period (3:00 to 7:00)	AM & PM Peak Periods
VMT	1,182,073	1,562,794	2,744,867
VHT	31,314	49,967	81,281
VHD	7,807	17,423	25,230
Freeway VHD	1,459	4,564	6,023

3.2. **Traffic Operations**

Traffic operations were analyzed for existing (2012) conditions under AM and PM peak period and peak hour conditions. This analysis relied on the AM and PM four-hour, peak period Vissim models from which peak hour results were extracted. The Vissim model only includes the freeway network and the immediate arterial network around the I-80/SR 65 interchange. As a result, performance measures such as VMT and VHT reported from this model will contain much smaller values compared to the larger meso-scale network results presented in Table 5. Overall traffic operations performance of the micro-scale network is summarized in Table 6.

TABLE 6: PEAK PERIOD MICRO-SCALE NETWORK PERFORMANCE SUMMARY – EXISTING (2012) CONDITIONS		
Measure of Effectiveness	**AM Peak Period (6:00 to 10:00)**	**PM Peak Period (3:00 to 7:00)**
VMT	645,270	730,100
VHT	13,760	16,850
VHD	2,670	3,950
Average Travel Speed (mph)	46.9	43.3

Similar to the Table 5 results, the PM peak period has the highest level of travel and delay with the most congestion lasting up to three hours for select segments.

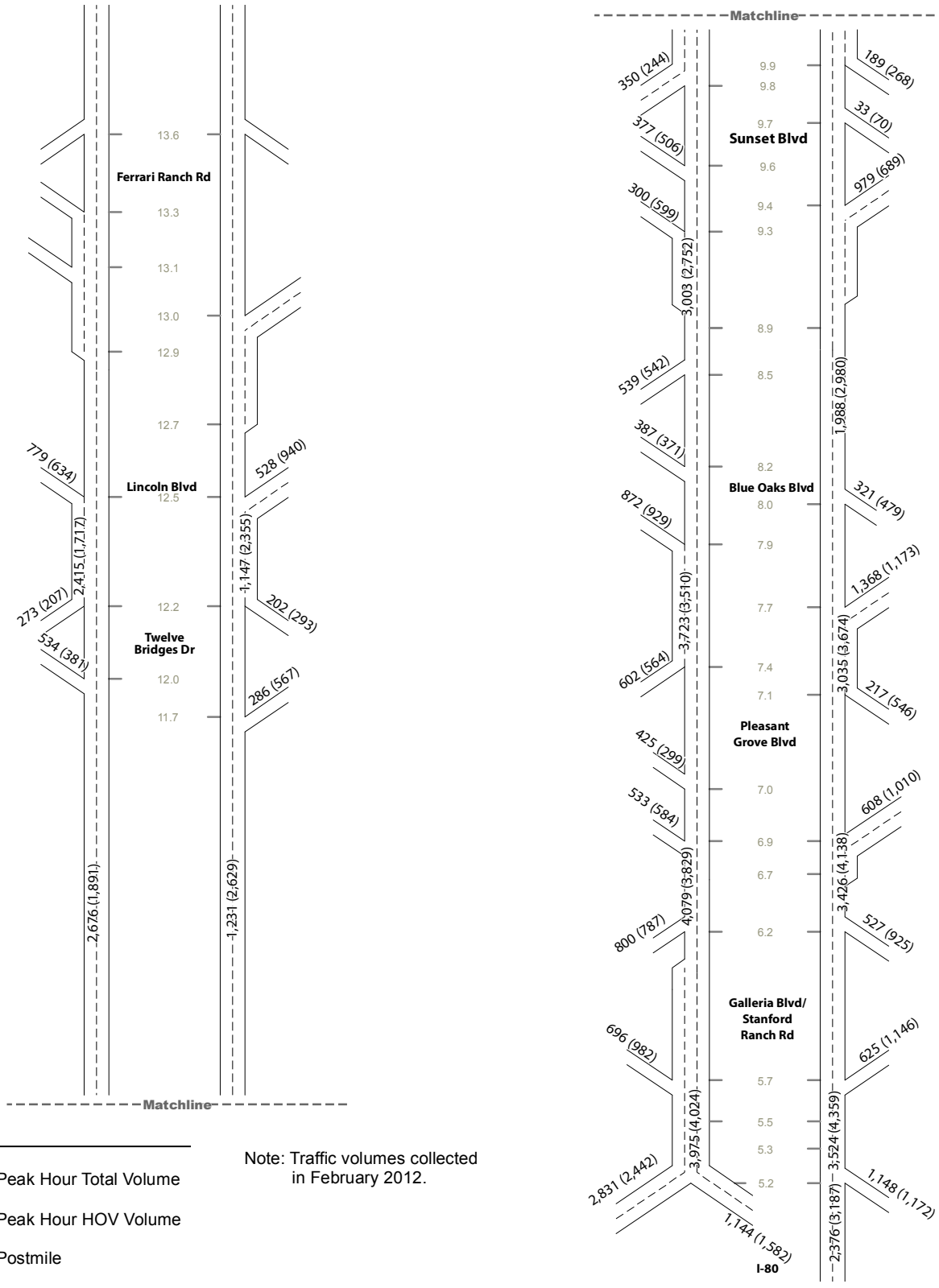
3.2.1. Freeway Operations

Detailed freeway operations were analyzed for the entire four-hour AM and PM peak periods. The AM (7:30 to 8:30) and PM (4:30 to 5:30) peak hour results are reported in this section and reflect conditions based on estimates of peak hour freeway mainline and ramp traffic volumes for 2012 conditions shown in Figure 6. The existing conditions analysis confirmed field observations and provided some insight as to specific bottleneck locations, causes, and duration. Figure 7 and 8 below show the PM peak hour queue extending back from the eastbound I-80 on-ramp junction with the northbound SR 65 connector.

The existing (2012) conditions analysis of freeway and arterial performance matched observed conditions such as those shown in the photos above. Specific examples are listed below.

- Bottleneck areas have poor LOS results as highlighted in Table 7, which contains select LOS results for freeway operations. See the Appendix for all study location results.

The speed contour maps of the SR 65 and I-80 corridors produced from the Vissim models show reduced speeds in bottleneck areas (see Figures 9 through 12 below).



LEGEND

AM (PM) Peak Hour Total Volume

HOV AM (PM) Peak Hour HOV Volume

10.1 Postmile

Note: Traffic volumes collected in February 2012.

Figure 6

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

Figure 7 – Eastbound I-80 from Taylor Road Overcrossing (PM Peak Hour)

Figure 8 – Eastbound I-80 from Roseville Pkwy Overcrossing (PM Peak Hour)

TABLE 7: SELECTED FREEWAY OPERATIONS RESULTS – EXISTING (2012) CONDITIONS

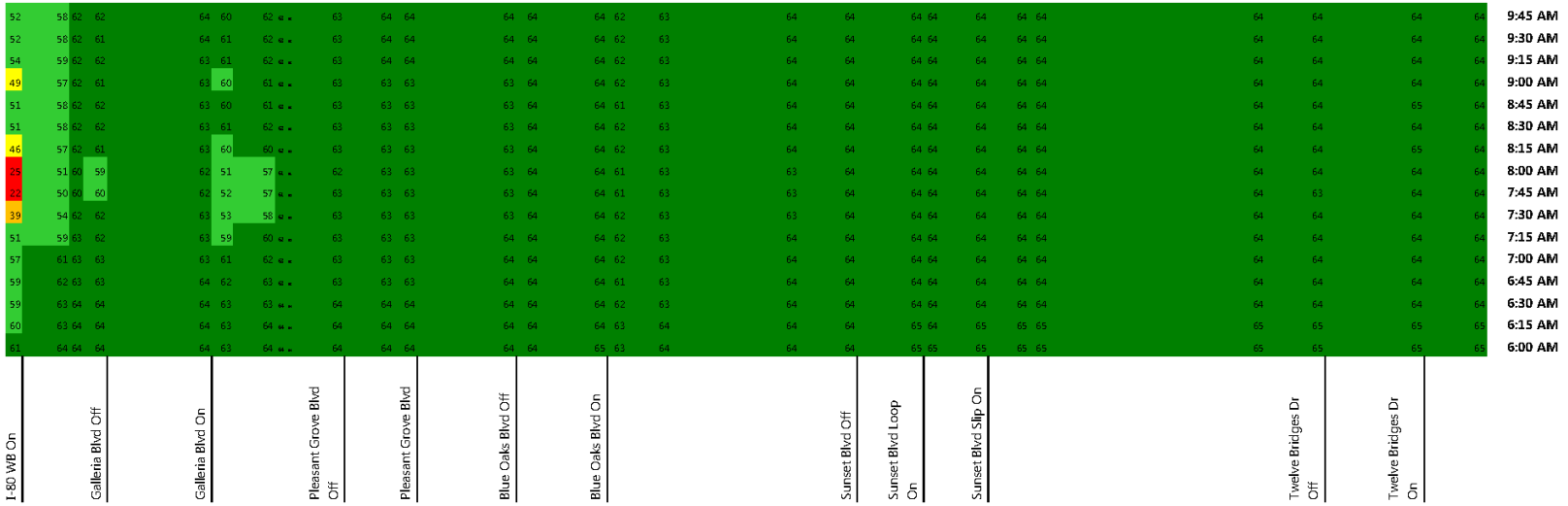
Freeway	Location	Type	AM Peak Hour	PM Peak Hour
NB SR 65	I-80 WB On-ramp	Merge	**F / 53**	**F / 95**
	I-80 to Stanford Ranch Rd	Basic	D / 32	**F / 77**
	Stanford Ranch Rd Off-ramp	Diverge	D / 33	**F / 62**
SB SR 65	Blue Oaks Blvd WB On-ramp	Merge	**F / 60**	B / 20
	Blue Oaks Blvd to Pleasant Grove Blvd	Weave	**F / 75**	C / 21
	Pleasant Grove Blvd Off to On-ramp	Basic	**F / 89**	C / 25
	Pleasant Grove Blvd WB On-ramp	Merge	**F / 72**	D / 31
	Pleasant Grove Blvd EB On-ramp	Merge	**F / 53**	E / 39
	Pleasant Grove Blvd to Galleria Blvd	Basic	E / 36	D / 32
	Galleria Blvd Off-ramp	Diverge	E / 35	D / 32
EB I-80	Eureka Rd Off-ramp	Diverge	C / 26	**F / 46**
	Eureka Rd Off to On-ramp	Basic	C / 21	C / 23
	Eureka Rd EB On-ramp	Merge	B / 19	B / 20
	Eureka Rd to Taylor Rd	Weave	C / 23	E / 42
	Taylor Rd to SR 65	Basic	D / 28	E / 42
	SR 65 Off-ramp	Diverge	C / 28	**F / 52**
WB I-80	SR 65 Off-ramp	Diverge	B / 18	E / 35
	Douglas Blvd Off-ramp	Diverge	D / 32	C / 26
	Douglas Blvd WB On-ramp	Merge	E / 36	D / 34
	Douglas Blvd EB On-ramp	Merge	E / 42	E / 37
	Douglas Blvd to Riverside Ave	Basic	D / 33	D / 31
	Riverside Ave Off-ramp	Diverge	E / 40	E / 36

Note: Bold and underline font indicate LOS F conditions. The level of service and average density for the study segment are reported.

Source: Fehr & Peers, 2015

During the AM peak hour, congested LOS F conditions occur on northbound SR 65 at the I-80 on-ramp and southbound SR 65 between Blue Oaks Boulevard and Pleasant Grove Boulevard. On northbound SR 65, the merging of the westbound I-80 on-ramp causes congestion. For southbound SR 65, the constraint is the high demand from the mainline combined with the Pleasant Grove Boulevard on-ramp volume.

AM PEAK PERIOD



PM PEAK PERIOD

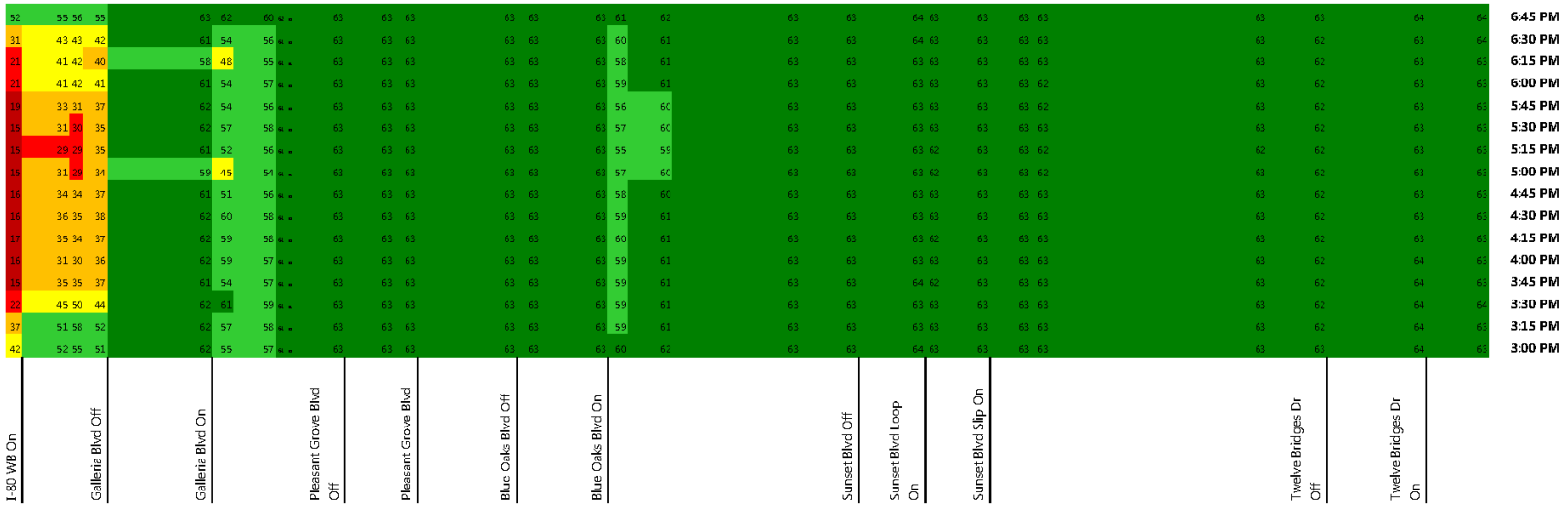
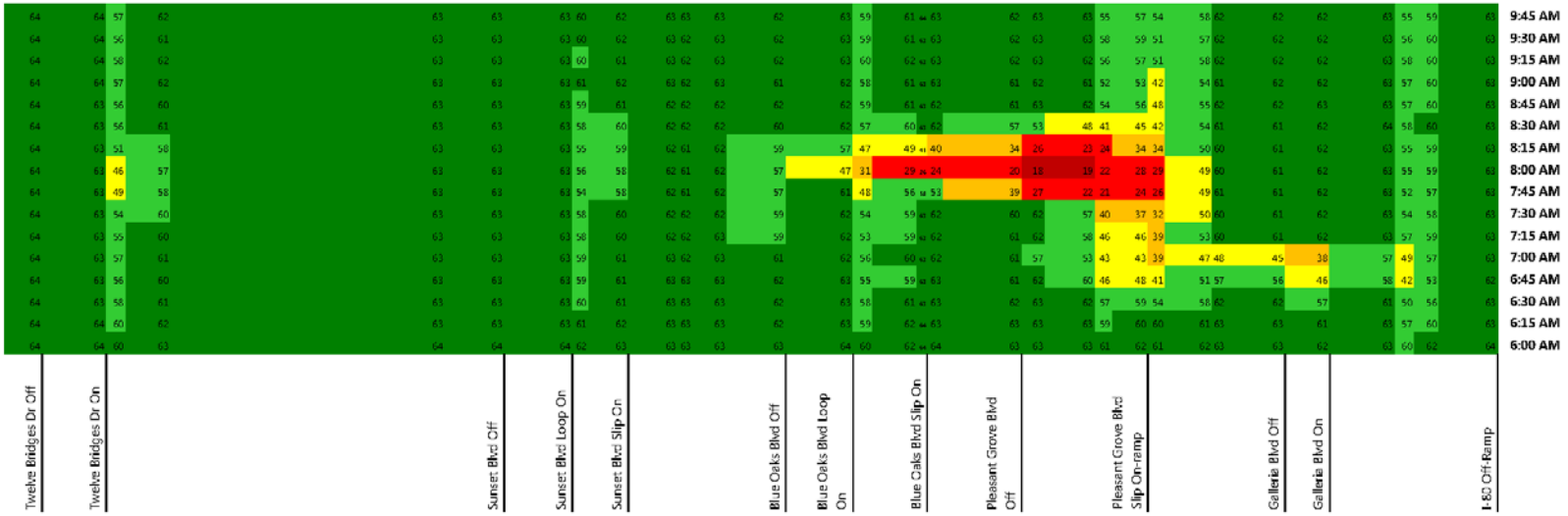


Figure 9 – Northbound SR 65 Existing Conditions Speed Contour Maps

AM PEAK PERIOD



PM PEAK PERIOD

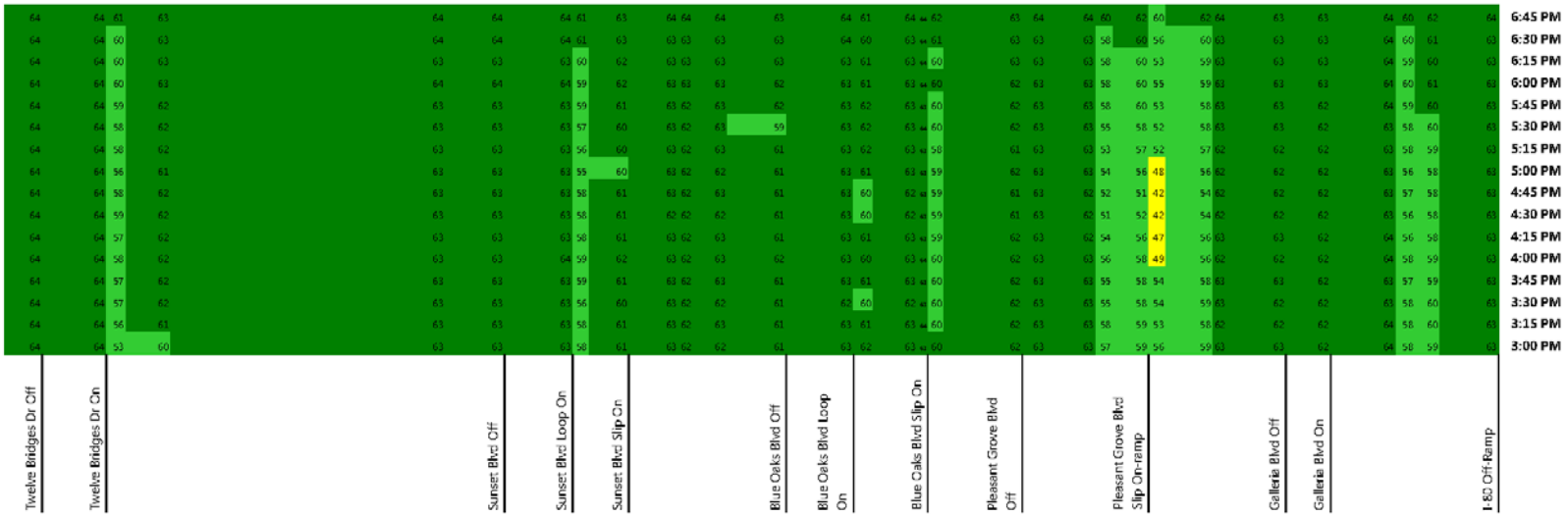
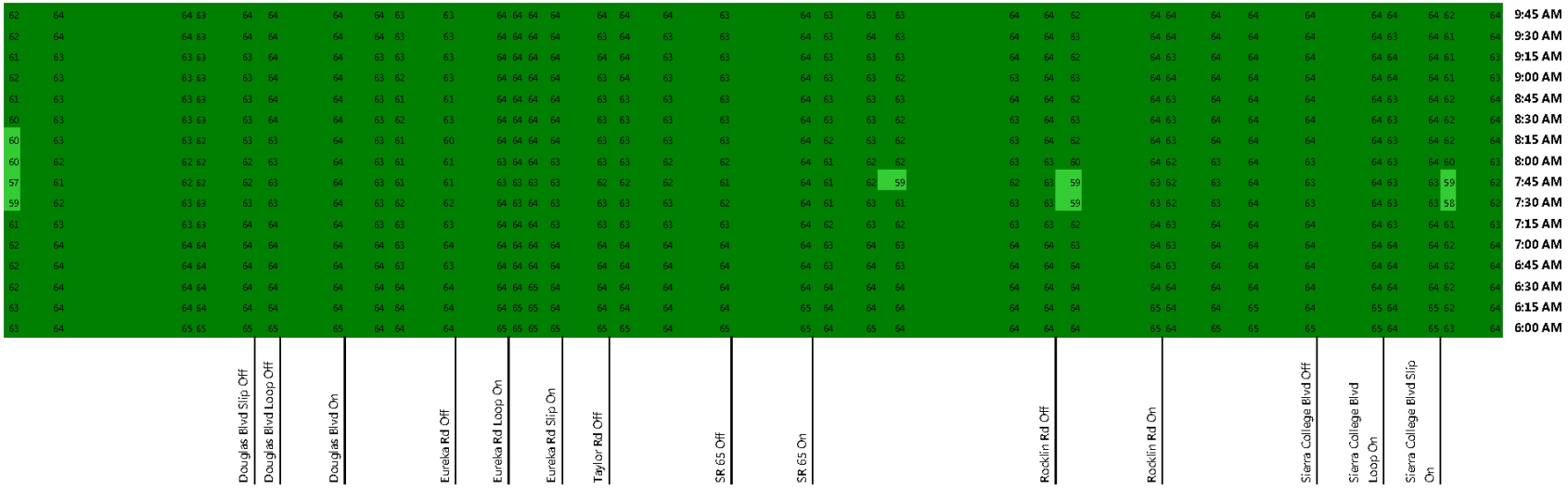


Figure 10 – Southbound SR 65 Existing Conditions Speed Contour Maps

AM PEAK PERIOD



PM PEAK PERIOD

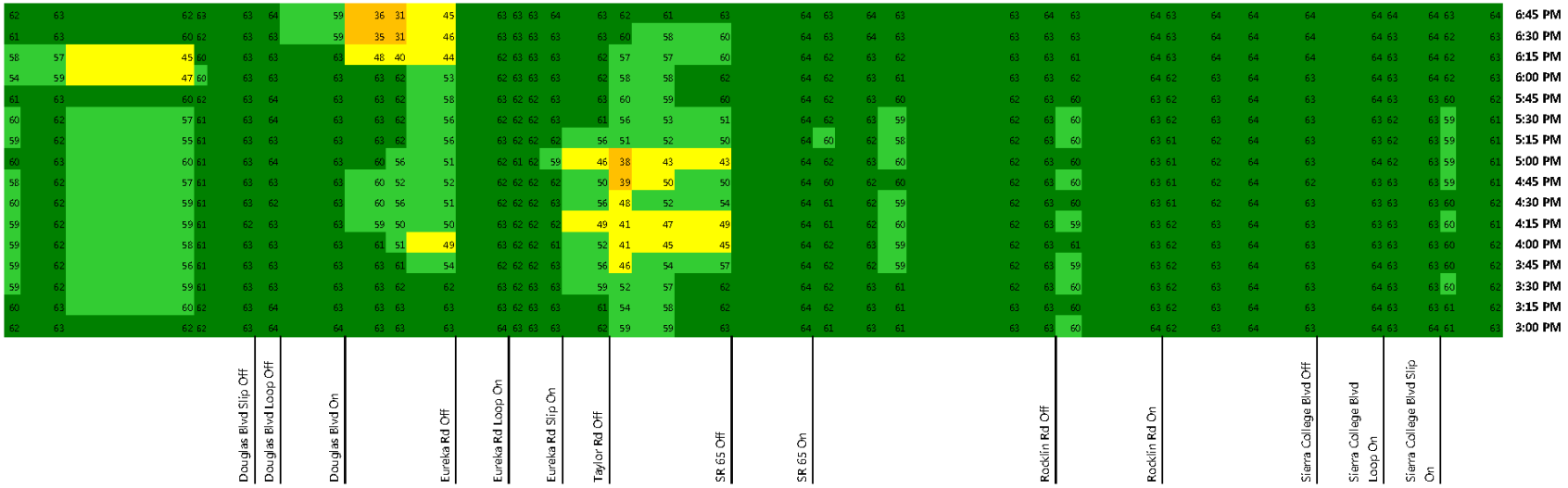
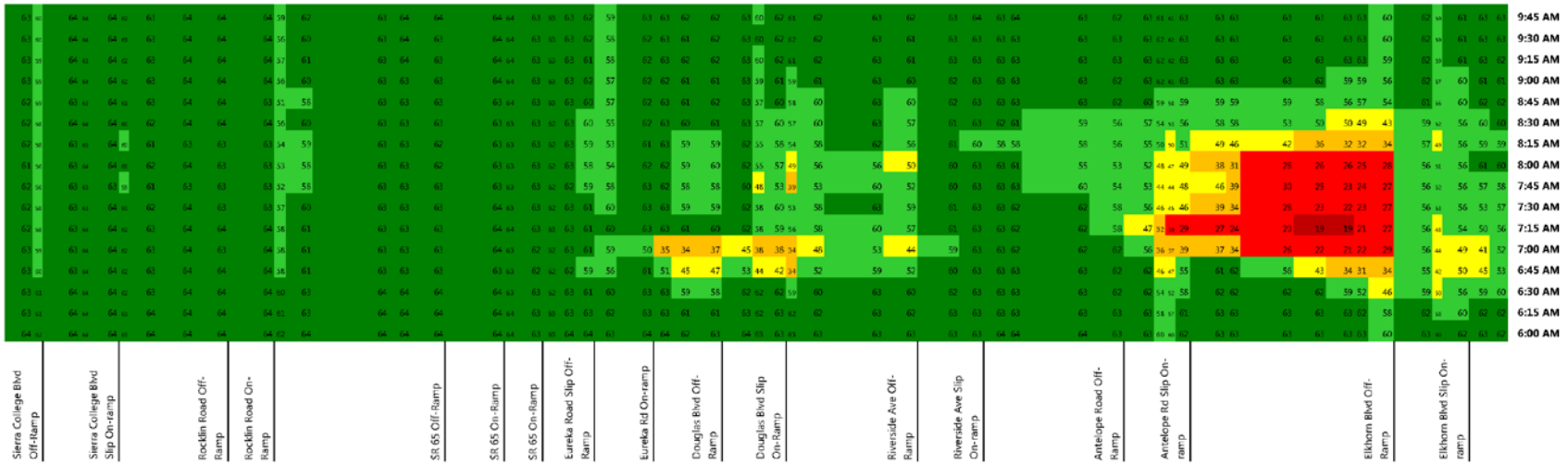


Figure 11 – Eastbound I-80 Existing Conditions Speed Contour Maps

AM PEAK PERIOD



PM PEAK PERIOD

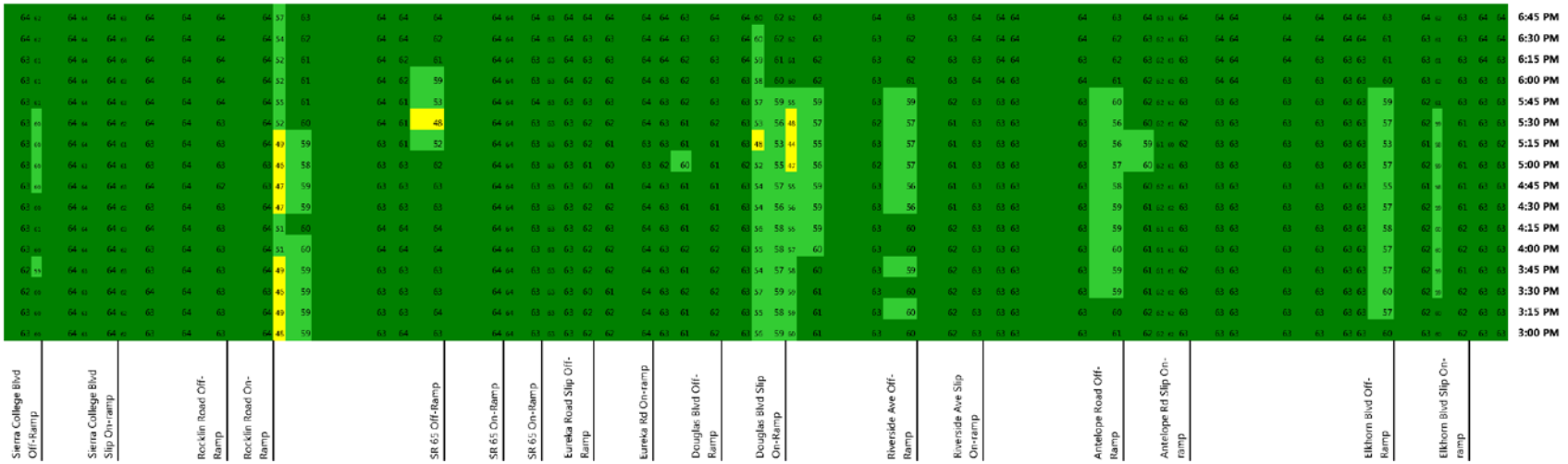


Figure 12 – Westbound I-80 Existing Conditions Speed Contour Maps

During the PM peak hour, the primary bottleneck is northbound SR 65 at the on-ramp from westbound I-80. This bottleneck results in LOS F conditions on eastbound I-80 at the SR 65 off-ramp. LOS E conditions exist from Taylor Road to Eureka Road, with the rightmost lanes mostly congested (queued from the SR 65 off-ramp) while the left lanes operate with higher speeds. The Eureka Road off-ramp has LOS F conditions due to queues spilling back from the ramp terminal intersection. (During summer 2012, queues regularly extended to the mainline occurred due to recreational trips generated by the water park on Taylor Road. After the Eureka Road widening project was completed in 2013, the peak hour off-ramp queues no longer extend to the mainline.) Westbound I-80 has LOS E conditions at the SR 65 off-ramp due to the same bottleneck. LOS D/E conditions occur further north on northbound SR 65 between Stanford Ranch Road and Pleasant Grove Boulevard. If the bottleneck at I-80 were relieved, this downstream will likely become congested.

3.2.2. Arterial Intersection Operations

In general, arterial intersections operate better than freeway locations during the peak hours. Table 8 shows the LOS and average delay at key study intersections under existing (2012) conditions. Based on the evaluation criteria for this study, all of the study intersections operate acceptably. See the Technical Appendix for all study intersection results.

The AM peak hour intersection LOS results indicate all intersections operate at LOS C or better, except for the Roseville Parkway/Sunrise Avenue and Blue Oaks Boulevard/Washington Boulevard intersections which operate at LOS D. The Roseville Parkway/Sunrise Avenue intersection operates with split phasing to accommodate the hospital driveway, which leads to less efficient operations. The Blue Oaks Boulevard intersection (which has a LOS C threshold) experiences high peak period peak direction traffic flows because it serves both inbound (employees) and outbound (residents) commuters for west Roseville.

During the PM peak hour, five intersections operate at LOS D or E:

- Galleria Boulevard/Roseville Parkway
- Roseville Parkway/Sunrise Avenue
- Eureka Road/Taylor Road/I-80 Eastbound Ramps
- Douglas Blvd/Sunrise Avenue
- Rocklin Road/Granite Drive

Like the Blue Oaks Boulevard intersection in the AM peak hour, the Roseville Parkway and Eureka Road corridors serve both inbound (residents and shoppers) and outbound (employees) commuters. Additionally, reduced speeds occur on eastbound Eureka Road approaching the I-80 interchange. A

project that widened eastbound Eureka Road at Taylor Road was completed in 2013 (after the existing conditions analysis). All other intersections operate at LOS C or better during the PM peak hour.

TABLE 8: SELECTED INTERSECTION OPERATIONS RESULTS – EXISTING (2012) CONDITIONS

Intersection	Threshold	AM Peak Hour	PM Peak Hour
6. Blue Oaks Blvd / Washington Blvd / SR 65 SB Ramps	C	**D / 43**	C / 33
10. Stanford Ranch Rd / Five Star Blvd	C	B / 19	C / 32
11. Stanford Ranch Rd / SR 65 NB Ramps	D	A / 9	B / 15
12. Galleria Blvd / SR 65 SB Ramps	D	B / 13	B / 19
13. Galleria Blvd / Antelope Creek Dr	C	B / 10	C / 24
14. Galleria Blvd / Roseville Pkwy	E	C / 30	D / 36
15. Roseville Pkwy / Creekside Ridge Dr	C	A / 6	B / 17
16. Roseville Pkwy / Taylor Rd	D	C / 30	C / 28
17. Roseville Pkwy / Sunrise Ave	E	D / 37	D / 37
18. Atlantic St / Wills Rd	C	B / 10	B / 12
19. Atlantic St / I-80 WB Ramps	C	A / 7	B / 11
20. Eureka Rd / Taylor Rd / I-80 EB Ramps	E	C / 26	E / 61
21. Eureka Rd / Sunrise Ave	C	C / 24	C / 30
26. Douglas Blvd / Sunrise Ave	D	C / 26	D / 35
28. Pacific St / Sunset Blvd	C	B / 18	C / 29
29. Rocklin Rd / Granite Dr	C	B / 15	**D / 37**
30. Rocklin Rd / I-80 WB Ramps	C	C / 21	B / 17
31. Rocklin Rd / I-80 EB Ramps	C	B / 17	B / 20
32. Rocklin Rd / Aguilar Rd	C	A / 8	B / 13

Note: Bold and underline font indicate unacceptable operations. The LOS and average delay in seconds per vehicle are reported.

Source: Fehr & Peers, 2015

3.3. **Traffic Safety**

Traffic collision data was compiled from Caltrans' Traffic Accident Surveillance and Analysis System (TASAS) for SR 65 from Stanford Ranch Road/Galleria Boulevard to Ferrari Ranch Road (post mile R6.2 to T12.9). The data shown are for the three-year period between October 1, 2009 and September 30, 2012. During this period, Sunset Boulevard was converted from an at-grade intersection to an interchange. Also, the Lincoln Bypass was not yet open to traffic. So, the accident data includes 4 accidents at intersections. Within the study area, 247 collisions occurred in the three-year period. Table 9 summarizes collisions on SR 65 by direction.

TABLE 9: ACCIDENT HISTORY

Direction	Total Accidents	Total Fatalities	Actual Collision Rate[1]			Average Collision Rate[1]		
			F	F&I	Total	F	F&I	Total
Northbound	116	0	0.000	0.14	0.36	0.007	0.23	0.66
Southbound	131	3	**0.008**	0.14	0.38	0.007	0.23	0.66
Total	247	3	0.004	0.14	0.37	0.007	0.23	0.66

Notes: 1. The accident rate is accidents per million vehicle-miles. "F" refers to the fatality rate, and "F&I" refers to the fatality and injury rate. Total number of accidents includes non-injury accidents, which are not listed separately.

Source: Caltrans District 3 TASAS Table B, October 1, 2009 to September 30, 2012

The actual collision rate for fatalities was higher than statewide average for southbound SR 65. The three fatalities occurred in three separate collisions located on freeway sections, not at an intersection, and all had different locations. The remaining collision rates were lower than the statewide averages.

Table 10 categorizes the collisions by type. The most frequent collision type (50 percent) is a rear end collision, which is typical of congested conditions. The next most frequent collision types are side-swipe and hit object. The other collision types are collectively less than 15 percent of all collisions. The southbound direction has both a higher number of collisions and a higher number of rear end collisions.

TABLE 10: MAINLINE COLLISIONS BY TYPE

Direction	Head On	Side Swipe	Rear End	Broad-side	Hit Object	Over-turn	Auto-Ped	Other
Northbound	0	20	53	2	31	8	1	1
Southbound	1	17	71	6	26	5	4	1
Total	1 (0.4%)	37 (15%)	124 (50%)	8 (3%)	57 (23%)	13 (5%)	5 (2%)	2 (1%)

Source: Caltrans District 3 TASAS - Table B, October 1, 2009 to September 31, 2012

Chapter 4. Travel Demand Forecasts

The travel demand forecasts were developed using a validated sub-area model derived from the SACMET regional travel demand forecasting (TDF) model developed by SACOG[5]. The approach to developing travel demand forecasts started with the recognition that regional travel demand models do not contain sufficient detail or sensitivity for local applications like developing directional freeway mainline and ramp volume forecasts. Instead, the regional model provides a starting point for creating a more detailed sub-area model along the freeway corridor. Having a valid sub-area model is a critical step in ensuring a high level of confidence in the traffic volume forecasts that will be used to evaluate the effects of improving the SR 65 corridor.

4.1. Sub-Area Model Development and Model Validation

The forecast modeling for the SR 65 Capacity and Operational Improvements project used the same sub-area model developed for the I-80/SR 65 Interchange Improvements project. Please refer to Chapter 4 of the *I-80/SR 65 Interchange Improvements Transportation Analysis Report* (August 2014).

4.2. Future Year Forecasts

Traffic forecasts for design and construction year analysis were developed for the following project alternatives.

1. Carpool Lane
2. General Purpose Lane
3. No Build

4.2.1. Design Year Forecasts

From a macro perspective, the proposed project alternatives – freeway corridor widening – are not expected to change regional travel demand. A sensitivity test of the SACMET model showed almost no change in travel demand with a change in capacity at the I-80/SR 65 interchange. Instead, the most significant effects on future traffic volumes will occur in terms of trip routing within the meso-scale study area due to travel time differences caused by the alternatives. Therefore, the same set of trip tables is used for the project alternatives, which means that volumes at the sub-area boundaries are the same across all alternatives.

[5] The SACMET model used for this project was released in May 2011 and was developed to be consistent with the Sacramento Area Council of Governments Metropolitan Transportation Plan/Sustainable Communities Strategy 2035.

The volume forecast process began with isolating the incremental peak period volume growth (2008 to 2035) between traffic analysis zones (TAZs) in the sub-area using the modified SACMET model (macro level). This incremental growth was then added to the base year Visum trip table (meso level) that was derived from the Airsage cell phone data. The incremental SACMET growth was inspected to verify that the changes in origin-destination trips were commensurate with the location of socioeconomic growth. Individual origin-destination pair volumes were not allowed to decrease between base and cumulative years.

In the next step, the four-hour peak period trip tables were divided into hourly trip tables by mode: SOV, HOV, and truck. The conversion from peak period to hourly trip tables used the existing ratio of hourly traffic volume to peak period volume. The mode share for HOVs was based on the relative peak period mode share in the 2035 SACMET model. For the entire meso study area, the overall forecast HOV shares are 18 and 19 percent during the AM and PM peak periods, respectively. The truck share is assumed to increase from 2.7 and 1.4 percent under existing conditions to 3.0 and 2.0 percent under the design year for the AM and PM peak periods, respectively.

Some adjustments were made to the HOV shares for select locations based on previous comments from Caltrans about HOV forecasts being lower than observed conditions on I-80. Table 11 shows the AM and PM peak hour HOV percentages for the I-80 western gateway from the 2035 SACMET model, the 2012 traffic counts, and the proposed 2040 forecast values. The 2008 and 2035 SACMET model forecasts show similar values of 11 to 13 percent at this gateway. These values are lower than the traffic counts that were collected in 2012. The proposed 2040 HOV percentages use the 2012 traffic count percentages for the off-peak directions. In the peak direction, a five percentage point increase was assumed to compensate for the difference between model estimates and counts. Additionally, traffic congestion is expected to be more severe in the design year, which would encourage the formation of carpools.

TABLE 11: PEAK PERIOD HOV PERCENTAGE FOR I-80 WESTERN GATEWAY

Direction	2035 SACMET		2012 Counts		2040 Forecast	
	AM	PM	AM	PM	AM	PM
Eastbound	11%	13%	15%	17%	15%	22%
Westbound[1]	13%	13%	14%	18%	19%	18%

Note: 1. The count location was at the Riverside Ave/Auburn Blvd overcrossing, but the westbound study area gateway is between Elkhorn Blvd and Madison Ave.

Source: Fehr & Peers, 2015

The five percentage point increase was also validated based on a June 2012 sampling of traffic volumes at the I-80/Douglas Boulevard, I-80/Eureka Road, and SR 65/Galleria Boulevard on-ramps, which found HOV percentages ranging from 9 to 25 percent for the AM peak hour and 14 to 36 percent for the PM peak hour. The AM and PM peak hour averages of 16 and 24 percent from these samples are generally similar

to the 2035 SACMET forecasts of 18 and 19 percent, respectively. However, peak direction HOV percentages were some of the largest values observed. The adjustments noted in Table 13 result in HOV volume forecasts that are at or near the carpool lane operating capacity under design year conditions, so they were considered reasonable for purposes of this study.

The future year Visum trip tables were then assigned to each project alternative network. These networks included all the planned transportation improvements shown in Figures 2 and 3 plus unique features of each alternative[6]. The preliminary forecasts from this step were reviewed and adjusted for anomalies such as unexpected decreases in traffic volumes when compared to existing conditions. The expected decreases that occurred are noted below.

- Riverside Avenue slip on-ramp to westbound I-80 – This ramp shows a decrease over existing volumes. This decrease is allowed since the cumulative roadway network includes several projects that increase parallel capacity between west Roseville and Sacramento County (widening Baseline Road/Riego Road between SR 99 and Foothills Boulevard, widening Watt Avenue, etc.). These capacity enhancements redistribute some existing long-distance trips from Placer County to Sacramento County to alternative routes.
- Sunset Boulevard loop on-ramp to southbound SR 65 – The construction of the SR 65/Whitney Ranch Parkway/Placer Parkway interchange provides an alternate route so that the demand at SR 65/Sunset Boulevard is lower.
- Taylor Road off-ramp from eastbound I-80 – With the widening of the eastbound to northbound freeway connector, traffic destined to Rocklin can use SR 65 to Stanford Ranch Road rather than the more indirect route of Taylor Road and Pacific Street to Sunset Boulevard.

Although the decrease in traffic volume was allowed, the actual future volume may be subject to the induced travel effect (discussed below in section 4.2.6) that could result in a volume that is higher than predicted. The final trip tables and the associated travel paths from the Visum assignment were transferred to Vissim for final assignment and analysis.

A final volume adjustment was made in the northern end of the study area to account for recent land use planning decisions in the City of Lincoln. With the opening of the Lincoln Bypass, development is now planned to occur in the western portion of the city rather than the central and eastern areas. The forecast model prepared for the South Placer Regional Transportation Authority (SPRTA) fee study used the new land use values. By comparing the initial model volumes between the I-80/SR 65 Interchange and SPRTA fee study versions of the SACMET model, an adjustment process was developed to shift a portion of the volume from Lincoln Boulevard north of Sterling Parkway to SR 65 north of Ferrari Ranch Road. For further details, please see the technical memorandum on this topic in the Appendix.

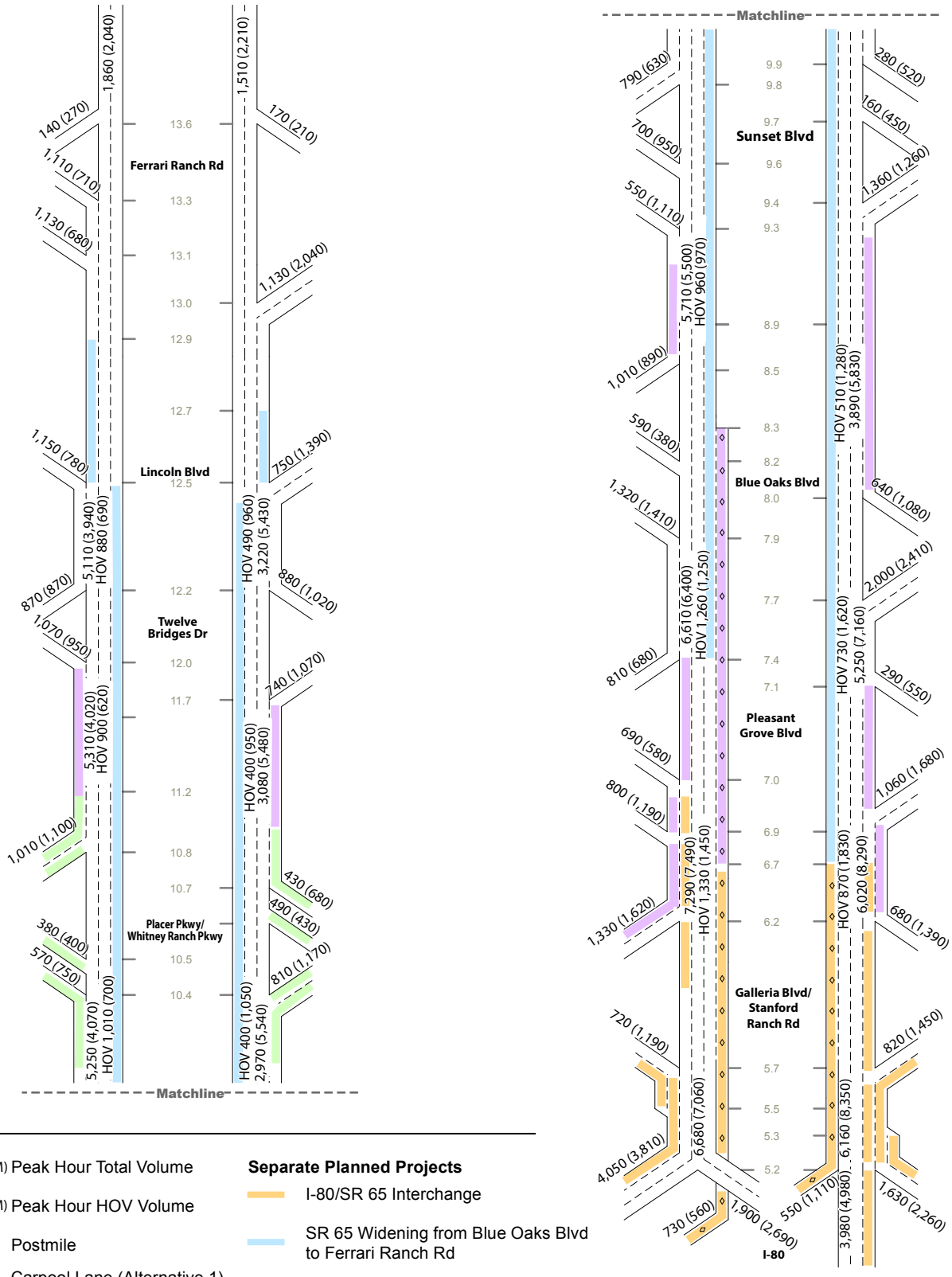
[6] As noted in Chapter 2, the project alternative lane configurations for the forecast model differ from the final project alternatives since the alternatives were refined after the initial analysis results were prepared.

Figures 13 through 15 display the SR 65 freeway lane configurations associated with each alternative, along with the AM and PM peak hour traffic volume forecasts. These volumes represent traffic demand that may not be fully accommodated during the peak hour, which is determined as part of the Vissim analysis. The traffic forecasts for the I-80 corridor and the study intersections are provided in the Appendix.

Figures 16 and 17 show design year volume comparison plots between project alternatives. The orange and red colors indicate a volume decrease for the AM and PM peak hours, respectively. The blue and green colors indicate a volume increase for the AM and PM peak hours, respectively. For these bandwidth plots, the freeway carpool lane links have been turned off so that the changes to the regular mainline lanes can be shown.

Figure 16 shows a comparison of Alternative 2 (General Purpose Lane) and 3 (No Build). With the additional capacity on SR 65, volumes are higher from I-80 to Lincoln Boulevard. Volume increases also occur on arterials that access SR 65. Routes parallel to the freeway segment show decreases: Sunset Boulevard, Wildcat Boulevard, Industrial Avenue, Fairway Drive, and Roseville Parkway. The differences between Alternatives 1 (Carpool Lane) and 3 (No Build) are similar.

Figure 17 shows the volume differences between Alternatives 1 (Carpool Lane) and 2 (General Purpose Lane). Although both alternatives would widen the SR 65 corridor, the first alternative restricts one of the added lanes between Stanford Ranch Road/Galleria Boulevard and Blue Oaks Boulevard to HOVs. Due to this restriction, the northbound peak hour volume is higher on SR 65 for Alternative 2 (shown as blue and green colors in the figure). In the southbound direction, Alternative 1 has higher volumes between Blue Oaks Boulevard and Pleasant Grove Boulevard because this alternative has an additional lane (the carpool lane) compared to Alternative 2. Alternative 2 has higher volumes on SR 65 south of Pleasant Grove Boulevard. Importantly, the Alternative 1 and 2 peak hour volumes are more similar than the Alternative 2 and 3 volumes. The largest difference shown in Figure 17 is about 300 vehicles per hour (vph), but the largest difference in Figure 16 is about 1,600 vph, or about a 40 percent increase.



LEGEND

AM (PM) Peak Hour Total Volume

HOV AM (PM) Peak Hour HOV Volume

10.1 Postmile

Carpool Lane (Alternative 1)

Separate Planned Projects

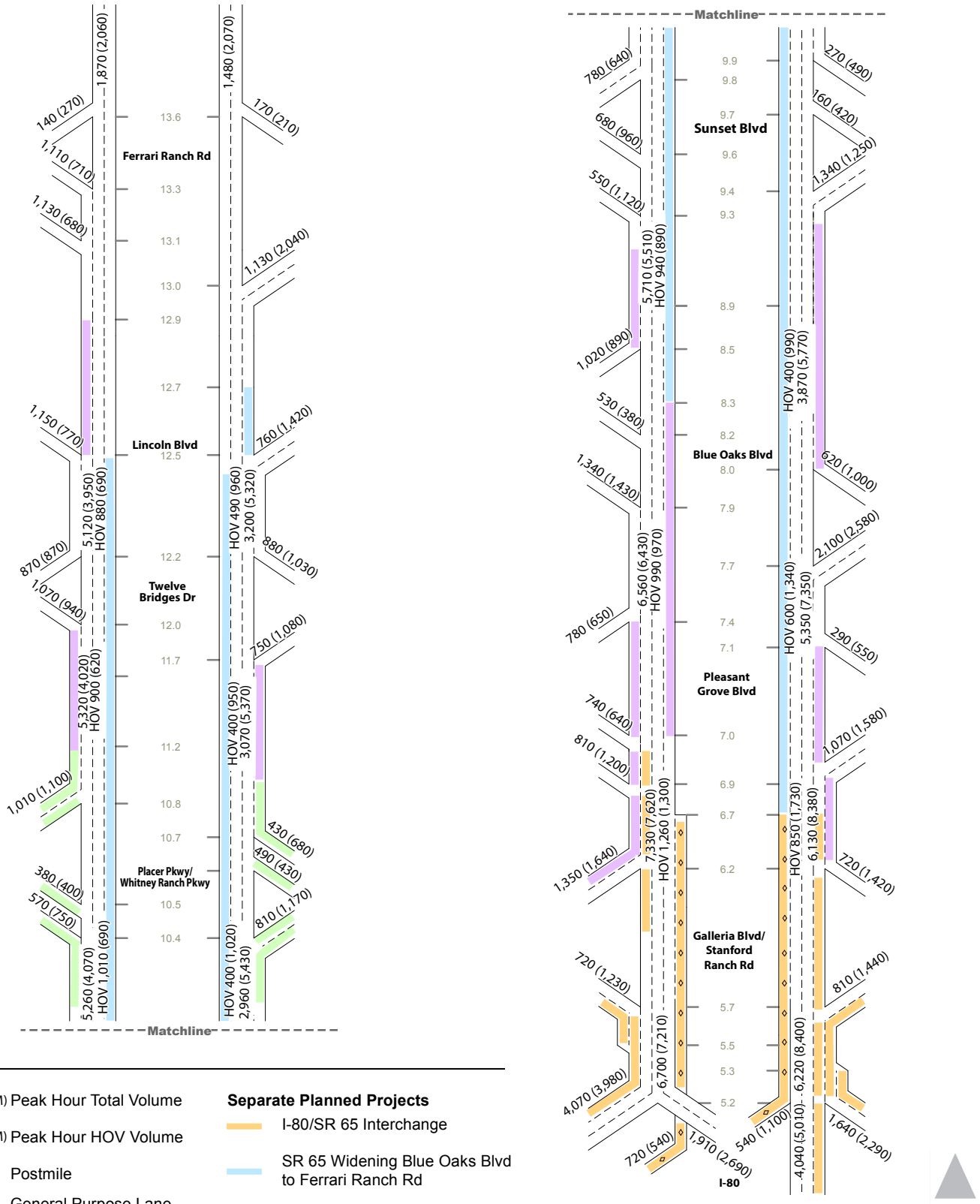
I-80/SR 65 Interchange

SR 65 Widening from Blue Oaks Blvd to Ferrari Ranch Rd

Placer Parkway/Whitney Ranch Parkway Interchange

Figure 13

Design Year Peak Hour Traffic Volumes and Lane Configurations - Carpool Lane (Alternative 1)



LEGEND

AM (PM) Peak Hour Total Volume

HOV AM (PM) Peak Hour HOV Volume

10.1 Postmile

General Purpose Lane (Alternative 2)

Separate Planned Projects

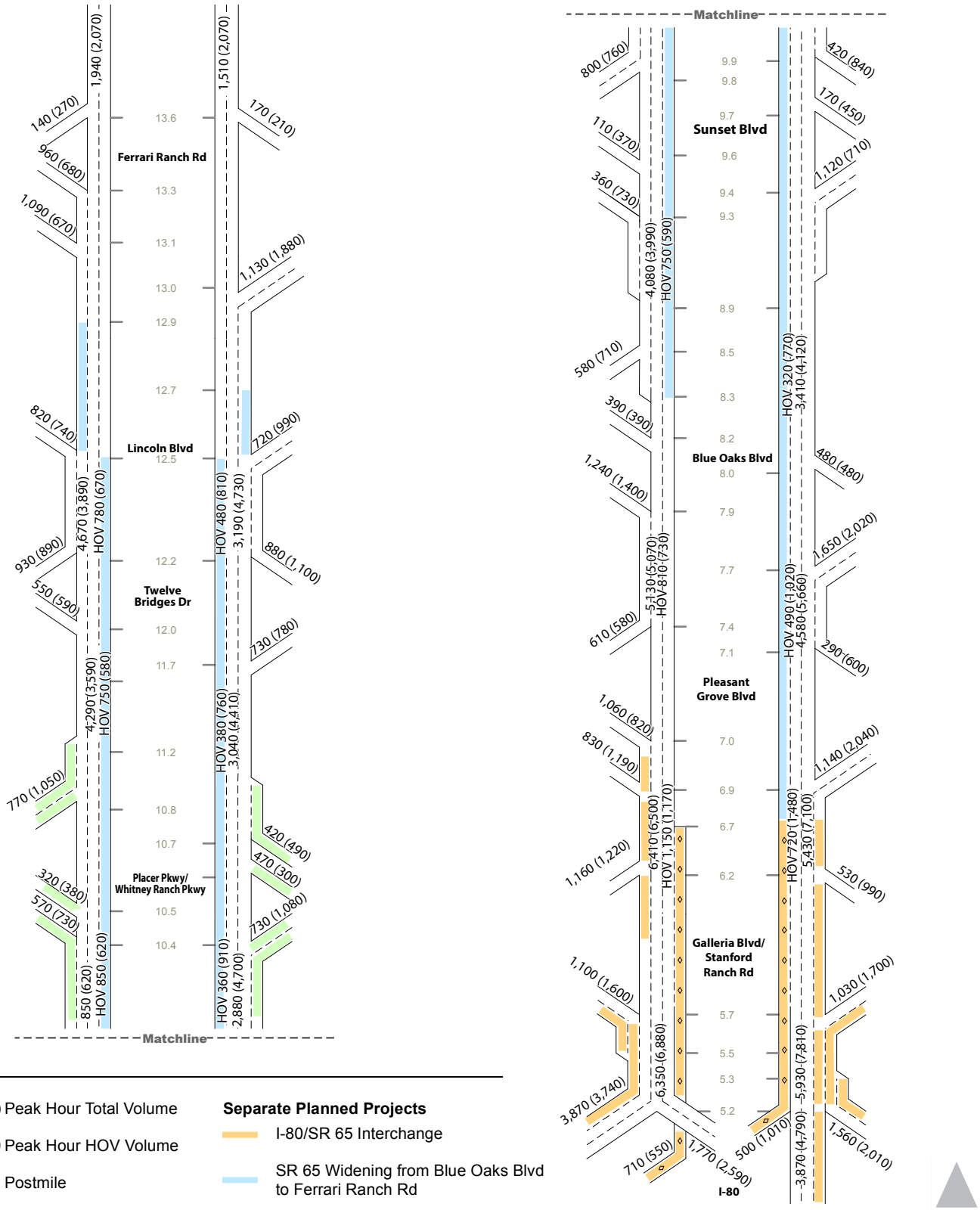
I-80/SR 65 Interchange

SR 65 Widening Blue Oaks Blvd to Ferrari Ranch Rd

Placer Parkway/Whitney Ranch Parkway Interchange

Figure 14

Design Year Peak Hour Traffic Volumes and Lane Configurations - General Purpose Lane (Alternative 2)



LEGEND

AM (PM) Peak Hour Total Volume

HOV AM (PM) Peak Hour HOV Volume

10.1 Postmile

Separate Planned Projects

- I-80/SR 65 Interchange
- SR 65 Widening from Blue Oaks Blvd to Ferrari Ranch Rd
- Placer Parkway/Whitney Ranch Parkway Interchange

Figure 15

Design Year Peak Hour Traffic Volumes and Lane Configurations - No Build (Alternative 3)

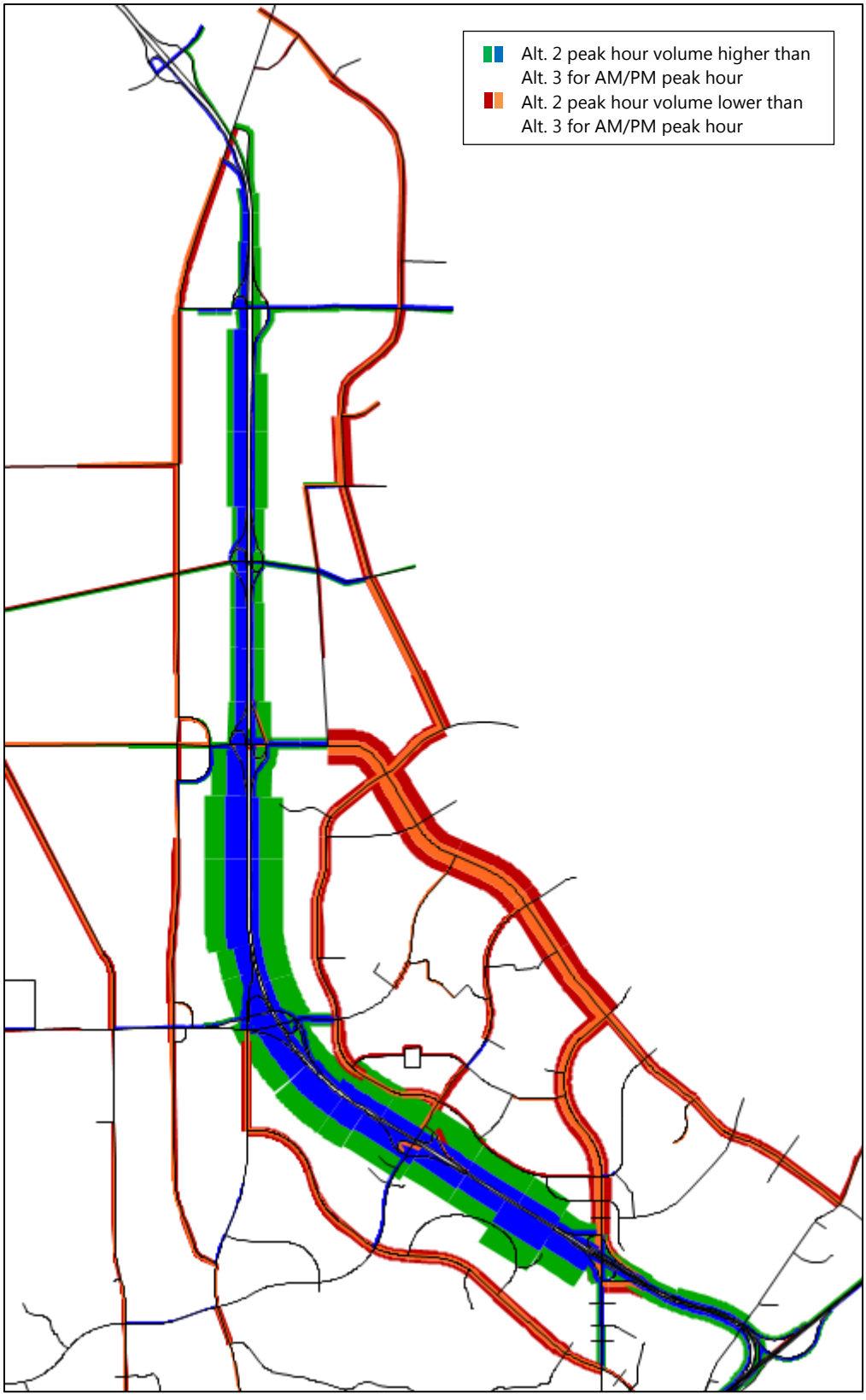


Figure 16 – Volume Comparison of Alternatives 2 and 3

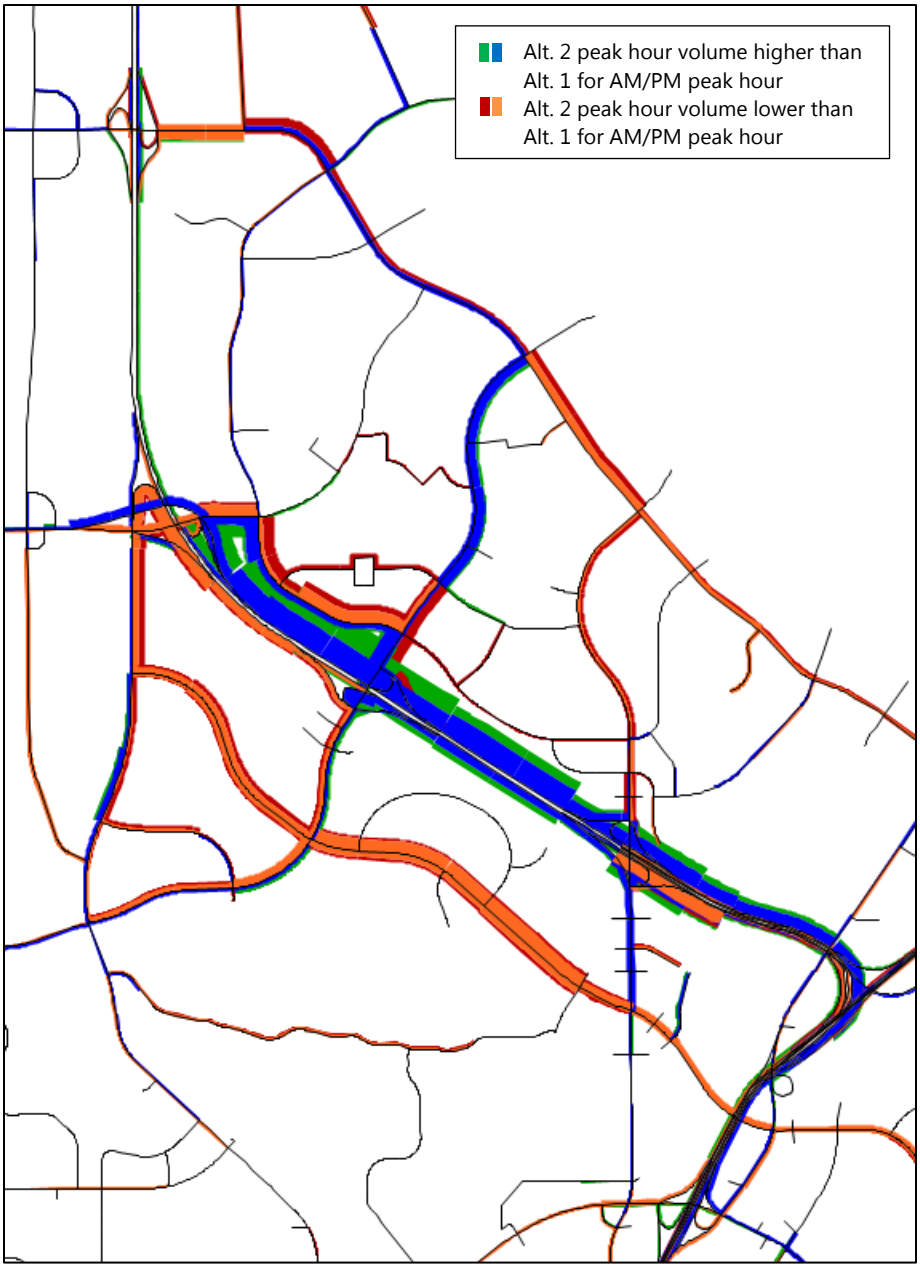


Figure 17 – Volume Comparison of Alternatives 1 and 2

4.2.2. HOV Volume Forecasts

The Visum model includes carpool lanes as separate roadway links to account for the additional HOV-only capacity. The resulting carpool lane projections for the project alternatives are listed in Table 12. The volumes for the section between I-80 and Stanford Ranch Road/Galleria Boulevard are for the median carpool ramps. The future configuration of the I-80/SR 65 interchange will restrict movement into and out of the carpool lane south of Stanford Ranch Road/Galleria Boulevard.

TABLE 12: CARPOOL LANE PEAK HOUR VOLUME FOR DESIGN YEAR CONDITIONS							
		Alternative 1		Alternative 2		Alternative 3	
Direction	Location	AM	PM	AM	PM	AM	PM
Northbound	I-80 to Stanford Ranch Rd	545	1,105	535	1,100	495	1,000
	Stanford Ranch Rd to Pleasant Grove Blvd	750	1,530	730	1,500	500	1,000
Southbound	Blue Oaks Blvd to Pleasant Grove Blvd	1,150	1,150	-	-	-	-
	Pleasant Grove Blvd to Galleria Blvd	1,165	1,075	1,100	1,030	700	540
	Galleria Blvd to I-80	730	555	715	535	700	540
Source: Fehr & Peers, 2015							

With the addition of the mainline carpool lane in Alternative 1 (Carpool Lane), the carpool direct connector ramp volume would increase compared to Alternatives 2 (General Purpose Lane) and 3 (No Build). The carpool lane peak hour volume is projected to be as high as 1,530 vph northbound and 1,165 vph southbound. The additional mainline capacity for Alternative 2 results in a carpool lane volume at the I-80 interchange that is higher (between 5 and 100 vph) than in Alternative 3.

4.2.3. Meso-Scale Network Performance for Design Year

In addition to generating traffic volume forecasts for input to the Vissim microsimulation traffic operations model, the Visum model was used to produce the same meso-scale network performance measures reported for existing conditions. Figures 18 through 22 compare network performance across the project alternatives for design year conditions during the AM, the PM, and both the AM and PM peak periods. The reported performance measures are VMT, VHT, VHD, freeway VHD, and project-area freeway VHD, where the project area is SR 65 between Stanford Ranch Road/Galleria Boulevard and Ferrari Ranch Road.

The build alternatives increase VMT although the change is only about 0.5 percent (VMT is reported by 5-mph speed bin in the appendix). The results generally show that the build alternatives improve network efficiency by lowering VHT and VHD compared to the No Build Alternative. Alternative 2 (General Purpose Lane) has more VMT, but lower VHT and VHD, than Alternative 1 (Carpool Lane). Figure 22 shows that the build alternatives would reduce freeway delay by at least 85 percent in the project area.

Alternative	Vehicle Miles of Travel (millions) AM	PM	AM & PM	Percent Change from No Build AM	PM	AM & PM
1 - Carpool Lane	2.00	2.47	4.47	0.50%	0.58%	0.54%
2 - General Purpose Lane	2.00	2.47	4.47	0.53%	0.59%	0.56%
3 - No Build	1.99	2.45	4.44	-	-	-

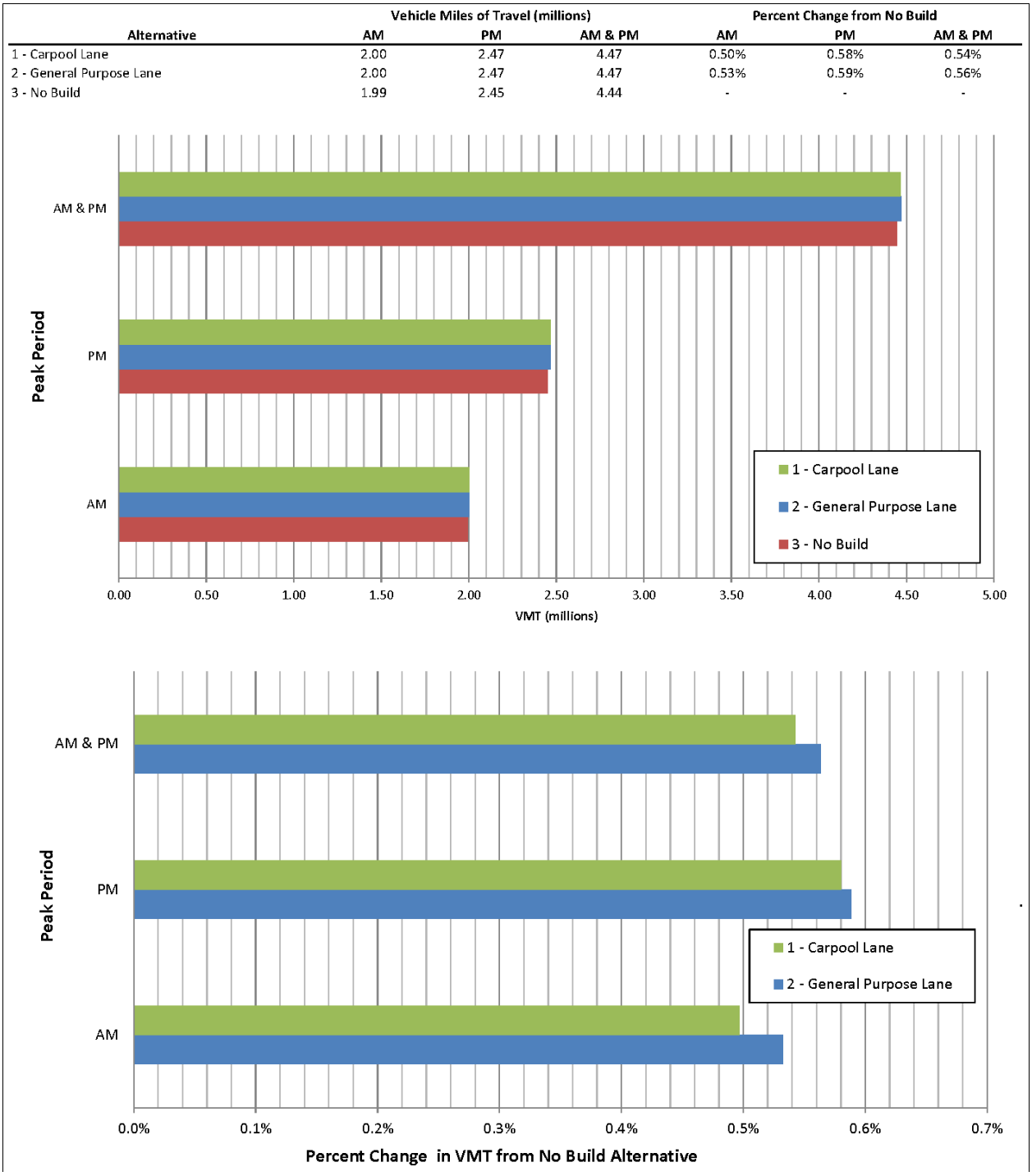
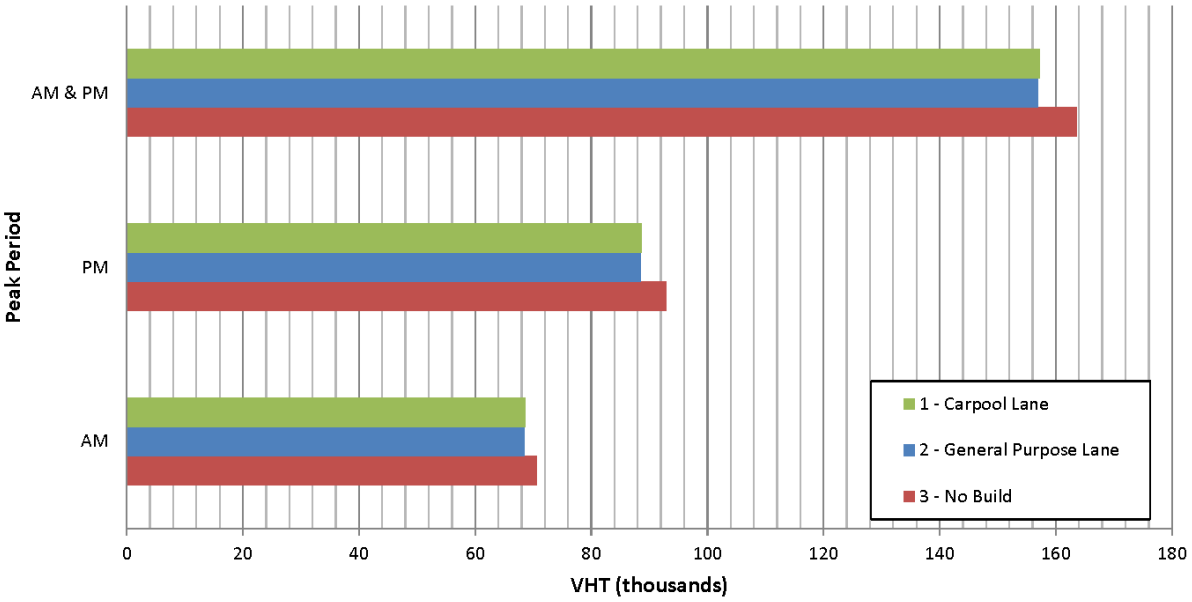


Figure 18 – Design Year Meso-Scale VMT Comparison

Alternative	Vehicle Hours of Travel (thousands)			Percent Change from No Build		
	AM	PM	AM & PM	AM	PM	AM & PM
1 - Carpool Lane	68.6	88.6	157.2	-2.91%	-4.68%	-3.92%
2 - General Purpose Lane	68.5	88.4	157.0	-3.01%	-4.85%	-4.06%
3 - No Build	70.6	93.0	163.6	-	-	-



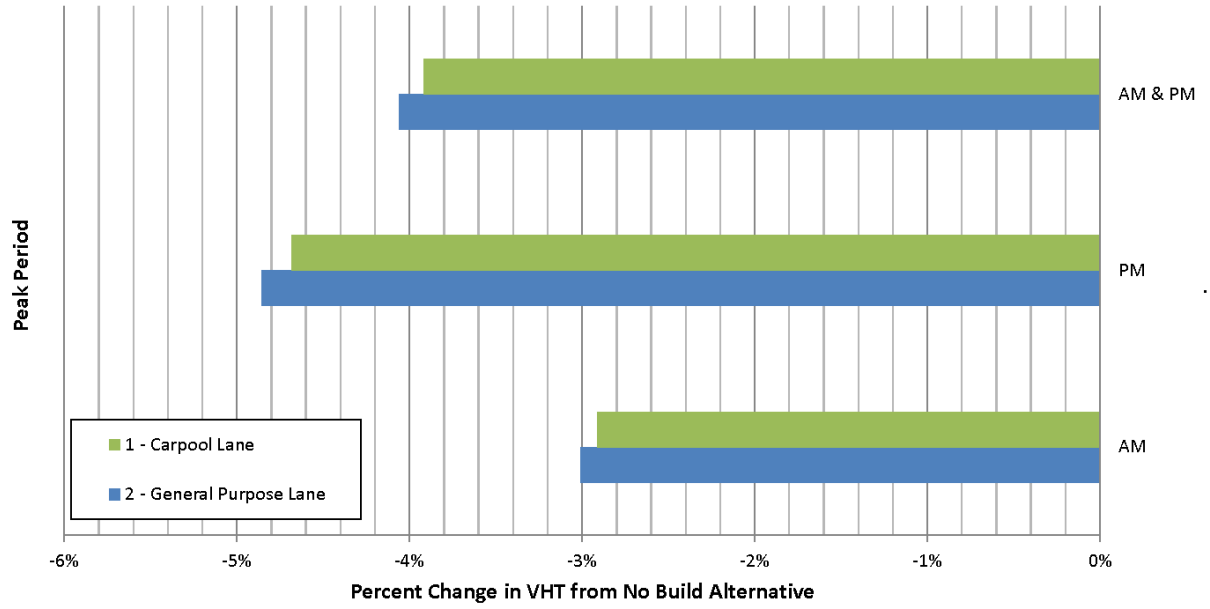
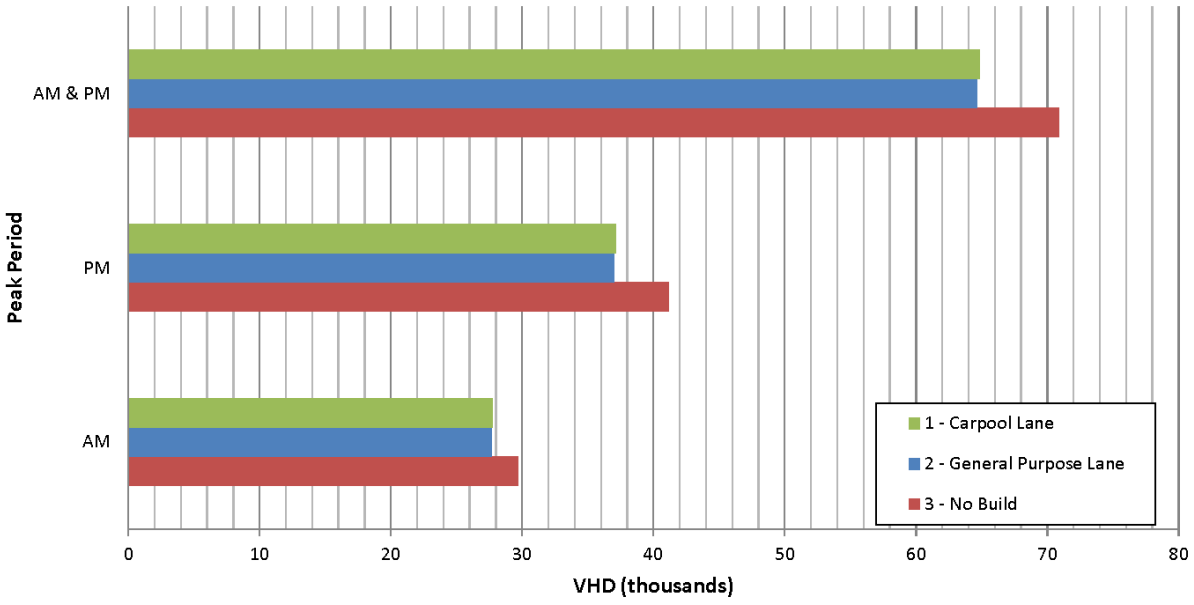


Figure 19 – Design Year Meso-Scale VHT Comparison

Alternative	Vehicle Hours of Delay (thousands) AM	PM	AM & PM	Percent Change from No Build AM	PM	AM & PM
1 - Carpool Lane	27.7	37.1	64.9	-6.52%	-9.88%	-8.47%
2 - General Purpose Lane	27.7	37.0	64.7	-6.76%	-10.21%	-8.77%
3 - No Build	29.7	41.2	70.9	-	-	-



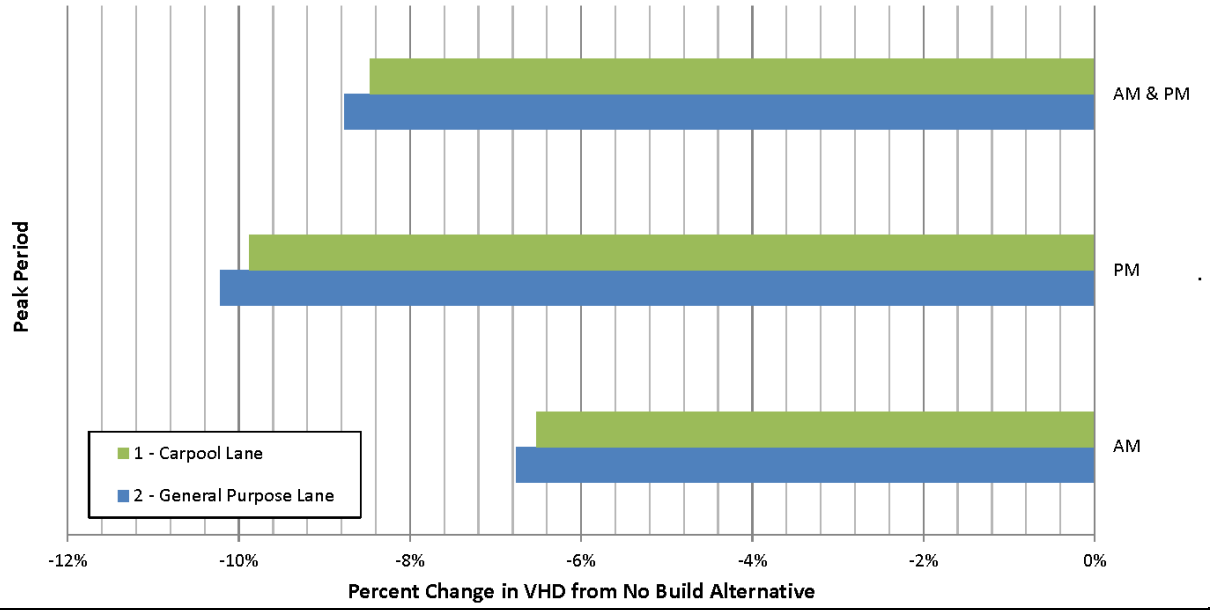
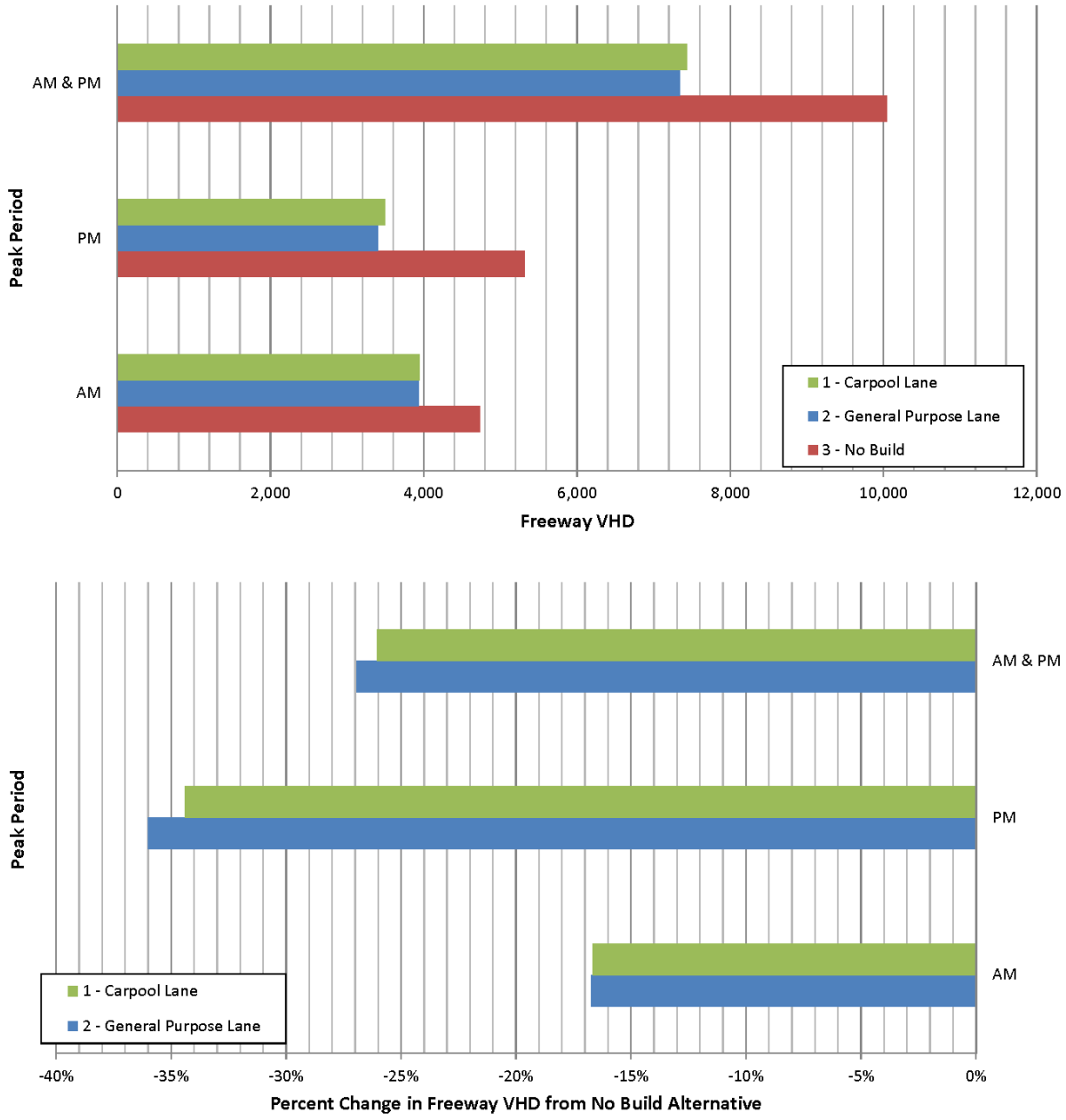


Figure 20 – Design Year Meso-Scale VHD Comparison

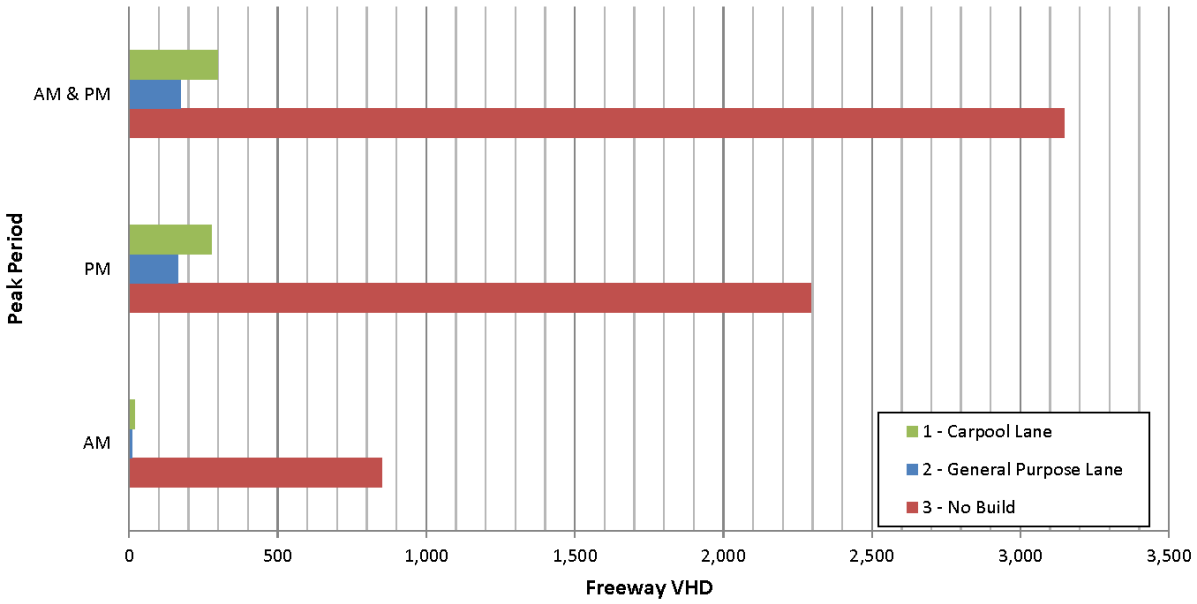
Alternative	Freeway Vehicle Hours of Delay*			Percent Change from No Build		
	AM	PM	AM & PM	AM	PM	AM & PM
1 - Carpool Lane	3,941	3,489	7,429	-16.65%	-34.40%	-26.04%
2 - General Purpose Lane	3,936	3,404	7,340	-16.75%	-35.98%	-26.93%
3 - No Build	4,728	5,318	10,046	-	-	-

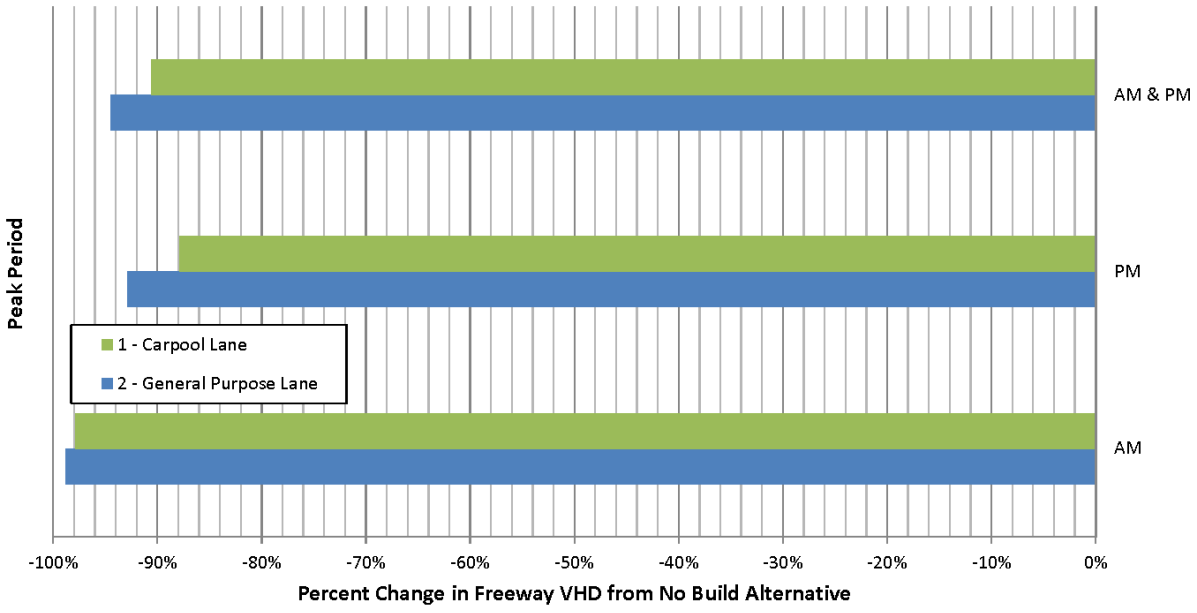


* Freeway VHD is measured only for freeway mainline links with an average speed less than 35 mph.

Figure 21 – Design Year Meso-Scale Freeway VHD Comparison

Alternative	Freeway Vehicle Hours of Delay*			Percent Change from No Build		
	AM	PM	AM & PM	AM	PM	AM & PM
1 - Carpool Lane	18	279	297	-97.86%	-87.86%	-90.57%
2 - General Purpose Lane	10	164	174	-98.80%	-92.85%	-94.46%
3 - No Build	852	2,296	3,147	-	-	-





* Freeway VHD is measured only for freeway mainline links with an average speed less than 35 mph.

Figure 22 – Design Year Meso-Scale Project-Area Freeway VHD Comparison

4.2.4. Construction Year Forecasts

The construction year (2020) forecasts shown in Figures 23 through 25 were developed by interpolating between the hourly matrices for the baseline (2012) traffic volume estimates and the design year (2040) forecasts. Using Visum, the resulting matrices were assigned to the roadway network that corresponds to the planned projects expected to be completed by 2020 (as shown in Figure 2)[7]. Due to these changes, construction year demand volumes at any particular location may not be the exact linearly interpolated value between the existing and design year volumes.

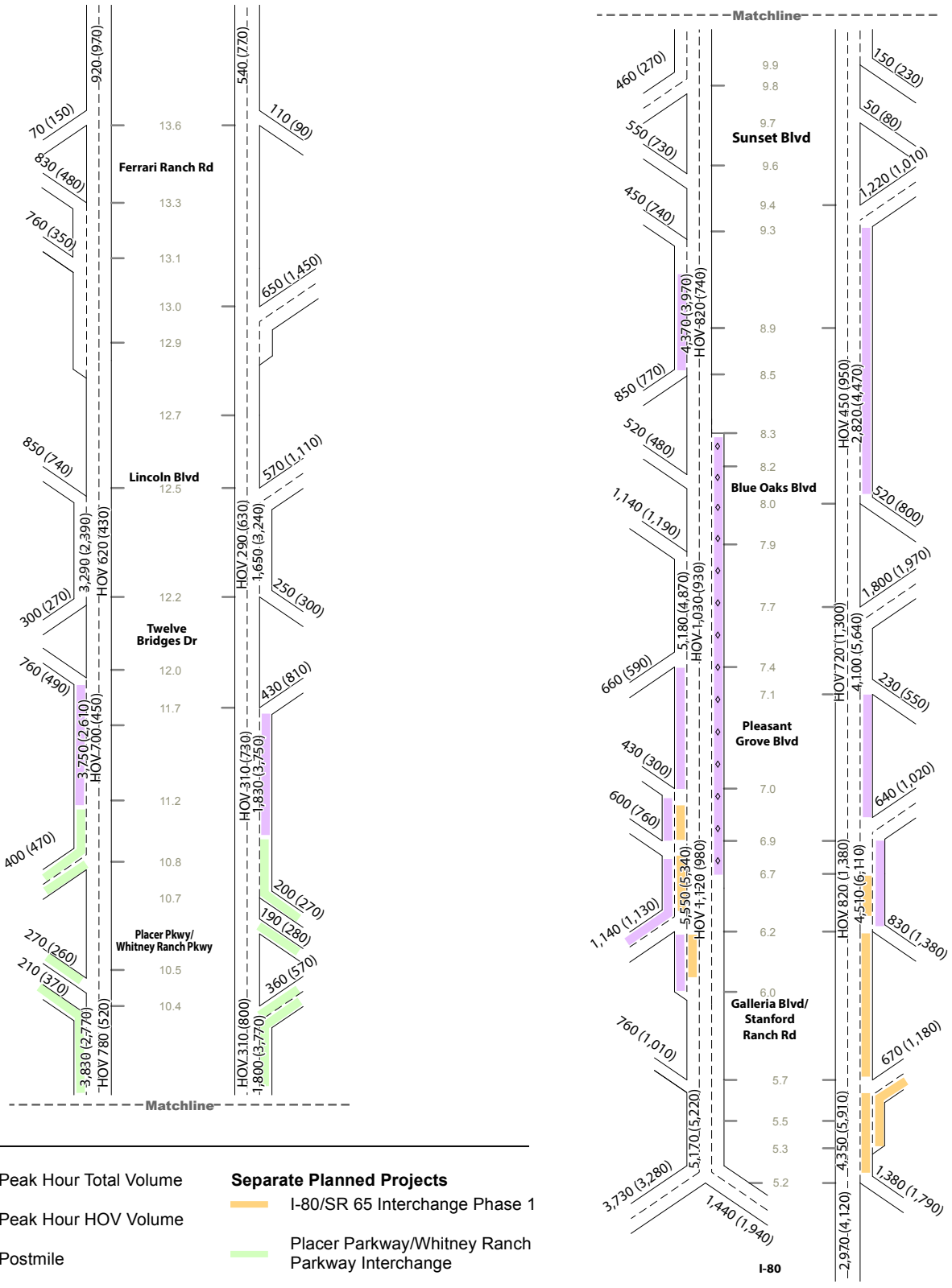
This process presumes a linear growth relationship and captures some of the influence of project alternatives on trip assignment. One of the potential limitations of this approach is that recent growth has not kept pace with the projected linear growth rate. The sluggish economic recovery from the 2008/09 recession may result in actual construction year volumes that are lower than the projections, but this outcome is acceptable for the purpose of designing and evaluating project alternatives.

4.2.5. Meso-Scale Network Performance for Construction Year

In addition to generating traffic volume forecasts for input to the Vissim microsimulation traffic operations model, the Visum model was used to produce the same meso-scale network performance measures reported for existing conditions. Figures 26 through 31 compare network performance across the project alternatives for construction year conditions during the AM, the PM, and both the AM and PM peak periods. The reported performance measures are VMT, VHT, VHD, freeway VHD, and project-area freeway VHD, where the project area is SR 65 between Stanford Ranch Road/Galleria Boulevard and Ferrari Ranch Road (VMT by 5-mph speed bin is reported in the appendix).

The results show that the build alternatives increase VMT and reduce VHT and VHD compared to the no build alternative. Alternative 2 (General Purpose Lane) has lower network-wide VHT and VHD, but Alternative 1 (Carpool Lane) has lower VMT and freeway VHD, for both the study and project areas.

[7] As noted previously, the build alternatives originally included mainline widening north of Blue Oaks Boulevard. The construction year forecast models include this widening, which results in volumes that are higher than would be expected. The construction year volumes for the No Build Alternative are not affected.



LEGEND

AM (PM) Peak Hour Total Volume

HOV AM (PM) Peak Hour HOV Volume

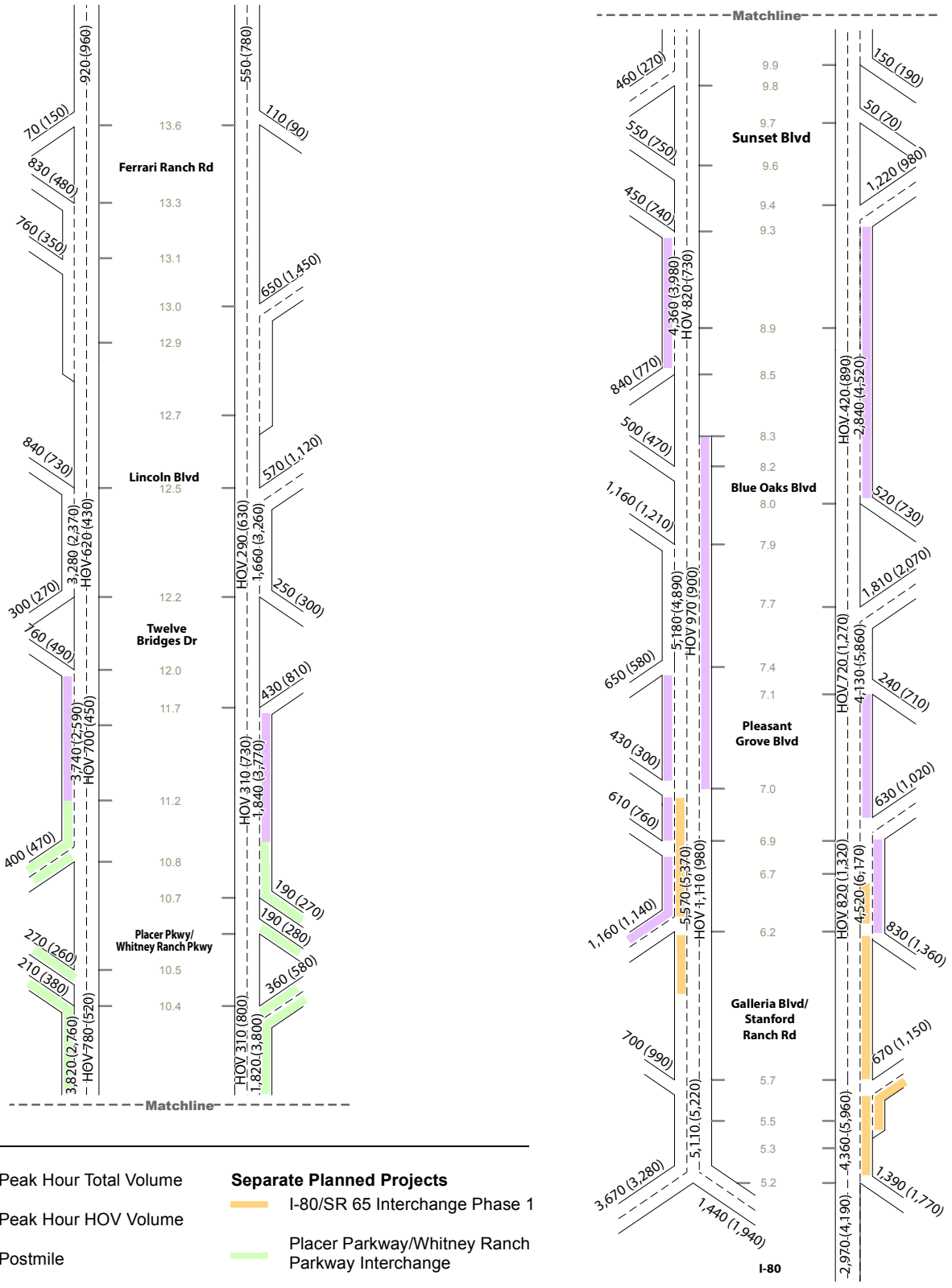
10.1 Postmile

Separate Planned Projects

- I-80/SR 65 Interchange Phase 1
- Placer Parkway/Whitney Ranch Parkway Interchange
- Carpool Lane (Alternative 1)

Figure 23

Construction Year Peak Hour Traffic Volumes and Lane Configurations - Carpool Lane (Alternative 1)



LEGEND

AM (PM) Peak Hour Total Volume

HOV AM (PM) Peak Hour HOV Volume

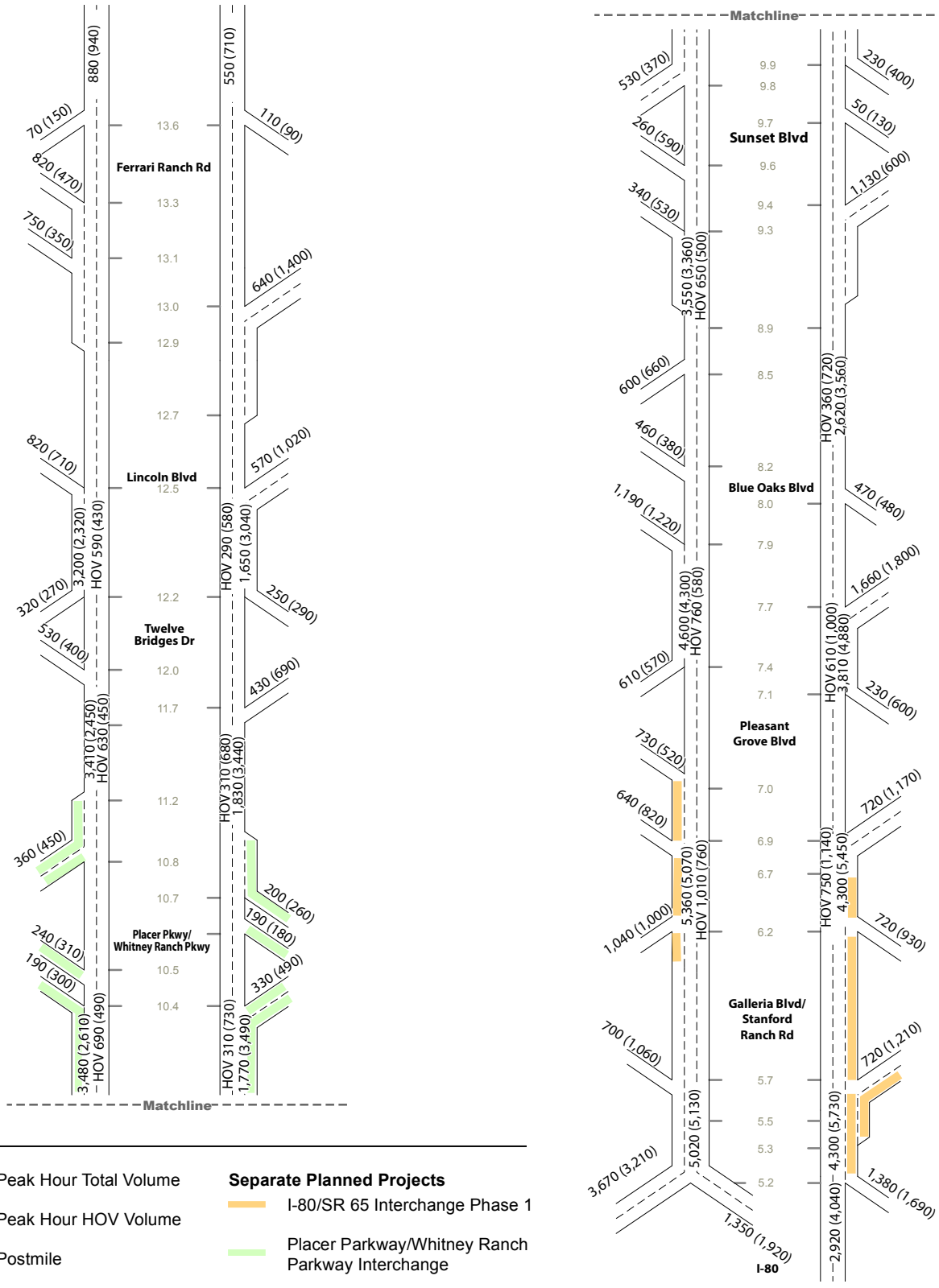
10.1 Postmile

Separate Planned Projects

- I-80/SR 65 Interchange Phase 1
- Placer Parkway/Whitney Ranch Parkway Interchange
- General Purpose Lane (Alternative 2)

Figure 24

Construction Year Peak Hour Traffic Volumes and Lane Configurations - General Purpose Lane (Alternative 2)



LEGEND

AM (PM) Peak Hour Total Volume

HOV AM (PM) Peak Hour HOV Volume

10.1 Postmile

Separate Planned Projects

I-80/SR 65 Interchange Phase 1

Placer Parkway/Whitney Ranch Parkway Interchange

Figure 25

Construction Year Peak Hour Traffic Volumes and Lane Configurations - No Build (Alternative 3)

Alternative	Vehicle Miles of Travel (millions)			Percent Change from No Build		
	AM	PM	AM & PM	AM	PM	AM & PM
1 - Carpool Lane	1.65	1.92	3.57	0.25%	0.32%	0.29%
2 - General Purpose Lane	1.65	1.92	3.57	0.26%	0.33%	0.30%
3 - No Build	1.65	1.92	3.56	-	-	-

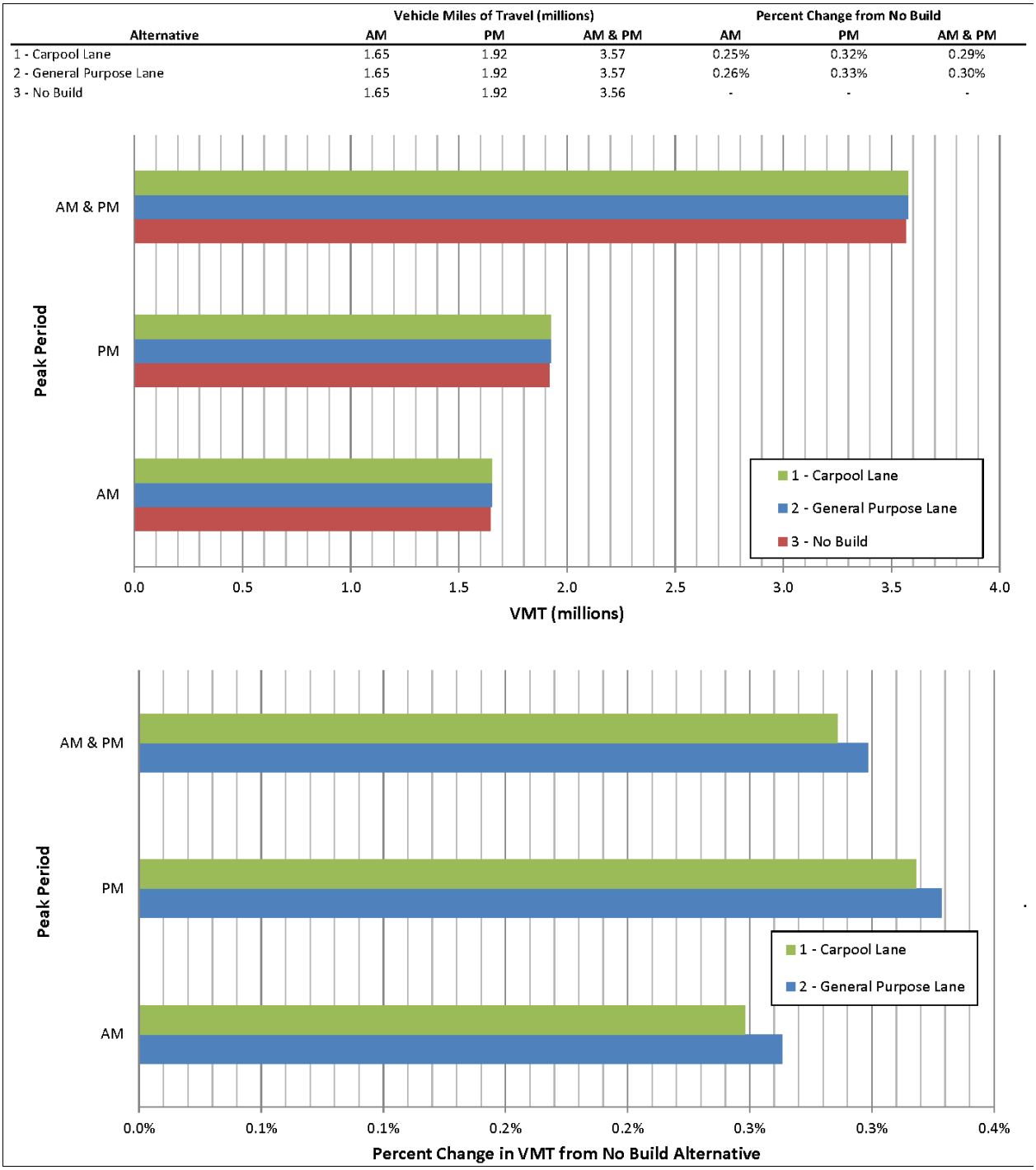


Figure 26 – Construction Year Meso-Scale VMT Comparison

Alternative	Vehicle Hours of Travel (thousands)			Percent Change from No Build		
	AM	PM	AM & PM	AM	PM	AM & PM
1 - Carpool Lane	55.1	62.9	118.1	-1.10%	-1.78%	-1.46%
2 - General Purpose Lane	55.1	62.9	118.0	-1.14%	-1.85%	-1.52%
3 - No Build	55.8	64.1	119.8	-	-	-

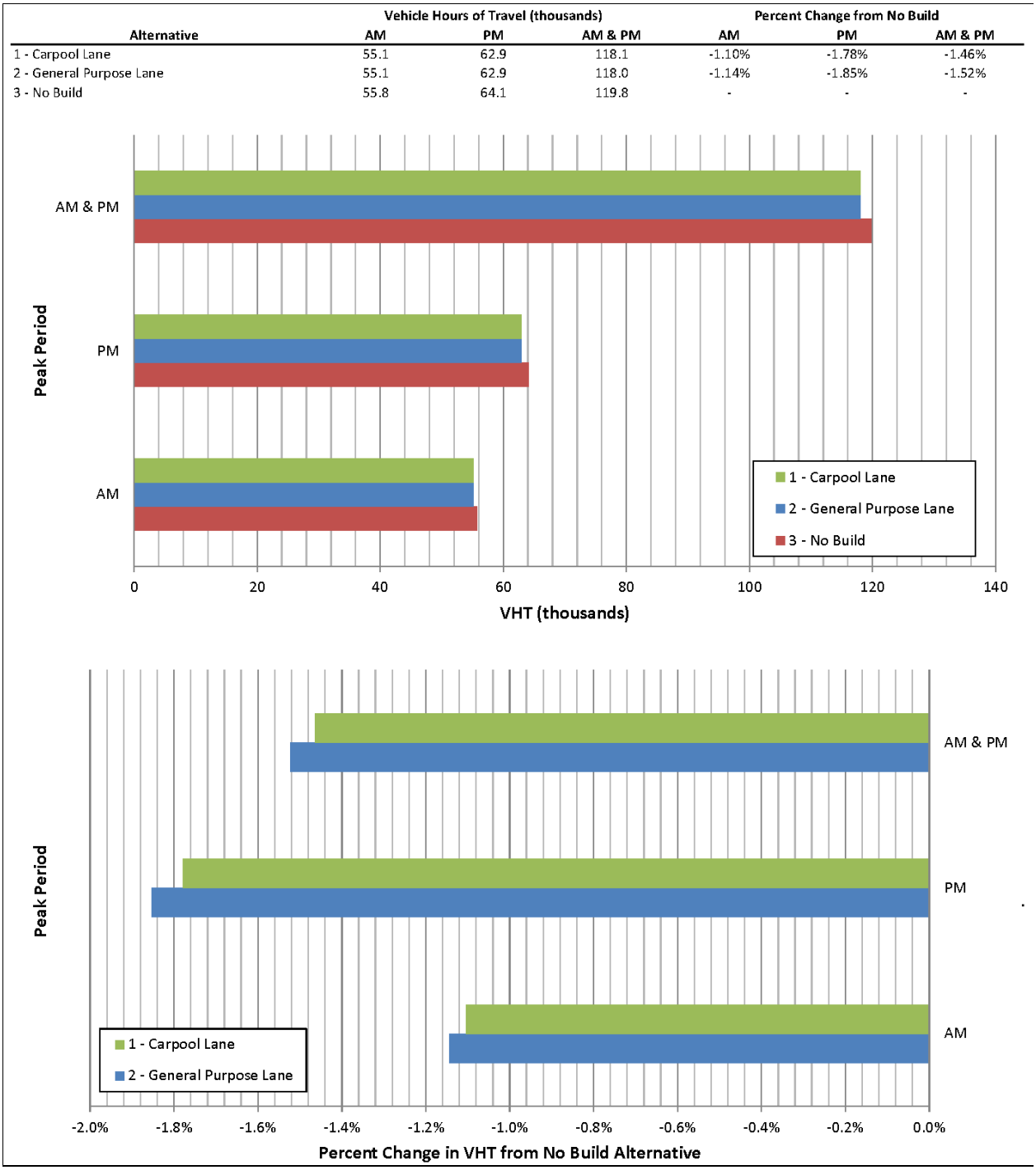


Figure 27 – Construction Year Meso-Scale VHT Comparison

Alternative	Vehicle Hours of Delay (thousands) AM	PM	AM & PM	Percent Change from No Build AM	PM	AM & PM
1 - Carpool Lane	21.7	23.3	45.0	-2.56%	-4.12%	-3.37%
2 - General Purpose Lane	21.7	23.2	45.0	-2.66%	-4.28%	-3.50%
3 - No Build	22.3	24.3	46.6	-	-	-

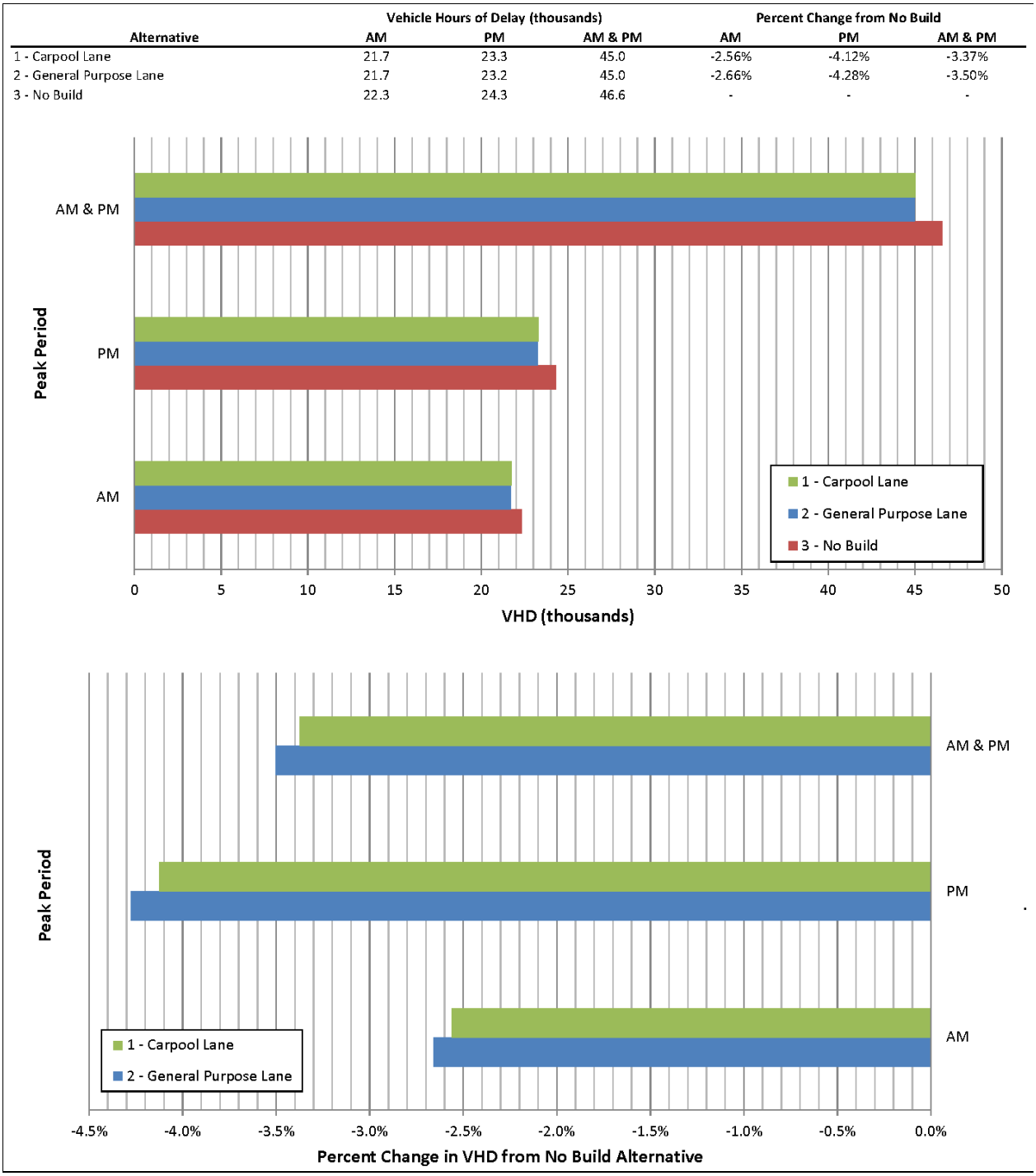
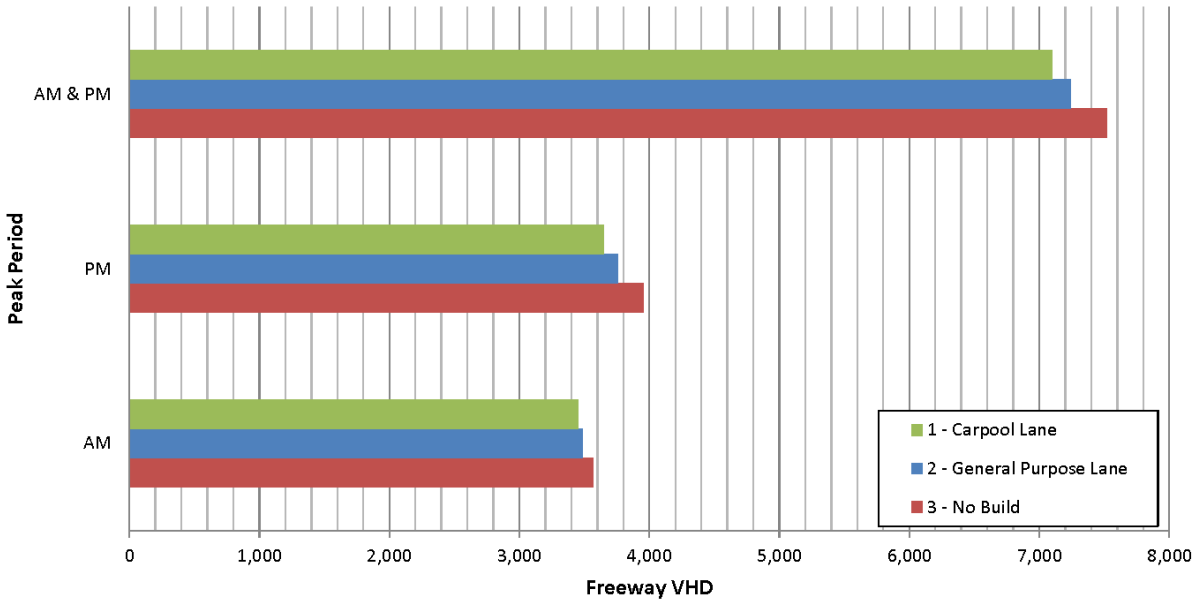
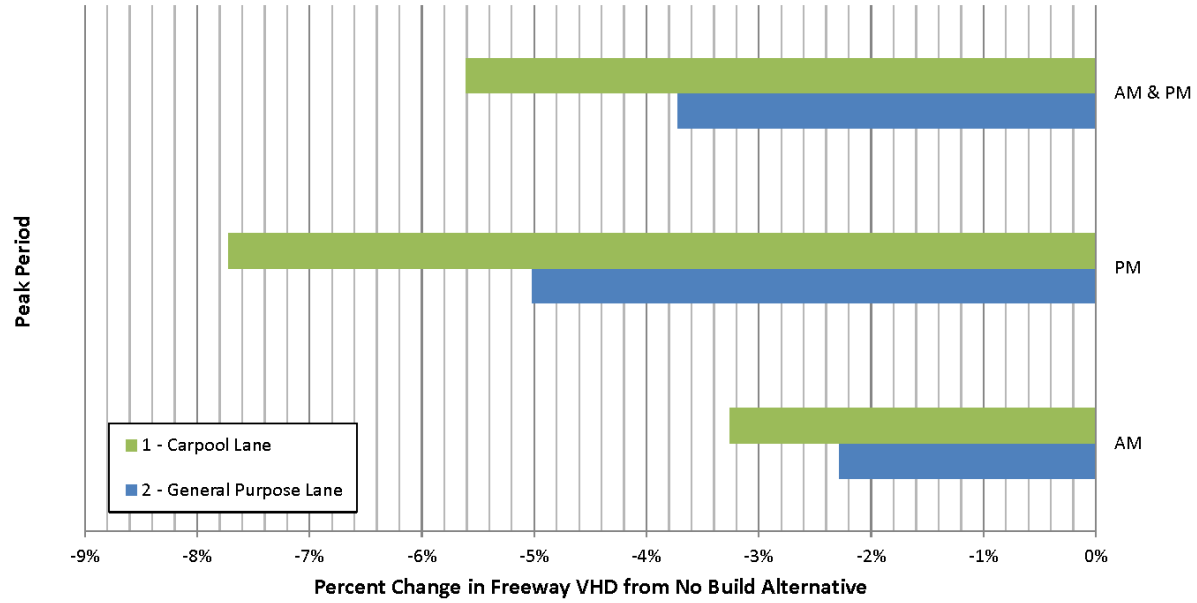


Figure 28 – Construction Year Meso-Scale VHD Comparison

Alternative	Freeway Vehicle Hours of Delay*			Percent Change from No Build		
	AM	PM	AM & PM	AM	PM	AM & PM
1 - Carpool Lane	3,449	3,647	7,096	-3.26%	-7.72%	-5.61%
2 - General Purpose Lane	3,484	3,754	7,238	-2.29%	-5.02%	-3.72%
3 - No Build	3,565	3,953	7,518	-	-	-

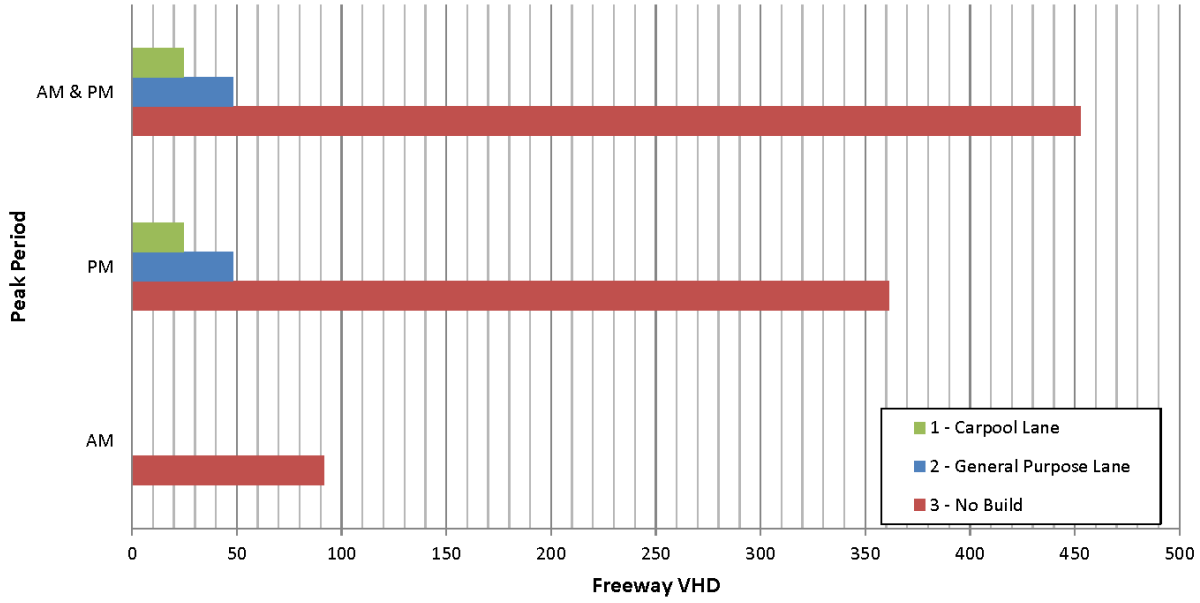


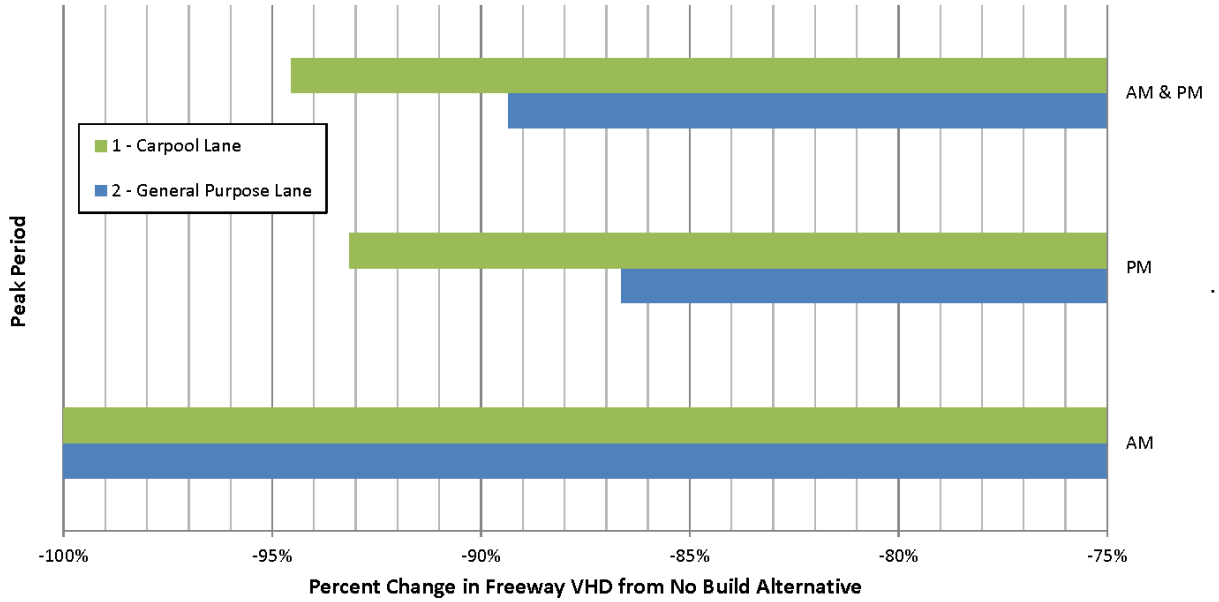


* Freeway VHD is measured only for freeway mainline links with an average speed less than 35 mph.

Figure 29 – Construction Year Meso-Scale Freeway VHD Comparison

Alternative	Freeway Vehicle Hours of Delay*			Percent Change from No Build		
	AM	PM	AM & PM	AM	PM	AM & PM
1 - Carpool Lane	0	25	25	-100.00%	-93.15%	-94.54%
2 - General Purpose Lane	0	48	48	-100.00%	-86.64%	-89.34%
3 - No Build	91	361	453	-	-	-





* Freeway VHD is measured only for freeway mainline links with an average speed less than 35 mph.

Figure 30 – Construction Year Meso-Scale Project-Area Freeway VHD Comparison

4.2.6. Induced Travel

The phenomenon where additional capacity leads to additional demand for travel is known as "induced travel." Induced travel occurs when the cost of travel is reduced (i.e., travel time reduction due to additional capacity) causing an increase in demand (more travelers using the improved facility). The reduction in travel time causes various responses by travelers, including diversion from other routes, changes in destinations, changes in mode, departure time shifts, and possibly the creation of new trips all together. As described previously, the SACMET and Visum models have limitations, but they do account for most of the factors that influence induced travel (e.g., changes in route, mode, and destination). The main factors they do not fully account for is the potential generation of new trips and long-term induced land use growth.

Since the SACMET trip generation model was calibrated to 2008 base year conditions when vehicle trip making in the region was not constrained by congestion, pricing, or some other means, the model represents a full level of travel demand being generated by households and employment. This means that new trips being created as a result of a network change are very unlikely because there is no constraint preventing these trips from occurring.

Long-term induced land use growth is the one factor that may not be fully represented because there is no direct feedback process to the land use growth forecasts. However, as part of this project, land use growth was assessed by the PDT. The PDT increased the growth of households and employment in the study area recognizing this area has been planned for additional growth and the transportation improvements associated with this project are intended to help accommodate that growth.

4.2.7. Daily Forecasts

Using the SACMET model files that were the starting point for the peak period forecasts, daily forecasts were prepared for the project alternatives under design year conditions. Table 13 provides the daily mainline volume SR 65 for all vehicles and for trucks in the project area.

TABLE 13: AVERAGE ANNUAL DAILY TRAFFIC VOLUME

Segment	Existing Conditions[1]		Design Year Conditions					
			Alternative 1 (Carpool Lane)		Alternative 2 (GP Lane)		Alternative 3 (No Build)	
	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
I-80 to Galleria Blvd	106,100	3,500	168,100	6,300	169,000	6,400	158,000	6,200
Stanford Ranch Rd/ Galleria Blvd to Pleasant Grove Blvd	104,400	3,500	169,200	6,600	170,900	6,700	152,400	6,300
Pleasant Grove Blvd to Blue Oaks Blvd	83,400	3,100	159,800	6,300	162,300	6,400	140,800	6,000
Blue Oaks Blvd to Sunset Blvd	65,300	2,400	134,600	4,900	135,700	4,900	112,100	4,600
Sunset Blvd to Whitney Ranch Pkwy/ Placer Pkwy	54,000	1,900	114,000	3,700	114,600	3,700	96,900	3,300
Whitney Ranch Pkwy/Placer Pkwy to Twelve Bridges Dr			126,500	3,500	127,000	3,500	112,700	3,400
Twelve Bridges Dr to Lincoln Blvd[2]	48,800	1,900	104,300	3,200	104,500	3,200	93,600	3,000
Lincoln Blvd to Ferrari Ranch Rd	-	-	61,100	2,700	61,400	2,700	56,300	2,600

Notes: [1]The existing conditions total volume data is from 2009 as reported in the PeMS database. The existing truck volumes are estimated from the base year SACMET model.

[2]The existing condition total volume data from Twelve Bridges Dr to Lincoln Blvd is estimated based on 2009 PeMS data at Sunset Blvd and the base year SACMET model.

Source: Fehr & Peers, 2015

Chapter 5. Traffic Operations Analysis

This section summarizes the traffic operations analysis results based on the Vissim microsimulation traffic operations model (refer to Figure 4 for the Vissim network limits). This analysis provides more detailed insights about peak period and peak hour traffic operations under each alternative. Technical calculations supporting the results can be found in the separately bound Appendix. Design year analysis results are presented first followed by the construction year. All analysis was conducted with the same methodology described in Chapter 2. Further, the evaluation criteria from Chapter 2 were used to identify locations with deficient operations. For these locations, improvements are proposed that may be considered as project refinements or mitigation.

5.1. **Design Year Conditions**

Overall network performance statistics for AM and PM peak period operations are summarized for each alternative in Tables 14 and 15 below, respectively.

TABLE 14: COMPARISON OF OVERALL NETWORK PERFORMANCE – DESIGN YEAR AM PEAK PERIOD

Performance Measure		Existing Conditions	Design Year Conditions		
			Alternative 1	Alternative 2	Alternative 3
Volume Served (% of total demand)		143,450 (100%)	208,160 (99%)	207,470 (99%)	208,800 (99%)
Vehicle Miles of Travel (VMT)		645,270	940,220	950,660	917,290
Person Miles of Travel		786,260	1,113,340	1,133,470	1,094,920
Vehicle Hours of Travel (VHT)		13,760	21,710	21,960	22,140
Vehicle Hours of Delay (VHD) (% of VHT)		2,670 (19%)	5,540 (26%)	5,620 (26%)	6,330 (29%)
Average Delay per Vehicle (min)		1.12	1.60	1.63	1.82
Person Hours of Delay		3,240	6,320	6,490	7,320
Average Speed		46.9	43.3	43.3	41.4
Average Speed for HOVs		47.0	46.4	45.9	44.2
Travel Time: Ferrari Ranch Rd to I-80	SOV	-	7:49	7:53	11:11
	HOV	-	7:43	7:50	11:02
Travel Time: Blue Oaks Blvd to Antelope Rd	SOV	9:44	8:35	8:37	9:41
	HOV	9:27	8:23	8:29	9:37

Notes: PMT = person miles of travel, PHD = person hours of delay
Source: Fehr & Peers, 2015

The results presented in Tables 14 and 15 are summarized below.

- Overall, the build alternatives improve network performance compared to the no build alternative.
- The volume served in the network is about the same across alternatives, but the freeway peak hour volumes are lower for Alternative 3 (No Build). This means that Alternative 1 and 2 will have lower local street volume and congestion.
- Alternative 2 (General Purpose Lane) has higher VMT compared to Alternative 1 (Carpool Lane). For the AM peak period, the overall travel time and delay is lower for Alternative 1, but the reverse is true for the PM peak period.
- SOV travel time in the peak direction on SR 65 improves by more than three minutes with the build alternatives (both Alternatives 1 and 2 have similar travel times).
- In general, design year travel time through the I-80/SR 65 interchange would be better than existing conditions for all alternatives due to the separate I-80/SR 65 Interchange Improvements project.

TABLE 15: COMPARISON OF OVERALL NETWORK PERFORMANCE – DESIGN YEAR PM PEAK PERIOD

Performance Measure		Existing Conditions	Design Year Conditions		
			Alternative 1	Alternative 2	Alternative 3
Volume Served (% of total demand)		198,170 (101%)	300,780 (100%)	300,820 (100%)	302,580 (99%)
Vehicle Miles of Travel (VMT)		730,100	1,160,700	1,166,400	1,106,390
Person Miles of Travel		880,180	1,402,510	1,402,330	1,328,540
Vehicle Hours of Travel (VHT)		16,850	30,890	30,920	32,920
Vehicle Hours of Delay (VHD) (% of VHT)		3,950 (23%)	10,470 (34%)	10,430 (34%)	13,380 (41%)
Average Delay per Vehicle (min)		1.20	2.09	2.08	2.65
Person Hours of Delay		4,670	12,230	12,160	15,450
Average Speed		43.3	37.6	37.7	33.6
Average Speed for HOVs		44.7	40.5	40.4	37.3
Travel Time: I-80 to Ferrari Ranch Rd	SOV	-	7:52	7:53	11:07
	HOV	-	7:51	7:51	9:34
Travel Time: Auburn Blvd to Blue Oaks Blvd	SOV	9:16	6:31	6:32	11:47
	HOV	9:11	6:20	6:20	6:34

Notes: PMT = person miles of travel, PHD = person hours of delay
Source: Fehr & Peers, 2015

Specific details about design year freeway and arterial intersection operations are discussed in more detail in the following sections.

5.1.1. Freeway Operations

Detailed freeway operations analysis was completed for the peak hour (7:30 to 8:30 AM and 4:30 to 5:30 PM) of the four hour AM and PM peak periods. The AM and PM peak-hour served volume are listed in Figure 31. The AM and PM peak hour results for select locations are reported in Tables 16 and 17, respectively. The full set of results is available in the Appendix. Figures 32 through 39 display the average speed in the mixed-flow lanes throughout the network during the peak periods for each alternative.

Northbound SR 65

During the AM peak hour, Alternative 3 (No Build) would have LOS E conditions between Stanford Ranch Road and Pleasant Grove Boulevard. The lane drop at the Pleasant Grove Boulevard off-ramp would be the bottleneck resulting in an average speed between 40 and 50 mph for the peak 15 minutes (see Figure 32). The widening under the build alternatives would provide LOS D or better conditions for the entire corridor.

The PM peak hour would have a significant bottleneck at Pleasant Grove Boulevard under Alternative 3. The resulting congestion would last for longer than three hours and the queue would extend back onto eastbound I-80. The remaining corridor would operate at free-flow speeds. For the build alternatives, northbound SR 65 would have no congestion during the PM peak period.

During both the AM and PM peak hours, northbound SR 65 would operate with LOS E or better conditions under the build alternatives. As a result, the proposed project would not have any impacts.

Southbound SR 65

During the AM peak hour, Alternative 3 would have two major bottlenecks. First, the weave segment between Blue Oaks Boulevard and Pleasant Grove Boulevard would be over capacity for about two hours, resulting in peak-hour LOS F conditions extending upstream to the Sunset Boulevard interchange. Second, the segment between Pleasant Grove Boulevard and Galleria Boulevard would be congested for more than two hours causing slow speeds that would extend into the upstream bottleneck at Blue Oaks Boulevard. As shown in Figure 16, the traffic assignment model is sensitive to the freeway congestion, so more traffic would use local streets than the freeway in Alternative 3.

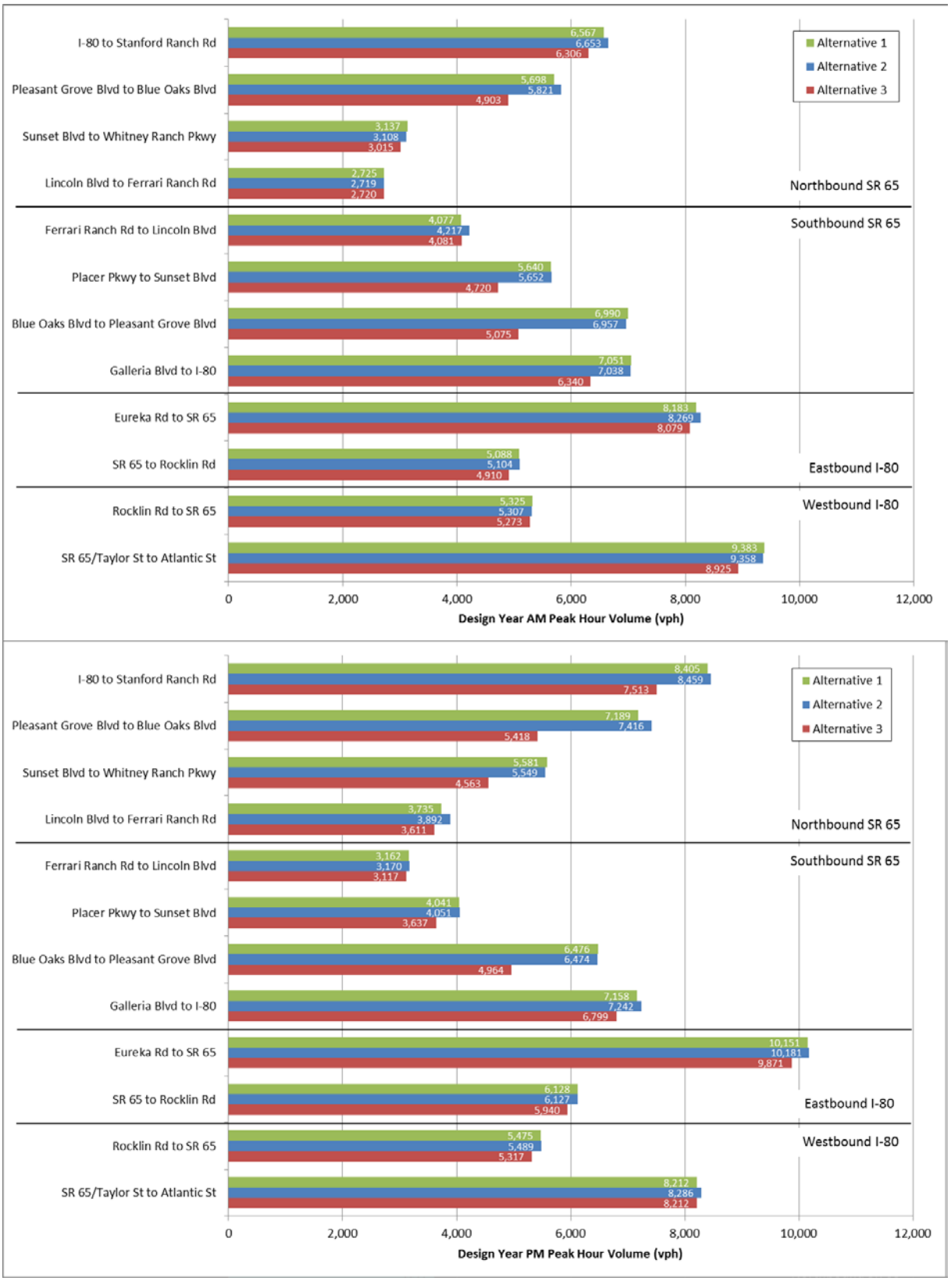


Figure 31 – Freeway Served Volume for Design Year Conditions

TABLE 16: SELECTED FREEWAY OPERATIONS RESULTS – DESIGN YEAR AM PEAK HOUR CONDITIONS

Freeway	Location	Type[1]	Alternative 1	Alternative 2	Alternative 3
NB SR 65	I-80 to Stanford Ranch Rd	Weave	C / 28	C / 28	C / 26
	Stanford Ranch Rd to Pleasant Grove Blvd	Weave	D / 30	D / 30	E / 40
					E / 40
	Pleasant Grove Blvd On-ramp	Merge	D / 31	D / 31	C / 23
	Blue Oaks Blvd Off-ramp	Diverge	C / 27	C / 28	
	Blue Oaks Blvd to Sunset Blvd	Basic	C / 19	C / 19	C / 21
	Whitney Ranch Pkwy to Twelve Bridges Dr	Weave	B / 15	B / 16	C / 19
SB SR 65	Lincoln Blvd to Twelve Bridges Dr	Weave	D / 34	D / 33	D / 28
	Twelve Bridges Dr to Placer Pkwy	Weave	D / 30	D / 29	D / 30
	Sunset Blvd to Blue Oaks Blvd	Weave	D / 34	D / 34	**F / 102**
	Blue Oaks Blvd WB On-ramp	Merge	D /32	D / 32	**F / 107**
	Blue Oaks Blvd to Pleasant Grove Blvd	Weave	D / 33	D / 32	**F / 79**
				D / 32	
	Pleasant Grove Blvd EB On-ramp	Merge	D / 33	**F / 46**	**F / 82**
	Pleasant Grove Blvd to Galleria Blvd	Basic	E / 35	E / 36	E / 37
EB I-80	Auburn Blvd to Douglas Blvd	Basic	E / 39	D / 32	E / 42
	Douglas Blvd to Eureka Rd	Weave	C / 27	C / 23	C / 27
	SR 65 Off-ramp	Diverge	C / 24	C / 22	C / 24
	SR 65 to Rocklin Rd	Basic	C / 26	C / 24	C / 24
WB I-80	Rocklin Rd to Carpool Lane Start	Basic	D / 31	D / 27	D / 30
	SR 65 to Atlantic St	Weave	C / 27	C / 24	C / 25
	Atlantic St On-ramp	Merge	E / 41	E / 36	E / 38
	Douglas Blvd Off-ramp	Diverge	E / 36	D / 32	D / 34
	Douglas Blvd EB On-ramp	Merge	E / 39	D / 31	E / 35
	Riverside Ave Off-ramp	Diverge	D / 35	D / 33	D / 34
	Antelope Rd to Truck Scales	Weave	**F / 48**	**F / 59**	**F / 70**
	Truck Scales On-ramp	Merge	**F / 79**	**F / 88**	**F / 87**
	Elkhorn Blvd EB On-ramp	Merge	**F / 91**	**F / 54**	**F / 61**

Notes: Bold and underline font indicate LOS F conditions. Shaded cells indicate a project impact. The level of service and average density for the study segment are reported.

[1] The facility type reported is for Alternative 1. The other results are contained in the Technical Appendix.

Source: Fehr & Peers, 2015

TABLE 17: SELECTED FREEWAY OPERATIONS RESULTS – DESIGN YEAR PM PEAK HOUR CONDITIONS

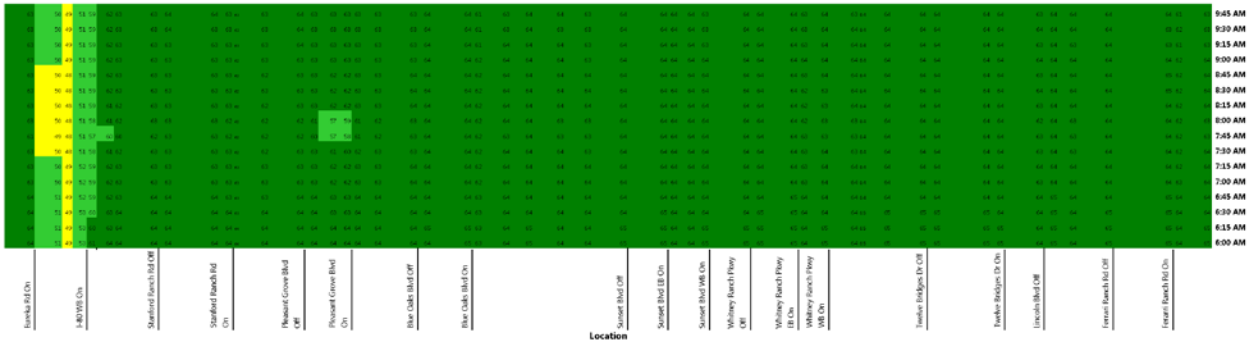
Freeway	Location	Type[1]	Alternative 1	Alternative 2	Alternative 3
NB SR 65	I-80 to Stanford Ranch Rd	Weave	D / 33	D / 32	**F / 79**
	Stanford Ranch Rd to Pleasant Grove Blvd	Weave	D / 33	D / 34	**F / 67**
					E / 40
	Pleasant Grove Blvd On-ramp	Merge	D / 33	D / 35	C / 22
	Blue Oaks Blvd Off-ramp	Diverge	D / 31	D / 32	
	Blue Oaks Blvd to Sunset Blvd	Basic	C / 26	C / 26	C / 21
	Whitney Ranch Pkwy to Twelve Bridges Dr	Weave	C / 24	C / 24	C / 24
SB SR 65	Lincoln Blvd to Twelve Bridges Dr	Weave	B / 17	B / 17	B / 17
	Twelve Bridges Dr to Placer Pkwy	Weave	B / 17	C / 22	C / 19
	Sunset Blvd to Blue Oaks Blvd	Weave	C / 24	C / 24	D / 29
	Blue Oaks Blvd WB On-ramp	Merge	C / 27	C / 27	**F / 48**
	Blue Oaks Blvd to Pleasant Grove Blvd	Weave	C / 28	D / 28	**F / 48**
				D / 29	
	Pleasant Grove Blvd EB On-ramp	Merge	D / 30	D / 34	**F / 89**
	Pleasant Grove Blvd to Galleria Blvd	Basic	D / 34	D / 33	E / 37
EB I-80	Auburn Blvd to Douglas Blvd	Basic	D / 32	E / 36	E / 35
	Douglas Blvd to Eureka Rd	Weave	C / 27	C / 27	E / 41
	SR 65 Off-ramp	Diverge	C / 24	C / 25	**F / 58**
	SR 65 to Rocklin Rd	Basic	C / 26	D / 27	D / 26
WB I-80	Rocklin Rd to Carpool Lane Start	Basic	D / 30	D / 33	D / 30
	SR 65 to Atlantic St	Weave	C / 23	C / 24	C / 24
	Atlantic St On-ramp	Merge	E / 37	E / 38	E / 39
	Douglas Blvd Off-ramp	Diverge	D / 34	D / 32	D / 32
	Douglas Blvd EB On-ramp	Merge	D / 33	E / 35	E / 36
	Riverside Ave Off-ramp	Diverge	D / 33	D / 34	D / 35
	Antelope Rd to Truck Scales	Weave	C / 26	C / 26	C / 28
	Truck Scales On-ramp	Merge	C / 27	D / 29	D / 29
	Elkhorn Blvd EB On-ramp	Merge	C / 27	C / 28	C / 28

Notes: Bold and underline font indicate LOS F conditions. Shaded cells indicate a project impact. The level of service and average density for the study segment are reported.

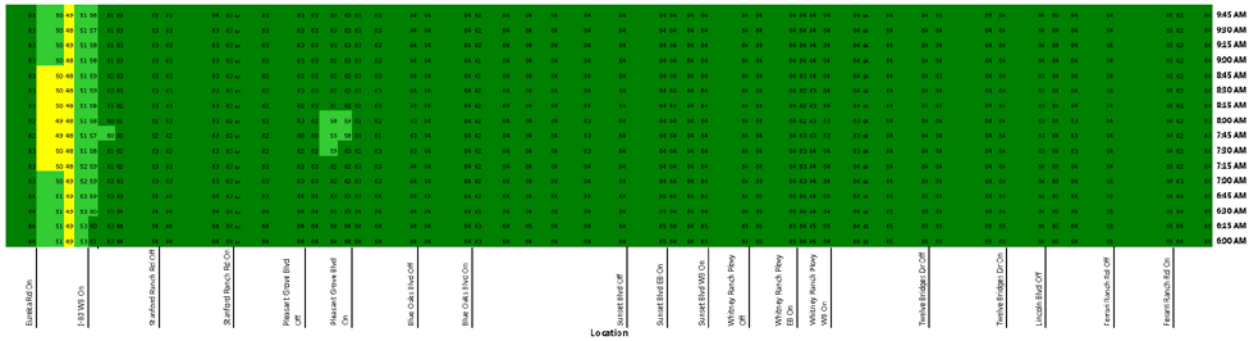
[1] The facility type reported is for Alternative 1. The other results are contained in the Technical Appendix.

Source: Fehr & Peers, 2015

CARPOOL LANE (ALTERNATIVE 1)



GENERAL PURPOSE LANE (ALTERNATIVE 2)



NO BUILD (ALTERNATIVE 3)

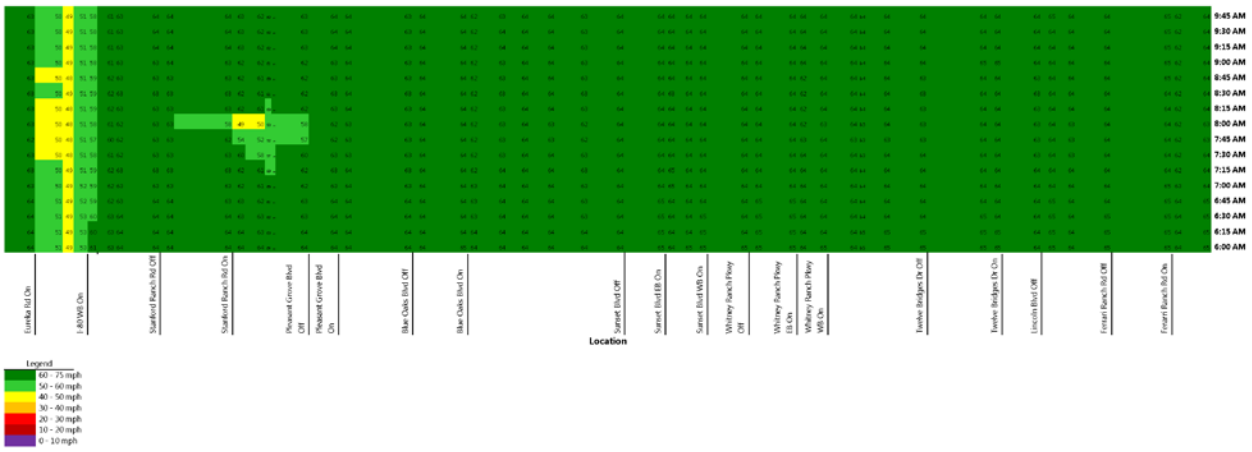
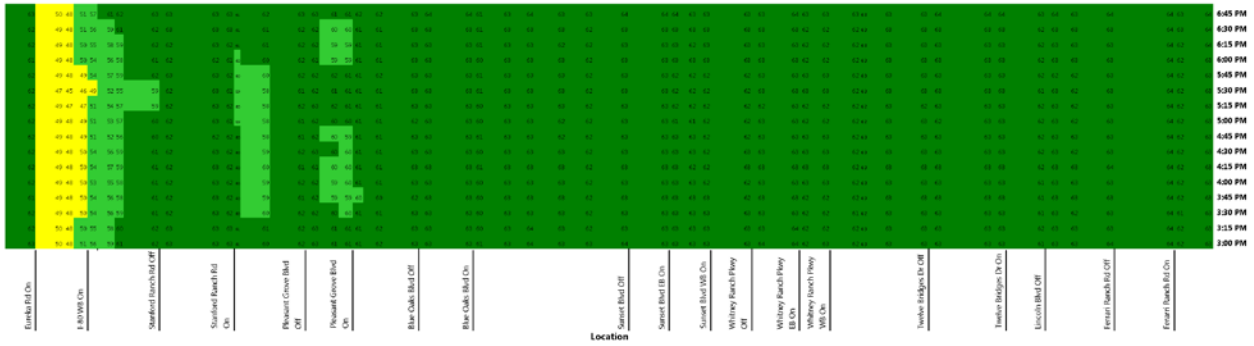
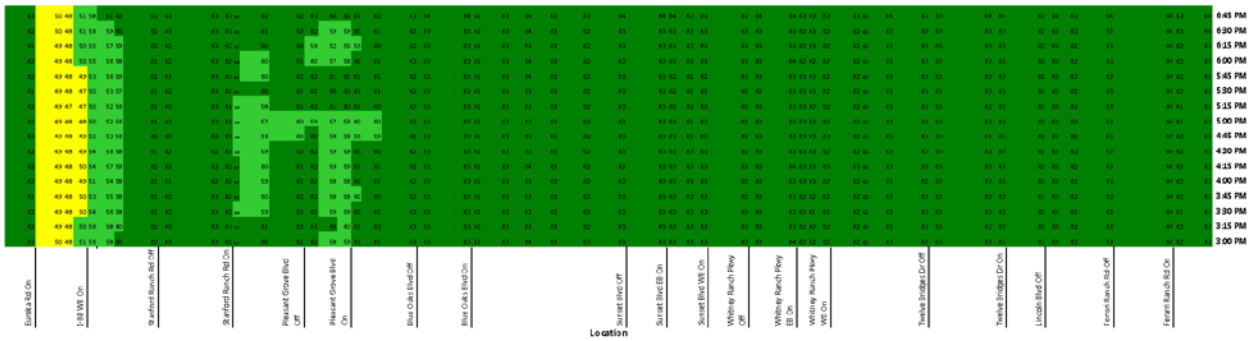


Figure 32 – Northbound SR 65 Design Year AM Peak Period Speed Contour Map

CARPOOL LANE (ALTERNATIVE 1)



GENERAL PURPOSE LANE (ALTERNATIVE 2)



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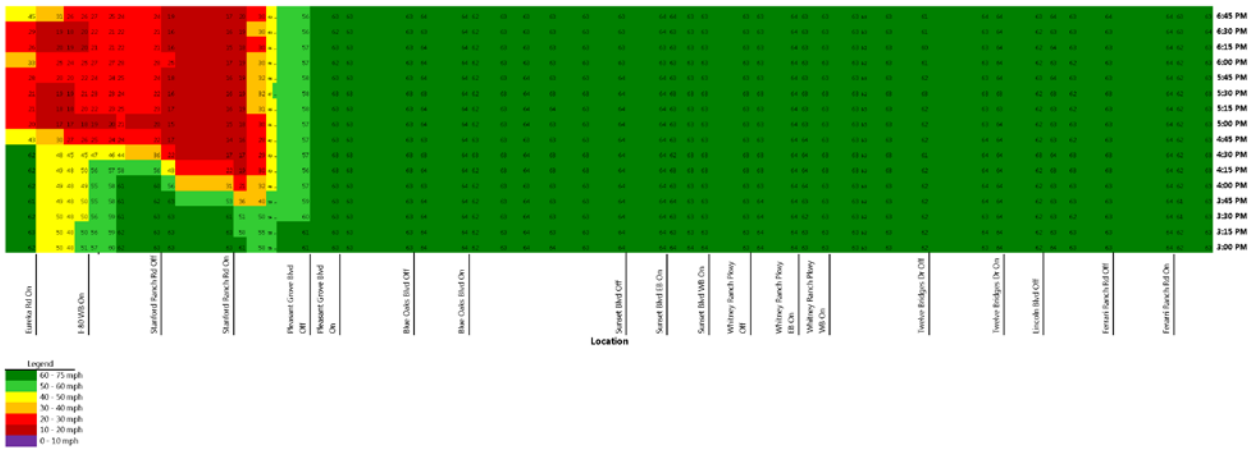
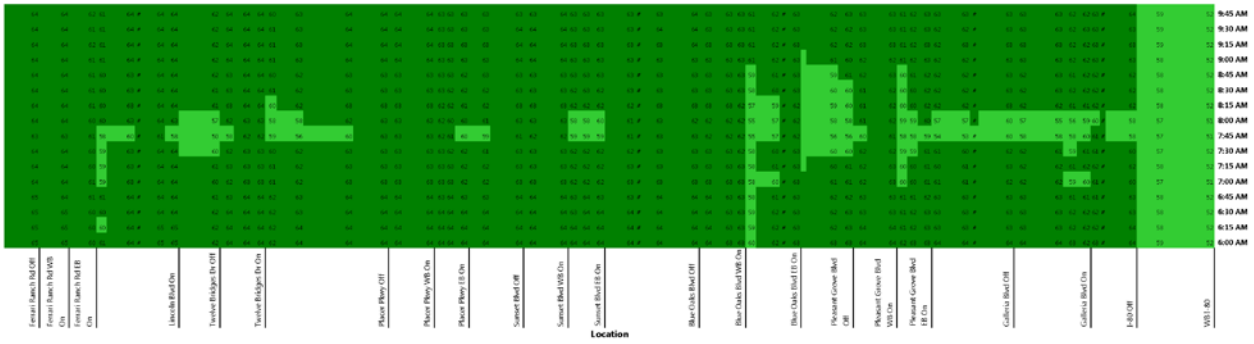
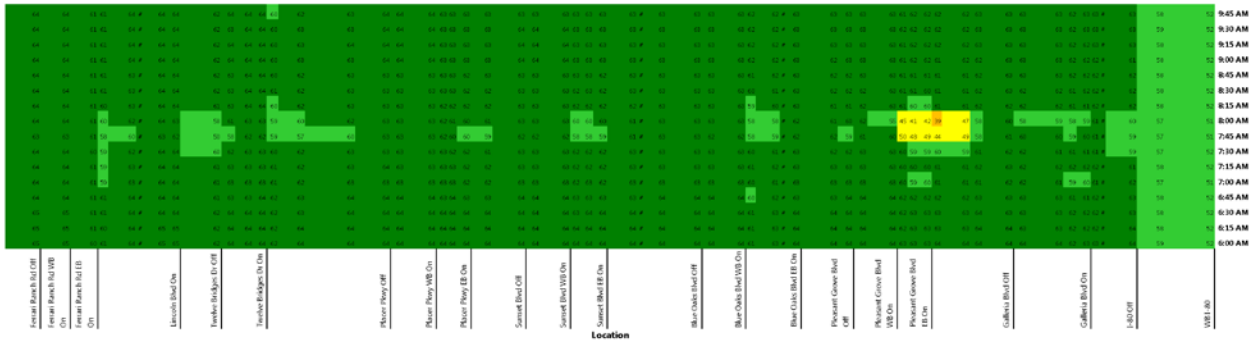


Figure 33 – Northbound SR 65 Design Year PM Peak Period Speed Contour Map

CARPOOL LANE (ALTERNATIVE 1)



GENERAL PURPOSE LANE (ALTERNATIVE 2)



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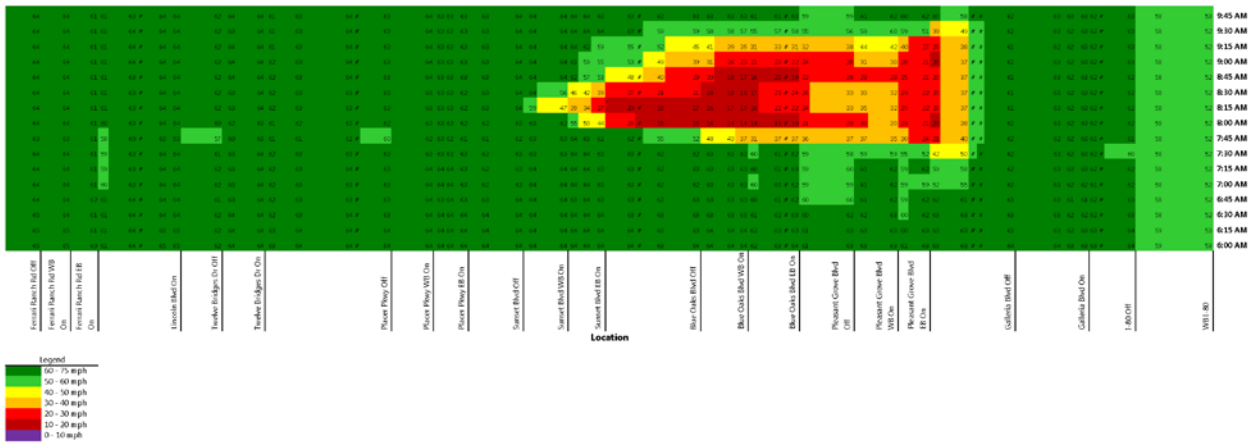
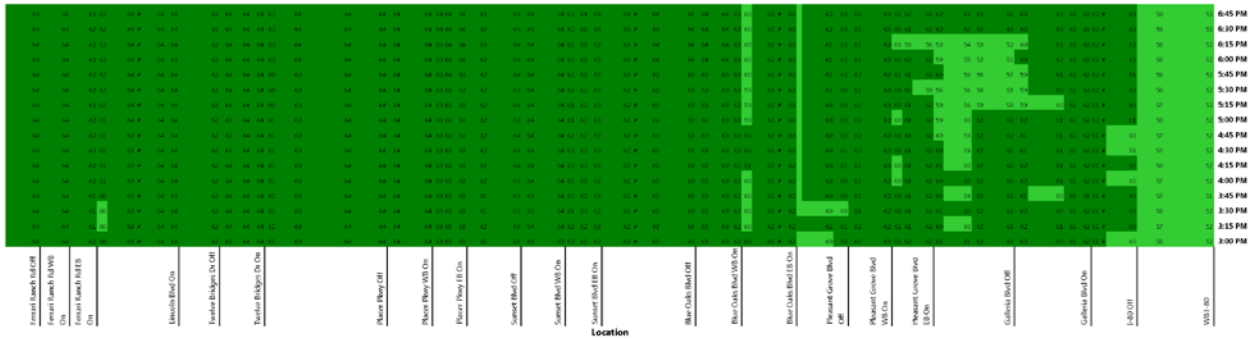
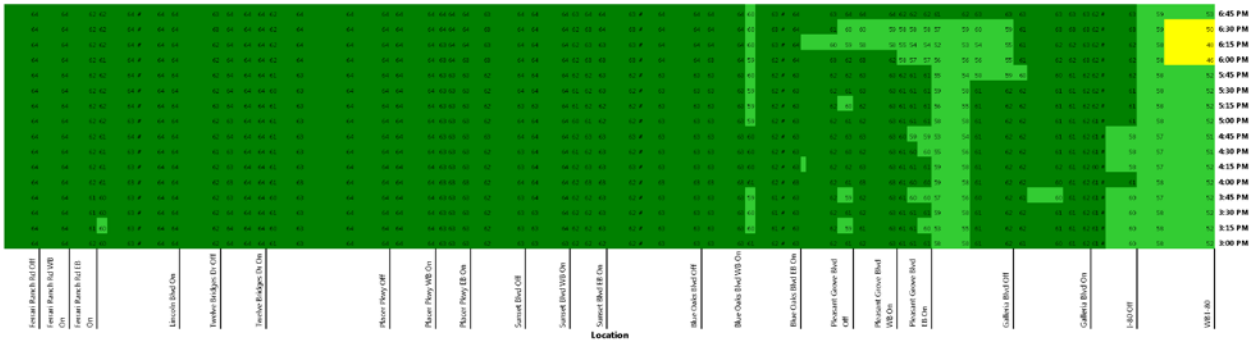


Figure 34 – Southbound SR 65 Design Year AM Peak Period Speed Contour Map

CARPOOL LANE (ALTERNATIVE 1)



GENERAL PURPOSE LANE (ALTERNATIVE 2)



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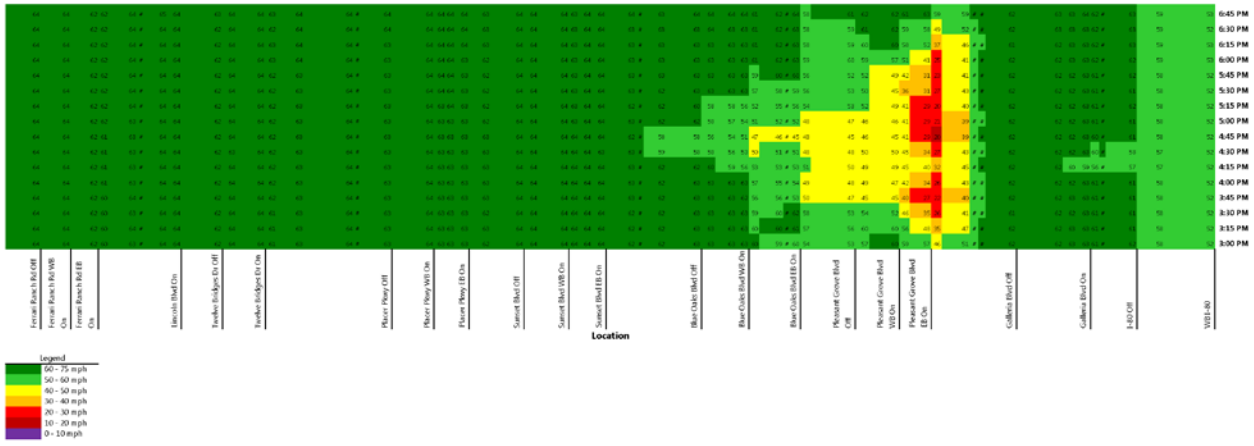
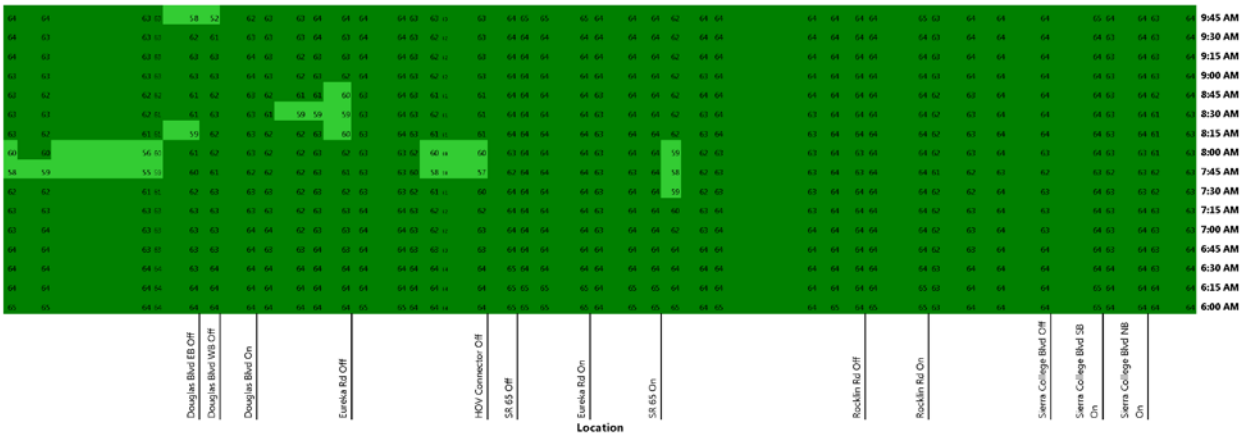


Figure 35 – Southbound SR 65 Design Year PM Peak Period Speed Contour Map

CARPOOL LANE (ALTERNATIVE 1)



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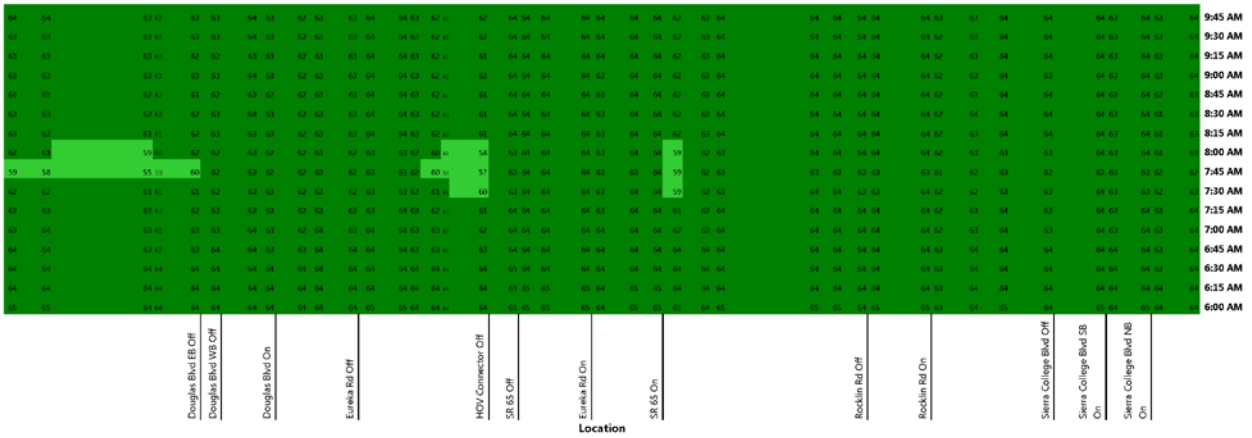

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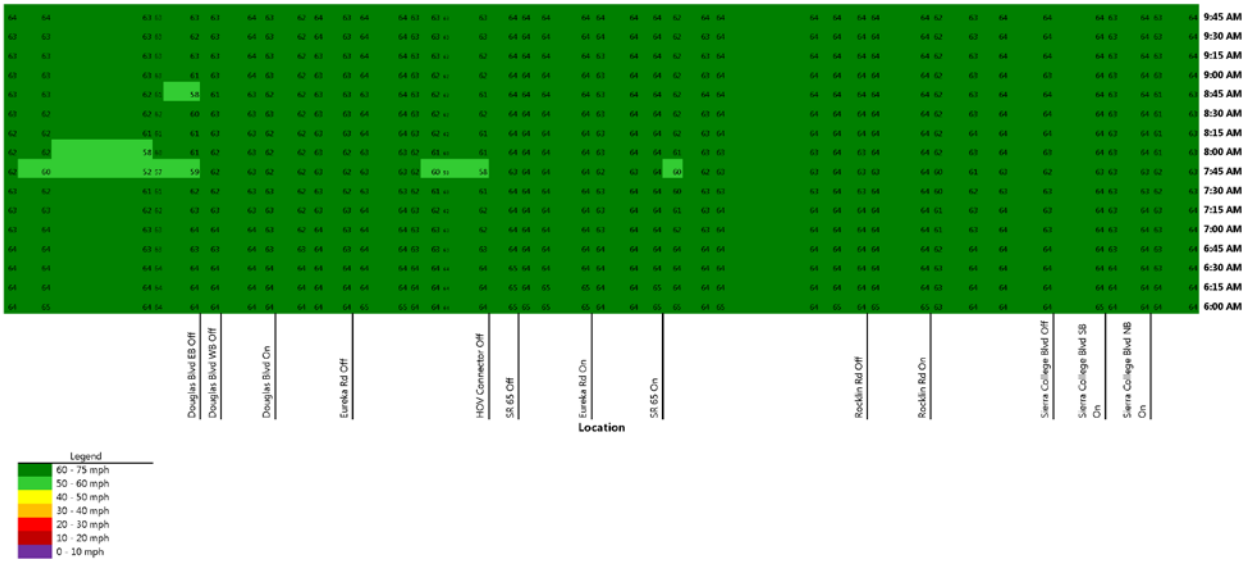
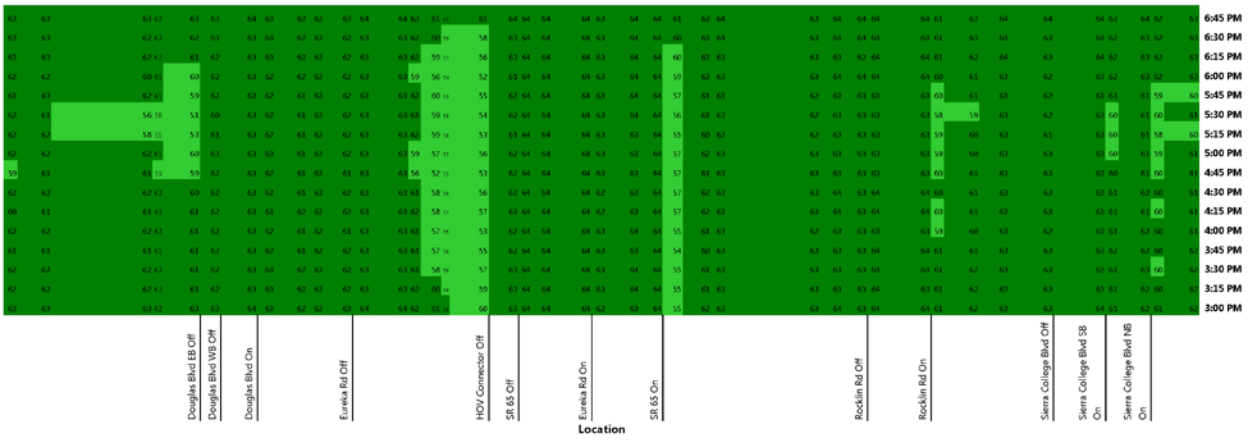
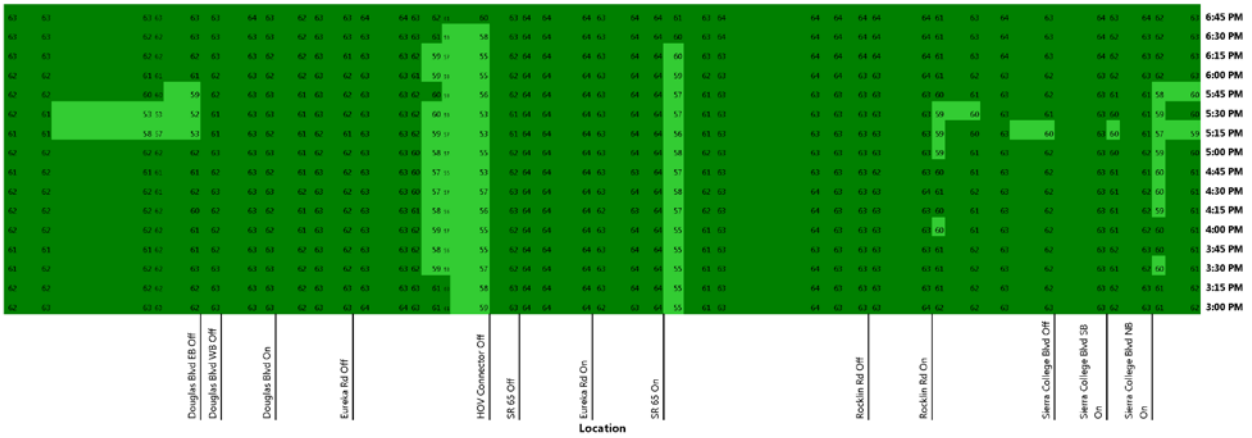


Figure 36 – Eastbound I-80 Design Year AM Peak Period Speed Contour Map

CARPOOL LANE (ALTERNATIVE 1)



GENERAL PURPOSE LANE (ALTERNATIVE 2)



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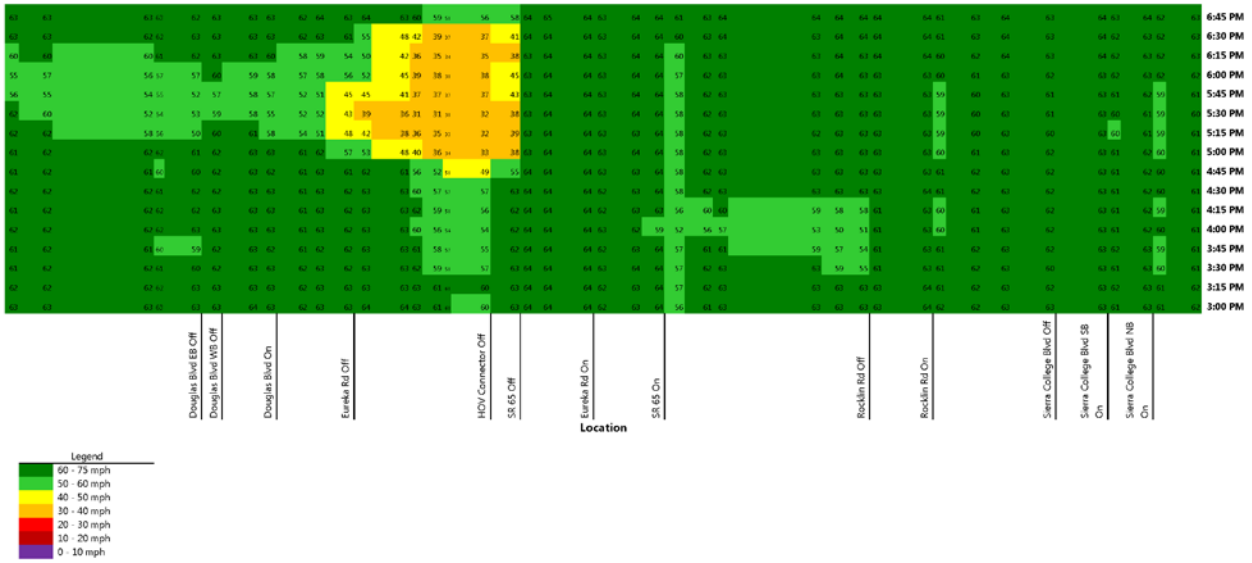
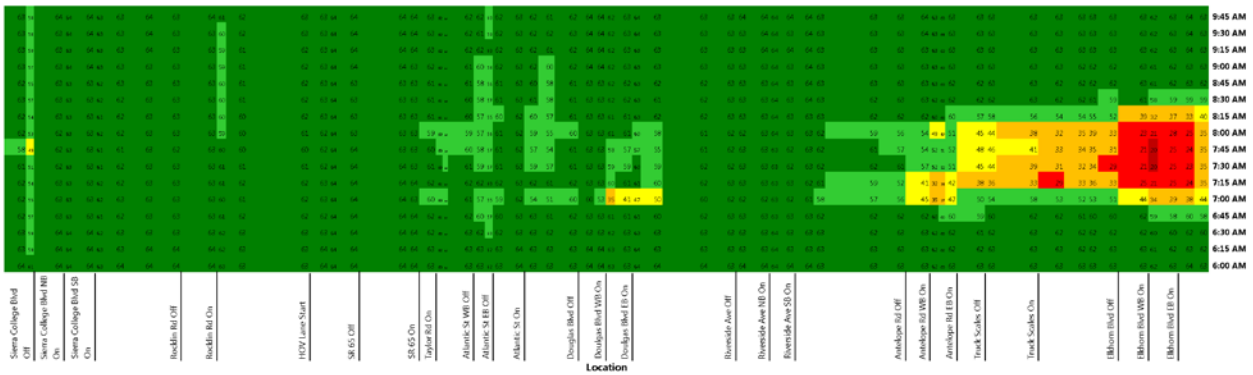
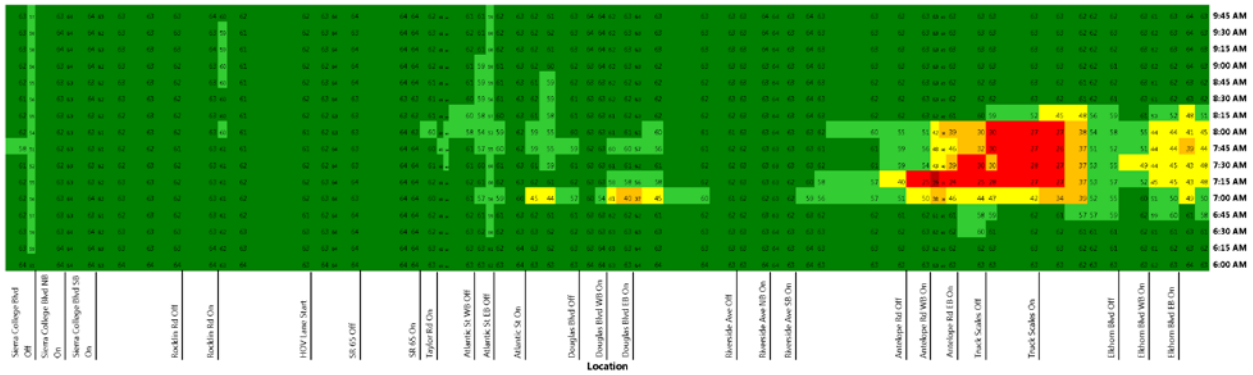


Figure 37 – Eastbound I-80 Design Year PM Peak Period Speed Contour Map

CARPOOL LANE (ALTERNATIVE 1)



GENERAL PURPOSE LANE (ALTERNATIVE 2)



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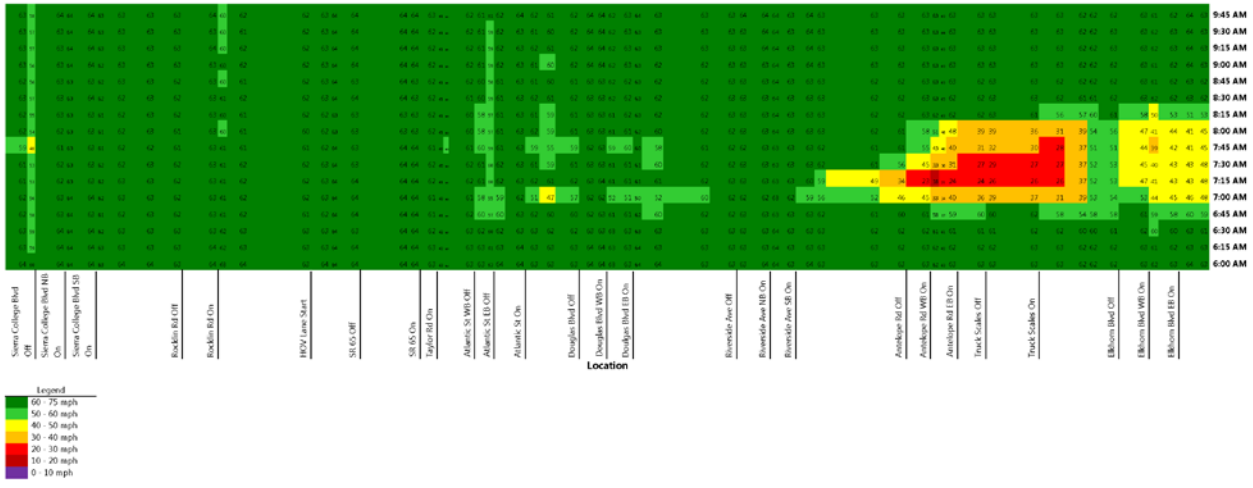
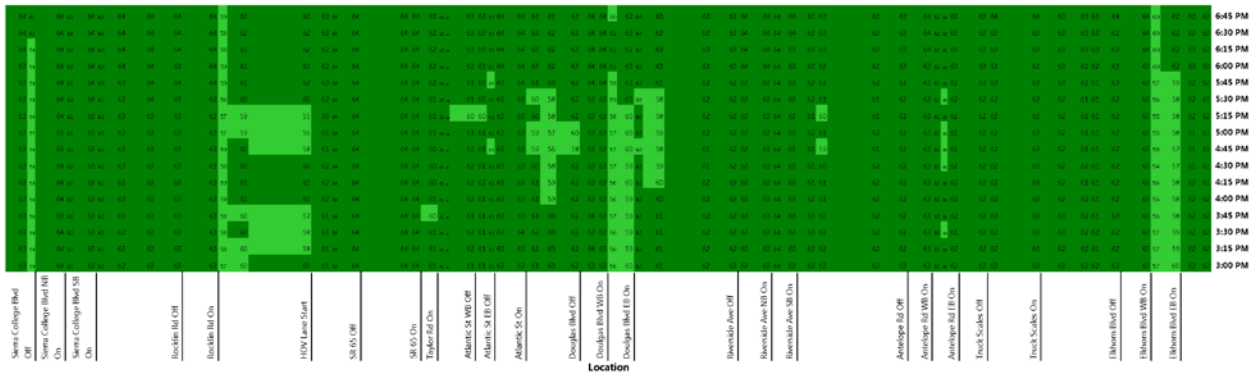
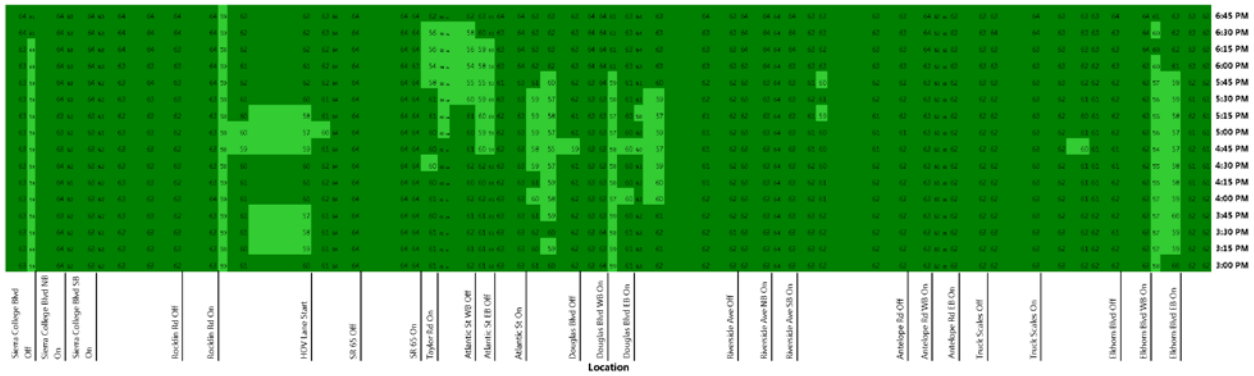


Figure 38 – Westbound I-80 Design Year AM Peak Period Speed Contour Map

CARPOOL LANE (ALTERNATIVE 1)



GENERAL PURPOSE LANE (ALTERNATIVE 2)



NO BUILD (ALTERNATIVE 3)

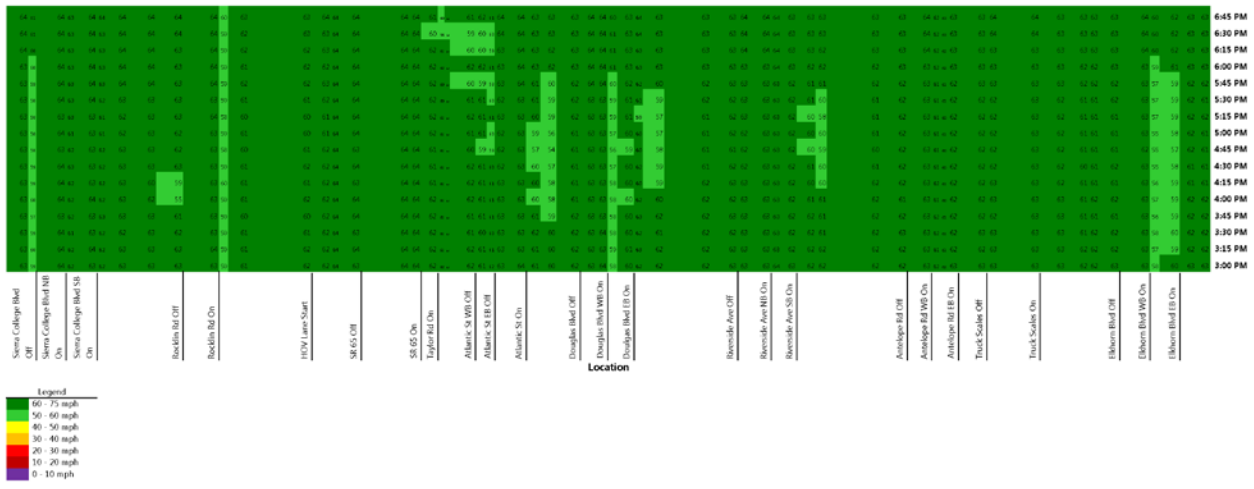


Figure 39 – Westbound I-80 Design Year PM Peak Period Speed Contour Map

For Alternative 2 (General Purpose Lane), LOS F conditions would also occur between Pleasant Grove Boulevard and Galleria Boulevard although the congestion duration would only be about 30 minutes. In the same location, Alternative 1 (Carpool Lane) would operate with LOS E or better conditions. At the bottleneck location between Pleasant Grove Boulevard and Galleria Boulevard, Alternative 1 would have one additional lane – the carpool lane – compared to Alternative 2.

During the PM peak hour, Alternative 3 (No Build) would have only the one bottleneck between Pleasant Grove Boulevard and Galleria Boulevard. The congestion would last for more than three hours and extend upstream to Blue Oaks Boulevard. In this segment, the carpool lane that connects to the median connector ramp at I-80 begins, so the added capacity prevents further congestion. The build alternatives would have LOS E or better conditions with free-flow speeds for southbound SR 65.

Alternative 2 would have deficient LOS F conditions during the PM peak hour between Pleasant Grove Boulevard and Galleria Boulevard. However, Alternative 3 would have worse conditions, so no impact would occur. The deficient operations could be improved by adding mainline capacity such as extending the carpool lane upstream to Blue Oaks Boulevard (as in Alternative 1).

Eastbound I-80

The freeway operations results indicate that all alternatives would operate with LOS E or better conditions during the AM peak hour. During the PM peak period, the No Build alternative would have LOS F operations from the Eureka Road off-ramp to the SR 65 off-ramp. Although the separate I-80/SR 65 Interchange Improvement project would provide sufficient capacity on I-80, the downstream bottleneck on northbound SR 65 at Pleasant Grove Boulevard (discussed above) would cause congestion to extend onto I-80 that would last for about two hours. The average speed in the mixed flow lanes would be less than 40 mph for most of this section.

Both build alternatives would provide significant congestion relief in the PM peak period; therefore, no deficiencies would occur on eastbound I-80. Most segments would operate with LOS D or better conditions during both peak periods.

Westbound I-80

During the AM peak period, congestion would occur between Antelope Road and Elkhorn Boulevard under all three alternatives. However, Alternative 3 (No Build) would have the lowest level of congestion due to upstream bottlenecks on southbound SR 65 that would constrain the demand from reaching the westbound I-80 bottleneck. The proposed project (Alternatives 1 and 2) would result in impacts at the following locations on westbound I-80 in the AM peak hour.

- Truck Scales on-ramp (Alternative 2 only)
- From the Truck Scales on-ramp to the eastbound Elkhorn Boulevard on-ramp (Alternative 1 only)

The impact to the section from the truck scales to Elkhorn Boulevard could be mitigated by providing additional mainline capacity such as a continuous auxiliary lane between the truck scales on-ramp and Elkhorn Boulevard off-ramp or more restrictive metering on-ramps. More restrictive metering for ramps at Elkhorn Boulevard, Antelope Road, and Riverside Avenue could cause queuing that would extend onto the local street network.

During both the AM and PM peak hours, LOS E conditions would occur at isolated locations between Atlantic Street and Douglas Boulevard under all alternatives. However, slow speeds would not last for more than 15 minutes at these locations. As a result, the proposed project would not have impacts during the PM peak hour.

5.1.2. Arterial Intersection Operations

Tables 18 and 19 show the LOS and average delay at key study intersections under design year conditions during the AM and PM peak hours, respectively. Tables 20 and 21 show the average maximum queue length at off-ramps under design year conditions during the AM and PM peak hours. Based on the evaluation criteria for this study, both Alternative 1 (Carpool Lane) Alternative 2 (General Purpose Lane) have four impacts. See the Appendix for all study intersection results.

The following intersections would operate with an unacceptable peak hour LOS based on the evaluation criteria under all project alternatives.

- Blue Oaks Boulevard/Washington Boulevard/SR 65 Southbound Ramps
- Blue Oaks Boulevard/SR 65 Northbound Ramps (PM only)
- Stanford Ranch Road/Five Star Boulevard (PM only)
- Galleria Boulevard/Roseville Parkway (PM only)
- Roseville Parkway/Creekside Ridge Drive (PM only)
- Roseville Parkway/Taylor Road (AM only)
- Eureka Road/Sunrise Avenue
- Douglas Boulevard/I-80 Eastbound Ramps (PM only)
- Douglas Boulevard/Sunrise Avenue (PM only)
- Rocklin Road/Granite Drive (PM only)
- Rocklin Road/I-80 Westbound Ramps (PM only)

TABLE 18: INTERSECTION OPERATIONS RESULTS – DESIGN YEAR AM PEAK HOUR CONDITIONS

Intersection	Threshold	Alternative 1	Alternative 2	Alternative 3
6. Blue Oaks Blvd / Washington Blvd / SR 65 SB Ramps	C	**E / 57**	**E / 59**	**F / 90**
7. Blue Oaks Blvd / SR 65 NB Ramps	C	B / 17	B / 16	B / 17
10. Stanford Ranch Rd / Five Star Blvd	C	C / 27	C / 26	C / 26
11. Stanford Ranch Rd / SR 65 NB Ramps	D	B / 11	B / 12	B / 19
12. Galleria Blvd / SR 65 SB Ramps	D	B / 19	B / 17	D / 55
13. Galleria Blvd / Antelope Creek Dr	C	A / 10	A / 10	A / 8
14. Galleria Blvd / Roseville Pkwy	E	D / 47	D / 45	D / 41
15. Roseville Pkwy / Creekside Ridge Dr	C	A / 8	A / 8	A / 8
16. Roseville Pkwy / Taylor Rd	D	**E / 70**	**E / 66**	**E / 60**
17. Roseville Pkwy / Sunrise Ave	E	C / 33	C / 35	C / 33
20. Eureka Rd / Taylor Rd / I-80 EB Ramps	E	C / 30	C / 30	C / 30
21. Eureka Rd / Sunrise Ave	C	**D / 41**	**D / 41**	**D / 41**
23. Douglas Blvd / Harding Blvd	E	C / 26	C / 28	C / 26
24. Douglas Blvd / I-80 WB Ramps	C	C / 21	B / 19	C / 22
25. Douglas Blvd / I-80 EB Ramps	C	C / 28	C / 24	C / 29
26. Douglas Blvd / Sunrise Ave	D	D / 54	D / 44	D / 43
29. Rocklin Rd / Granite Dr	C	C / 29	C / 28	C / 26
30. Rocklin Rd / I-80 WB Ramps	C	C / 23	C / 24	C / 22
31. Rocklin Rd / I-80 EB Ramps	C	C / 30	C / 26	**D / 41**

Note: Bold and underline font indicate unacceptable operations. Shaded cells indicate a project impact. The LOS and average delay in seconds per vehicle are reported.

Source: Fehr & Peers, 2015

TABLE 19: INTERSECTION OPERATIONS RESULTS – DESIGN YEAR PM PEAK HOUR CONDITIONS

Intersection	Threshold	Alternative 1	Alternative 2	Alternative 3
6. Blue Oaks Blvd / Washington Blvd / SR 65 SB Ramps	C	**F / 140**	**F / 153**	**F / 214**
7. Blue Oaks Blvd / SR 65 NB Ramps	C	**D / 45**	**D / 49**	**F / 94**
10. Stanford Ranch Rd / Five Star Blvd	C	**F / 82**	**E / 57**	**F / 85**
11. Stanford Ranch Rd / SR 65 NB Ramps	D	D / 36	B / 19	C / 21
12. Galleria Blvd / SR 65 SB Ramps	D	C / 25	B / 19	C / 27
13. Galleria Blvd / Antelope Creek Dr	C	C / 28	C / 29	C / 28
14. Galleria Blvd / Roseville Pkwy	E	**F / 93**	**F / 82**	**F / 93**
15. Roseville Pkwy / Creekside Ridge Dr	C	**D / 50**	**D / 47**	**D / 50**
16. Roseville Pkwy / Taylor Rd	D	D / 52	D / 52	**E / 55**
17. Roseville Pkwy / Sunrise Ave	E	E / 70	E / 57	**F / 89**
20. Eureka Rd / Taylor Rd / I-80 EB Ramps	E	E / 75	**F / 81**	**F / 99**
21. Eureka Rd / Sunrise Ave	C	**F / 94**	**F / 103**	**F / 104**
23. Douglas Blvd / Harding Blvd	E	**F / 91**	**F / 96**	E / 69
24. Douglas Blvd / I-80 WB Ramps	C	C / 28	C / 33	C / 20
25. Douglas Blvd / I-80 EB Ramps	C	**D / 37**	**D / 37**	**D / 39**
26. Douglas Blvd / Sunrise Ave	D	**F / 254**	**F / 241**	**F / 239**
29. Rocklin Rd / Granite Dr	C	**F / 95**	**F / 84**	**F / 101**
30. Rocklin Rd / I-80 WB Ramps	C	**E / 68**	**E / 63**	**D / 54**
31. Rocklin Rd / I-80 EB Ramps	C	C / 21	B / 20	C / 21

Note: Bold and underline font indicate unacceptable operations. Shaded cells indicate a project impact. The LOS and average delay in seconds per vehicle are reported.

Source: Fehr & Peers, 2015

TABLE 20: SELECTED MAXIMUM QUEUE LENGTH RESULTS – DESIGN YEAR AM PEAK HOUR CONDITIONS

Off-ramp	Storage	Alternative 1	Alternative 2
Eastbound I-80 at Eureka Rd	1,700	700	500
Eastbound I-80 at Rocklin Rd	1,080	325	300
Northbound SR 65 at Northbound Stanford Ranch Rd	1,170	200	200
Northbound SR 65 at Southbound Stanford Ranch Rd	1,800	25	25
Northbound SR 65 at Pleasant Grove Blvd	1,170	200	200
Northbound SR 65 at Blue Oaks Blvd	1,100	325	300
Northbound SR 65 at Sunset Blvd	1,400	225	250
Southbound at Blue Oaks Blvd	2,260	1,425	975
Southbound at Pleasant Grove Blvd	1,130	200	175
Southbound SR 65 at Southbound Galleria Blvd	1,130	375	400
Southbound SR 65 at Northbound Galleria Blvd	1,780	50	50

Note: Bold and underline font indicate queues that exceed the ramp length. Shaded cells indicate a project impact. The reported value is the average maximum peak-hour queue length in feet.

Source: Fehr & Peers, 2015

TABLE 21: SELECTED MAXIMUM QUEUE LENGTH RESULTS – DESIGN YEAR PM PEAK HOUR CONDITIONS

Off-ramp	Storage	Alternative 1	Alternative 2
Eastbound I-80 at Eureka Rd	1,700	350	400
Eastbound I-80 at Rocklin Rd	1,080	325	300
Northbound SR 65 at Northbound Stanford Ranch Rd	1,170	475	325
Northbound SR 65 at Southbound Stanford Ranch Rd	1,800	25	25
Northbound SR 65 at Pleasant Grove Blvd	1,170	225	200
Northbound SR 65 at Blue Oaks Blvd	1,100	250	275
Northbound SR 65 at Sunset Blvd	1,400	250	250
Southbound at Blue Oaks Blvd	2,260	900	850
Southbound at Pleasant Grove Blvd	1,130	150	150
Southbound SR 65 at Southbound Galleria Blvd	1,130	400	400
Southbound SR 65 at Northbound Galleria Blvd	1,780	325	175

Note: Bold and underline font indicate queues that exceed the ramp length. Shaded cells indicate a project impact. The reported value is the average maximum peak-hour queue length in feet.

Source: Fehr & Peers, 2015

To operate within the established LOS thresholds for these locations, capacity enhancements or peak period travel demand management strategies would need to be employed in the study area with and without the proposed project. Before any improvements are proposed though, the interaction between these locations and the rest of the network should be considered. In some cases, the operation of these intersections meters traffic accessing the freeway. This may be desirable in certain locations, such as at Blue Oaks Boulevard/Washington Boulevard. In other locations, improvements to the freeway system, such as an auxiliary lane, may reduce demand and/or queuing that would improve intersection operations.

During the AM peak hour, the proposed project (Alternatives 1 and 2) would have impacts at Roseville Parkway/Taylor Road. The impact may be mitigated by adjusting signal timing. Since the intersection already has right-turn overlap phases and dual left-turn lanes, further improvements could include a fourth east or westbound through lane or a third southbound left-turn lane.

During the PM peak hour, the proposed project (Alternatives 1 and 2) would have impacts at the following study intersections.

- Douglas Boulevard/Harding Boulevard
- Douglas Boulevard/Sunrise Avenue
- Rocklin Road / I-80 Westbound Ramps

Potential improvements for the Douglas Boulevard corridor include an additional eastbound lane at Harding Boulevard and a second southbound right turn lane at Sunrise Avenue to provide additional capacity. At Rocklin Road, extending the eastbound right-turn movement storage further upstream would reduce overall intersection delay. Providing additional storage on the westbound on-ramp would also help to reduce queuing from the ramp meter onto Rocklin Road.

During the peak hours, the average maximum queue lengths for freeway off-ramps at all study intersections are less than the ramp storage length under both build alternatives. Due to congested conditions at the ramp terminal intersection, the southbound off-ramp queue at Blue Oaks Boulevard may be 1,000 feet or more during the PM peak hour. However, the off-ramp provides more than 2,000 feet of storage, so mainline operations would not be affected.

5.1.3. Ramp Meter Operations

The proposed project will install or reconstruct ramp meters for on-ramps in the project area. An analysis of the ramp meter storage for these ramps was conducted to determine the appropriate number of general purpose lanes and whether a HOV preferential should be provided.

Table 22 shows the existing and proposed ramp configuration. The existing configuration refers to the number of ramp lanes and striping/striping for HOV lane restrictions. Ramp meters are active during the AM and PM peak periods only in the southbound direction at the Blue Oaks Boulevard eastbound on-ramp and at the Pleasant Grove Boulevard westbound and eastbound on-ramps. Technical calculations for determining ramp meter storage based on the 15-minute arrival rates during the peak periods are provided in the appendix.

TABLE 22: SR 65 RAMP CONFIGURATION

Ramp		Existing		Proposed	
		Lanes	HOV	Lanes	HOV
Northbound	Stanford Ranch Rd[1]	1	No	3	Yes
	Pleasant Grove Blvd	2	No	2	No
	Blue Oaks Blvd	1	No	2	No
	Sunset Blvd Eastbound	2	Yes	2	Yes
	Sunset Blvd Westbound	2	Yes	2	Yes
	Whitney Ranch Pkwy Eastbound[2]	n/a		2	Yes
	Whitney Ranch Pkwy Westbound[3]	n/a		2	Yes
	Twelve Bridges Dr[4]	2	No	3	Yes
Southbound	Lincoln Blvd	2	No	3	Yes
	Twelve Bridges Dr	2	No	2	No
	Placer Pkwy Westbound[3]	n/a		2	Yes
	Placer Pkwy Eastbound[2]	n/a		2	Yes
	Sunset Blvd Westbound	2	Yes	2	No
	Sunset Blvd Eastbound	3	Yes	3	Yes
	Blue Oaks Blvd Westbound	1	No	2	Yes
	Blue Oaks Blvd Eastbound	2	Yes	3	Yes
	Pleasant Grove Blvd Westbound	2	Yes	2	Yes
	Pleasant Grove Blvd Eastbound	2	No	3	Yes
	Galleria Blvd[5]	1	No	3	Yes

Notes: Shading indicates a change from the existing configuration.

1. To be constructed under the Stanford Ranch Road/SR 65 NB Ramps project
2. To be constructed under the Placer Parkway project
3. To be constructed under the SR 65/Whitney Ranch Parkway Interchange project
4. To be constructed under the SR 65/Twelve Bridges Drive Interchange project
5. To be constructed under the I-80/SR 65 Interchange Phase 1 project

Source: Fehr & Peers, 2015

Ramp meter installation will be provided under separate projects for the Stanford Ranch Road/Galleria Boulevard, Whitney Ranch Parkway/Placer Parkway, and Twelve Bridges Drive interchanges. In the northbound direction, the Blue Oaks Boulevard on-ramp would be widened to provide an additional lane for storage. In the southbound direction, widening for an HOV preferential lane would also be provided at Lincoln Boulevard, Blue Oaks Boulevard westbound, and Pleasant Grove Boulevard eastbound on-ramps. At the Sunset Boulevard westbound on-ramp, design year demand volume would increase such that a second lane of storage would be needed to prevent ramp meter queues from extending onto the local street. As a result, the existing HOV preferential lane would be converted to a general purpose lane. Widening for a third lane to maintain the HOV preferential lane is not feasible due to the geometry of the loop ramp. At the Blue Oaks Boulevard eastbound on-ramp, the ramp would be widened to provide a second general purpose lane for storage.

5.2. **Construction Year Conditions**

Overall network performance statistics for AM and PM peak period operations are summarized for each alternative in Tables 23 and 24 below, respectively.

TABLE 23: COMPARISON OF OVERALL NETWORK PERFORMANCE – CONSTRUCTION YEAR AM PEAK PERIOD

Performance Measure		Existing Conditions	Construction Year Conditions		
			Alternative 1	Alternative 2	Alternative 3
Volume Served (% of total demand)		143,450 (100%)	167,490 (99%)	167,510 (99%)	168,620 (99%)
Vehicle Miles of Travel (VMT)		645,270	799,520	797,360	788,490
Person Miles of Travel		786,260	982,670	979,180	965,810
Vehicle Hours of Travel (VHT)		13,760	18,060	18,000	18,270
Vehicle Hours of Delay (VHD) (% of VHT)		2,670 (19%)	4,350 (24%)	4,330 (24%)	4,730 (26%)
Average Delay per Vehicle (min)		1.12	1.56	1.55	1.68
Person Hours of Delay		3,240	5,160	5,140	5,600
Average Speed		46.9	44.3	44.3	43.2
Average Speed for HOVs		47.0	46.7	46.6	45.7
Travel Time: Ferrari Ranch Rd to I-80	SOV	-	8:09	8:09	8:47
	HOV	-	8:04	8:08	8:46
Travel Time: Blue Oaks Blvd to Antelope Rd	SOV	9:44	8:51	8:50	9:16
	HOV	9:27	8:33	8:33	8:54

Notes: PMT = person miles of travel, PHD = person hours of delay
Source: Fehr & Peers, 2015

The results presented in Tables 23 and 24 are summarized below.

- The build alternatives improve network performance compared to the no build alternative during the AM peak period.
- Also during the AM peak period, Alternative 2 (General Purpose Lane) has the lowest delay and highest average speed. However, all three alternatives have about the same results.
- During the PM peak period, Alternative 2 (General Purpose Lane) has the lowest delay and highest average speed. The worst performing alternative is Alternative 1 (Carpool Lane). The bottleneck at the eastbound I-80 connector ramp to northbound SR 65 operates worst under Alternative 1 although all three alternatives have the same lane configuration at this location.

TABLE 24: COMPARISON OF OVERALL NETWORK PERFORMANCE – CONSTRUCTION YEAR PM PEAK PERIOD

Performance Measure		Existing Conditions	Construction Year Conditions		
			Alternative 1	Alternative 2	Alternative 3
Volume Served (% of total demand)		198,170 (101%)	231,400 (99%)	232,110 (99%)	233,870 (99%)
Vehicle Miles of Travel (VMT)		730,100	924,670	930,140	909,560
Person Miles of Travel		880,180	1,146,120	1,150,200	1,123,280
Vehicle Hours of Travel (VHT)		16,850	27,210	25,890	25,870
Vehicle Hours of Delay (VHD) (% of VHT)		3,950 (23%)	10,940 (40%)	9,520 (37%)	9,840 (38%)
Average Delay per Vehicle (min)		1.20	2.84	2.46	2.52
Person Hours of Delay		4,670	12,770	11,220	11,520
Average Travel Speed		43.3	34.0	35.9	35.2
Average HOV Speed		44.7	39.1	39.8	39.5
Travel Time: I-80 to Ferrari Ranch Rd	SOV	-	7:56	7:59	7:56
	HOV	-	7:56	7:59	7:55
Travel Time: Auburn Blvd to Blue Oaks Blvd	SOV	9:16	20:03	14:05	17:23
	HOV	9:11	9:23	9:09	9:38

Source: Fehr & Peers, 2015

- The PM peak-hour travel time for northbound SR 65 is about the same for all alternatives. The Auburn Boulevard to Blue Oaks Boulevard travel time is lowest for Alternative 2 and highest for Alternative 1.

- The AM peak hour travel times through the I-80/SR 65 Interchange are better than existing conditions for all alternatives due to the separate I-80/SR 65 Interchange Improvements Phase 1 project.

Specific details about construction year freeway and arterial intersection operations are discussed in more detail in the following sections.

5.2.1. Freeway Operations

Detailed freeway operations analysis was completed for the peak hour (7:30 to 8:30 AM and 4:30 to 5:30 PM) of the four hour AM and PM peak periods. The AM and PM peak-hour served volume are percentage of the demand volume are listed in Figure 41. The AM and PM peak hour results for selected locations are reported in Tables 25 and 26, respectively. The remaining results are available in the Technical Appendix. Figures 42 through 48 display the average speed in the mixed-flow lanes throughout the network during the peak periods for each alternative.

Northbound SR 65

During the AM and PM peak hours, all alternatives would have a bottleneck on the loop ramp connector from eastbound I-80. Alternative 3 (No Build) would have LOS E conditions at Pleasant Grove Boulevard in both peak hours, but the build alternatives would have LOS E only during the PM peak hour due to the additional lane.

The proposed project would have an impact at the loop ramp connector from eastbound I-80 to northbound SR 65. The impact would occur during the AM peak hour for Alternative 1 (Carpool Lane) and during both peak hours for Alternative 2 (General Purpose Lane). This impact could be mitigated by constructing the ultimate phase of the planned I-80/SR 65 Interchange Improvement project that will realign and widen the connector to three lanes.

Southbound SR 65

During the AM peak hour, the build alternatives would have LOS F conditions at the Sunset Boulevard westbound on-ramp. The congestion would last for about 45 minutes. The lower demand volume for the no build alternative would result in acceptable LOS D conditions.

Alternative 3 would have LOS F operations downstream between Sunset Boulevard and Pleasant Grove Boulevard. The congestion would last for about an hour. The widening under Alternatives 1 and 2 would improve conditions to LOS D or better at the Pleasant Grove Boulevard bottleneck. However, Alternative 1 would have LOS F at the Galleria Boulevard on-ramp. Despite the LOS F conditions at Galleria Boulevard, the congestion would be localized and last for only about 15 minutes.

Figure 40 – Freeway Served Volume for Construction Year Conditions

TABLE 25: SELECTED FREEWAY OPERATIONS RESULTS – CONSTRUCTION YEAR AM PEAK HOUR CONDITIONS

Freeway	Location	Type[1]	Alternative 1	Alternative 2	Alternative 3
NB SR 65	I-80 Eastbound Connector Ramp	Basic	**F / 45**	**F / 47**	E / 44
	Stanford Ranch Rd to Pleasant Grove Blvd	Weave	C / 24	C / 24	D / 31
					E / 36
	Pleasant Grove Blvd On-ramp	Merge	D / 33	D / 33	C / 27
	Blue Oaks Blvd Off-ramp	Diverge	C / 27	C / 27	
	Blue Oaks Blvd to Sunset Blvd	Basic	C / 19	C / 19	C / 25
	Whitney Ranch Pkwy to Twelve Bridges Dr	Weave	B / 13	B / 13	B / 16
					B / 17
SB SR 65	Twelve Bridges Dr to Placer Pkwy	Weave	C / 28	D / 28	D / 33
					D / 31
	Sunset Blvd WB On-ramp	Merge	**F / 68**	**F / 75**	D / 29
	Blue Oaks Blvd WB On-ramp	Merge	D / 30	C / 24	**F / 56**
	Pleasant Grove Blvd to Galleria Blvd	Basic	D / 29	C / 27	D / 31
	Galleria Blvd On-ramp	Merge	**F / 54**	E / 42	E / 39
	I-80 Westbound Connector Ramp	Basic	E / 41	E / 40	E / 38
EB I-80	Auburn Blvd to Douglas Blvd	Basic	D / 34	E / 35	E / 39
	Eureka Rd Off-ramp	Diverge	D / 30	D / 30	D / 29
	SR 65 Off-ramp	Diverge	D / 33	D / 32	D / 31
	SR 65 to Rocklin Rd	Basic	C / 22	C / 22	C / 21
WB I-80	Rocklin Rd to Carpool Lane Start	Basic	D / 29	D / 28	D / 29
	Atlantic St On-ramp	Merge	E / 37	E / 37	E / 38
	Douglas Blvd Off-ramp	Diverge	D / 33	D / 33	D / 33
	Douglas Blvd EB On-ramp	Merge	E / 35	E / 37	E / 39
	Riverside Ave Off-ramp	Diverge	D / 34	D / 33	D / 33
	Antelope Rd Off-ramp	Diverge	**F / 53**	**F / 53**	**F / 61**
	Truck Scales On-ramp	Merge	**F / 92**	**F / 94**	**F / 95**
	Elkhorn Blvd EB On-ramp	Merge	**F / 77**	**F / 77**	**F / 77**

Notes: Bold and underline font indicate LOS F conditions. Shaded cells indicate a project impact. The level of service and average density for the study segment are reported.

[1] The facility type reported is for Alternative 1. The other results are contained in the Technical Appendix.

Source: Fehr & Peers, 2015

TABLE 26: SELECTED FREEWAY OPERATIONS RESULTS – CONSTRUCTION YEAR PM PEAK HOUR CONDITIONS

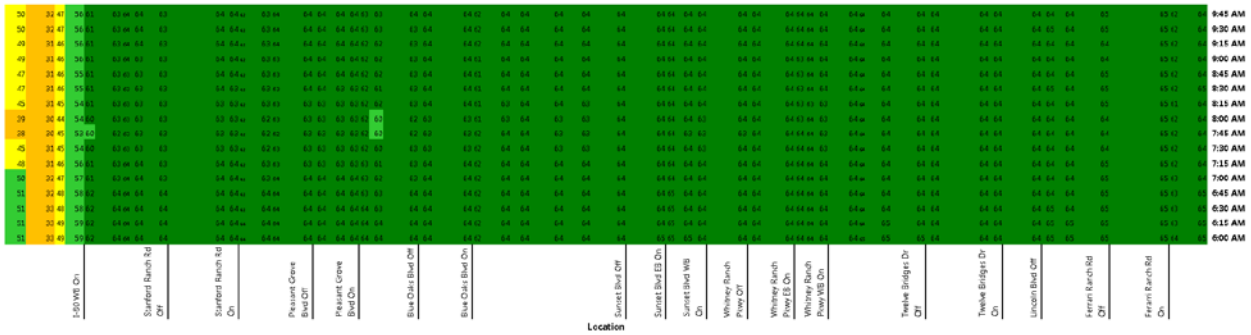
Freeway	Location	Type[1]	Alternative 1	Alternative 2	Alternative 3
NB SR 65	I-80 Eastbound Connector Ramp	Basic	**F / 61**	**F / 63**	**F / 61**
	Stanford Ranch Rd to Pleasant Grove Blvd	Weave	C / 26	C / 26	D / 32
					E / 36
	Pleasant Grove Blvd On-ramp	Merge	E / 39	E / 40	D / 29
	Blue Oaks Blvd Off-ramp	Diverge	D / 32	D / 32	
	Blue Oaks Blvd to Sunset Blvd	Basic	D / 26	D / 27	D / 29
	Whitney Ranch Pkwy to Twelve Bridges Dr	Weave	C / 23	C / 23	D / 29
					D / 30
SB SR 65	Twelve Bridges Dr to Placer Pkwy	Weave	B / 16	B / 16	B / 19
					B / 19
	Sunset Blvd WB On-ramp	Merge	C / 25	C / 25	C / 21
	Blue Oaks Blvd WB On-ramp	Merge	C / 26	C / 21	C / 26
	Pleasant Grove Blvd to Galleria Blvd	Basic	C / 25	C / 24	D / 27
	Galleria Blvd On-ramp	Merge	D / 34	D / 33	D / 33
	I-80 Westbound Connector Ramp	Basic	D / 32	D / 32	D / 32
EB I-80	Auburn Blvd to Douglas Blvd	Basic	**F / 108**	D / 34	**F / 81**
	Eureka Rd Off-ramp	Diverge	**F / 118**	**F / 110**	**F / 106**
	SR 65 Off-ramp	Diverge	**F/ 91**	**F / 95**	**F / 92**
	SR 65 to Rocklin Rd	Basic	C / 22	C / 23	C / 23
WB I-80	Rocklin Rd to Carpool Lane Start	Basic	C / 24	C / 24	C / 24
	Atlantic St On-ramp	Merge	D / 30	D / 30	D / 30
	Douglas Blvd Off-ramp	Diverge	C / 27	C / 28	C / 27
	Douglas Blvd EB On-ramp	Merge	D / 33	D / 30	D / 31
	Riverside Ave Off-ramp	Diverge	D / 31	D / 31	D / 31
	Antelope Rd Off-ramp	Diverge	D / 29	D / 29	D / 29
	Truck Scales On-ramp	Merge	C / 26	C / 26	C / 27
	Elkhorn Blvd EB On-ramp	Merge	D / 28	D / 28	D / 28

Notes: Bold and underline font indicate LOS F conditions. Shaded cells indicate a project impact. The level of service and average density for the study segment are reported.

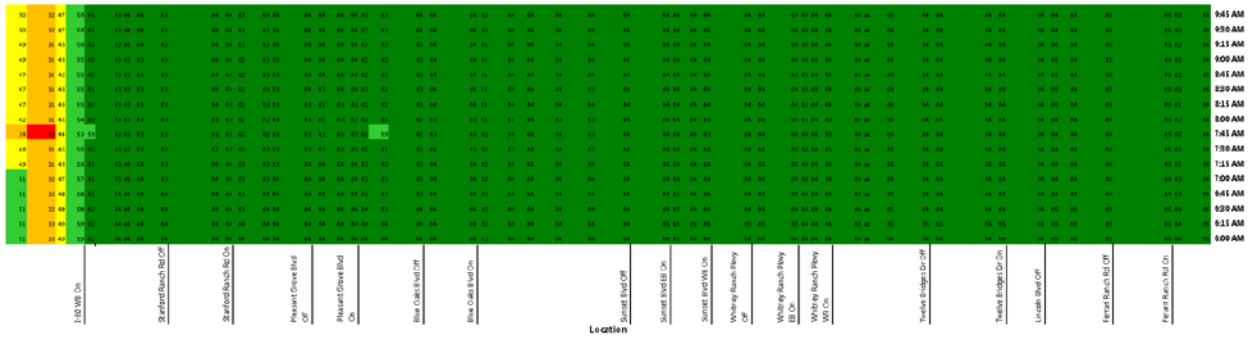
[1] The facility type reported is for Alternative 1. The other results are contained in the Technical Appendix.

Source: Fehr & Peers, 2015

CARPOOL LANE (ALTERNATIVE 1)



GENERAL PURPOSE LANE (ALTERNATIVE 2)



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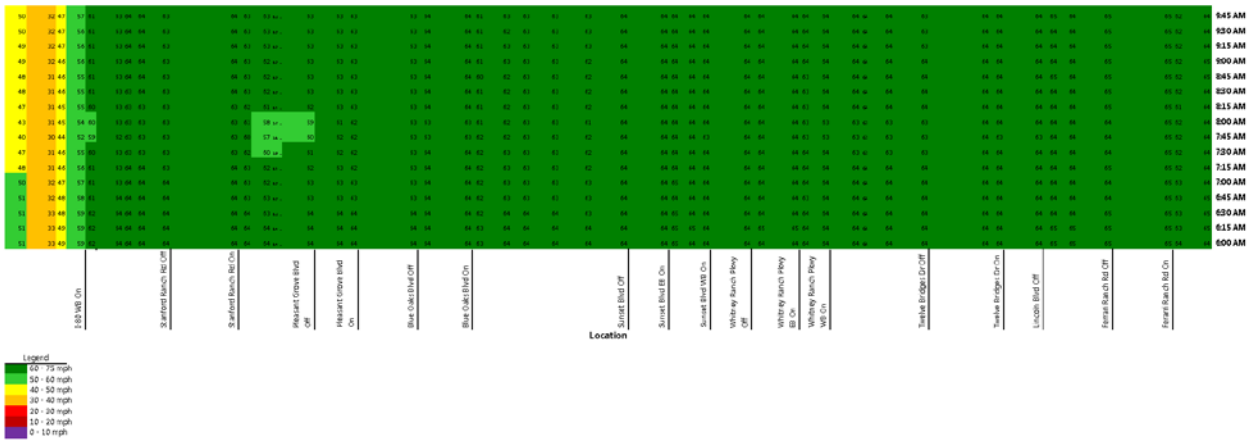
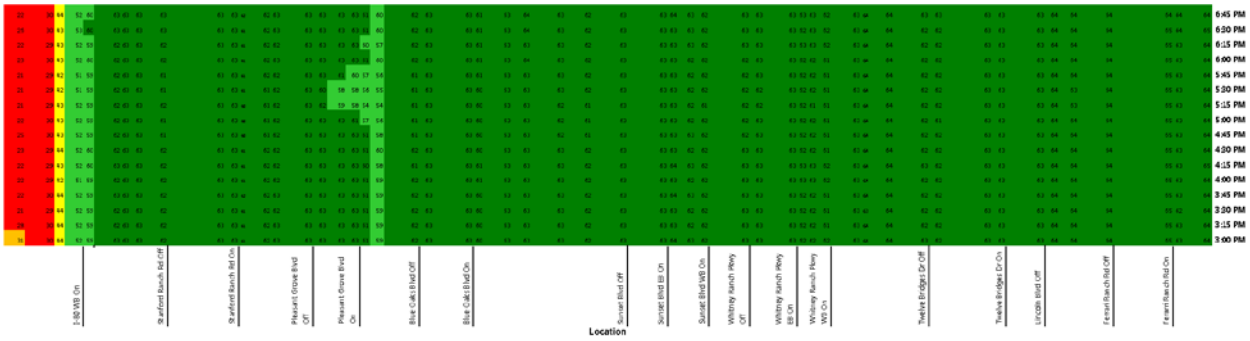
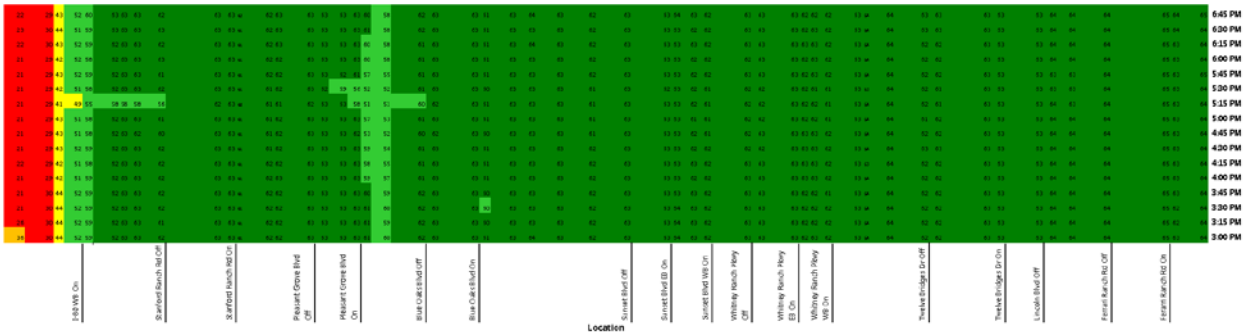


Figure 41 – Northbound SR 65 Construction Year AM Peak Period Speed Contour Map

CARPOOL LANE (ALTERNATIVE 1)



GENERAL PURPOSE LANE (ALTERNATIVE 2)



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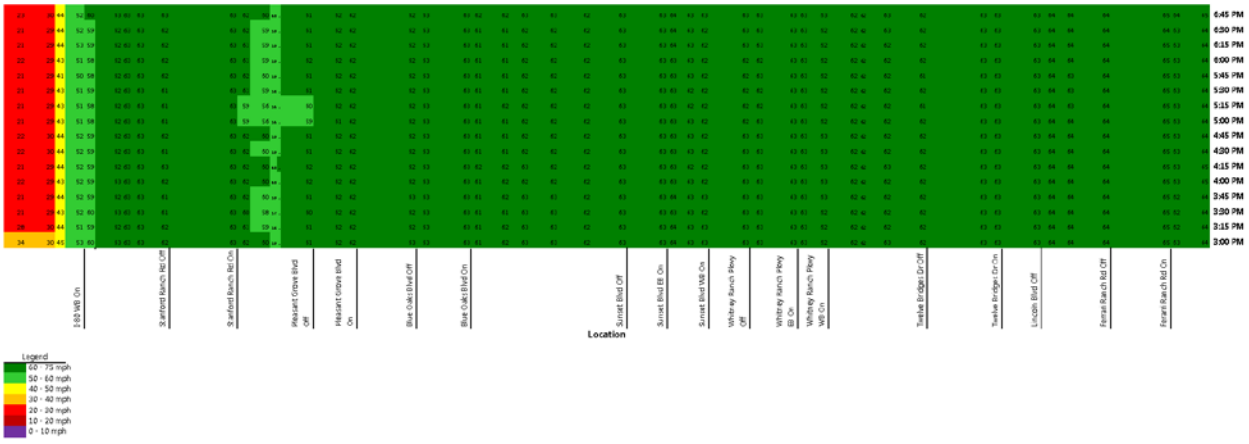
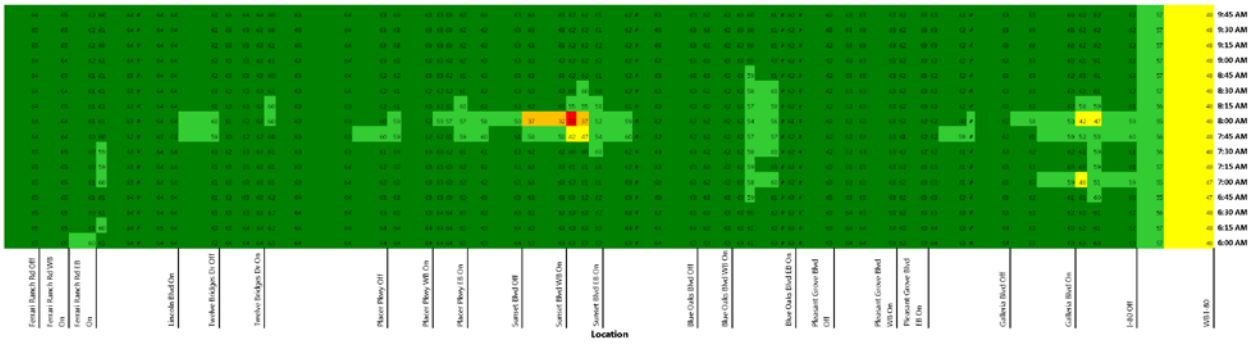
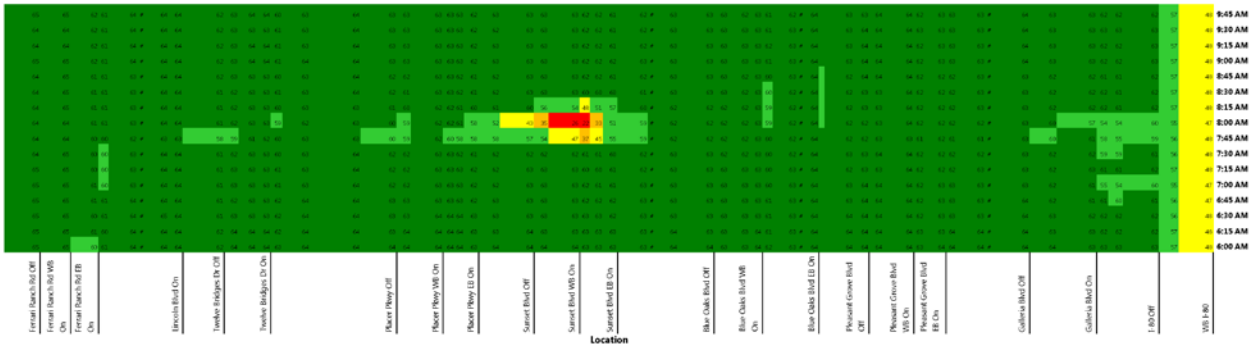


Figure 42 – Northbound SR 65 Construction Year PM Peak Period Speed Contour Map

CARPOOL LANE (ALTERNATIVE 1)



GENERAL PURPOSE LANE (ALTERNATIVE 2)



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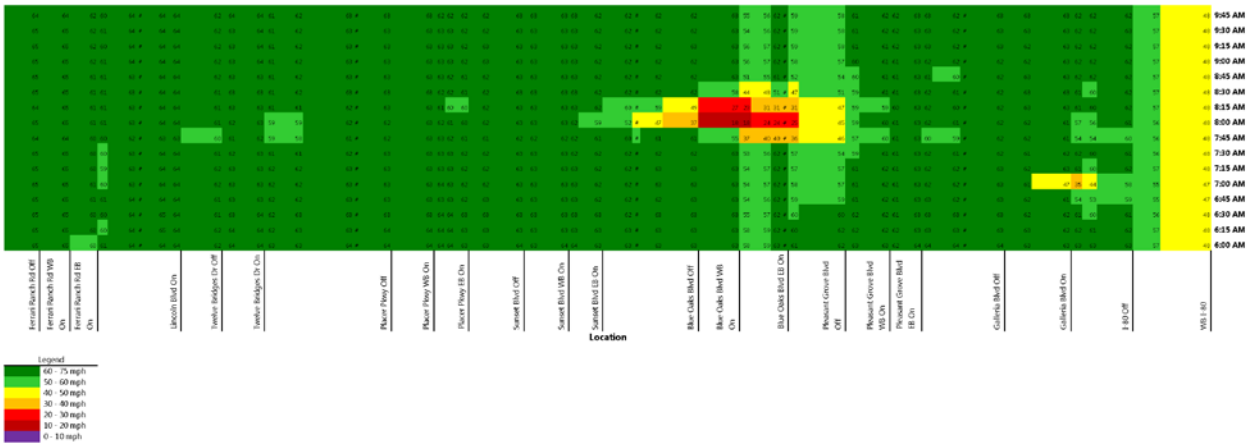
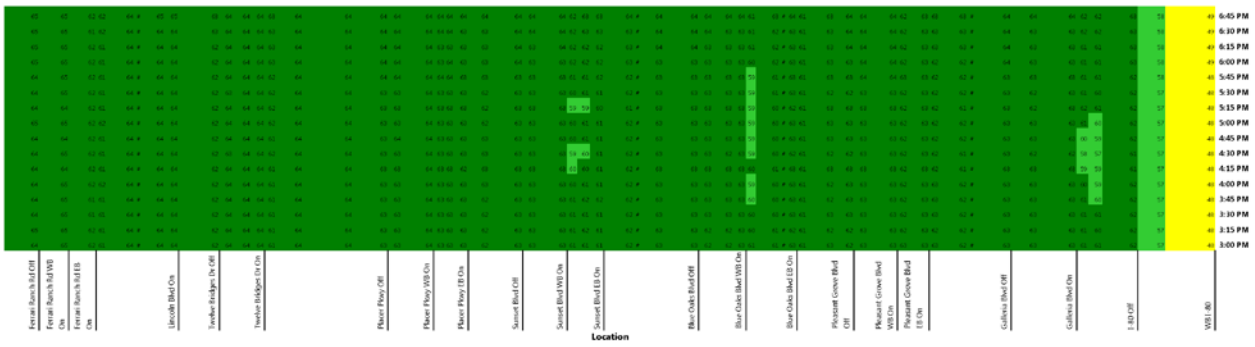
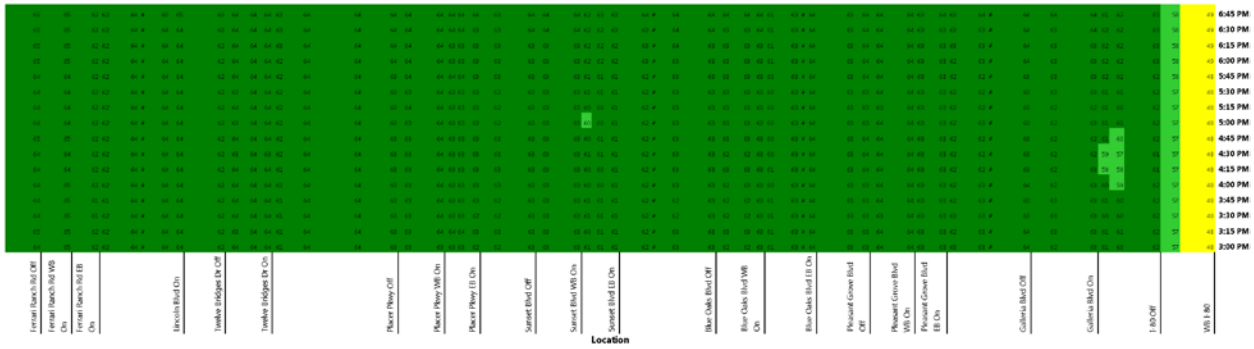


Figure 43 – Southbound SR 65 Construction Year AM Peak Period Speed Contour Map

CARPOOL LANE (ALTERNATIVE 1)



GENERAL PURPOSE LANE (ALTERNATIVE 2)



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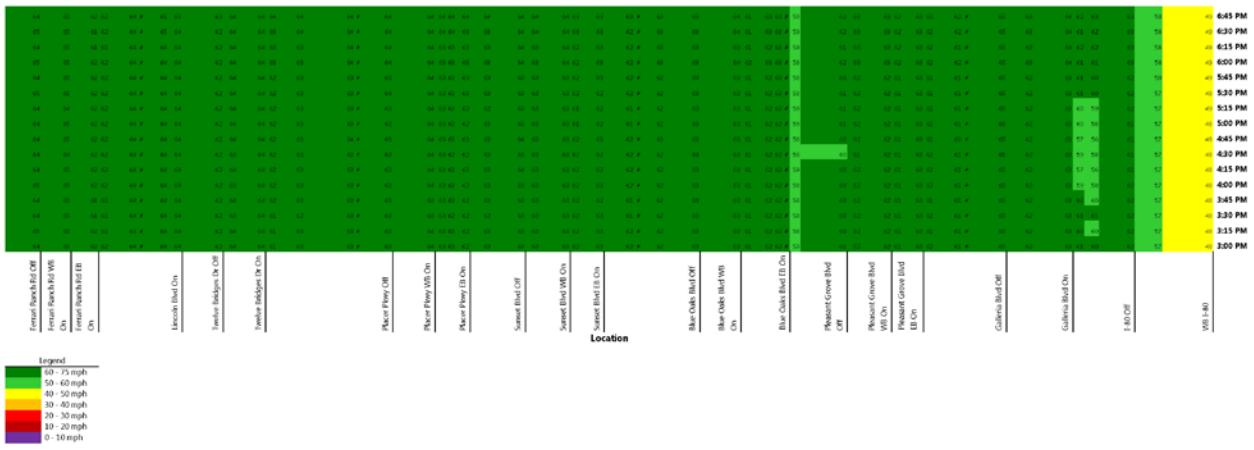
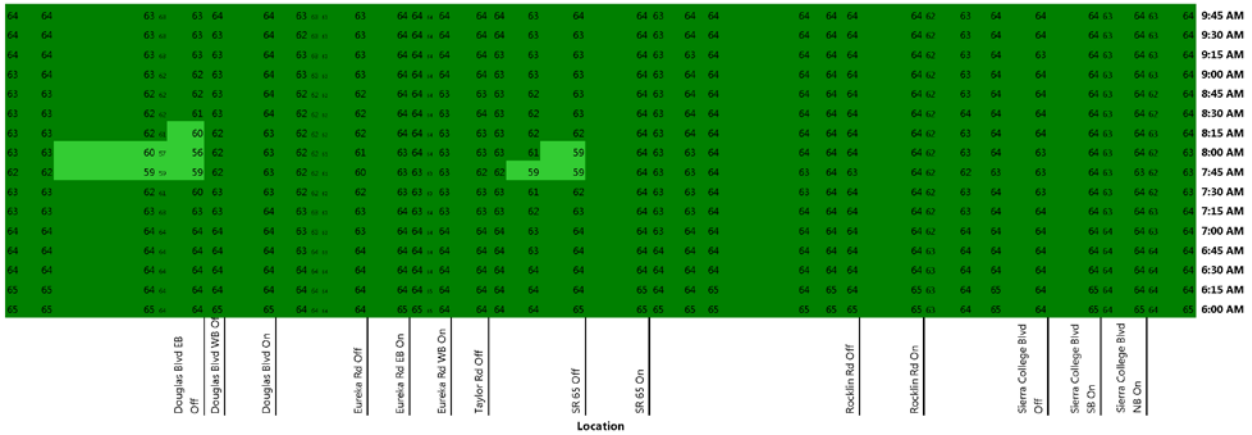
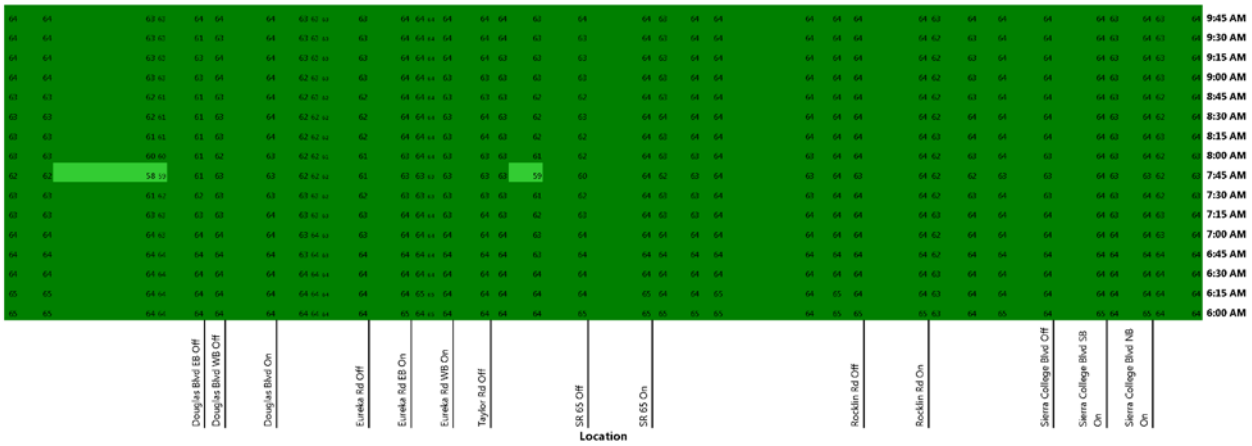


Figure 44 – Southbound SR 65 Construction Year PM Peak Period Speed Contour Map

CARPOOL LANE (ALTERNATIVE 1)



GENERAL PURPOSE LANE (ALTERNATIVE 2)



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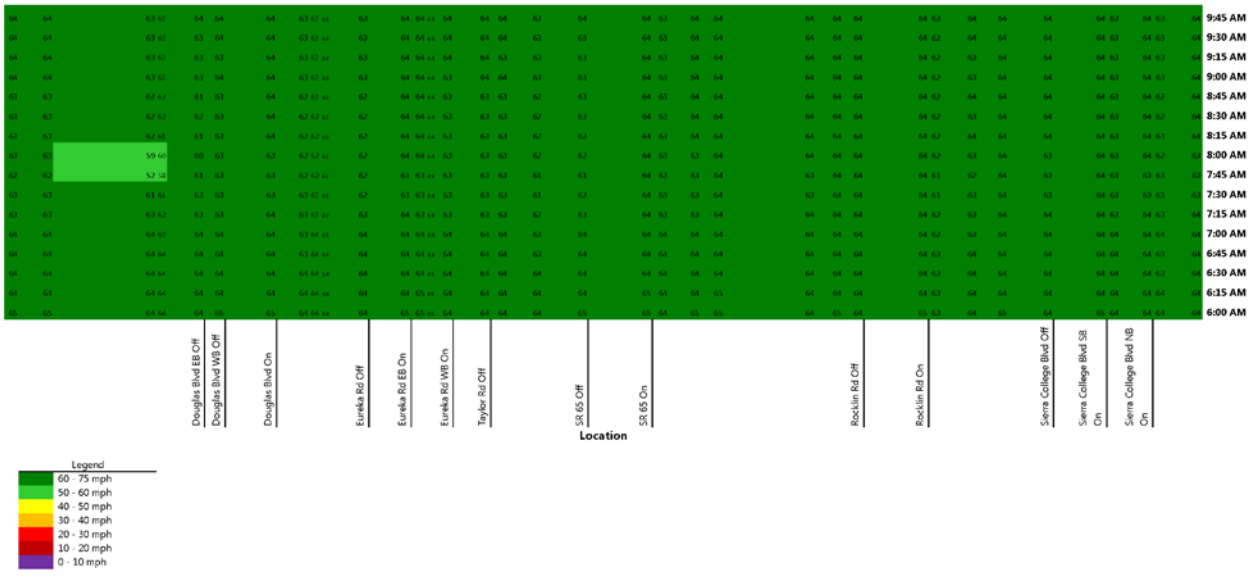
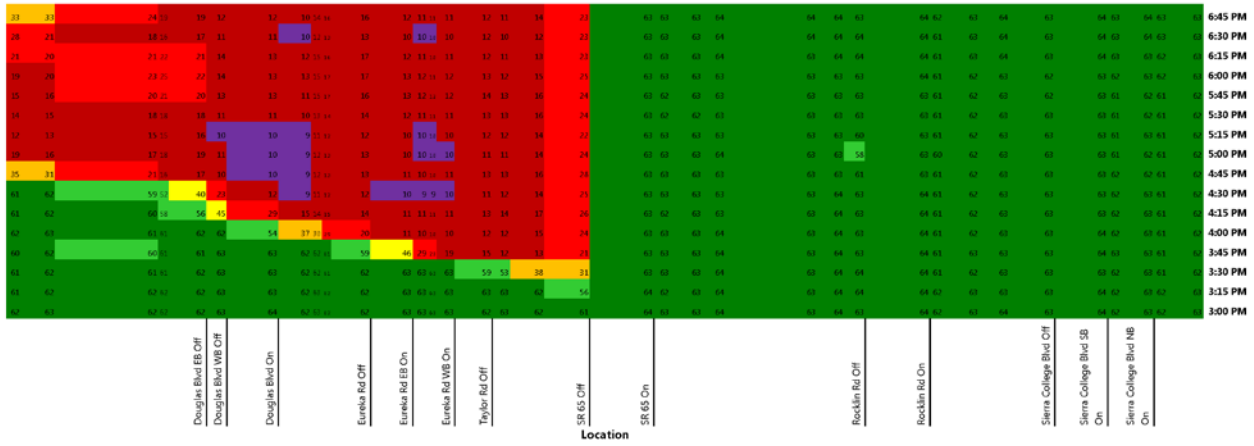
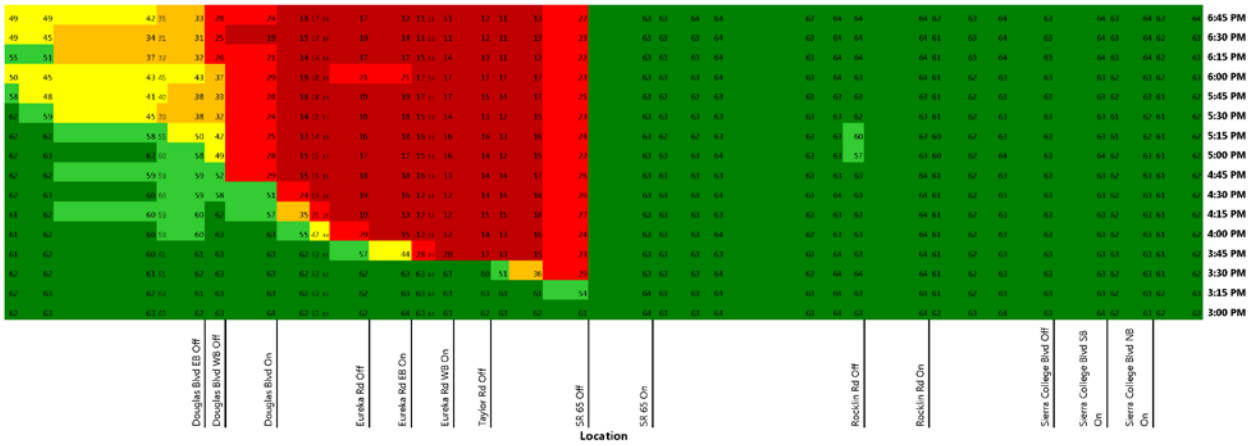


Figure 45 – Eastbound I-80 Construction Year AM Peak Period Speed Contour Map

CARPOOL LANE (ALTERNATIVE 1)



GENERAL PURPOSE LANE (ALTERNATIVE 2)



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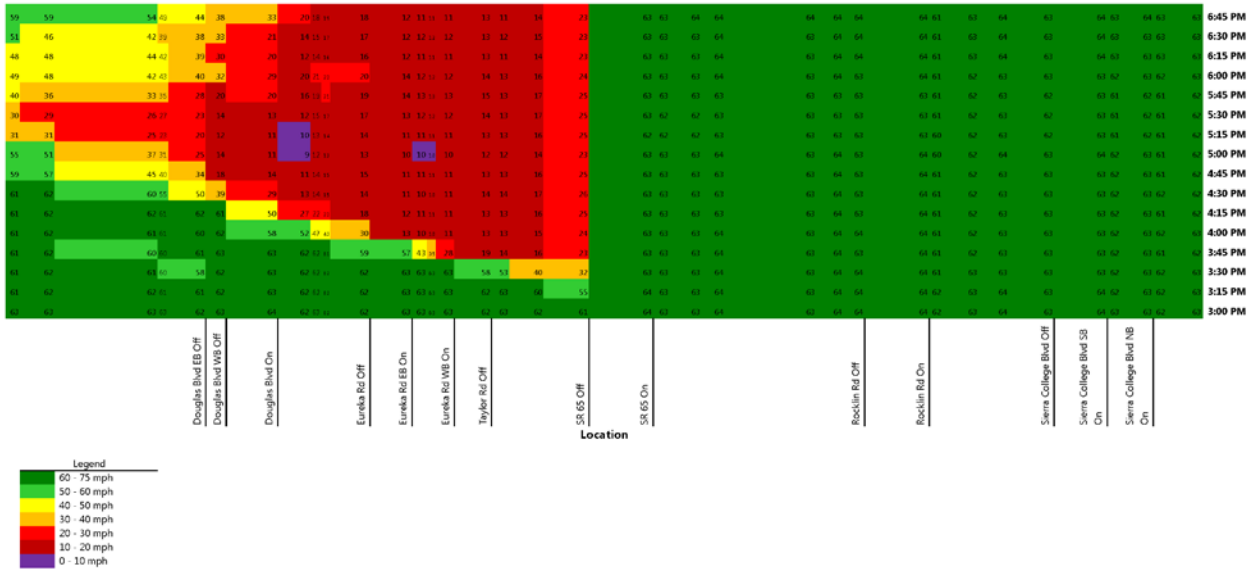
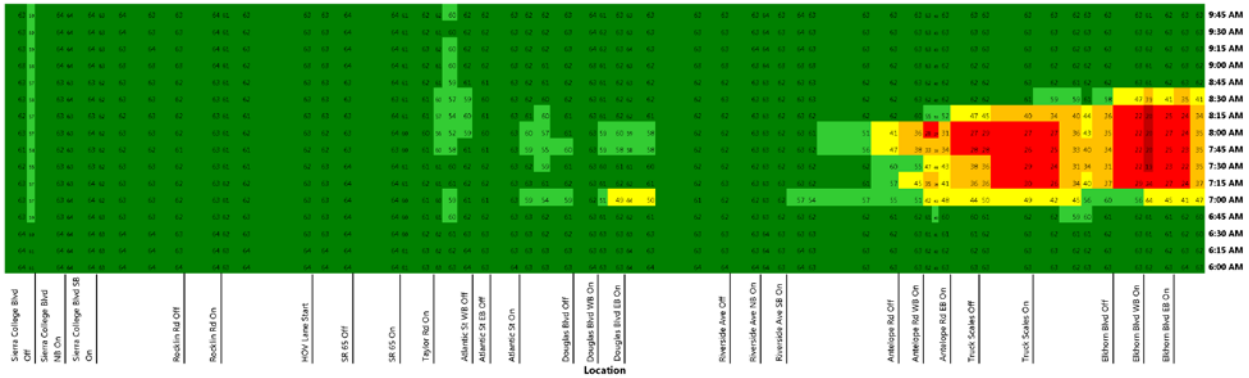
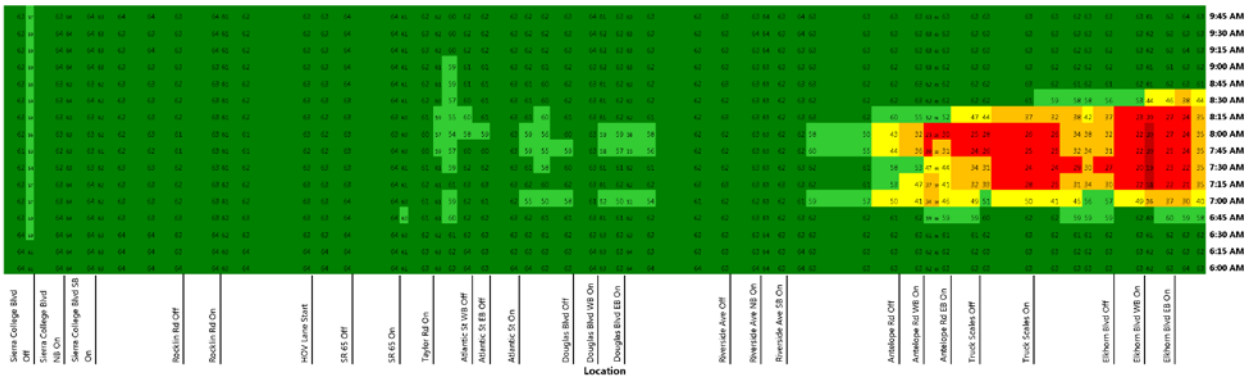


Figure 46 – Eastbound I-80 Construction Year PM Peak Period Speed Contour Map

CARPOOL LANE (ALTERNATIVE 1)



GENERAL PURPOSE LANE (ALTERNATIVE 2)



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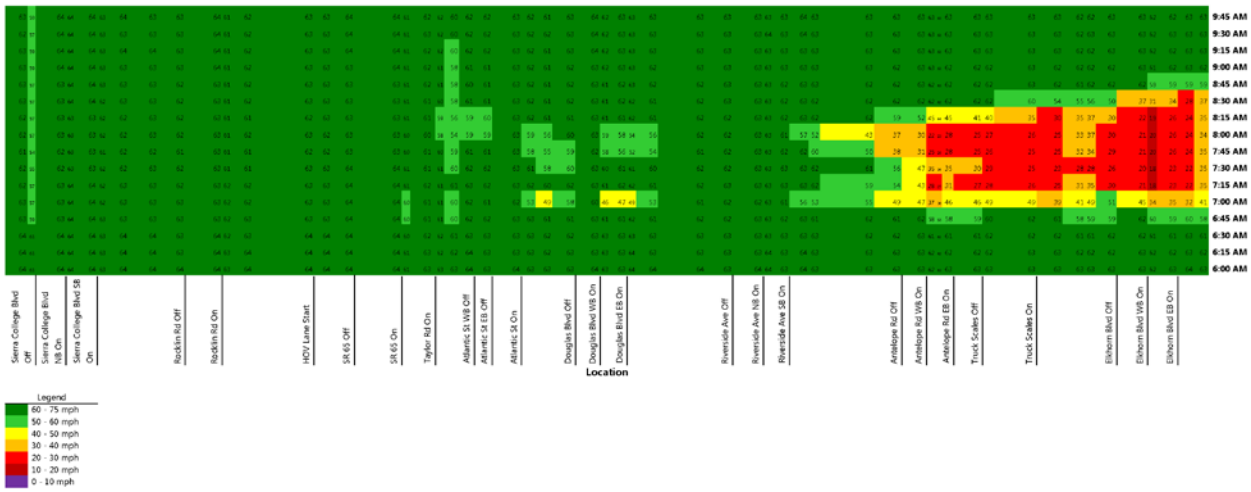
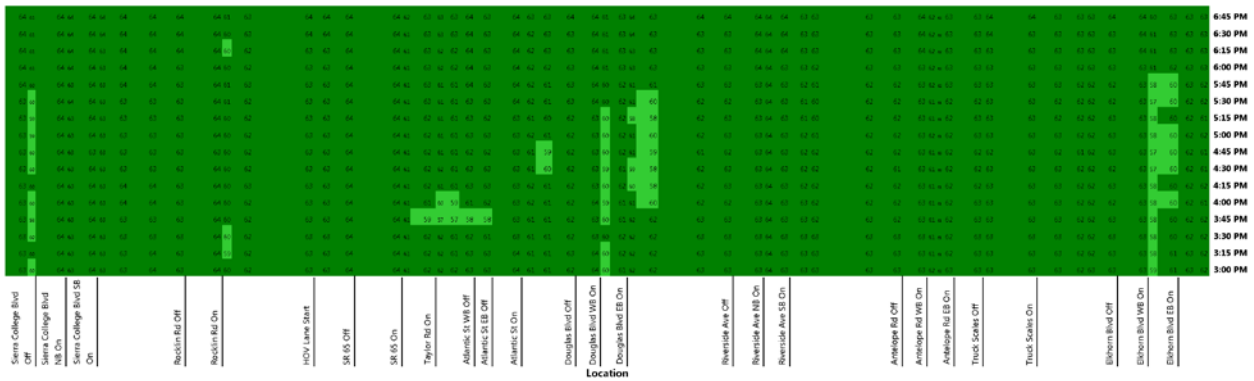
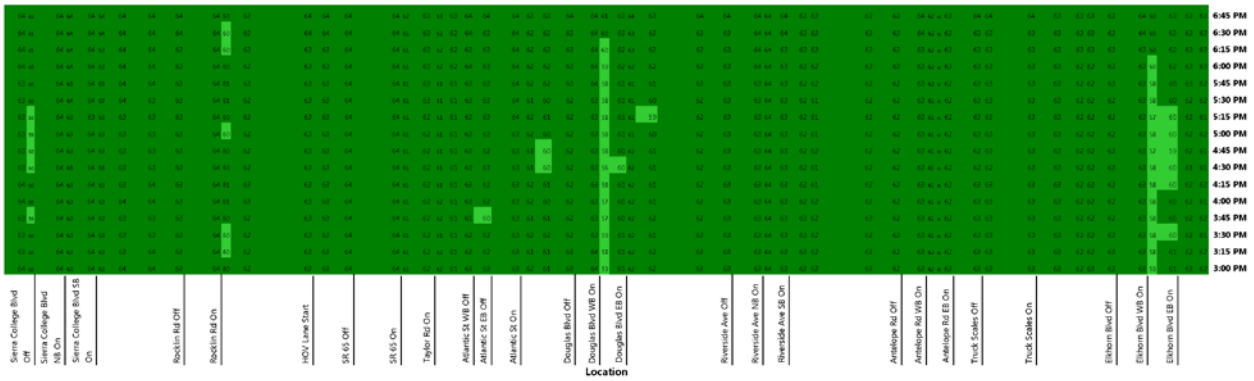


Figure 47 – Westbound I-80 Construction Year AM Peak Period Speed Contour Map

CARPOOL LANE (ALTERNATIVE 1)



GENERAL PURPOSE LANE (ALTERNATIVE 2)



NO BUILD (ALTERNATIVE 3)

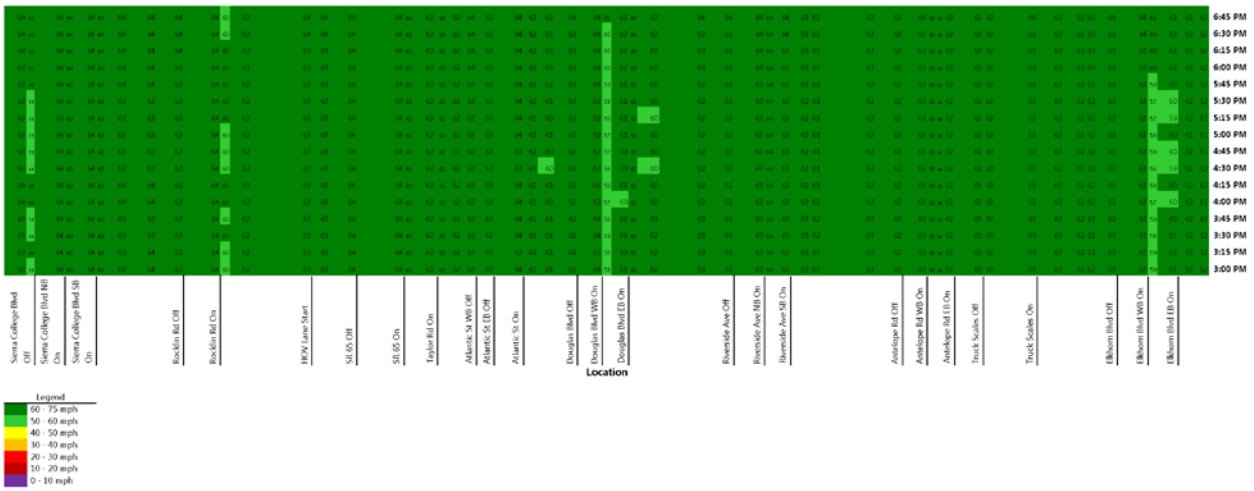


Figure 48 – Westbound I-80 Construction Year PM Peak Period Speed Contour Map

All three alternatives would operate with LOS D or better conditions during the PM peak hour. The planned I-80/SR 65 Interchange Improvements Phase 1 project would eliminate the existing bottleneck during the PM peak hour.

During the AM peak hour, the proposed project (Alternatives 1 and 2) would have an impact at the Sunset Boulevard off-ramp to on-ramp segment and at the Sunset Boulevard westbound on-ramp. This impact could be mitigated by extending the planned auxiliary lane that starts at the eastbound on-ramp upstream to start and the westbound on-ramp. Alternately, more restrictive metering could be used at the upstream on-ramps. More restrictive metering for ramps at Sunset Boulevard, Placer Parkway, and Twelve Bridges Drive could cause queuing that would extend onto the local street network.

Additionally, the proposed project (Alternative 1) would have an impact at the Galleria Boulevard on-ramp during the AM peak hour. This impact could be mitigated by constructing the ultimate phase of the planned I-80/SR 65 Interchange Improvement project that will widen the freeway at this location by two lanes (a carpool lane and an acceleration lane). Alternately, more restrictive metering could be used at the upstream on-ramps. More restrictive metering for ramps at Galleria Boulevard, Pleasant Grove Boulevard, and Blue Oaks Boulevard could cause queuing that would extend onto the local street network.

Eastbound I-80

For all alternatives, the freeway operations results indicate that eastbound I-80 would have LOS D or better conditions during the AM peak hour. However, the freeway would have a bottleneck at the SR 65 off-ramp during the PM peak period. The PM peak period congestion would last for more than three and a half hours and extend upstream past Auburn Boulevard.

Although the total demand volumes are similar across alternatives and the lane configurations are the same, the results for Alternative 1 (Carpool Lane) show much worse congestion during the PM peak hour. One potential reason is that Alternative 1 has higher HOV demand volume, which causes more weaving conflicts at the SR 65 off-ramp than the other alternatives. With these results, Alternative 1 has project impacts during the PM peak hour on eastbound I-80 from Auburn Boulevard to SR 65. Alternative 2 also has project impacts at the Douglas Boulevard on-ramp, the Eureka Road off-ramp, and the SR 65 off-ramp. To mitigate these impacts, the ultimate phase of the I-80/SR 65 Interchange Improvements project should be constructed.

Westbound I-80

During the AM peak period, bottlenecks would exist under all alternatives at Elkhorn Boulevard as shown in Figure 47. Short-term slow speeds would also occur upstream at Douglas Boulevard prior to the peak hour. The downstream bottleneck at Elkhorn Boulevard would last for about two hours and extend upstream to Antelope Road. All three alternatives would have about the same operating conditions in this area. Westbound I-80 would operate with LOS D or better conditions during the PM peak hour.

Although Alternatives 1 and 2 would have LOS F conditions during the AM peak hour, the proposed project would not have impacts because the no build alternative would operate worse.

5.2.2. Arterial Intersection Operations

Tables 27 and 28 show the LOS and average delay at key study intersections under construction year conditions during the AM and PM peak hours, respectively. Tables 29 and 30 show the average maximum queue length at off-ramps under construction year conditions during the AM and PM peak hours. Based on the evaluation criteria for this study, Alternative 1 (Carpool Lane) has six impacts, and Alternative 2 (General Purpose Lane) has eight impacts. See the Appendix for all study intersection results.

TABLE 27: INTERSECTION OPERATIONS RESULTS – CONSTRUCTION YEAR AM PEAK HOUR CONDITIONS

Intersection	Threshold	Alternative 1	Alternative 2	Alternative 3
6. Blue Oaks Blvd / Washington Blvd / SR 65 SB Ramps	C	C / 31	C / 35	**D / 52**
10. Stanford Ranch Rd / Five Star Blvd	C	C / 27	C / 27	C / 29
11. Stanford Ranch Rd / SR 65 NB Ramps	D	B / 15	B / 20	B / 18
12. Galleria Blvd / SR 65 SB Ramps	D	B / 17	B / 17	B / 17
16. Roseville Pkwy / Taylor Rd	D	D / 49	D / 46	**F / 133**
18. Atlantic St / Wills Rd	C	C / 24	C / 24	B / 19
20. Eureka Rd / Taylor Rd / I-80 EB Ramps	E	C / 25	C / 25	C / 22
21. Eureka Rd / Sunrise Ave	C	C / 32	C / 33	C / 26
23. Douglas Blvd / Harding Blvd	E	D / 51	C / 30	D / 36
24. Douglas Blvd / I-80 WB Ramps	C	C / 23	C / 24	B / 20
25. Douglas Blvd / I-80 EB Ramps	C	B / 20	A / 10	B / 12
26. Douglas Blvd / Sunrise Ave	D	C / 33	C / 33	C / 28
28. Pacific St / Sunset Blvd	C	C / 24	C / 24	C / 27
29. Rocklin Rd / Granite Dr	C	B / 17	B / 18	B / 19
30. Rocklin Rd / I-80 WB Ramps	C	C / 23	C / 29	C / 21
31. Rocklin Rd / I-80 EB Ramps	C	**D / 42**	**D / 49**	**D / 37**

Note: Bold and underline font indicate unacceptable operations. Shaded cells indicate a project impact. The LOS and average delay in seconds per vehicle are reported.

Source: Fehr & Peers, 2015

The following intersections would operate at an unacceptable LOS based on the evaluation criteria under all project alternatives.

- Blue Oaks Boulevard/Washington Boulevard/SR 65 Southbound Ramps (PM only)

- Stanford Ranch Road/Five Star Boulevard (PM only)
- Eureka Road/Sunrise Avenue (PM only)
- Rocklin Road/Granite Drive (PM only)
- Rocklin Road/I-80 Eastbound Ramps (AM only)

The analysis results indicate that these intersections would need capacity enhancements with and without the proposed project to operate within the established LOS thresholds for these locations or peak period travel demand management strategies would need to be employed in the study area. Before any improvements are proposed though, the interaction between these locations and the rest of the network should be considered. In some cases, the operation of these intersections meters traffic accessing the freeway. In other locations, improvements to the freeway system, such as an auxiliary lane, may reduce demand and/or queuing that would improve intersection operations.

TABLE 28: INTERSECTION OPERATIONS RESULTS – CONSTRUCTION YEAR PM PEAK HOUR CONDITIONS

Intersection	Threshold	Alternative 1	Alternative 2	Alternative 3
6. Blue Oaks Blvd / Washington Blvd / SR 65 SB Ramps	C	**D / 47**	**D / 44**	**F / 126**
10. Stanford Ranch Rd / Five Star Blvd	C	**F / 92**	**E / 76**	**D / 48**
11. Stanford Ranch Rd / SR 65 NB Ramps	D	C / 23	C / 25	B / 12
12. Galleria Blvd / SR 65 SB Ramps	D	B / 16	B / 17	B / 16
16. Roseville Pkwy / Taylor Rd	D	D / 51	D / 53	D / 42
18. Atlantic St / Wills Rd	C	**D / 39**	**D / 36**	C / 22
20. Eureka Rd / Taylor Rd / I-80 EB Ramps	E	D / 52	E / 72	D / 41
21. Eureka Rd / Sunrise Ave	C	**D / 44**	**D / 44**	**E / 62**
23. Douglas Blvd / Harding Blvd	E	E / 77	**F / 128**	**F / 92**
24. Douglas Blvd / I-80 WB Ramps	C	C / 35	C / 31	C / 31
25. Douglas Blvd / I-80 EB Ramps	C	**D / 41**	**D / 35**	C / 29
26. Douglas Blvd / Sunrise Ave	D	D / 54	**F / 86**	D / 39
28. Pacific St / Sunset Blvd	C	C / 30	C / 29	**F / 86**
29. Rocklin Rd / Granite Dr	C	**F / 130**	**F / 130**	**F / 127**
30. Rocklin Rd / I-80 WB Ramps	C	C / 27	C / 25	**D / 38**
31. Rocklin Rd / I-80 EB Ramps	C	**E / 57**	**D / 46**	C / 33

Note: Bold and underline font indicate unacceptable operations. Shaded cells indicate a project impact. The LOS and average delay in seconds per vehicle are reported.

Source: Fehr & Peers, 2015

TABLE 29: SELECTED MAXIMUM QUEUE LENGTH RESULTS – CONSTRUCTION YEAR AM PEAK HOUR CONDITIONS

Off-ramp	Storage	Alternative 1	Alternative 2
Eastbound I-80 at Eureka Rd	1,700	500	400
Eastbound I-80 at Rocklin Rd	1,080	300	350
Northbound SR 65 at Northbound Stanford Ranch Rd	1,170	125	100
Northbound SR 65 at Southbound Stanford Ranch Rd	1,800	25	25
Northbound SR 65 at Pleasant Grove Blvd	1,170	150	150
Northbound SR 65 at Blue Oaks Blvd	1,100	600	650
Northbound SR 65 at Sunset Blvd	1,400	275	275
Southbound at Blue Oaks Blvd	2,260	350	350
Southbound at Pleasant Grove Blvd	1,130	175	150
Southbound SR 65 at Southbound Galleria Blvd	1,130	275	275
Southbound SR 65 at Northbound Galleria Blvd	1,780	50	50

Note: Bold and underline font indicate queues that exceed the ramp length. Shaded cells indicate a project impact. The reported value is the average maximum peak-hour queue length in feet.

Source: Fehr & Peers, 2015

TABLE 30: SELECTED MAXIMUM QUEUE LENGTH RESULTS – CONSTRUCTION YEAR PM PEAK HOUR CONDITIONS

Off-ramp	Storage	Alternative 1	Alternative 2
Eastbound I-80 at Eureka Rd	1,700	1,125	1,675
Eastbound I-80 at Rocklin Rd	1,080	925	700
Northbound SR 65 at Northbound Stanford Ranch Rd	1,170	350	400
Northbound SR 65 at Southbound Stanford Ranch Rd	1,800	25	50
Northbound SR 65 at Pleasant Grove Blvd	1,170	200	250
Northbound SR 65 at Blue Oaks Blvd	1,100	525	925
Northbound SR 65 at Sunset Blvd	1,400	200	225
Southbound at Blue Oaks Blvd	2,260	250	250
Southbound at Pleasant Grove Blvd	1,130	150	125
Southbound SR 65 at Southbound Galleria Blvd	1,130	250	275
Southbound SR 65 at Northbound Galleria Blvd	1,780	150	175

Note: Bold and underline font indicate queues that exceed the ramp length. Shaded cells indicate a project impact. The reported value is the average maximum peak-hour queue length in feet.

Source: Fehr & Peers, 2015

During the AM peak hour, one intersection would have deficient operations under the build alternatives. Rocklin Road/I-80 Eastbound Ramps would operate at LOS D conditions. Alternative 3 (No Build) would also have LOS D conditions at the intersection, but the delay under the build alternatives would be higher due to a higher demand volume. As a result, the deficiency is also an impact.

During the PM peak hour, the proposed project would have impacts at the following study intersections.

- Stanford Ranch Road/Five Star Boulevard
- Atlantic Street/Wills Road
- Douglas Boulevard/Harding Boulevard (Alternative 2 only)
- Douglas Boulevard/I-80 Eastbound Ramps
- Douglas Boulevard/Sunrise Avenue (Alternative 2 only)
- Rocklin Road/Granite Drive
- Rocklin Road/Aguilar Road

The impact at the Stanford Ranch Road intersection is caused by changes in demand volumes. With the additional northbound freeway capacity, more westbound Five Star Boulevard traffic turns left towards the freeway rather than right towards Sunset Boulevard, a parallel route. The impacts may be mitigated by adjusting signal timing. If further improvements are needed, allowing right turns from the middle lane on eastbound Five Star Boulevard may reduce intersection delay without affecting pedestrian safety since no conflicting crosswalk exists for this movement.

Signal timing adjustments are a potential mitigation for the Atlantic Street intersection. The build alternatives have a longer cycle length for the Atlantic Street/Eureka Road corridor compared with the no build alternative. The longer cycle length helps to serve different volumes at the eastbound I-80 off-ramp although the volumes at Wills Road are about the same among the alternatives. This intersection operates acceptably at LOS C under all alternatives under design year conditions, so the operations should be okay under construction year conditions.

The impacts at the Douglas Boulevard intersections could be caused by differences in intersection signal timing. The build alternatives have a shorter cycle length than the no build alternative. Although the shorter cycle length can be more efficient, the offsets are more important to prevent queues between the closely-spaced intersections. So, potential mitigation would include changes to the signal operation or widening of the intersections to provide additional turn lanes.

The impacts at the Rocklin Road intersections would be caused by the higher demand volumes under the build alternatives. The impacts can be mitigated by the planned improvements to the I-80 interchange.

During the peak hours, the average maximum queue lengths for freeway off-ramps at all study intersections are less than the ramp storage length under both build alternatives. However, the high PM peak hour demand volume at the eastbound I-80 off-ramp to Eureka Road would produce long queues that would use up most of the off-ramp storage. The off-ramp queue can be managed through signal timing adjustments although this will worsen delay for the local street approaches. A long-term mitigation is to construct the ultimate I-80/SR 65 Interchange Improvements.

Chapter 6. Summary and Conclusions

6.1. **Deficiencies**

The study locations that do not meet the LOS threshold are summarized below by alternative. The LOS thresholds are provided in Section 2.5.

Existing Conditions

- AM Peak Hour
    - Westbound I-80: from the westbound Antelope Road on-ramp to the Elkhorn Boulevard off-ramp
    - Northbound SR 65: westbound I-80 on-ramp
    - Southbound SR 65: from the westbound Blue Oaks Boulevard on-ramp to the eastbound Pleasant Grove Boulevard on-ramp
    - Intersections: Blue Oaks Boulevard/Washington Boulevard/SR 65 Southbound Ramps
- PM Peak Hour
    - Eastbound I-80: Eureka Road off-ramp and SR 65 off-ramp
    - Westbound I-80: SR 65 off-ramp
    - Northbound SR 65: from the westbound I-80 on-ramp to the Stanford Ranch Road off-ramp
    - Intersections: Eureka Road/Taylor Road/I-80 Westbound Ramps

Alternative 1 (Carpool Lane)

- Design Year AM Peak Hour
    - Westbound I-80: from the Antelope Road westbound on-ramp to the Elkhorn Boulevard eastbound on-ramp
    - Intersections: Blue Oaks Boulevard/Washington Boulevard/SR 65 Southbound Ramps, Roseville Parkway/Taylor Road, and Eureka Road/Sunrise Avenue
- Design Year PM Peak Hour
    - Intersections: Blue Oaks Boulevard/Washington Boulevard/SR 65 Southbound Ramps, Blue Oaks Boulevard/SR 65 Northbound Ramps, Stanford Ranch Road/Five Star Boulevard, Galleria Boulevard/Roseville Parkway, Roseville Parkway/Creekside Ridge Drive, Eureka Road/Sunrise Avenue, Douglas Boulevard/Harding Boulevard, Douglas

Boulevard/Sunrise Avenue, Rocklin Road/Granite Drive, and Rocklin Road/I-80 Westbound Ramps

- Construction Year AM Peak Hour
    - Northbound SR 65: I-80 Eastbound Connector Ramp
    - Southbound SR 65: Sunset Boulevard off-ramp to on-ramp, Sunset Boulevard westbound on-ramp, and Galleria Boulevard on-ramp
    - Westbound I-80: from Antelope Road off-ramp to eastbound Elkhorn Boulevard on-ramp
    - Intersections: Rocklin Road/I-80 Eastbound Ramps
- Construction Year PM Peak Hour
    - Northbound SR 65: I-80 Eastbound Connector Ramp
    - Eastbound I-80: from Auburn Boulevard on-ramp to SR 65 off-ramp
    - Intersections: Blue Oaks Boulevard/Washington Boulevard/SR 65 Southbound Ramps, Stanford Ranch Road/Five Star Boulevard, Atlantic Street/Wills Road, Eureka Road/Sunrise Avenue, Douglas Boulevard/I-80 Eastbound Ramps, Rocklin Road/Granite Drive, and Rocklin Road/I-80 Eastbound Ramps

Alternative 2 (General Purpose Lane)

- Design Year AM Peak Hour
    - Southbound SR-65: Pleasant Grove Boulevard westbound on-ramp and Pleasant Grove Boulevard eastbound on-ramp
    - Westbound I-80: from Antelope Road westbound on-ramp to Elkhorn Boulevard eastbound on-ramp except for Elkhorn Boulevard off-ramp
    - Intersections: Blue Oaks Boulevard/Washington Boulevard/SR 65 Southbound Ramps, Roseville Parkway/Taylor Road, and Eureka Road/Sunrise Avenue
- Design Year PM Peak Hour
    - Intersections: Blue Oaks Boulevard/Washington Boulevard/SR 65 Southbound Ramps, Blue Oaks Boulevard/SR 65 Northbound Ramps, Stanford Ranch Road/Five Star Boulevard, Galleria Boulevard/Roseville Parkway, Roseville Parkway/Creekside Ridge Drive, Eureka Road/Taylor Road/I-80 Eastbound Ramps, Eureka Road/Sunrise Avenue, Douglas Boulevard/Harding Boulevard, Douglas Boulevard/I-80 Eastbound Ramps, Douglas Boulevard/Sunrise Avenue, Pacific Street/Sunset Boulevard, Rocklin Road/Granite Drive, and Rocklin Road/I-80 Westbound Ramps

- Construction Year AM Peak Hour
    - Northbound SR 65: I-80 Eastbound Connector Ramp
    - Southbound SR 65: Sunset Boulevard off-ramp to on-ramp and Sunset Boulevard westbound on-ramp
    - Westbound I-80: from Antelope Road off-ramp to eastbound Elkhorn Boulevard on-ramp
    - Intersections: Rocklin Road/I-80 Eastbound Ramps
- Construction Year PM Peak Hour
    - Northbound SR 65: I-80 Eastbound Connector Ramp
    - Eastbound I-80: from Douglas Boulevard eastbound off-ramp to SR 65 off-ramp
    - Intersections: Blue Oaks Boulevard/Washington Boulevard/SR 65 Southbound Ramps, Stanford Ranch Road/Five Star Boulevard, Galleria Boulevard/SR 65 Southbound Ramps, Atlantic Street/Wills Road, Eureka Road/Sunrise Avenue, Douglas Boulevard/Harding Boulevard, Douglas Boulevard/I-80 Eastbound Ramps, Douglas Boulevard/Sunrise Avenue, Rocklin Road/Granite Drive, and Rocklin Road/I-80 Eastbound Ramps

Alternative 3 (No Build)

- Design Year AM Peak Hour
    - Southbound SR 65: from Sunset Boulevard westbound on-ramp to Pleasant Grove Boulevard eastbound on-ramp
    - Westbound I-80: from the Antelope Road off-ramp to Elkhorn Boulevard eastbound on-ramp except for Elkhorn Boulevard off-ramp
    - Intersections: Blue Oaks Boulevard/Washington Boulevard/SR 65 Southbound Ramps, Roseville Parkway/Taylor Road, Eureka Road/Sunrise Avenue, and Rocklin Road/I-80 Eastbound Ramps
- Design Year PM Peak Hour
    - Northbound SR 65: I-80 to Stanford Ranch Road on-ramp
    - Southbound SR 65: Blue Oaks Boulevard westbound on-ramp to Pleasant Grove Boulevard eastbound on-ramp
    - Eastbound I-80: from the Eureka Road off-ramp to SR 65 off-ramp and the collector-distributor roadway between Eureka Road and SR 65/Taylor Road
    - Intersections: Blue Oaks Boulevard/Washington Boulevard/SR 65 Southbound Ramps, Blue Oaks Boulevard/SR 65 Northbound Ramps, Stanford Ranch Road/Five Star Boulevard, Galleria Boulevard/Roseville Parkway, Roseville Parkway/Creekside Ridge Drive,

Roseville Parkway/Taylor Road, Roseville Parkway/Sunrise Avenue, Eureka Road/Taylor Road/I-80 Eastbound Ramps, Eureka Road/Sunrise Avenue, Douglas Boulevard/I-80 Eastbound Ramps, Douglas Boulevard/Sunrise Avenue, Pacific Street/Sunset Boulevard, Rocklin Road/Granite Drive, and Rocklin Road/I-80 Westbound Ramps

- Construction Year AM Peak Hour
    - Southbound SR 65: from Sunset Boulevard to the Pleasant Grove Boulevard off-ramp
    - Westbound I-80: from Riverside Avenue to Elkhorn Boulevard eastbound on-ramp
    - Intersections: Blue Oaks Boulevard/Washington Boulevard/SR 65 Southbound Ramps, Roseville Parkway/Taylor Road, and Rocklin Road/I-80 Eastbound Ramps
- Construction Year PM Peak Hour
    - Northbound SR 65: I-80 Eastbound Connector Ramp
    - Eastbound I-80: Auburn Boulevard on-ramp to SR 65 off-ramp
    - Intersections: Blue Oaks Boulevard/Washington Boulevard/SR 65 Southbound Ramps, Blue Oaks Boulevard/SR 65 Northbound Ramps, Stanford Ranch Road/Five Star Boulevard, Eureka Road/Sunrise Avenue, Douglas Boulevard/Harding Boulevard, Pacific Street/Sunset Boulevard, Rocklin Road/Granite Drive, and Rocklin Road/I-80 Westbound Ramps

6.2. **Project Impacts**

The project impacts are summarized below by alternative. A project impact occurs where (1) the LOS threshold is exceeded and (2) the conditions are worse than the no build alternative (Alternative 3).

Alternative 1 (Carpool Lane)

- Design Year AM Peak Hour
    - Westbound I-80: from the Truck Scales to Elkhorn Boulevard eastbound on-ramp
    - Intersections: Roseville Parkway/Taylor Road
- Design Year PM Peak Hour
    - Intersections: Douglas Boulevard/Harding Boulevard, Douglas Boulevard/Sunrise Avenue, and Rocklin Road/I-80 Westbound Ramps
- Construction Year AM Peak Hour
    - Northbound SR 65: I-80 Eastbound Connector Ramp

  - Southbound SR 65: Sunset Boulevard off-ramp to on-ramp, Sunset Boulevard westbound on-ramp, and Galleria Boulevard on-ramp
  - Intersections: Rocklin Road/I-80 Eastbound Ramps
- Construction Year PM Peak Hour
  - Eastbound I-80: from Auburn Boulevard on-ramp to SR 65
  - Intersections: Stanford Ranch Road/Five Star Boulevard, Atlantic Street/Wills Road, Douglas Boulevard/I-80 Eastbound Ramps, Rocklin Road/Granite Drive, and Rocklin Road/I-80 Eastbound Ramps

Alternative 2 (General Purpose Lane)

- Design Year AM Peak Hour
  - Westbound I-80: Truck Scales on-ramp
  - Intersections: Roseville Parkway/Taylor Road
- Design Year PM Peak Hour
  - Intersections: Douglas Boulevard/Harding Boulevard, Douglas Boulevard/Sunrise Avenue, and Rocklin Road/I-80 Westbound Ramps
- Construction Year AM Peak Hour
  - Northbound SR 65: I-80 Eastbound Connector Ramp
  - Southbound SR 65: Sunset Boulevard off-ramp to on-ramp and Sunset Boulevard westbound on-ramp
  - Intersections: Rocklin Road/I-80 Eastbound Ramps
- Construction Year PM Peak Hour
  - Northbound SR 65: I-80 Eastbound Connector Ramp
  - Eastbound I-80: Douglas Boulevard on-ramp and Eureka Road off-ramp
  - Intersections: Stanford Ranch Road/Five Star Boulevard, Atlantic Street/Wills Road, Douglas Boulevard/Harding Boulevard, Douglas Boulevard/I-80 Eastbound Ramps, Douglas Boulevard/Sunrise Avenue, Rocklin Road/Granite Drive, and Rocklin Road/I-80 Eastbound Ramps

6.3. **Potential Mitigation Measures**

The potential mitigation measures for the project impacts identified in the previous section are provided below.

Northbound SR 65

- The impact to the I-80 eastbound connector ramp under construction year conditions can be mitigated by constructing the ultimate phase of the I-80/SR 65 Interchange Improvements project.

Southbound SR 65

- The impact at Sunset Boulevard under construction year conditions can be mitigated by extending the proposed auxiliary lane upstream to start at the westbound on-ramp instead of the eastbound on-ramp at Sunset Boulevard. Since the auxiliary lane extension is not needed under design year conditions when mainline is widened, an alternate mitigation would be to operate the ramp meters on southbound SR 65 at a more restrictive rate, which may cause secondary impacts to local streets.
- The impact to the Galleria Boulevard on-ramp under construction year conditions can be mitigated by constructing the ultimate phase of the I-80/SR 65 Interchange Improvements project. An alternate mitigation would be to operate the ramp meters on southbound SR 65 at a more restrictive rate, which may cause secondary impacts to local streets.

Eastbound I-80

- Impacts from Auburn Boulevard to SR 65 under construction year conditions can be mitigated by constructing the ultimate phase of the I-80/SR 65 Interchange Improvements project.

Westbound I-80

- Impacts from the Truck Scales to Elkhorn Boulevard can be mitigated by providing a full auxiliary lane from the truck scales to Elkhorn Boulevard or adding a through lane at Elkhorn Boulevard. An alternate mitigation to the above widening options would be to operate the ramp meters on westbound I-80 and southbound SR 65 at a more restrictive rate, which may cause secondary impacts to local streets.

Intersections

- Stanford Ranch Road/Five Star Boulevard – The impact may be mitigated by converting the eastbound middle lane from a shared left-turn/through lane to a shared left-turn/through/right-turn lane.
- Roseville Parkway/Taylor Road – The impact would likely be mitigated by providing a third southbound left-turn lane. With the widening of the approach, the pedestrian crossing distance would increase.
- Atlantic Street/Wills Road – The impact would likely be mitigated by modifying signal timing.

- Douglas Boulevard/Harding Boulevard – The impact would likely be mitigated by modifying signal timing. Alternately, an additional eastbound through lane would increase capacity.
- Douglas Boulevard/I-80 Eastbound Ramps – The impact would likely be mitigated by modifying signal timing or adjusting the ramp meter timing to reduce queuing onto the local street.
- Douglas Boulevard/Sunrise Avenue – This impact may be mitigated by modifying signal timing. Alternately, the addition of a second southbound right turn lane would increase capacity.
- Rocklin Road/Granite Drive – This impact under construction year conditions may be mitigated by constructing the planned I-80/Rocklin Road Interchange Improvements.
- Rocklin Road/I-80 Westbound Ramps – This impact may be mitigated by signal timing and/or providing additional storage for the ramp meter on the Rocklin Road on-ramp to westbound I-80 to reduce queuing onto the local street.
- Rocklin Road/I-80 Eastbound Ramps – This impact under construction year conditions may be mitigated by constructing the planned I-80/Rocklin Road Interchange Improvements.

6.4. **Safety Assessment**

The build alternatives will likely provide similar improvements to transportation safety. A key improvement will be provided by congestion reduction on the freeway. Rear-end collisions on the freeway are associated with congested conditions. As noted in the existing conditions section, rear-end collisions in the study area are highest on southbound SR 65 during the congested AM and PM peak periods. Since the build alternatives will reduce congestion compared to Alternative 3 (No Build), the expected number of rear-end end collision would be reduced with the build alternatives.

Roadway design standards are used to provide consistent expectations for drivers, which helps improve transportation safety by reducing collision risks. When these standards are not met, collision risks may increase. The currently proposed design exceptions related to freeway operations are narrow shoulder widths at the Blue Oaks Boulevard and Pleasant Grove Boulevard overcrossings. Compared to Alternative 3 (No Build), Alternatives 1 and 2 will have a narrower clear recovery zone at these two spot locations.

6.5. **Comparison of Project Alternatives**

In general, the build alternatives perform similarly under design year conditions. Table 31 compares the build alternatives across a range of performance measures based on the project objectives. As listed in Section 1.3, the project objectives can be summarized as reducing congestion and improving safety.

In the comparison summary table, two performance measures for the overall network performance are provided: the sum of the AM and PM peak period volume served (throughput) and vehicle hours of delay. The three build alternatives have similar performance, with less than 0.01 percent difference in volume

and less than 0.2 percent difference in delay between the alternatives. Alternative 1 (Carpool Lane) has the better network performance primarily due to the improved PM peak period operation for southbound SR 65.

The comparison table also lists the total number of design year AM and PM peak hour impacts for study freeway sections and intersections. Alternative 2 (General Purpose Lane) has the fewest freeway impacts; however, both alternatives have about the same performance on westbound I-80 during the AM peak hour where all of the impacts are located. The intersection impacts are at the same locations for both alternatives.

TABLE 31: ALTERNATIVE COMPARISON SUMMARY – DESIGN YEAR PEAK PERIOD CONDITIONS

Category	Alternative 1	Alternative 2	Difference[1]
Network Throughput (vehicles)	508,940	508,290	+650 (1)
Network Delay (vehicle-hours)	16,010	16,050	-40 (1)
Freeway Impacts	5	1	-4 (2)
Intersection Impacts	4	4	0 (-)
Northbound SR 65 PM Peak Hour Travel Time	7:52	7:53	-1 (1)
Southbound SR 65 AM Peak Hour Travel Time	7:49	7:53	-4 (1)

Note: 1. The alternative with the better performance is listed in parentheses.
Source: Fehr & Peers, 2015

The peak hour travel times for the peak directions of SR 65 are nearly the same. During the AM peak hour, the southbound travel time is lower for Alternative 1 by 4 seconds. The difference is small, but Alternative 1 provides a better overall travel time.

In summary, both build alternatives would meet the project need and purpose. Alternative 1 would provide better network conditions, better southbound freeway operations, and fewer intersection impacts.

Chapter 7. References

This chapter contains the references cited in the Transportation Analysis Report.

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State Route 65

Capacity and Operational Improvements

Transportation Analysis Report Appendix

Placer County, CA

03-PLA-65-PM R6.5 to R12.9

EA 03-1F1700
Project ID 0300001103

September 2015

Caltrans

PLACER COUNTY
TRANSPORTATION
PLANNING AGENCY

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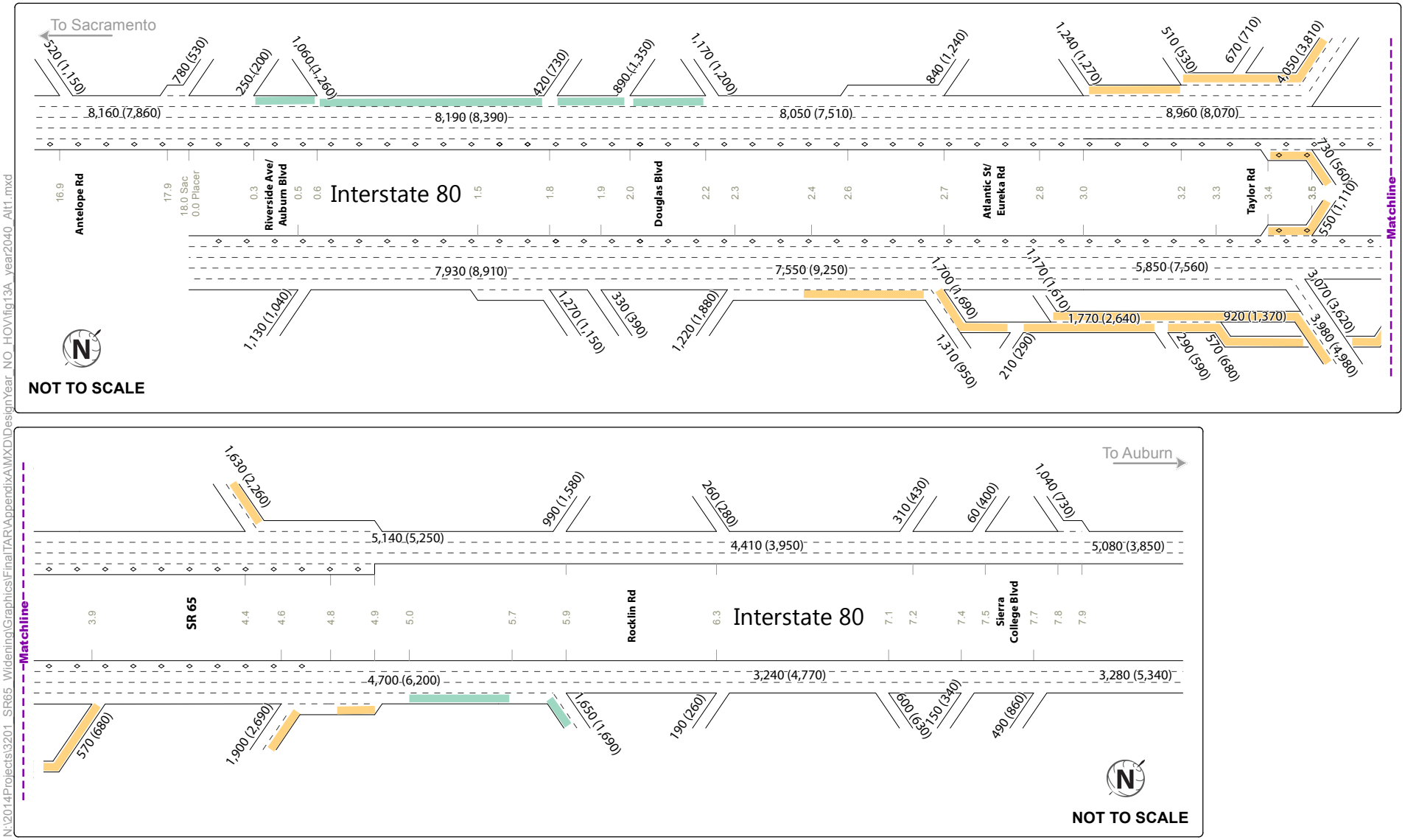

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Figure 13A

Design Year Peak Hour Traffic Volumes and Lane Configurations - Carpool Lane (Alternative 1)

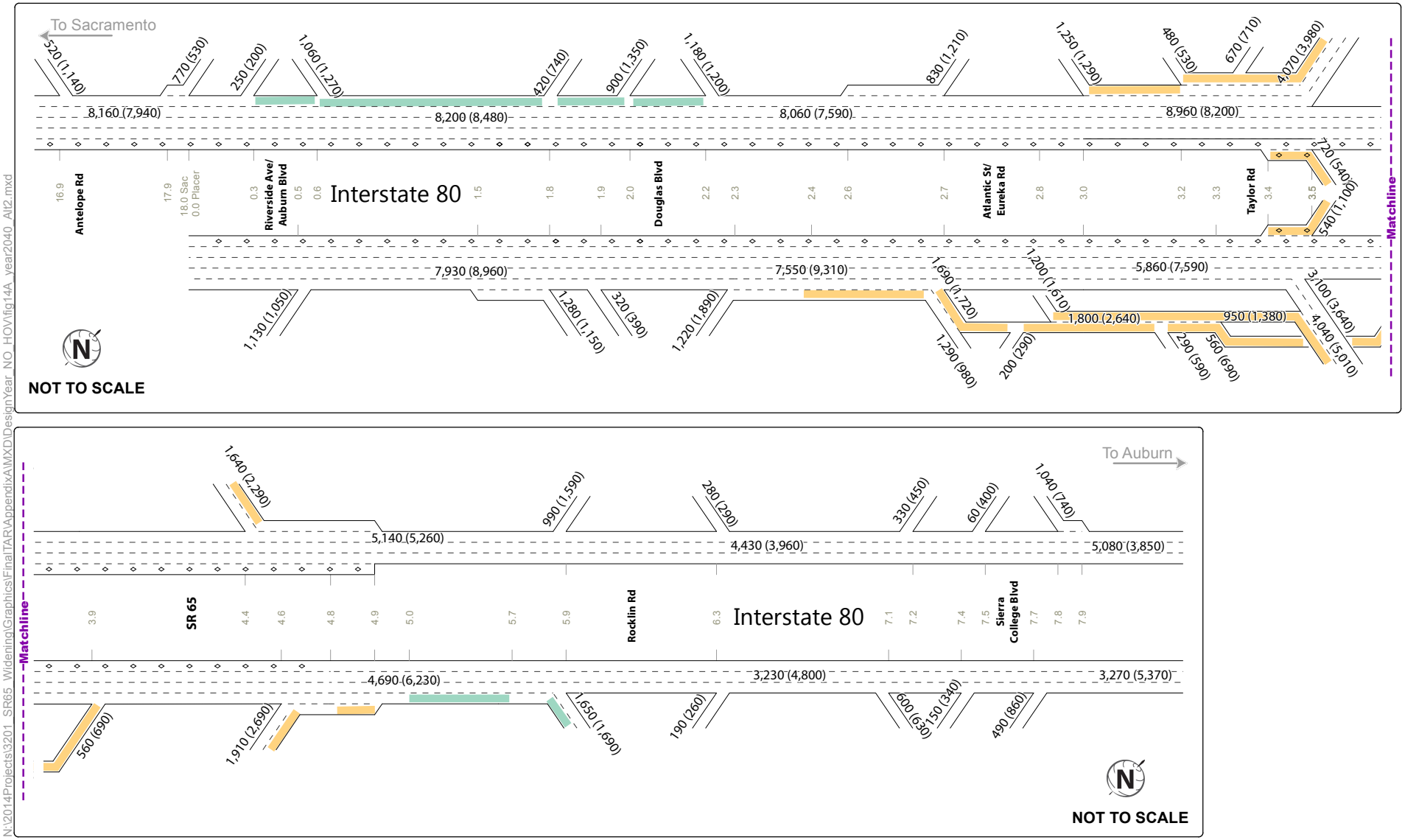

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Figure 14A

Design Year Peak Hour Traffic Volumes and Lane Configurations - General Purpose Lane (Alternative 2)

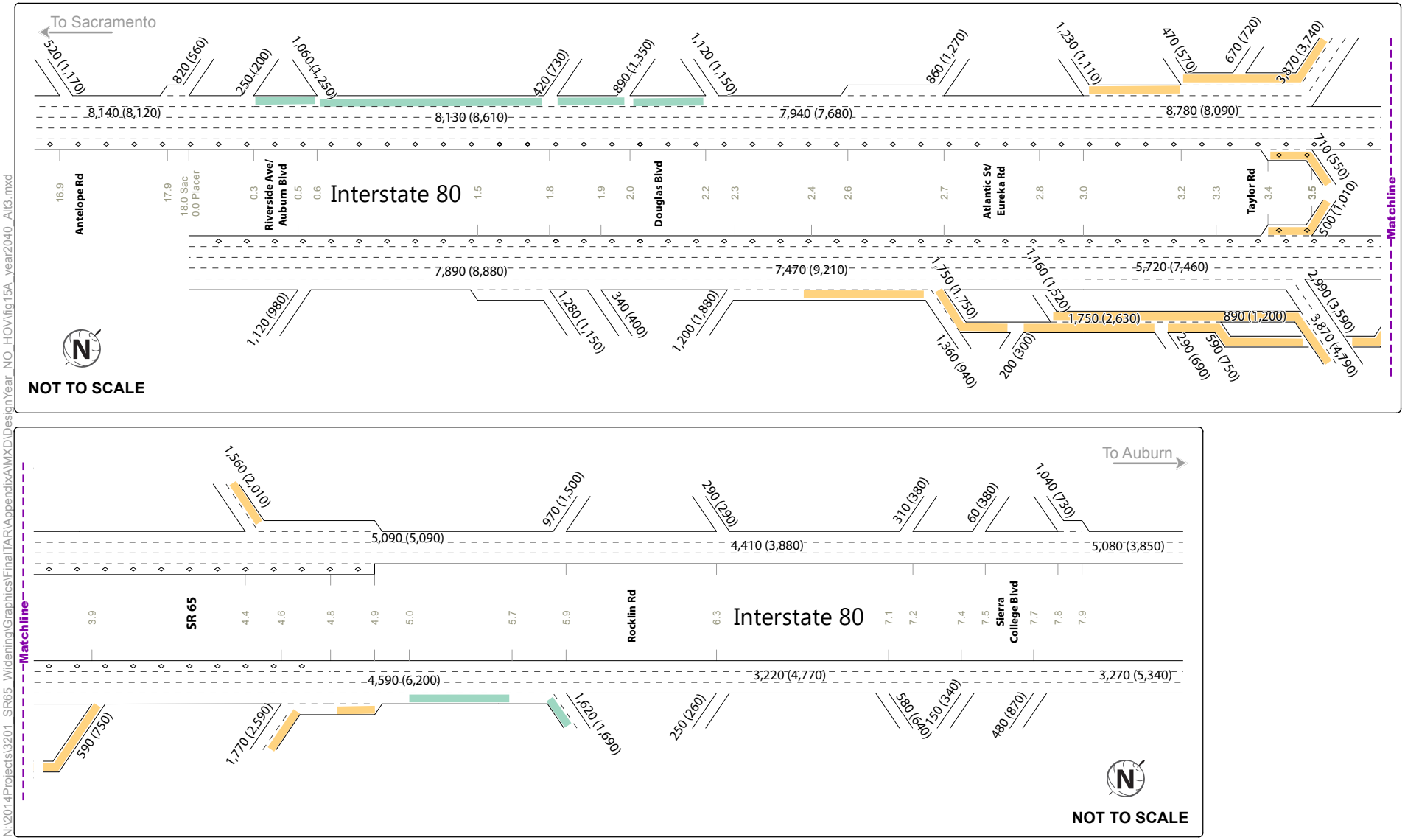

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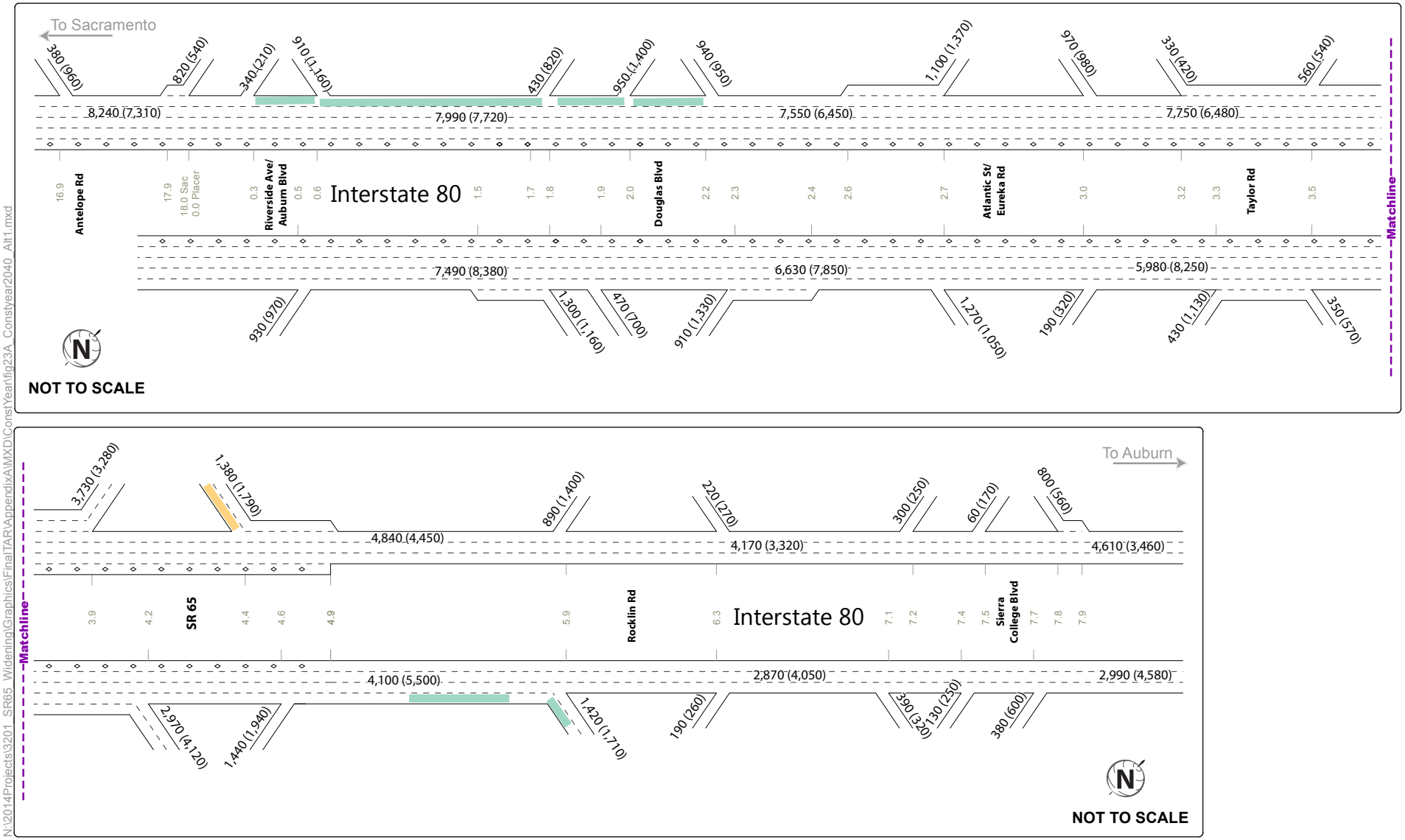
Figure 15A

Design Year Peak Hour Traffic Volumes and Lane Configurations - No Build (Alternative 3)



AM (PM) Peak Hour Traffic Volume for 2020 Conditions

10.1 Postmile

Placer I-80 Auxiliary Lanes

I-80/SR 65 Interchange Improvements Phase 1

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Figure 23A

Construction Year Peak Hour Traffic Volumes and Lane Configurations - Carpool Lane (Alternative 1)

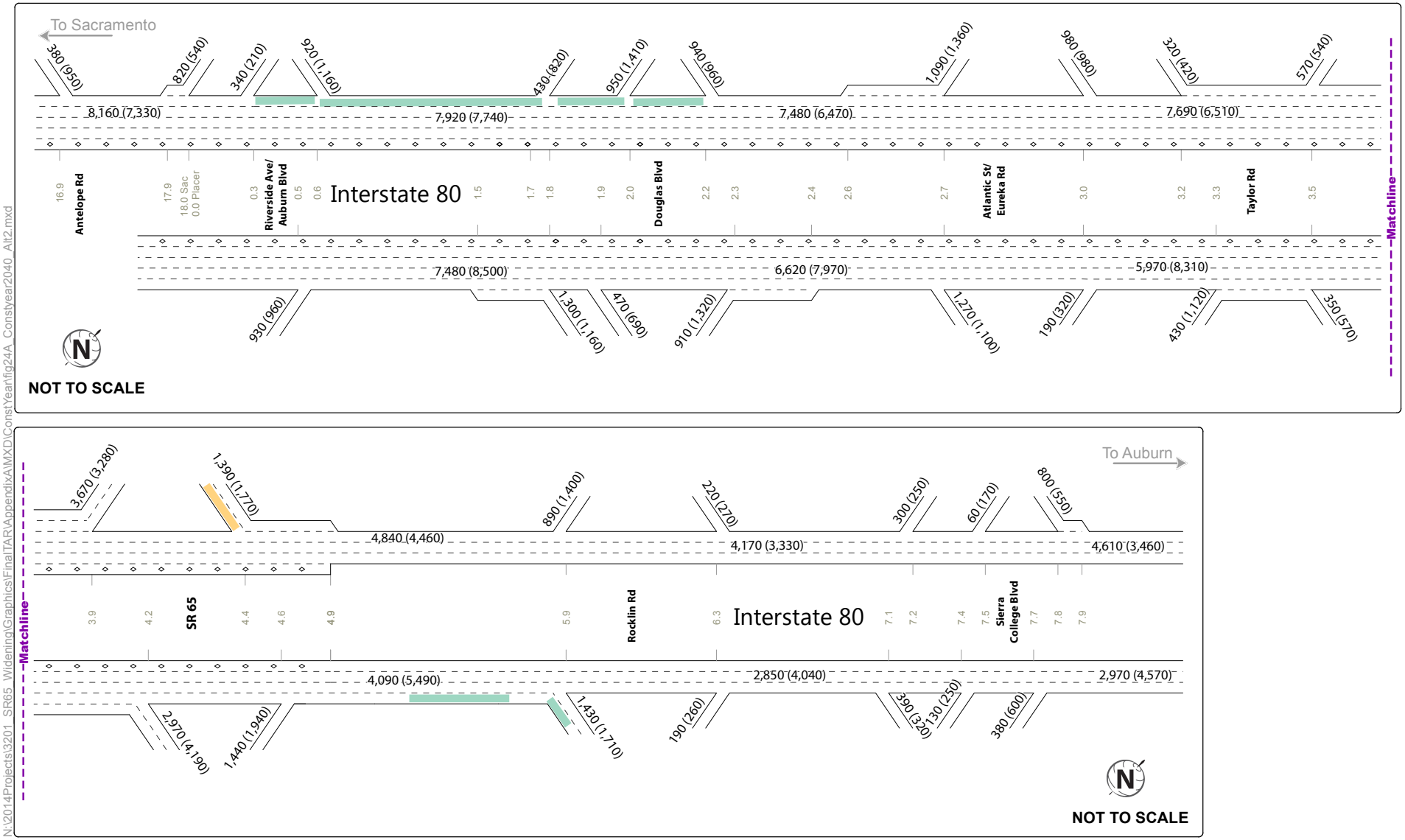

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Figure 24A

Construction Year Peak Hour Traffic Volumes and Lane Configurations - General Purpose Lane (Alternative 2)

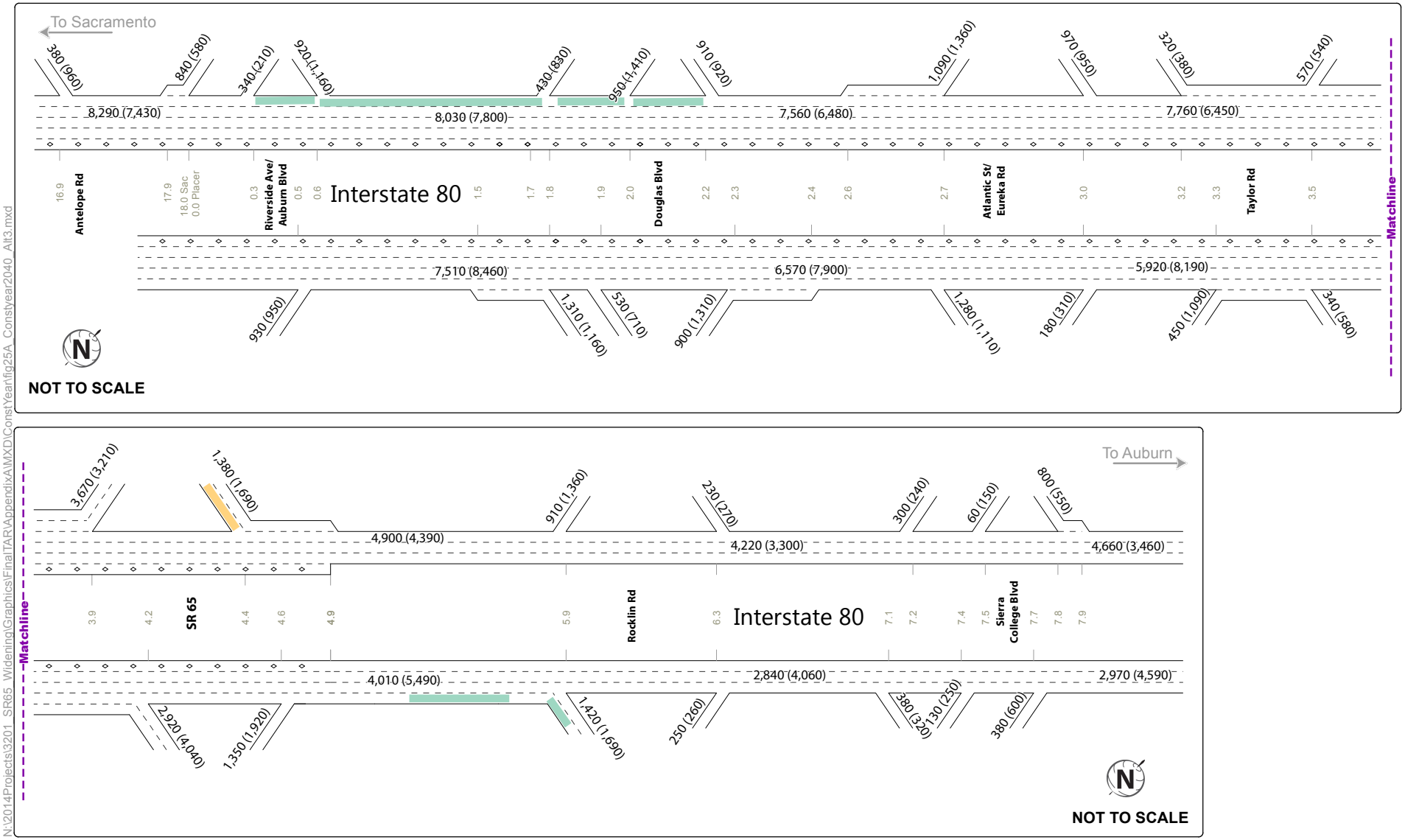

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Figure 25A

Construction Year Peak Hour Traffic Volumes and Lane Configurations - No Build (Alternative 3)

SR 65 Capacity and Operational Improvements

Intersection Volumes – Design Year

SR-65 Capacity and Operational Improvements
Design Year Forecasts
AM (PM) Peak Hour Volumes

SR-65 Capacity and Operational Improvements
Design Year Forecasts
AM (PM) Peak Hour Volumes

SR-65 Capacity and Operational Improvements
Design Year Forecasts
AM (PM) Peak Hour Volumes

SR-65 Capacity and Operational Improvements
Design Year Forecasts
AM (PM) Peak Hour Volumes

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Design Year Forecasts
AM (PM) Peak Hour Volumes

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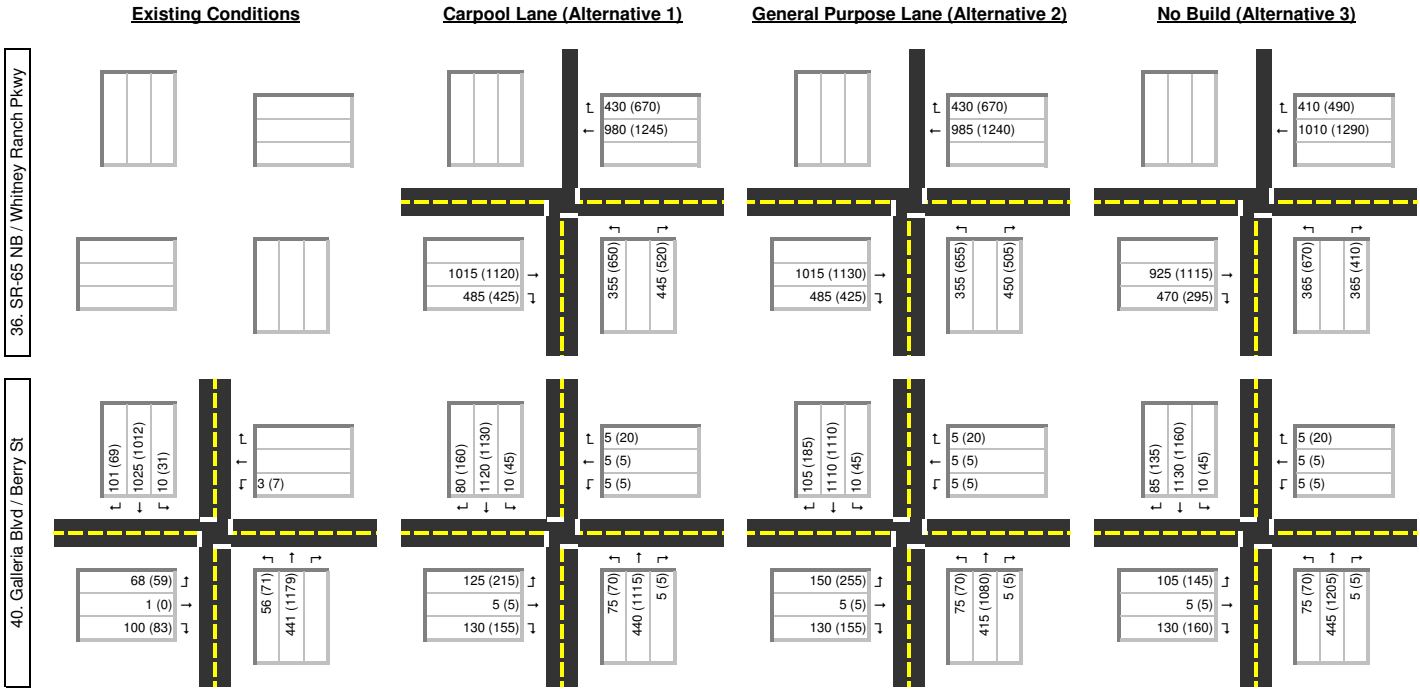
Design Year Forecasts
AM (PM) Peak Hour Volumes

SR-65 Capacity and Operational Improvements
Design Year Forecasts
AM (PM) Peak Hour Volumes

SR-65 Capacity and Operational Improvements
Design Year Forecasts
AM (PM) Peak Hour Volumes



SR 65 Capacity and Operational Improvements

Intersection Volumes – Construction Year

SR-65 Capacity and Operational Improvements
Construction Year Forecasts
AM (PM) Peak Hour Volumes

SR-65 Capacity and Operational Improvements
Construction Year Forecasts
AM (PM) Peak Hour Volumes

SR-65 Capacity and Operational Improvements
Construction Year Forecasts
AM (PM) Peak Hour Volumes

SR-65 Capacity and Operational Improvements
Construction Year Forecasts
AM (PM) Peak Hour Volumes

SR-65 Capacity and Operational Improvements
Construction Year Forecasts
AM (PM) Peak Hour Volumes

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AM (PM) Peak Hour Volumes

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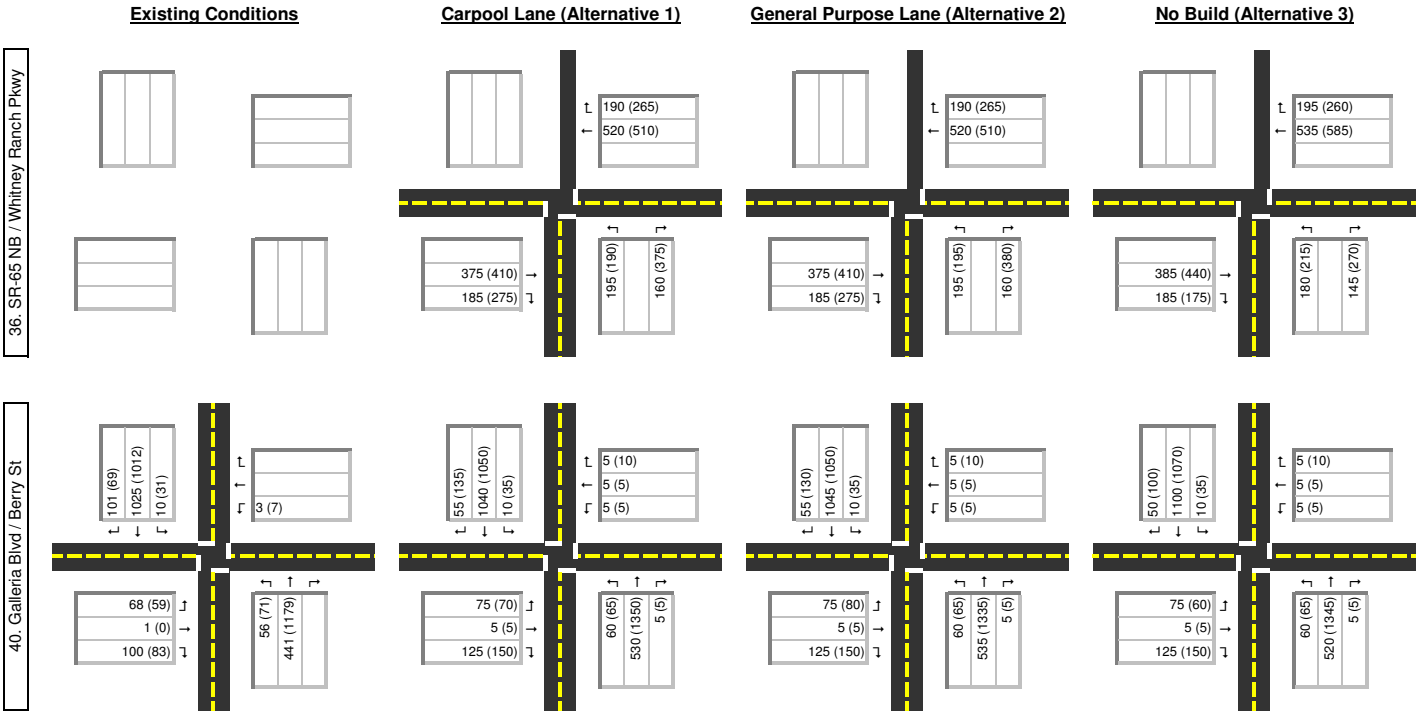
SR-65 Capacity and Operational Improvements
Construction Year Forecasts
AM (PM) Peak Hour Volumes



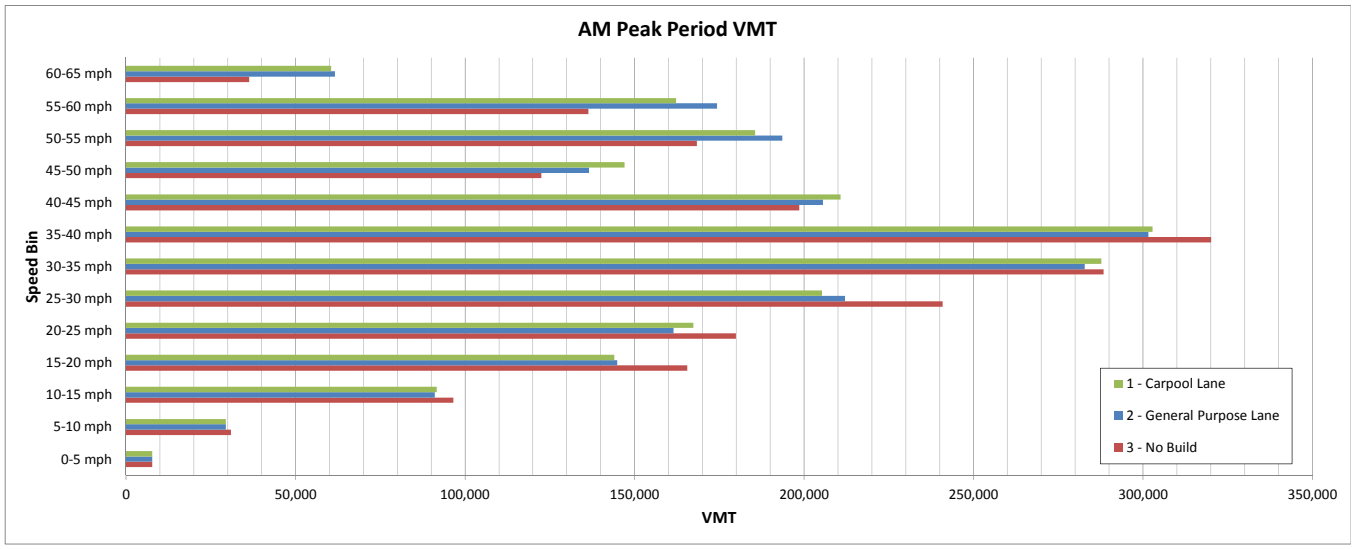
SR 65 Capacity and Operational Improvements

VMT by Speed Bin

Alternative Comparison
Design Year

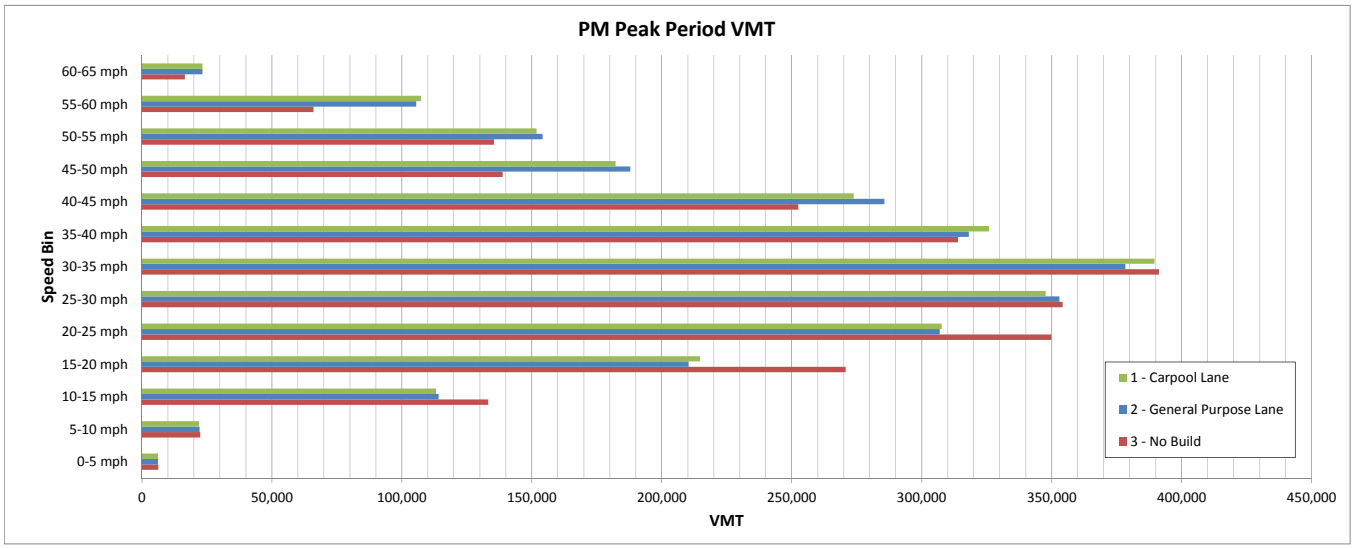
AM Peak Period

	VMT by Speed Bin												
Alternative	**0-5 mph**	**5-10 mph**	**10-15 mph**	**15-20 mph**	**20-25 mph**	**25-30 mph**	**30-35 mph**	**35-40 mph**	**40-45 mph**	**45-50 mph**	**50-55 mph**	**55-60 mph**	**60-65 mph**
1 - Carpool Lane	7,713	29,415	91,604	144,041	167,329	205,287	287,770	302,803	210,745	147,033	185,615	162,216	60,507
2 - General Purpose Lane	7,715	29,420	91,028	144,909	161,536	212,111	282,798	301,576	205,628	136,559	193,551	174,338	61,625
3 - No Build	7,674	30,913	96,552	165,590	179,913	240,873	288,383	320,155	198,576	122,525	168,382	136,345	36,303



PM Peak Period

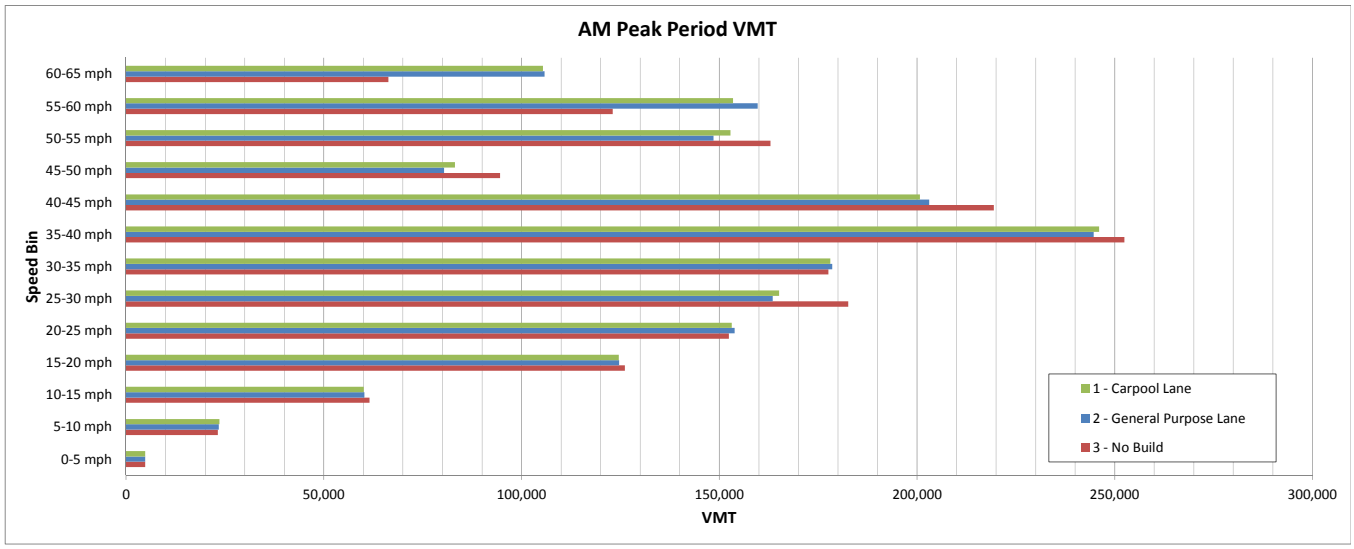
	VMT by Speed Bin												
Alternative	**0-5 mph**	**5-10 mph**	**10-15 mph**	**15-20 mph**	**20-25 mph**	**25-30 mph**	**30-35 mph**	**35-40 mph**	**40-45 mph**	**45-50 mph**	**50-55 mph**	**55-60 mph**	**60-65 mph**
1 - Carpool Lane	6,249	22,004	113,161	214,733	307,671	347,679	389,519	325,912	273,837	182,181	151,844	107,432	23,324
2 - General Purpose Lane	6,229	22,144	114,111	210,300	306,919	352,964	378,374	318,186	285,606	187,932	154,114	105,590	23,292
3 - No Build	6,259	22,386	133,296	270,745	349,950	354,232	391,268	313,898	252,585	138,757	135,430	66,047	16,478



Alternative Comparison
Construction Year

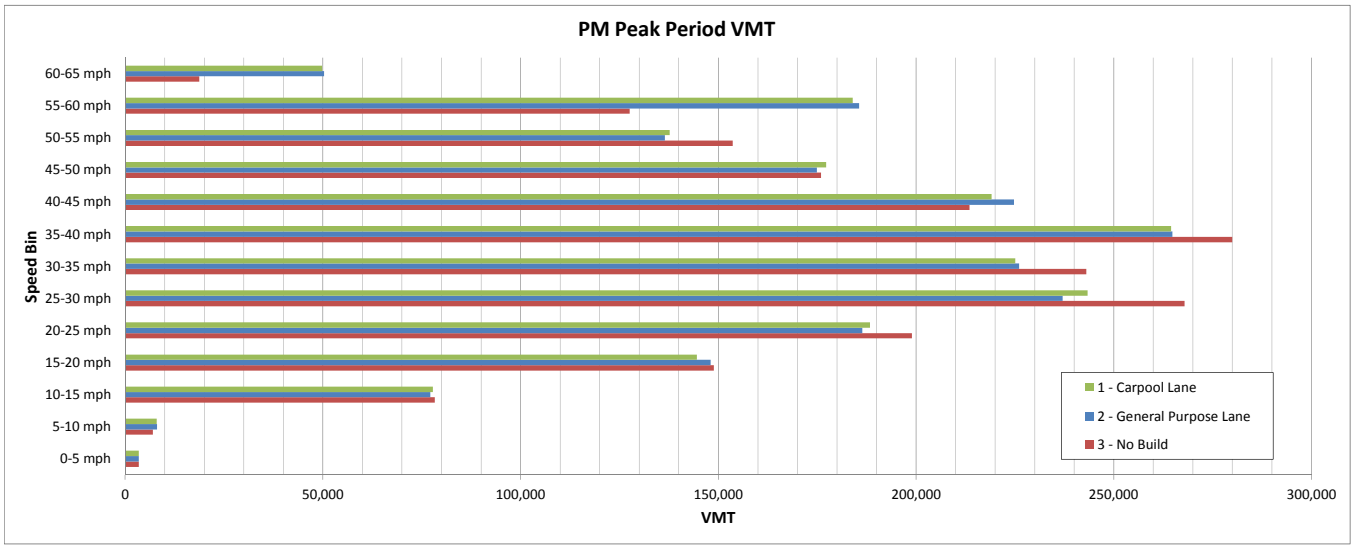
AM Peak Period

	VMT by Speed Bin												
Alternative	**0-5 mph**	**5-10 mph**	**10-15 mph**	**15-20 mph**	**20-25 mph**	**25-30 mph**	**30-35 mph**	**35-40 mph**	**40-45 mph**	**45-50 mph**	**50-55 mph**	**55-60 mph**	**60-65 mph**
1 - Carpool Lane	4,841	23,580	60,076	124,588	153,118	165,103	178,115	246,057	200,697	83,148	152,837	153,499	105,440
2 - General Purpose Lane	4,842	23,436	60,283	124,652	153,880	163,496	178,578	244,661	203,117	80,398	148,503	159,720	105,788
3 - No Build	4,839	23,175	61,530	126,088	152,404	182,641	177,630	252,464	219,449	94,585	162,922	123,080	66,347



PM Peak Period

	VMT by Speed Bin												
Alternative	**0-5 mph**	**5-10 mph**	**10-15 mph**	**15-20 mph**	**20-25 mph**	**25-30 mph**	**30-35 mph**	**35-40 mph**	**40-45 mph**	**45-50 mph**	**50-55 mph**	**55-60 mph**	**60-65 mph**
1 - Carpool Lane	3,421	8,000	77,807	144,599	188,353	243,356	225,126	264,522	219,130	177,236	137,689	183,986	49,792
2 - General Purpose Lane	3,440	8,033	77,141	148,023	186,453	237,088	226,090	264,802	224,749	174,961	136,517	185,619	50,295
3 - No Build	3,414	7,010	78,308	148,851	198,961	267,934	243,080	279,975	213,537	175,998	153,674	127,583	18,720



SR 65 Capacity and Operational Improvements

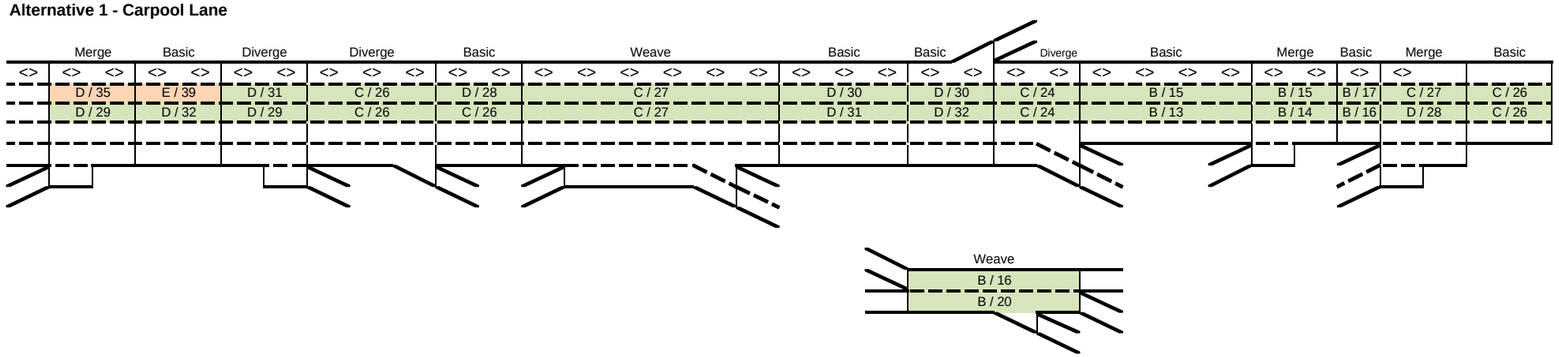
Freeway Analysis Results Summary Figures

SR 65 Capacity and Operational Improvements
Design Year
Freeway Operations Results

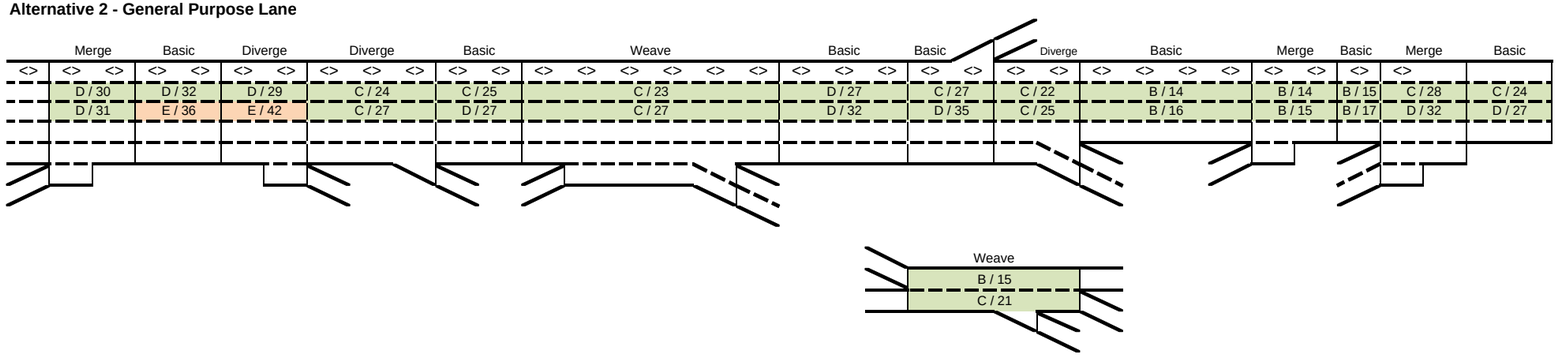
Eastbound I-80

Auburn Blvd | Douglas Blvd | Eureka Rd | SR 65 / Taylor Rd

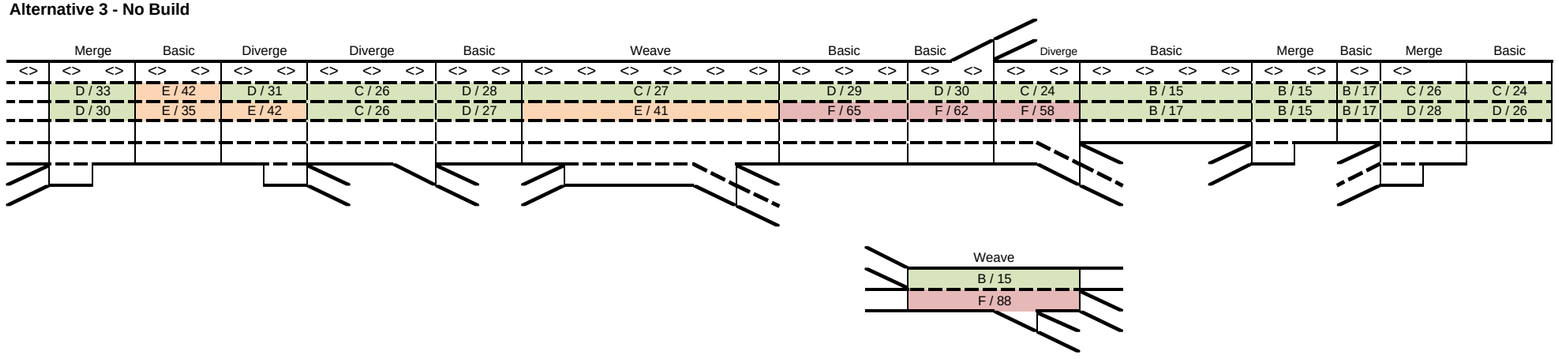
Alternative 1 - Carpool Lane



Alternative 2 - General Purpose Lane



Alternative 3 - No Build



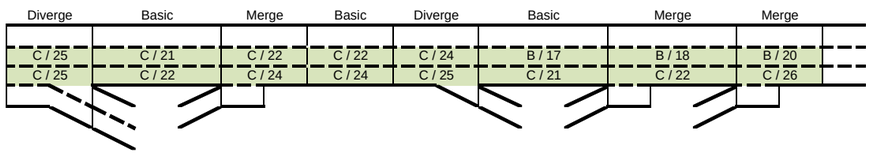
Legend:
- LOS A - D
- LOS E
- LOS F
- Interchange
- <> HOV Lane
- Facility Type (Basic, Merge, Diverge, or Weave)
- AM Peak Hour LOS / Density
- PM Peak Hour LOS / Density
- F / 90 — Project Impact

SR 65 Capacity and Operational Improvements
Design Year
Freeway Operations Results

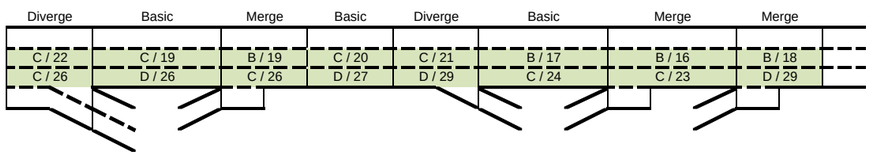
Eastbound I-80

Rocklin Rd | Sierra College Blvd

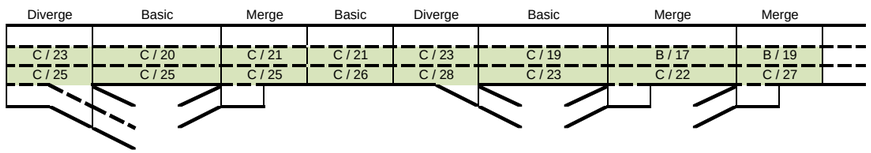
Alternative 1 - Carpool Lane



Alternative 2 - General Purpose Lane



Alternative 3 - No Build



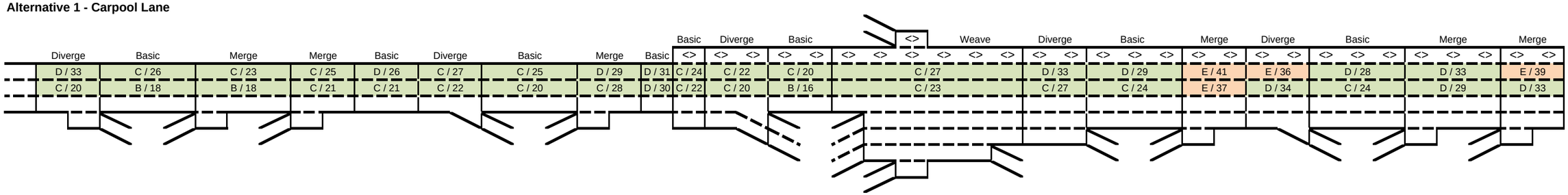
Legend:
- LOS A - D
- LOS E
- LOS F
- Interchange
- <> HOV Lane
- Facility Type (Basic, Merge, Diverge, or Weave)
- AM Peak Hour LOS / Density
- PM Peak Hour LOS / Density
- F / 90 — Project Impact

SR 65 Capacity and Operational Improvements
Design Year
Freeway Operations Results

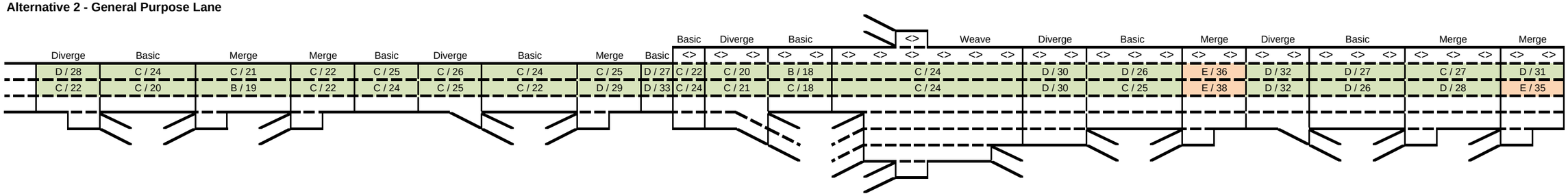
Westbound I-80

Sierra College Blvd | Rocklin Rd | SR 65 / Taylor Rd | Atlantic St | Douglas Blvd

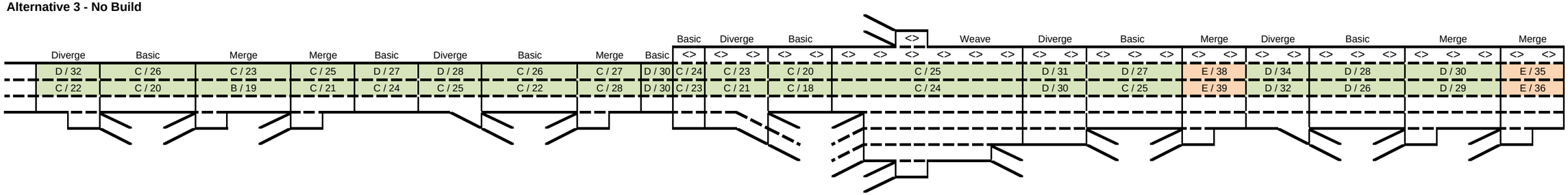
Alternative 1 - Carpool Lane



Alternative 2 - General Purpose Lane



Alternative 3 - No Build



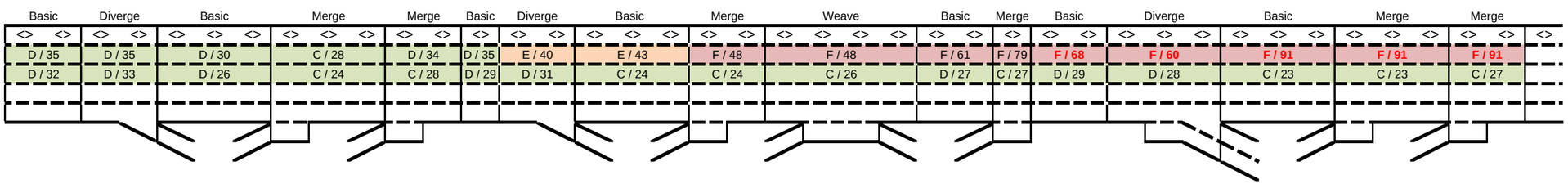
Legend:
LOS A - D
LOS E
LOS F
Interchange
<> HOV Lane
Facility Type (Basic, Merge, Diverge, or Weave)
AM Peak Hour LOS / Density
PM Peak Hour LOS / Density
F / 90
Project Impact

SR 65 Capacity and Operational Improvements
Design Year
Freeway Operations Results

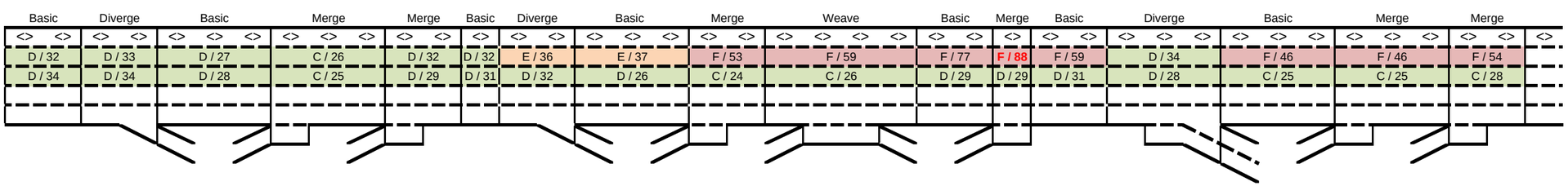
Westbound I-80

Riverside Ave | Antelope Road | Truck Scales | Elkhorn Blvd

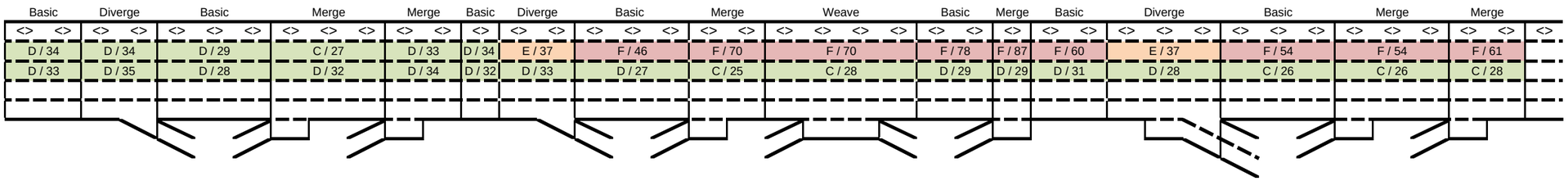
Alternative 1 - Carpool Lane



Alternative 2 - General Purpose Lane



Alternative 3 - No Build



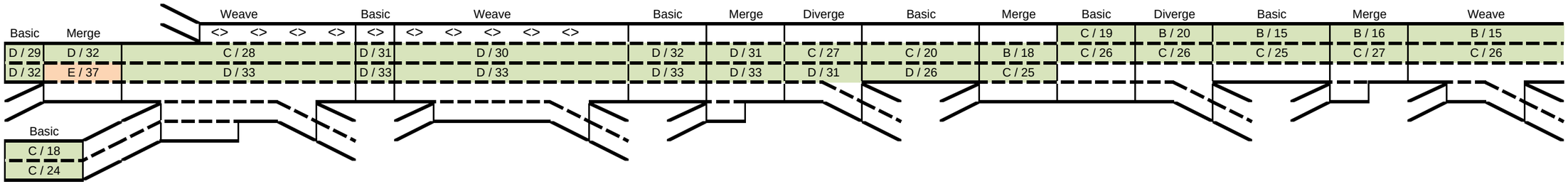
Legend:
- LOS A - D
- LOS E
- LOS F
- Interchange
- <> HOV Lane
- Facility Type (Basic, Merge, Diverge, or Weave)
- AM Peak Hour LOS / Density
- PM Peak Hour LOS / Density
- F / 90 Project Impact

SR 65 Capacity and Operational Improvements
Design Year
Freeway Operations Results

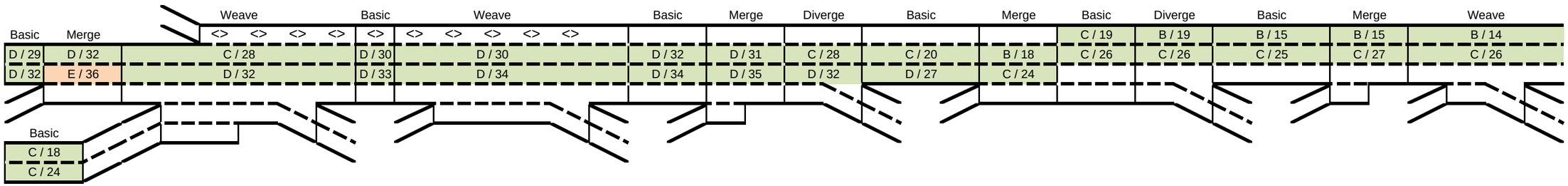
Northbound SR 65

I-80	Stanford Ranch Rd	Pleasant Grove Blvd	Blue Oaks Blvd	Sunset Blvd

Alternative 1 - Carpool Lane

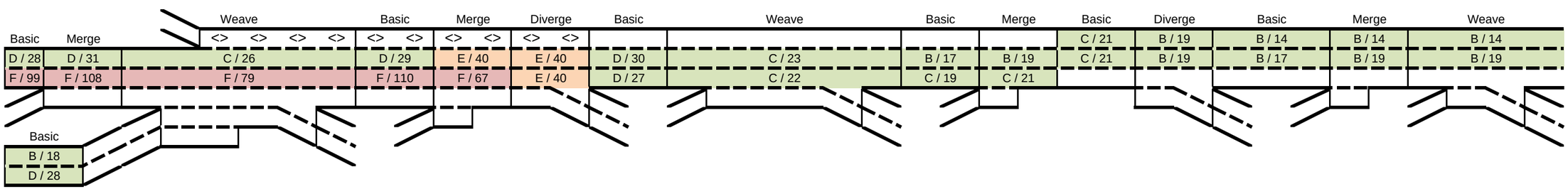


Alternative 2 - General Purpose Lane



Alternative 3 - No Build

Alter



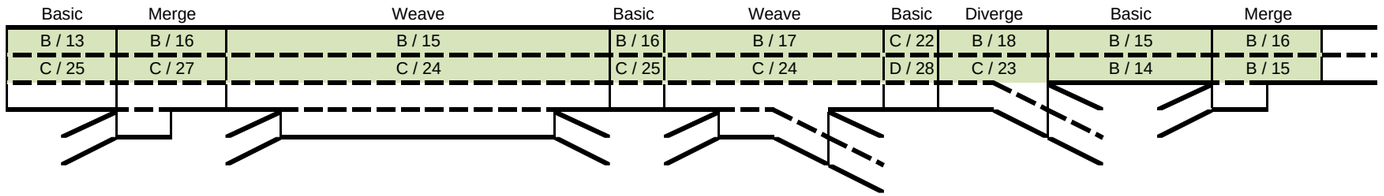
Legend:
- LOS A - D
- LOS E
- LOS F
- Interchange
- <> HOV Lane
- Facility Type (Basic, Merge, Diverge, or Weave)
- AM Peak Hour LOS / Density
- PM Peak Hour LOS / Density
- F / 90 Project Impact

SR 65 Capacity and Operational Improvements
Design Year
Freeway Operations Results

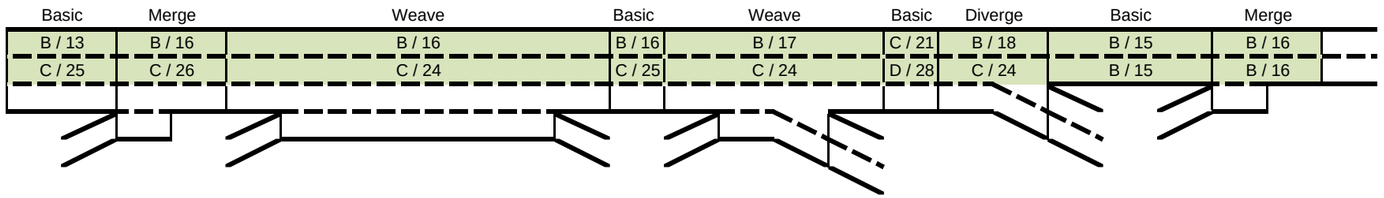
Northbound SR 65

Whitney Ranch Pkwy | Twelve Bridges Dr | Lincoln Blvd | Ferrari Ranch Rd

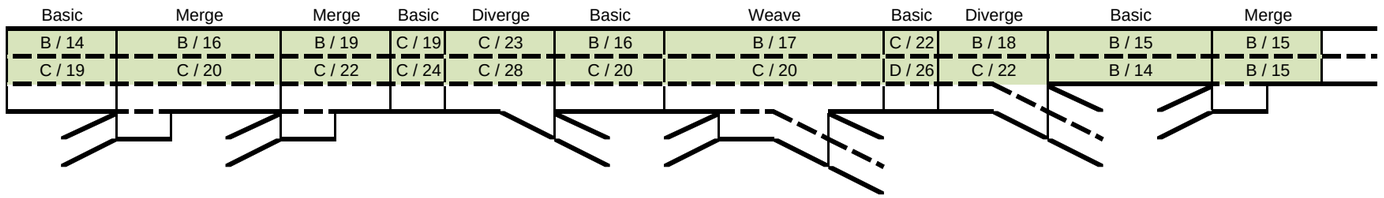
Alternative 1 - Carpool Lane



Alternative 2 - General Purpose Lane



native 3 - No Build



Legend: LOS A - D | LOS E | LOS F

Interchange

<> HOV Lane

Facility Type (Basic, Merge, Diverge, or Weave)

AM Peak Hour LOS / Density

PM Peak Hour LOS / Density

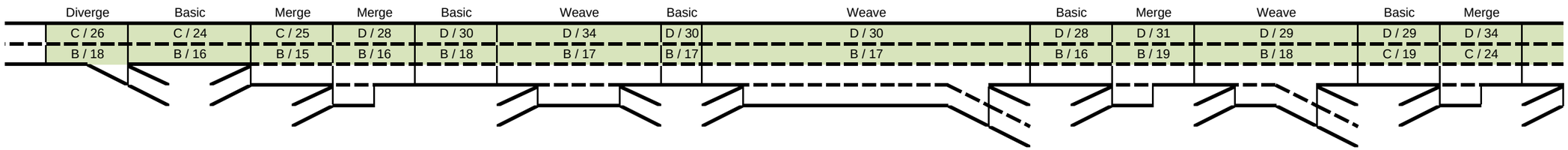
F / 90 Project Impact

SR 65 Capacity and Operational Improvements
Design Year
Freeway Operations Results

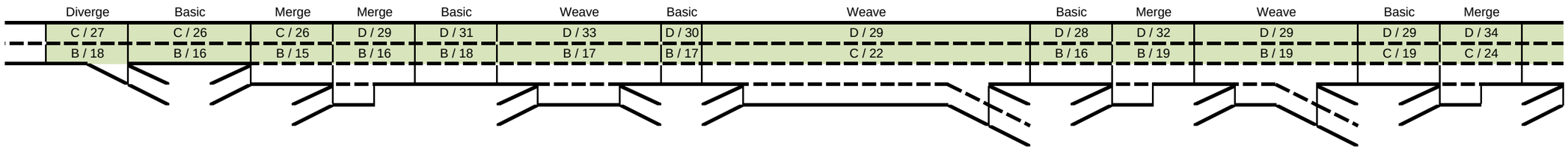
Southbound SR 65

Ferrari Ranch Rd | Lincoln Blvd | Twelve Bridges Dr | Placer Pkwy | Sunset Blvd

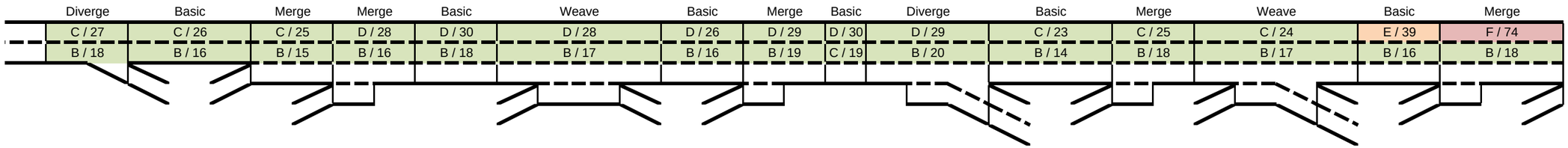
Alternative 1 - Carpool Lane



Alternative 2 - General Purpose Lane



Alternative 3 - No Build



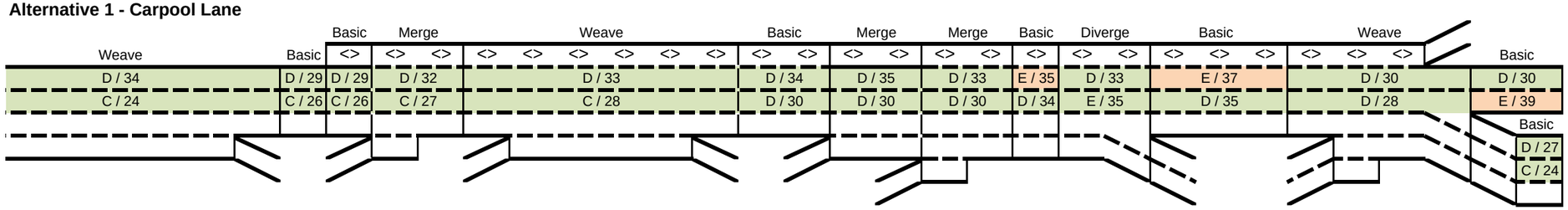
Legend:
- LOS A - D
- LOS E
- LOS F
- Interchange
- <> HOV Lane
- Facility Type (Basic, Merge, Diverge, or Weave)
- AM Peak Hour LOS / Density
- PM Peak Hour LOS / Density
- F / 90 Project Impact

SR 65 Capacity and Operational Improvements
Design Year
Freeway Operations Results

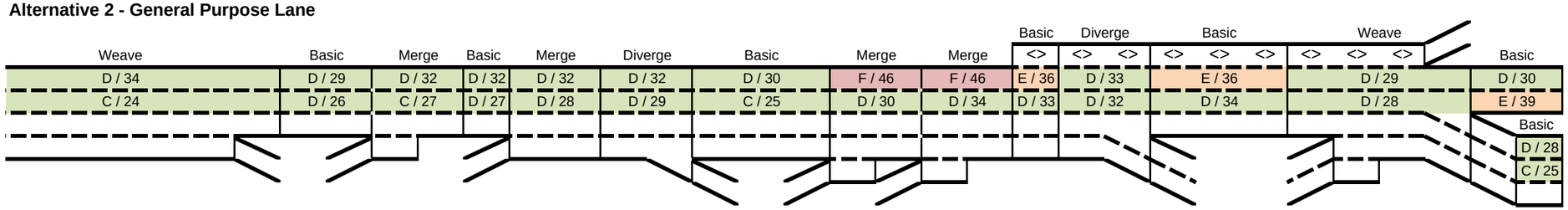
Southbound SR 65

Blue Oaks Blvd | Pleasant Grove Blvd | Galleria Blvd | I-80

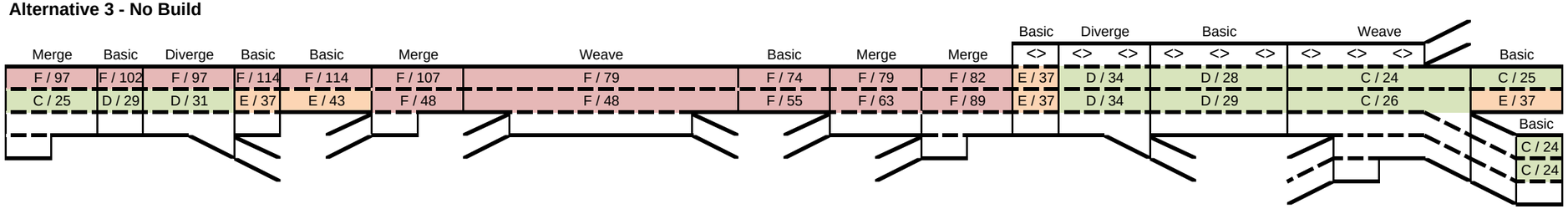
Alternative 1 - Carpool Lane



Alternative 2 - General Purpose Lane



Alternative 3 - No Build



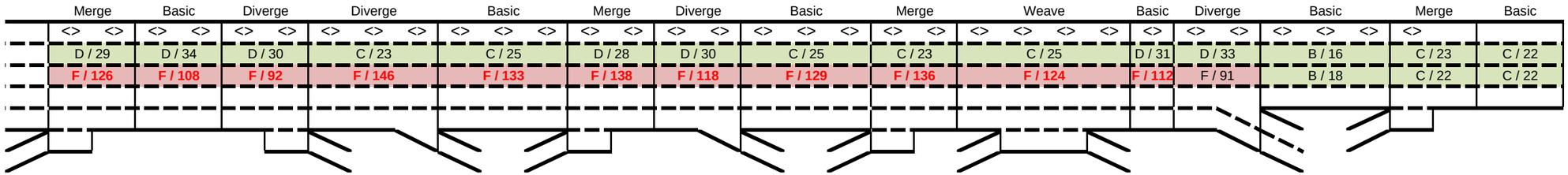
Legend:
- LOS A - D
- LOS E
- LOS F
- Interchange
- <> HOV Lane
- Facility Type (Basic, Merge, Diverge, or Weave)
- AM Peak Hour LOS / Density
- PM Peak Hour LOS / Density
- F / 90 Project Impact

SR 65 Capacity and Operational Improvements
Construction Year
Freeway Operations Results

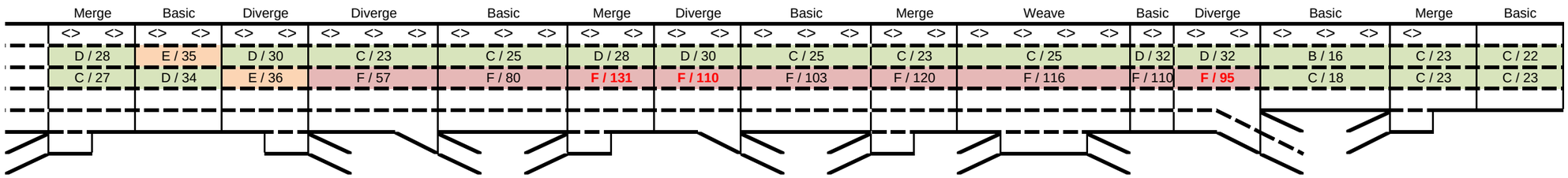
Eastbound I-80

Auburn Blvd | Douglas Blvd | Eureka Rd | SR 65 / Taylor Rd

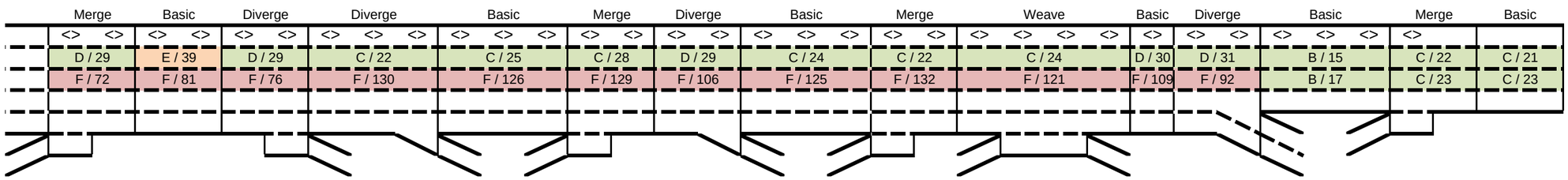
Alternative 1 - Carpool Lane



Alternative 2 - General Purpose Lane



Alternative 3 - No Build



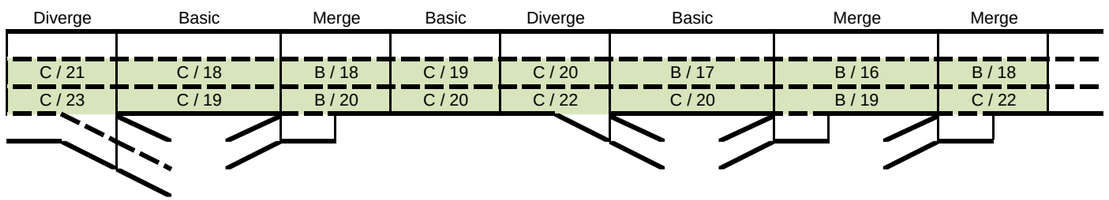
Legend:
- LOS A - D
- LOS E
- LOS F
- Interchange
- <> HOV Lane
- Facility Type (Basic, Merge, Diverge, or Weave)
- AM Peak Hour LOS / Density
- PM Peak Hour LOS / Density
- F / 90 Project Impact

SR 65 Capacity and Operational Improvements
Construction Year
Freeway Operations Results

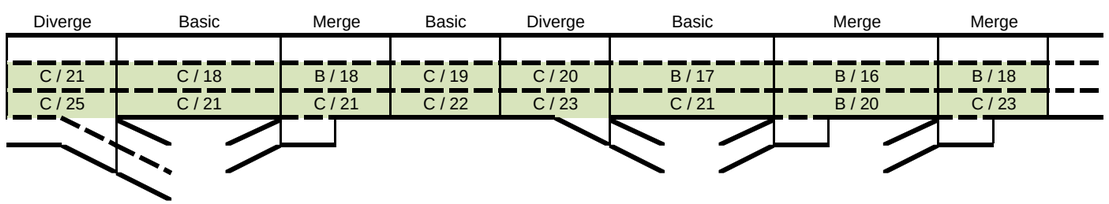
Eastbound I-80

Rocklin Rd | Sierra College Blvd

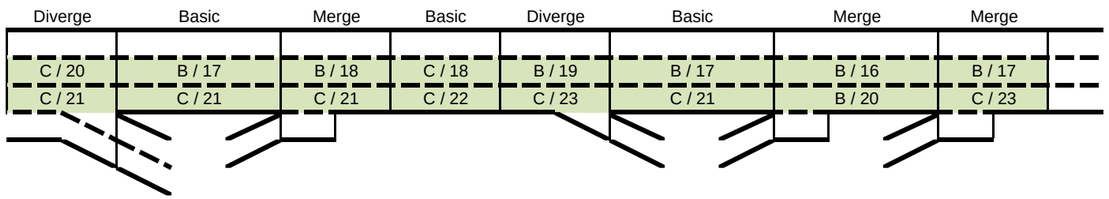
Alternative 1 - Carpool Lane



Alternative 2 - General Purpose Lane



Alternative 3 - No Build



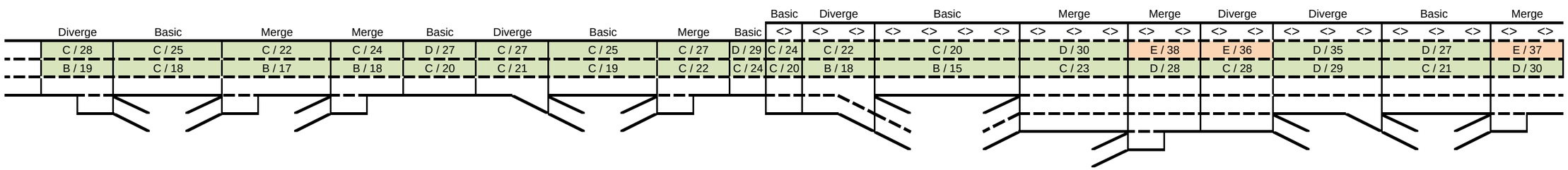
Legend:
- LOS A - D
- LOS E
- LOS F
- Interchange
- <> HOV Lane
- Facility Type (Basic, Merge, Diverge, or Weave)
- AM Peak Hour LOS / Density
- PM Peak Hour LOS / Density
- F / 90 Project Impact

SR 65 Capacity and Operational Improvements
Construction Year
Freeway Operations Results

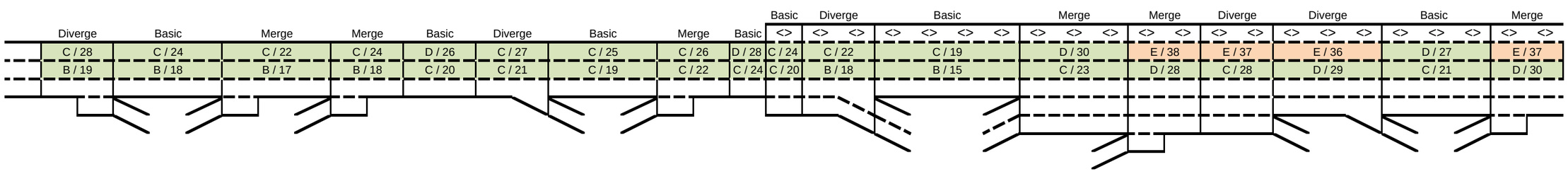
Westbound I-80

Sierra College Blvd | Rocklin Rd | SR 65 / Taylor Rd | Atlantic St

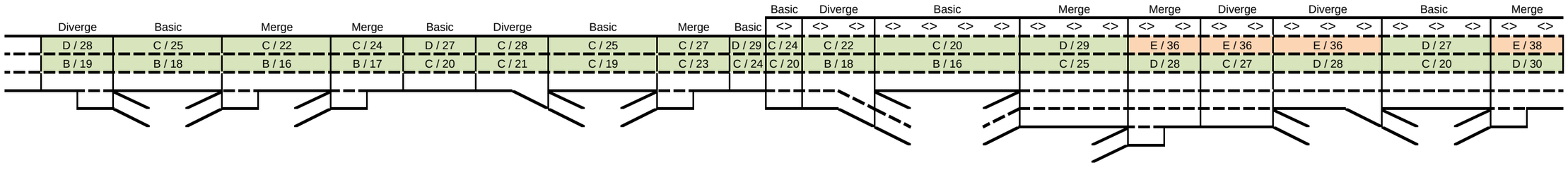
Alternative 1 - Carpool Lane



Alternative 2 - General Purpose Lane



Alternative 3 - No Build



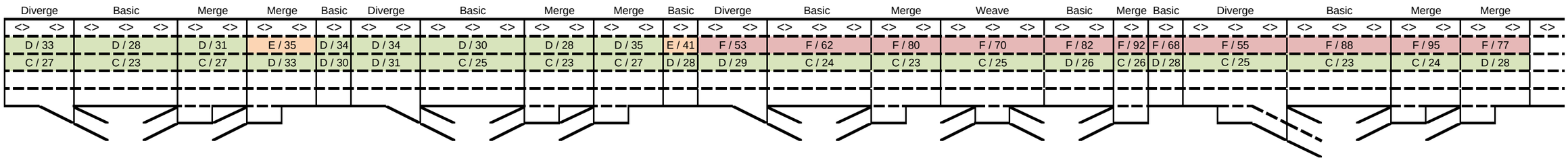
Legend:
- LOS A - D
- LOS E
- LOS F
- Interchange
- <> HOV Lane
- Facility Type (Basic, Merge, Diverge, or Weave)
- AM Peak Hour LOS / Density
- PM Peak Hour LOS / Density
- F / 90 Project Impact

SR 65 Capacity and Operational Improvements
Construction Year
Freeway Operations Results

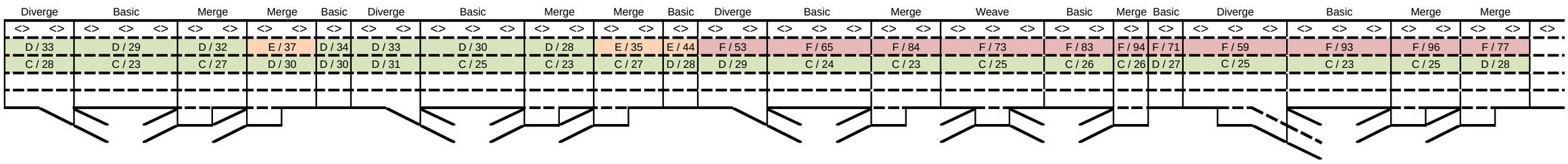
Westbound I-80

Douglas Blvd | Riverside Ave | Antelope Road | Truck Scales | Elkhorn Blvd

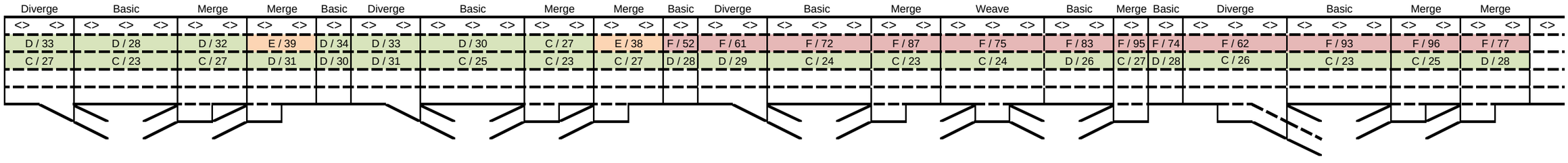
Alternative 1 - Carpool Lane



Alternative 2 - General Purpose Lane



Alternative 3 - No Build



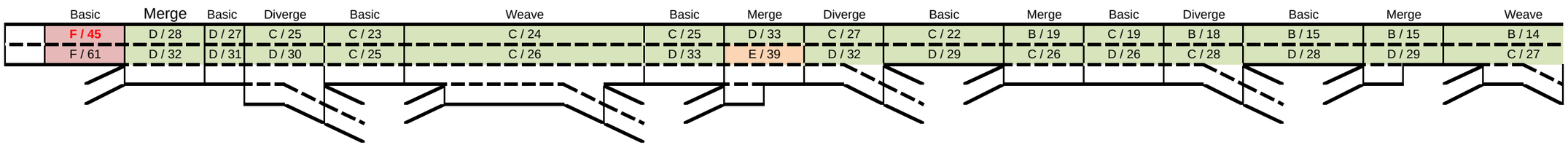
Legend: LOS A - D | LOS E | LOS F | Interchange | <> HOV Lane | Facility Type (Basic, Merge, Diverge, or Weave) | F / 90 | Project Impact

SR 65 Capacity and Operational Improvements
Construction Year
Freeway Operations Results

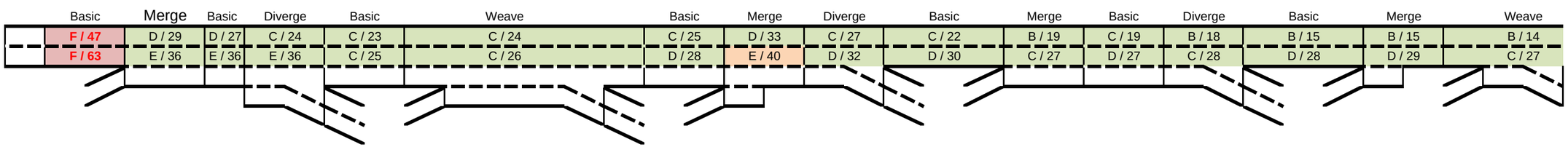
Northbound SR 65

I-80 | Stanford Ranch Rd | Pleasant Grove Blvd | Blue Oaks Blvd | Sunset Blvd

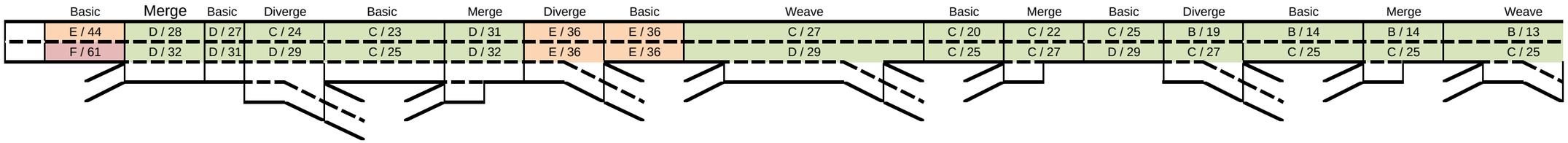
Alternative 1 - Carpool Lane



Alternative 2 - General Purpose Lane



Alternative 3 - No Build



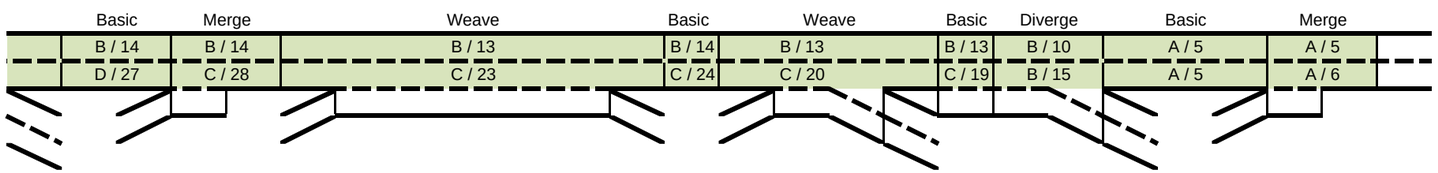
Legend:
- LOS A - D
- LOS E
- LOS F
- Interchange
- <> HOV Lane
- Facility Type (Basic, Merge, Diverge, or Weave)
- AM Peak Hour LOS / Density
- PM Peak Hour LOS / Density
- F / 90 Project Impact

SR 65 Capacity and Operational Improvements
Construction Year
Freeway Operations Results

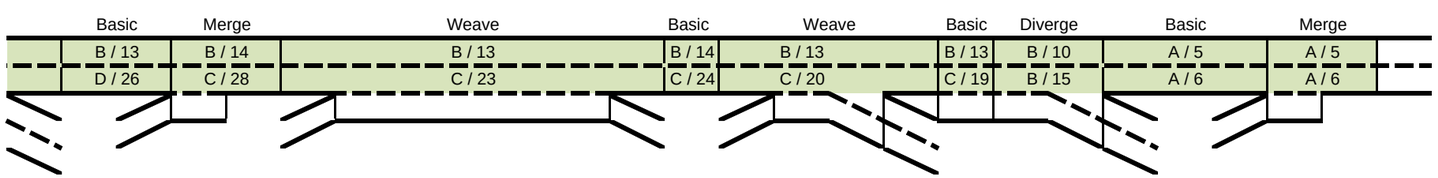
Northbound SR 65

Whitney Ranch Pkwy | Twelve Bridges Dr | Lincoln Blvd | Ferrari Ranch Rd

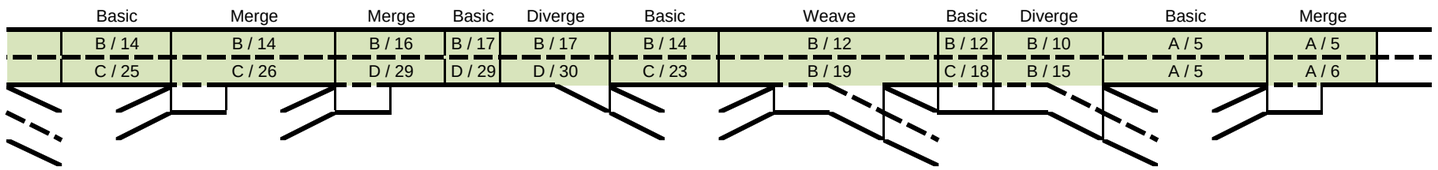
Alternative 1 - Carpool Lane



Alternative 2 - General Purpose Lane



Alternative 3 - No Build



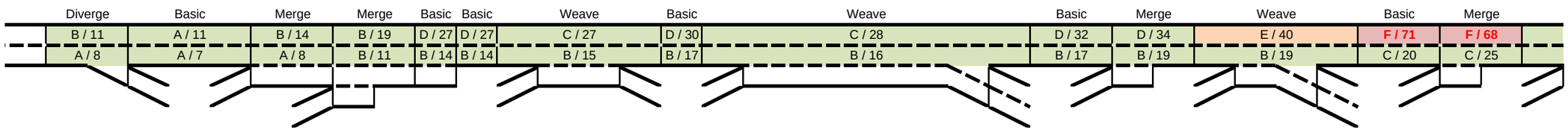
Legend:
- LOS A - D
- LOS E
- LOS F
- Interchange
- <> HOV Lane
- Facility Type (Basic, Merge, Diverge, or Weave)
- AM Peak Hour LOS / Density
- PM Peak Hour LOS / Density
- F / 90 Project Impact

SR 65 Capacity and Operational Improvements
Construction Year
Freeway Operations Results

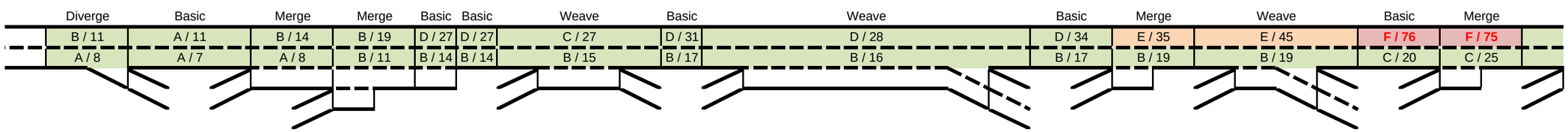
Southbound SR 65

Ferrari Ranch Rd | Lincoln Blvd | Twelve Bridges Dr | Placer Pkwy | Sunset Blvd

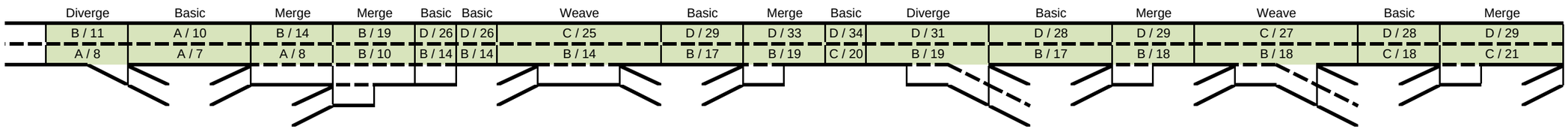
Alternative 1 - Carpool Lane



Alternative 2 - General Purpose Lane



Alternative 3 - No Build



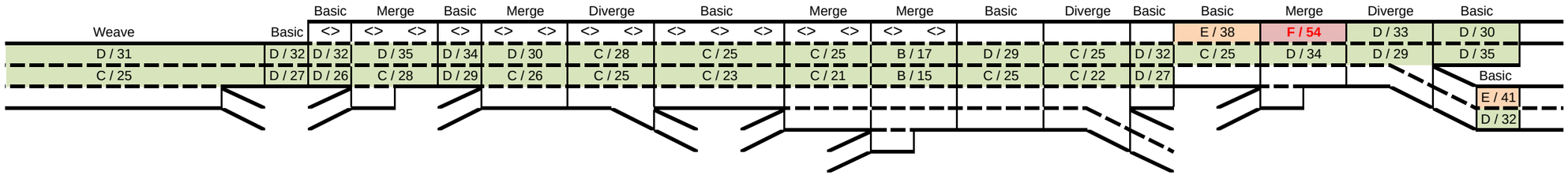
Legend:
- LOS A - D
- LOS E
- LOS F
- Interchange
- <> HOV Lane
- Facility Type (Basic, Merge, Diverge, or Weave)
- AM Peak Hour LOS / Density
- PM Peak Hour LOS / Density
- F / 90 Project Impact

SR 65 Capacity and Operational Improvements
Construction Year
Freeway Operations Results

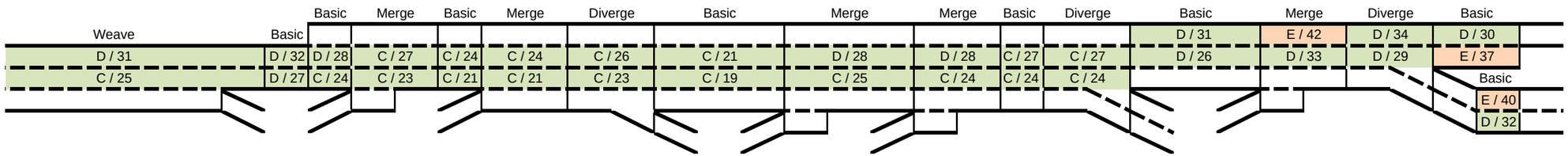
Southbound SR 65

Blue Oaks Blvd | Pleasant Grove Blvd | Galleria Blvd | I-80

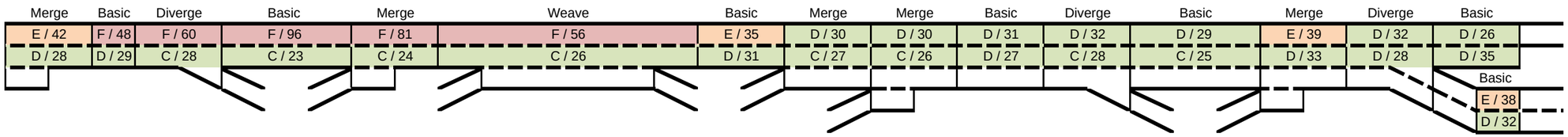
Alternative 1 - Carpool Lane



Alternative 2 - General Purpose Lane



Alternative 3 - No Build



Legend:
- LOS A - D
- LOS E
- LOS F
- Interchange
- <> HOV Lane
- Facility Type (Basic, Merge, Diverge, or Weave)
- AM Peak Hour LOS / Density
- PM Peak Hour LOS / Density
- F / 90 Project Impact

SR 65 Capacity and Operational Improvements

Intersection Analysis Results Summary Tables

TABLE 8A: INTERSECTION OPERATIONS RESULTS – EXISTING (2012) CONDITIONS			
Intersection	**Threshold**	**AM Peak Hour**	**PM Peak Hour**
1. SR 65 / Sterling Pkwy	C	B / 19	B / 18
2. Twelve Bridges Dr / SR 65 SB Ramps	C	A / 4	A / 5
3. Twelve Bridges Dr / SR 65 NB Ramps	C	A / 3	A / 3
4. Sunset Blvd / SR 65 SB Ramps	C	A / 7	A / 6
5. Sunset Blvd / SR 65 NB Ramps	C	A / 10	A / 9
6. Blue Oaks Blvd / Washington Blvd / SR 65 SB Ramps	C	**D / 43**	C / 33
7. Blue Oaks Blvd / SR 65 NB Ramps	C	C / 24	C / 23
8. Pleasant Grove Blvd / SR 65 NB Ramps	C	A / 9	A / 8
9. Pleasant Grove Blvd / SR 65 SB Ramps	C	B / 10	B / 14
10. Stanford Ranch Rd / Five Star Blvd	C	B / 19	C / 32
11. Stanford Ranch Rd / SR 65 NB Ramps	D	A / 9	B / 15
12. Galleria Blvd / SR 65 SB Ramps	D	B / 13	B / 19
13. Galleria Blvd / Antelope Creek Dr	C	B / 10	C / 24
14. Galleria Blvd / Roseville Pkwy	E	C / 30	D / 36
15. Roseville Pkwy / Creekside Ridge Dr	C	A / 6	B / 17
16. Roseville Pkwy / Taylor Rd	D	C / 30	C / 28
17. Roseville Pkwy / Sunrise Ave	E	D / 37	D / 37
18. Atlantic St / Wills Rd	C	B / 10	B / 12
19. Atlantic St / I-80 WB Ramps	C	A / 7	B / 11
20. Eureka Rd / Taylor Rd / I-80 EB Ramps	E	C / 26	**E / 61**
21. Eureka Rd / Sunrise Ave	C	C / 24	C / 30
22. Harding Blvd / Wills Rd	C	B / 12	B / 13
23. Douglas Blvd / Harding Blvd	E	B / 19	C / 28
24. Douglas Blvd / I-80 WB Ramps	C	B / 14	B / 17
25. Douglas Blvd / I-80 EB Ramps	C	A / 6	A / 6
26. Douglas Blvd / Sunrise Ave	D	C / 26	D / 35
27. Pacific St / Woodside Dr	C	A / 7	A / 6
28. Pacific St / Sunset Blvd	C	B / 18	C / 29
29. Rocklin Rd / Granite Dr	C	B / 15	**D / 37**
30. Rocklin Rd / I-80 WB Ramps	C	C / 21	B / 17
31. Rocklin Rd / I-80 EB Ramps	C	B / 17	B / 20
32. Rocklin Rd / Aguilar Rd	C	A / 8	B / 13

Notes: Bold and underline font indicate unacceptable operations. The LOS and average delay in seconds per vehicle are reported.

Source: Fehr & Peers, 2015

TABLE 18A: INTERSECTION OPERATIONS RESULTS – DESIGN YEAR AM PEAK HOUR CONDITIONS

Intersection	Threshold	Alternative 1	Alternative 2	Alternative 3
1. Lincoln Blvd / Sterling Pkwy	C	B / 15	B / 14	B / 15
2. Twelve Bridges Dr / SR 65 SB Ramps	C	B / 15	B / 16	B / 16
3. Twelve Bridges Dr / SR 65 NB Ramps	C	C / 22	C / 23	C / 29
4. Sunset Blvd / SR 65 SB Ramps	C	C / 32	C / 27	B / 17
5. Sunset Blvd / SR 65 NB Ramps	C	B / 12	B / 12	B / 14
6. Blue Oaks Blvd / Washington Blvd / SR 65 SB Ramps	C	**E / 57**	**E / 59**	**F / 90**
7. Blue Oaks Blvd / SR 65 NB Ramps	C	B / 17	B / 16	B / 17
8. Pleasant Grove Blvd / SR 65 SB Ramps	C	A / 9	A / 8	B / 17
9. Pleasant Grove Blvd / SR 65 NB Ramps	C	B / 16	B / 16	B / 14
10. Stanford Ranch Rd / Five Star Blvd	C	C / 27	C / 26	C / 26
11. Stanford Ranch Rd / SR 65 NB Ramps	D	B / 11	B / 12	B / 19
12. Galleria Blvd / SR 65 SB Ramps	D	B / 19	B / 17	D / 55
13. Galleria Blvd / Antelope Creek Dr	C	A / 10	A / 10	A / 8
14. Galleria Blvd / Roseville Pkwy	E	D / 47	D / 45	D / 41
15. Roseville Pkwy / Creekside Ridge Dr	C	A / 8	A / 8	A / 8
16. Roseville Pkwy / Taylor Rd	D	**E / 70**	**E / 66**	**E / 60**
17. Roseville Pkwy / Sunrise Ave	E	C / 33	C / 35	C / 33
18. Atlantic St / Wills Rd	C	C / 23	C / 21	B / 19
19. Atlantic St / I-80 WB Ramps	C	B / 11	B / 14	C / 30
20. Eureka Rd / Taylor Rd / I-80 EB Ramps	E	C / 30	C / 30	C / 30
21. Eureka Rd / Sunrise Ave	C	**D / 41**	**D / 41**	**D / 41**
22. Harding Blvd / Wills Rd	C	B / 16	B / 15	B / 15
23. Douglas Blvd / Harding Blvd	E	C / 26	C / 28	C / 26
24. Douglas Blvd / I-80 WB Ramps	C	C / 21	B / 19	C / 22
25. Douglas Blvd / I-80 EB Ramps	C	C / 28	C / 24	C / 29
26. Douglas Blvd / Sunrise Ave	D	D / 54	D / 44	D / 43
27. Pacific St / Woodside Dr	C	A / 8	A / 8	A / 8
28. Pacific St / Sunset Blvd	C	C / 26	C / 26	C / 29
29. Rocklin Rd / Granite Dr	C	C / 29	C / 28	C / 26
30. Rocklin Rd / I-80 WB Ramps	C	C / 23	C / 24	C / 22
31. Rocklin Rd / I-80 EB Ramps	C	C / 30	C / 26	**D / 41**
32. Rocklin Rd / Aguilar Rd	C	A / 10	A / 10	A / 9

TABLE 18A: INTERSECTION OPERATIONS RESULTS – DESIGN YEAR AM PEAK HOUR CONDITIONS

Intersection	Threshold	Alternative 1	Alternative 2	Alternative 3
33. Lincoln Blvd / SR 65 NB Off-ramp	C	A / 10	A / 9	A / 10
34. Lincoln Blvd / SR 65 SB On-ramp	C	C / 22	C / 20	B / 17
35. Placer Pkwy / SR 65 SB Ramps	C	C / 24	B / 20	B / 19
36. Whitney Ranch Pkwy / SR 65 NB Ramps	C	B / 16	B / 15	B / 14

Note: Bold and underline font indicate unacceptable operations. Shaded cells indicate a project impact. The LOS and average delay in seconds per vehicle are reported.

Source: Fehr & Peers, 2015

TABLE 19A: INTERSECTION OPERATIONS RESULTS – DESIGN YEAR PM PEAK HOUR CONDITIONS				
Intersection	**Threshold**	**Alternative 1**	**Alternative 2**	**Alternative 3**
1. Lincoln Blvd / Sterling Pkwy	C	C / 23	B / 17	C / 20
2. Twelve Bridges Dr / SR 65 SB Ramps	C	C / 27	C / 28	B / 16
3. Twelve Bridges Dr / SR 65 NB Ramps	C	C / 20	B / 20	C / 22
4. Sunset Blvd / SR 65 SB Ramps	C	A / 10	B / 15	B / 17
5. Sunset Blvd / SR 65 NB Ramps	C	B / 16	B / 11	B / 14
6. Blue Oaks Blvd / Washington Blvd / SR 65 SB Ramps	C	**F / 140**	**F / 153**	**F / 214**
7. Blue Oaks Blvd / SR 65 NB Ramps	C	**D / 45**	**D / 49**	**F / 94**
8. Pleasant Grove Blvd / SR 65 SB Ramps	C	A / 9	A / 8	C / 30
9. Pleasant Grove Blvd / SR 65 NB Ramps	C	B / 15	B / 14	B / 13
10. Stanford Ranch Rd / Five Star Blvd	C	**F / 82**	**E / 57**	**F / 85**
11. Stanford Ranch Rd / SR 65 NB Ramps	D	D / 36	B / 19	C / 21
12. Galleria Blvd / SR 65 SB Ramps	D	C / 25	B / 19	C / 27
13. Galleria Blvd / Antelope Creek Dr	C	C / 28	C / 29	C / 28
14. Galleria Blvd / Roseville Pkwy	E	**F / 93**	**F / 82**	**F / 93**
15. Roseville Pkwy / Creekside Ridge Dr	C	**D / 50**	**D / 47**	**D / 50**
16. Roseville Pkwy / Taylor Rd	D	D / 52	D / 52	**E / 55**
17. Roseville Pkwy / Sunrise Ave	E	E / 70	E / 57	**F / 89**
18. Atlantic St / Wills Rd	C	C / 24	C / 25	C / 30
19. Atlantic St / I-80 WB Ramps	C	B / 13	C / 24	C / 22
20. Eureka Rd / Taylor Rd / I-80 EB Ramps	E	E / 75	**F / 81**	**F / 99**
21. Eureka Rd / Sunrise Ave	C	**F / 94**	**F / 103**	**F / 104**
22. Harding Blvd / Wills Rd	C	B / 17	B / 16	B / 19
23. Douglas Blvd / Harding Blvd	E	**F / 91**	**F / 96**	E / 69
24. Douglas Blvd / I-80 WB Ramps	C	C / 28	C / 33	C / 20
25. Douglas Blvd / I-80 EB Ramps	C	**D / 37**	**D / 37**	**D / 39**
26. Douglas Blvd / Sunrise Ave	D	**F / 254**	**F / 241**	**F / 239**
27. Pacific St / Woodside Dr	C	A / 10	B / 11	A / 10
28. Pacific St / Sunset Blvd	C	C / 33	**D / 37**	**D / 37**
29. Rocklin Rd / Granite Dr	C	**F / 95**	**F / 84**	**F / 101**
30. Rocklin Rd / I-80 WB Ramps	C	**E / 68**	**E / 63**	**D / 54**
31. Rocklin Rd / I-80 EB Ramps	C	C / 21	B / 20	C / 21
32. Rocklin Rd / Aguilar Rd	C	C / 32	C / 31	C / 28
33. Lincoln Blvd / SR 65 NB Off-ramp	C	B / 12	B / 10	A / 8

TABLE 19A: INTERSECTION OPERATIONS RESULTS – DESIGN YEAR PM PEAK HOUR CONDITIONS

Intersection	Threshold	Alternative 1	Alternative 2	Alternative 3
34. Lincoln Blvd / SR 65 SB On-ramp	C	B / 17	B / 17	B / 15
35. Placer Pkwy / SR 65 SB Ramps	C	B / 19	C / 22	C / 24
36. Whitney Ranch Pkwy / SR 65 NB Ramps	C	C / 22	C / 21	C / 24

Note: Bold and underline font indicate unacceptable operations. Shaded cells indicate a project impact. The LOS and average delay in seconds per vehicle are reported.

Source: Fehr & Peers, 2015

TABLE 20A: MAXIMUM QUEUE LENGTH RESULTS – DESIGN YEAR AM PEAK HOUR CONDITIONS

Off-ramp	Storage	Alternative 1	Alternative 2
Eastbound I-80 at Eastbound Douglas Blvd	1,400	50	25
Eastbound I-80 at Westbound Douglas Blvd	1,250	100	125
Eastbound I-80 at Eureka Rd	1,700	700	500
Eastbound I-80 at Rocklin Rd	1,080	325	300
Westbound I-80 at Rocklin Rd	1,230	175	200
Westbound I-80 at Westbound Atlantic St	1,430	25	25
Westbound I-80 at Eastbound Atlantic St	1,150	50	75
Westbound I-80 at Douglas Blvd	1,530	400	450
Northbound SR 65 at Northbound Stanford Ranch Rd	1,170	200	200
Northbound SR 65 at Southbound Stanford Ranch Rd	1,800	25	25
Northbound SR 65 at Pleasant Grove Blvd	1,420	200	200
Northbound SR 65 at Blue Oaks Blvd	1,100	325	300
Northbound SR 65 at Sunset Blvd	1,400	225	250
Northbound SR 65 at Whitney Ranch Pkwy	1,620	300	325
Northbound SR 65 at Twelve Bridges Dr	1,500	200	175
Northbound SR 65 at Lincoln Blvd	1,940	200	175
Southbound SR 65 at Twelve Bridges Dr	1,500	250	275
Southbound SR 65 at Placer Pkwy	1,650	975	825
Southbound SR 65 at Sunset Blvd	1,330	275	275
Southbound SR 65 at Blue Oaks Blvd	2,260	1,425	975
Southbound SR 65 at Pleasant Grove Blvd	1,130	200	175
Southbound SR 65 at Southbound Galleria Blvd	1,130	375	400
Southbound SR 65 at Northbound Galleria Blvd	1,780	50	50

Note: Bold and underline font indicate queues that exceed the ramp length. Shaded cells indicate a project impact. The reported value is the average maximum peak-hour queue length in feet.

Source: Fehr & Peers, 2015

TABLE 21A: MAXIMUM QUEUE LENGTH RESULTS – DESIGN YEAR PM PEAK HOUR CONDITIONS

Off-ramp	Storage	Alternative 1	Alternative 2
Eastbound I-80 at Eastbound Douglas Blvd	1,400	1,150	1,175
Eastbound I-80 at Westbound Douglas Blvd	1,250	175	225
Eastbound I-80 at Eureka Rd	1,700	350	400
Eastbound I-80 at Rocklin Rd	1,080	325	300
Westbound I-80 at Rocklin Rd	1,230	450	375
Westbound I-80 at Westbound Atlantic St	1,430	50	25
Westbound I-80 at Eastbound Atlantic St	1,150	250	400
Westbound I-80 at Douglas Blvd	1,530	525	550
Northbound SR 65 at Northbound Stanford Ranch Rd	1,170	475	325
Northbound SR 65 at Southbound Stanford Ranch Rd	1,800	25	25
Northbound SR 65 at Pleasant Grove Blvd	1,420	225	200
Northbound SR 65 at Blue Oaks Blvd	1,100	250	275
Northbound SR 65 at Sunset Blvd	1,400	250	250
Northbound SR 65 at Whitney Ranch Pkwy	1,620	500	500
Northbound SR 65 at Twelve Bridges Dr	1,500	125	100
Northbound SR 65 at Lincoln Blvd	1,940	425	375
Southbound SR 65 at Twelve Bridges Dr	1,500	225	225
Southbound SR 65 at Placer Pkwy	1,650	375	350
Southbound SR 65 at Sunset Blvd	1,330	225	225
Southbound SR 65 at Blue Oaks Blvd	2,260	900	850
Southbound SR 65 at Pleasant Grove Blvd	1,130	150	150
Southbound SR 65 at Southbound Galleria Blvd	1,130	400	400
Southbound SR 65 at Northbound Galleria Blvd	1,780	325	175

Note: Bold and underline font indicate queues that exceed the ramp length. Shaded cells indicate a project impact. The reported value is the average maximum peak-hour queue length in feet.

Source: Fehr & Peers, 2015

TABLE 26A: INTERSECTION OPERATIONS RESULTS – CONSTRUCTION YEAR AM PEAK HOUR CONDITIONS

Intersection	Threshold	Alternative 1	Alternative 2	Alternative 3
1. Lincoln Blvd / Sterling Pkwy	C	B / 11	B / 11	A / 10
2. Twelve Bridges Dr / SR 65 SB Ramps	C	B / 10	B / 10	A / 9
3. Twelve Bridges Dr / SR 65 NB Ramps	C	A / 9	A / 9	A / 9
4. Sunset Blvd / SR 65 SB Ramps	C	B / 11	B / 12	B / 10
5. Sunset Blvd / SR 65 NB Ramps	C	B / 13	B / 13	B / 15
6. Blue Oaks Blvd / Washington Blvd / SR 65 SB Ramps	C	C / 31	C / 35	**D / 52**
7. Blue Oaks Blvd / SR 65 NB Ramps	C	B / 12	B / 15	B / 13
8. Pleasant Grove Blvd / SR 65 SB Ramps	C	A / 7	A / 7	A / 6
9. Pleasant Grove Blvd / SR 65 NB Ramps	C	B / 14	B / 14	B / 11
10. Stanford Ranch Rd / Five Star Blvd	C	C / 27	C / 27	C / 29
11. Stanford Ranch Rd / SR 65 NB Ramps	D	B / 15	B / 20	B / 18
12. Galleria Blvd / SR 65 SB Ramps	D	B / 17	B / 17	B / 17
13. Galleria Blvd / Antelope Creek Dr	C	B / 14	B / 13	B / 14
14. Galleria Blvd / Roseville Pkwy	E	D / 41	D / 42	D / 37
15. Roseville Pkwy / Creekside Ridge Dr	C	A / 8	A / 8	B / 11
16. Roseville Pkwy / Taylor Rd	D	D / 49	D / 46	**F / 133**
17. Roseville Pkwy / Sunrise Ave	E	C / 28	C / 28	C / 23
18. Atlantic St / Wills Rd	C	C / 24	C / 24	B / 19
19. Atlantic St / I-80 WB Ramps	C	B / 15	B / 14	B / 11
20. Eureka Rd / Taylor Rd / I-80 EB Ramps	E	C / 25	C / 25	C / 22
21. Eureka Rd / Sunrise Ave	C	C / 32	C / 33	C / 26
22. Harding Blvd / Wills Rd	C	C / 23	C / 25	B / 14
23. Douglas Blvd / Harding Blvd	E	D / 51	C / 30	D / 36
24. Douglas Blvd / I-80 WB Ramps	C	C / 23	C / 24	B / 20
25. Douglas Blvd / I-80 EB Ramps	C	B / 20	A / 10	B / 12
26. Douglas Blvd / Sunrise Ave	D	C / 33	C / 33	C / 28
27. Pacific St / Woodside Dr	C	A / 7	A / 7	A / 9
28. Pacific St / Sunset Blvd	C	C / 24	C / 24	C / 27
29. Rocklin Rd / Granite Dr	C	B / 17	B / 18	B / 19
30. Rocklin Rd / I-80 WB Ramps	C	C / 23	C / 29	C / 21
31. Rocklin Rd / I-80 EB Ramps	C	**D / 42**	**D / 49**	**D / 37**
32. Rocklin Rd / Aguilar Rd	C	B / 14	C / 20	C / 23

TABLE 26A: INTERSECTION OPERATIONS RESULTS – CONSTRUCTION YEAR AM PEAK HOUR CONDITIONS

Intersection	Threshold	Alternative 1	Alternative 2	Alternative 3
33. Lincoln Blvd / SR 65 NB Off-ramp	C	A / 6	A / 6	A / 6
34. Lincoln Blvd / SR 65 SB On-ramp	C	C / 21	C / 22	C / 20
35. Placer Pkwy / SR 65 SB Ramps	C	A / 9	A / 8	A / 9
36. Whitney Ranch Pkwy / SR 65 NB Ramps	C	A / 9	A / 9	B / 11

Note: Bold and underline font indicate unacceptable operations. Shaded cells indicate a project impact. The LOS and average delay in seconds per vehicle are reported.

Source: Fehr & Peers, 2015

TABLE 27A: INTERSECTION OPERATIONS RESULTS – CONSTRUCTION YEAR PM PEAK HOUR CONDITIONS

Intersection	Threshold	Alternative 1	Alternative 2	Alternative 3
1. Lincoln Blvd / Sterling Pkwy	C	A / 9	A / 10	A / 8
2. Twelve Bridges Dr / SR 65 SB Ramps	C	B / 12	B / 12	A / 7
3. Twelve Bridges Dr / SR 65 NB Ramps	C	B / 11	B / 11	A / 9
4. Sunset Blvd / SR 65 SB Ramps	C	A / 6	A / 6	B / 12
5. Sunset Blvd / SR 65 NB Ramps	C	B / 13	B / 14	B / 17
6. Blue Oaks Blvd / Washington Blvd / SR 65 SB Ramps	C	**D / 47**	**D / 44**	**F / 126**
7. Blue Oaks Blvd / SR 65 NB Ramps	C	B / 15	B / 18	**E / 70**
8. Pleasant Grove Blvd / SR 65 SB Ramps	C	C / 31	C / 29	A / 7
9. Pleasant Grove Blvd / SR 65 NB Ramps	C	C / 24	C / 33	B / 12
10. Stanford Ranch Rd / Five Star Blvd	C	**F / 92**	**E / 76**	**D / 48**
11. Stanford Ranch Rd / SR 65 NB Ramps	D	C / 23	C / 25	B / 12
12. Galleria Blvd / SR 65 SB Ramps	D	B / 16	B / 17	B / 16
13. Galleria Blvd / Antelope Creek Dr	C	C / 23	C / 25	C / 24
14. Galleria Blvd / Roseville Pkwy	E	E / 61	E / 62	E / 58
15. Roseville Pkwy / Creekside Ridge Dr	C	C / 34	C / 32	C / 26
16. Roseville Pkwy / Taylor Rd	D	D / 51	D / 53	D / 42
17. Roseville Pkwy / Sunrise Ave	E	D / 42	D / 41	C / 30
18. Atlantic St / Wills Rd	C	**D / 39**	**D / 36**	C / 22
19. Atlantic St / I-80 WB Ramps	C	B / 13	B / 12	B / 12
20. Eureka Rd / Taylor Rd / I-80 EB Ramps	E	D / 52	E / 72	D / 41
21. Eureka Rd / Sunrise Ave	C	**D / 44**	**D / 44**	**E / 62**
22. Harding Blvd / Wills Rd	C	C / 26	C / 26	B / 19
23. Douglas Blvd / Harding Blvd	E	E / 77	**F / 128**	**F / 92**
24. Douglas Blvd / I-80 WB Ramps	C	C / 35	C / 31	C / 31
25. Douglas Blvd / I-80 EB Ramps	C	**D / 41**	**D / 35**	C / 29
26. Douglas Blvd / Sunrise Ave	D	D / 54	**F / 86**	D / 39
27. Pacific St / Woodside Dr	C	A / 7	A / 7	A / 9
28. Pacific St / Sunset Blvd	C	C / 30	C / 29	**F / 86**
29. Rocklin Rd / Granite Dr	C	**F / 130**	**F / 130**	**F / 127**
30. Rocklin Rd / I-80 WB Ramps	C	C / 27	C / 25	**D / 38**
31. Rocklin Rd / I-80 EB Ramps	C	**E / 57**	**D / 46**	C / 33
32. Rocklin Rd / Aguilar Rd	C	C / 23	C / 23	C / 30

TABLE 27A: INTERSECTION OPERATIONS RESULTS – CONSTRUCTION YEAR PM PEAK HOUR CONDITIONS

Intersection	Threshold	Alternative 1	Alternative 2	Alternative 3
33. Lincoln Blvd / SR 65 NB Off-ramp	C	A / 9	A / 9	A / 8
34. Lincoln Blvd / SR 65 SB On-ramp	C	C / 23	C / 22	C / 21
35. Placer Pkwy / SR 65 SB Ramps	C	A / 9	A / 9	A / 9
36. Whitney Ranch Pkwy / SR 65 NB Ramps	C	C / 32	C / 27	C / 23

Note: Bold and underline font indicate unacceptable operations. Shaded cells indicate a project impact. The LOS and average delay in seconds per vehicle are reported.

Source: Fehr & Peers, 2015

TABLE 28A: MAXIMUM QUEUE LENGTH RESULTS – CONSTRUCTION YEAR AM PEAK HOUR CONDITIONS

Off-ramp	Storage	Alternative 1	Alternative 2
Eastbound I-80 at Eastbound Douglas Blvd	1,400	25	25
Eastbound I-80 at Westbound Douglas Blvd	1,250	125	125
Eastbound I-80 at Eureka Rd	1,700	500	400
Eastbound I-80 at Rocklin Rd	1,080	300	350
Westbound I-80 at Rocklin Rd	1,230	125	125
Westbound I-80 at Westbound Atlantic St	1,430	25	25
Westbound I-80 at Eastbound Atlantic St	1,150	25	25
Westbound I-80 at Douglas Blvd	1,530	350	350
Northbound SR 65 at Northbound Stanford Ranch Rd	1,170	125	100
Northbound SR 65 at Southbound Stanford Ranch Rd	1,800	25	25
Northbound SR 65 at Pleasant Grove Blvd	1,420	150	150
Northbound SR 65 at Blue Oaks Blvd	1,100	600	650
Northbound SR 65 at Sunset Blvd	1,400	275	275
Northbound SR 65 at Whitney Ranch Pkwy	1,620	150	150
Northbound SR 65 at Twelve Bridges Dr	1,500	75	75
Northbound SR 65 at Lincoln Blvd	1,940	25	25
Southbound SR 65 at Twelve Bridges Dr	1,500	125	125
Southbound SR 65 at Placer Pkwy	1,650	200	200
Southbound SR 65 at Sunset Blvd	1,330	200	200
Southbound SR 65 at Blue Oaks Blvd	2,260	350	350
Southbound SR 65 at Pleasant Grove Blvd	1,130	175	150
Southbound SR 65 at Southbound Galleria Blvd	1,130	275	275
Southbound SR 65 at Northbound Galleria Blvd	1,780	50	50

Note: Bold and underline font indicate queues that exceed the ramp length. Shaded cells indicate a project impact. The reported value is the average maximum peak-hour queue length in feet.

Source: Fehr & Peers, 2015

TABLE 29A: MAXIMUM QUEUE LENGTH RESULTS – CONSTRUCTION YEAR PM PEAK HOUR CONDITIONS

Off-ramp	Storage	Alternative 1	Alternative 2
Eastbound I-80 at Eastbound Douglas Blvd	1,400	50	25
Eastbound I-80 at Westbound Douglas Blvd	1,250	1,100	950
Eastbound I-80 at Eureka Rd	1,700	1,125	1,675
Eastbound I-80 at Rocklin Rd	1,080	925	700
Westbound I-80 at Rocklin Rd	1,230	200	175
Westbound I-80 at Westbound Atlantic St	1,430	50	25
Westbound I-80 at Eastbound Atlantic St	1,150	25	25
Westbound I-80 at Douglas Blvd	1,530	325	300
Northbound SR 65 at Northbound Stanford Ranch Rd	1,170	350	400
Northbound SR 65 at Southbound Stanford Ranch Rd	1,800	25	50
Northbound SR 65 at Pleasant Grove Blvd	1,420	200	250
Northbound SR 65 at Blue Oaks Blvd	1,100	525	925
Northbound SR 65 at Sunset Blvd	1,400	225	225
Northbound SR 65 at Whitney Ranch Pkwy	1,620	200	225
Northbound SR 65 at Twelve Bridges Dr	1,500	100	100
Northbound SR 65 at Lincoln Blvd	1,940	25	25
Southbound SR 65 at Twelve Bridges Dr	1,500	100	100
Southbound SR 65 at Placer Pkwy	1,650	150	175
Southbound SR 65 at Sunset Blvd	1,330	125	150
Southbound SR 65 at Blue Oaks Blvd	2,260	250	250
Southbound SR 65 at Pleasant Grove Blvd	1,130	150	125
Southbound SR 65 at Southbound Galleria Blvd	1,130	250	275
Southbound SR 65 at Northbound Galleria Blvd	1,780	150	175

Note: Bold and underline font indicate queues that exceed the ramp length. Shaded cells indicate a project impact. The reported value is the average maximum peak-hour queue length in feet.

Source: Fehr & Peers, 2015

SR 65 Capacity and Operational Improvements

Ramp Meter Calculations

RAMP METERING ANALYSIS

Project: Stanford Ranch Rd/SR 65 Northbound Ramps
Ramp: Stanford Ranch Road to Northbound SR 65
Scenario: Build Alternative Design Year Conditions

Configuration: 1 metered + 1 HOV
Peak Hour Volume: 720
Peak Period Volume: 2,150

HOV Bypass (%)	14%
Metered Volume (veh/hr)	617
Metering Rate (veh/hr)	655
Discharge Rate (veh/15 min)	164

Storage Length (ft)	615
Storage Lanes	1
Maximum Storage (veh)	21

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	19%	80	69	0	0	0.00	0		
6:15-6:30	23%	97	83	0	0	0.00	0		
6:30-6:45	27%	110	94	0	0	0.00	0		
6:45-7:00	31%	127	109	0	0	0.00	0	414	355
7:00-7:15	19%	130	111	0	0	0.00	0	464	398
7:15-7:30	26%	183	157	0	0	0.00	0	550	471
7:30-7:45	26%	181	155	0	0	0.00	0	621	532
7:45-8:00	30%	209	179	15	15	3.83	179	703	602
8:00-8:15	25%	180	154	0	6	1.44	154	753	645
8:15-8:30	28%	204	175	11	17	4.20	175	774	663
8:30-8:45	22%	162	139	0	0	0.00	0	755	647
8:45-9:00	26%	187	160	0	0	0.00	0	733	628
9:00-9:15	26%	182	156	0	0	0.00	0	735	630
9:15-9:30	24%	169	145	0	0	0.00	0	700	600
9:30-9:45	24%	169	145	0	0	0.00	0	707	606
9:45-10:00	25%	176	151	0	0	0.00	0	696	596

Total Delay (veh-hr)	9
Total Vehicles Delayed (veh)	508
Average Delay (hr)	0.02
Average Delay (min)	1.12

Maximum Queue (veh)	17
Maximum Queue (ft)	504

Project: Stanford Ranch Rd/SR 65 Northbound Ramps
Ramp: Stanford Ranch Road to Northbound SR 65
Scenario: Build Alternative Design Year Conditions

Configuration: 1 metered + 1 HOV
Peak Hour Volume: 1,430
Peak Period Volume: 5,270

HOV Bypass (%)	17%
Metered Volume (veh/hr)	1,192
Metering Rate (veh/hr)	900
Discharge Rate (veh/15 min)	225

Storage Length (ft)	615
Storage Lanes	1
Maximum Storage (veh)	21

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	24%	336	280	55	55	13.77	280		
3:15-3:30	24%	330	275	50	105	26.28	275		
3:30-3:45	26%	358	298	73	179	44.63	298		
3:45-4:00	26%	364	303	78	257	64.23	303	1388	1157
4:00-4:15	23%	338	282	57	314	78.41	282	1390	1159
4:15-4:30	22%	325	271	46	360	89.89	271	1385	1154
4:30-4:45	27%	397	331	106	465	116.36	331	1424	1187
4:45-5:00	27%	390	325	100	566	141.38	325	1450	1209
5:00-5:15	27%	385	321	96	661	165.36	321	1497	1248
5:15-5:30	25%	349	291	66	727	181.83	291	1521	1268
5:30-5:45	23%	318	265	40	767	191.84	265	1442	1202
5:45-3:00	25%	349	291	66	833	208.32	291	1401	1168
3:00-3:15	23%	302	252	27	860	215.00	252	1318	1099
3:15-3:30	29%	379	316	91	951	237.72	316	1348	1124
3:30-3:45	23%	299	249	24	975	243.78	249	1329	1108
3:45-4:00	24%	308	257	32	1007	251.71	257	1288	1074

Total Delay (veh-hr)	1,322
Total Vehicles Delayed (veh)	3,533
Average Delay (hr)	0.37
Average Delay (min)	22.45

Maximum Queue (veh)	**833**
Maximum Queue (ft)	24,998

RAMP METERING ANALYSIS

Project: Stanford Ranch Rd/SR 65 Northbound Ramps
Ramp: Stanford Ranch Road to Northbound SR 65
Scenario: Build Alternative Design Year Conditions

Configuration: 2 metered + 1 HOV
Peak Hour Volume: 720
Peak Period Volume: 2,150

HOV Bypass (%)	14%
Metered Volume (veh/hr)	617
Metering Rate (veh/hr)	625
Discharge Rate (veh/15 min)	156

Storage Length (ft)	615
Storage Lanes	2
Maximum Storage (veh)	41

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	19%	80	69	0	0	0.00	0		
6:15-6:30	23%	97	83	0	0	0.00	0		
6:30-6:45	27%	110	94	0	0	0.00	0		
6:45-7:00	31%	127	109	0	0	0.00	0	414	355
7:00-7:15	19%	130	111	0	0	0.00	0	464	398
7:15-7:30	26%	183	157	1	1	0.13	157	550	471
7:30-7:45	26%	181	155	0	0	0.00	0	621	532
7:45-8:00	30%	209	179	23	23	5.70	179	703	602
8:00-8:15	25%	180	154	0	21	5.19	154	753	645
8:15-8:30	28%	204	175	19	39	9.83	175	774	663
8:30-8:45	22%	162	139	0	22	5.46	139	755	647
8:45-9:00	26%	187	160	4	26	6.45	160	733	628
9:00-9:15	26%	182	156	0	25	6.37	156	735	630
9:15-9:30	24%	169	145	0	14	3.51	145	700	600
9:30-9:45	24%	169	145	0	3	0.64	145	707	606
9:45-10:00	25%	176	151	0	0	0.00	0	696	596

Total Delay (veh-hr)	43
Total Vehicles Delayed (veh)	1,409
Average Delay (hr)	0.03
Average Delay (min)	1.84

Maximum Queue (veh)	39
Maximum Queue (ft)	590

Project: Stanford Ranch Rd/SR 65 Northbound Ramps
Ramp: Stanford Ranch Road to Northbound SR 65
Scenario: Build Alternative Design Year Conditions

Configuration: 2 metered + 1 HOV
Peak Hour Volume: 1,430
Peak Period Volume: 5,270

HOV Bypass (%)	17%
Metered Volume (veh/hr)	1,192
Metering Rate (veh/hr)	1,250
Discharge Rate (veh/15 min)	313

Storage Length (ft)	615
Storage Lanes	2
Maximum Storage (veh)	41

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	24%	336	280	0	0	0.00	0		
3:15-3:30	24%	330	275	0	0	0.00	0		
3:30-3:45	26%	358	298	0	0	0.00	0		
3:45-4:00	26%	364	303	0	0	0.00	0	1388	1157
4:00-4:15	23%	338	282	0	0	0.00	0	1390	1159
4:15-4:30	22%	325	271	0	0	0.00	0	1385	1154
4:30-4:45	27%	397	331	18	18	4.60	331	1424	1187
4:45-5:00	27%	390	325	13	31	7.74	325	1450	1209
5:00-5:15	27%	385	321	8	39	9.85	321	1497	1248
5:15-5:30	25%	349	291	0	18	4.44	291	1521	1268
5:30-5:45	23%	318	265	0	0	0.00	0	1442	1202
5:45-3:00	25%	349	291	0	0	0.00	0	1401	1168
3:00-3:15	23%	302	252	0	0	0.00	0	1318	1099
3:15-3:30	29%	379	316	3	3	0.85	316	1348	1124
3:30-3:45	23%	299	249	0	0	0.00	0	1329	1108
3:45-4:00	24%	308	257	0	0	0.00	0	1288	1074

Total Delay (veh-hr)	27
Total Vehicles Delayed (veh)	1,268
Average Delay (hr)	0.02
Average Delay (min)	1.26

Maximum Queue (veh)	39
Maximum Queue (ft)	591

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: Pleasant Grove Blvd to Northbound SR 65 — **Peak Hour Volume: 290**
Scenario: Design Year Conditions — **Peak Period Volume: 870**

HOV Bypass (%)	12%
Metered Volume (veh/hr)	255
Metering Rate (veh/hr)	330
Discharge Rate (veh/15 min)	83

Storage Length (ft)	580
Storage Lanes	1
Maximum Storage (veh)	19

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	19%	28	25	0	0	0.00	0		
6:15-6:30	23%	34	30	0	0	0.00	0		
6:30-6:45	27%	39	34	0	0	0.00	0		
6:45-7:00	31%	45	40	0	0	0.00	0	146	128
7:00-7:15	19%	37	33	0	0	0.00	0	155	136
7:15-7:30	26%	51	45	0	0	0.00	0	172	151
7:30-7:45	26%	51	45	0	0	0.00	0	184	162
7:45-8:00	30%	59	52	0	0	0.00	0	198	174
8:00-8:15	25%	94	83	0	0	0.03	83	255	224
8:15-8:30	28%	107	94	12	12	2.92	94	311	273
8:30-8:45	22%	84	74	0	3	0.76	74	344	302
8:45-9:00	26%	98	86	4	7	1.67	86	383	337
9:00-9:15	26%	102	90	7	14	3.46	90	391	344
9:15-9:30	24%	94	83	0	14	3.49	83	378	332
9:30-9:45	24%	94	83	0	14	3.52	83	388	341
9:45-10:00	25%	98	86	4	18	4.43	86	388	341

Total Delay (veh-hr)	20
Total Vehicles Delayed (veh)	678
Average Delay (hr)	0.03
Average Delay (min)	1.80

Maximum Queue (veh)	18
Maximum Queue (ft)	532

Location: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: Pleasant Grove Blvd to Northbound SR 65 — **Peak Hour Volume: 550**
Scenario: Design Year Conditions — **Peak Period Volume: 2,030**

HOV Bypass (%)	10%
Metered Volume (veh/hr)	495
Metering Rate (veh/hr)	510
Discharge Rate (veh/15 min)	128

Storage Length (ft)	580
Storage Lanes	1
Maximum Storage (veh)	19

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	24%	116	104	0	0	0.00	0		
3:15-3:30	24%	114	103	0	0	0.00	0		
3:30-3:45	26%	123	111	0	0	0.00	0		
3:45-4:00	26%	125	112	0	0	0.00	0	478	430
4:00-4:15	23%	123	111	0	0	0.00	0	485	436
4:15-4:30	22%	118	106	0	0	0.00	0	489	440
4:30-4:45	27%	144	130	2	2	0.52	130	510	459
4:45-5:00	27%	142	128	0	2	0.59	128	527	474
5:00-5:15	27%	156	140	13	15	3.81	140	560	504
5:15-5:30	25%	142	128	0	16	3.88	128	584	526
5:30-5:45	23%	129	116	0	4	1.02	116	569	512
5:45-6:00	25%	142	128	0	4	1.09	128	569	512
6:00-6:15	23%	122	110	0	0	0.00	0	535	481
6:15-6:30	29%	153	138	10	10	2.54	138	546	491
6:30-6:45	23%	121	109	0	0	0.00	0	538	484
6:45-7:00	24%	125	112	0	0	0.00	0	521	469

Total Delay (veh-hr)	11
Total Vehicles Delayed (veh)	769
Average Delay (hr)	0.01
Average Delay (min)	0.85

Maximum Queue (veh)	16
Maximum Queue (ft)	465

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements
Ramp: Pleasant Grove Blvd to Northbound SR 65
Scenario: Design Year Conditions

Configuration: 2 metered
Peak Hour Volume: 290
Peak Period Volume: 870

HOV Bypass (%)	0%
Metered Volume (veh/hr)	290
Metering Rate (veh/hr)	370
Discharge Rate (veh/15 min)	93

Storage Length (ft)	580
Storage Lanes	2
Maximum Storage (veh)	39

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	19%	28	28	0	0	0.00	0		
6:15-6:30	23%	34	34	0	0	0.00	0		
6:30-6:45	27%	39	39	0	0	0.00	0		
6:45-7:00	31%	45	45	0	0	0.00	0	146	146
7:00-7:15	19%	37	37	0	0	0.00	0	155	155
7:15-7:30	26%	51	51	0	0	0.00	0	172	172
7:30-7:45	26%	51	51	0	0	0.00	0	184	184
7:45-8:00	30%	59	59	0	0	0.00	0	198	198
8:00-8:15	25%	94	94	2	2	0.38	94	255	255
8:15-8:30	28%	107	107	15	16	4.00	107	311	311
8:30-8:45	22%	84	84	0	8	1.88	84	344	344
8:45-9:00	26%	98	98	6	13	3.25	98	383	383
9:00-9:15	26%	102	102	10	23	5.63	102	391	391
9:15-9:30	24%	94	94	2	24	6.00	94	378	378
9:30-9:45	24%	94	94	2	26	6.38	94	388	388
9:45-10:00	25%	98	98	6	31	7.75	98	388	388

Total Delay (veh-hr)	35
Total Vehicles Delayed (veh)	771
Average Delay (hr)	0.05
Average Delay (min)	2.74

Maximum Queue (veh)	31
Maximum Queue (ft)	465

Location: SR 65 Capacity & Operational Improvements
Ramp: Pleasant Grove Blvd to Northbound SR 65
Scenario: Design Year Conditions

Configuration: 2 metered
Peak Hour Volume: 550
Peak Period Volume: 2,030

HOV Bypass (%)	0%
Metered Volume (veh/hr)	550
Metering Rate (veh/hr)	550
Discharge Rate (veh/15 min)	138

Storage Length (ft)	580
Storage Lanes	2
Maximum Storage (veh)	39

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	24%	116	116	0	0	0.00	0		
3:15-3:30	24%	114	114	0	0	0.00	0		
3:30-3:45	26%	123	123	0	0	0.00	0		
3:45-4:00	26%	125	125	0	0	0.00	0	478	478
4:00-4:15	23%	123	123	0	0	0.00	0	485	485
4:15-4:30	22%	118	118	0	0	0.00	0	489	489
4:30-4:45	27%	144	144	7	7	1.63	144	510	510
4:45-5:00	27%	142	142	5	11	2.75	142	527	527
5:00-5:15	27%	156	156	19	30	7.38	156	560	560
5:15-5:30	25%	142	142	5	34	8.50	142	584	584
5:30-5:45	23%	129	129	0	26	6.38	129	569	569
5:45-6:00	25%	142	142	5	30	7.50	142	569	569
6:00-6:15	23%	122	122	0	15	3.63	122	535	535
6:15-6:30	29%	153	153	16	30	7.50	153	546	546
6:30-6:45	23%	121	121	0	14	3.38	121	538	538
6:45-7:00	24%	125	125	0	1	0.25	125	521	521

Total Delay (veh-hr)	34
Total Vehicles Delayed (veh)	855
Average Delay (hr)	0.04
Average Delay (min)	2.39

Maximum Queue (veh)	34
Maximum Queue (ft)	510

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements
Ramp: Blue Oaks Blvd to Northbound SR 65
Scenario: Design Year Conditions

Configuration: 1 metered + 1 HOV
Peak Hour Volume: 610
Peak Period Volume: 2,430

HOV Bypass (%)	10%
Metered Volume (veh/hr)	548
Metering Rate (veh/hr)	635
Discharge Rate (veh/15 min)	159

Storage Length (ft)	470
Storage Lanes	1
Maximum Storage (veh)	16

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	22%	71	64	0	0	0.00	0		
6:15-6:30	24%	75	67	0	0	0.00	0		
6:30-6:45	21%	67	60	0	0	0.00	0		
6:45-7:00	33%	105	94	0	0	0.00	0	318	286
7:00-7:15	24%	129	116	0	0	0.00	0	376	338
7:15-7:30	36%	194	174	16	16	3.92	174	495	445
7:30-7:45	13%	73	66	0	0	0.00	0	501	450
7:45-8:00	27%	146	131	0	0	0.00	0	542	487
8:00-8:15	25%	170	153	0	0	0.00	0	583	524
8:15-8:30	23%	154	138	0	0	0.00	0	543	488
8:30-8:45	26%	176	158	0	0	0.00	0	646	581
8:45-9:00	27%	182	164	5	5	1.22	164	682	613
9:00-9:15	27%	170	153	0	0	0.00	0	682	613
9:15-9:30	25%	160	144	0	0	0.00	0	688	619
9:30-9:45	22%	143	129	0	0	0.00	0	655	589
9:45-10:00	26%	167	150	0	0	0.00	0	640	575

Total Delay (veh-hr)	5
Total Vehicles Delayed (veh)	338
Average Delay (hr)	0.02
Average Delay (min)	0.91

Maximum Queue (veh)	16
Maximum Queue (ft)	470

Location: SR 65 Capacity & Operational Improvements
Ramp: Blue Oaks Blvd to Northbound SR 65
Scenario: Design Year Conditions

Configuration: 1 metered + 1 HOV
Peak Hour Volume: 1,000
Peak Period Volume: 3,550

HOV Bypass (%)	17%
Metered Volume (veh/hr)	833
Metering Rate (veh/hr)	900
Discharge Rate (veh/15 min)	225

Storage Length (ft)	470
Storage Lanes	1
Maximum Storage (veh)	16

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	19%	199	166	0	0	0.00	0		
3:15-3:30	26%	263	219	0	0	0.00	0		
3:30-3:45	30%	311	259	34	34	8.50	259		
3:45-4:00	25%	256	213	0	22	5.55	213	1029	857
4:00-4:15	25%	253	211	0	8	1.97	211	1083	902
4:15-4:30	25%	258	215	0	0	0.00	0	1078	898
4:30-4:45	27%	274	228	3	3	0.80	228	1041	867
4:45-5:00	23%	239	199	0	0	0.00	0	1024	853
5:00-5:15	24%	235	196	0	0	0.00	0	1006	838
5:15-5:30	31%	300	250	25	25	6.21	250	1048	873
5:30-5:45	23%	219	182	0	0	0.00	0	993	827
5:45-6:00	23%	219	182	0	0	0.00	0	973	810
6:00-6:15	26%	234	195	0	0	0.00	0	972	809
6:15-6:30	30%	268	223	0	0	0.00	0	940	783
6:30-6:45	23%	211	176	0	0	0.00	0	932	776
6:45-7:00	21%	191	159	0	0	0.00	0	904	753

Total Delay (veh-hr)	23
Total Vehicles Delayed (veh)	1,161
Average Delay (hr)	0.02
Average Delay (min)	1.19

Maximum Queue (veh)	**34**
Maximum Queue (ft)	1,020

RAMP METERING ANALYSIS

Location: SR 65/Blue Oaks Blvd — **Configuration: 2 metered**
Ramp: Blue Oaks Blvd to Northbound SR 65 — **Peak Hour Volume: 610**
Scenario: Design Year Conditions — **Peak Period Volume: 2,430**

HOV Bypass (%)	0%
Metered Volume (veh/hr)	610
Metering Rate (veh/hr)	665
Discharge Rate (veh/15 min)	166

Storage Length (ft)	470
Storage Lanes	2
Maximum Storage (veh)	31

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	22%	71	71	0	0	0.00	0		
6:15-6:30	24%	75	75	0	0	0.00	0		
6:30-6:45	21%	67	67	0	0	0.00	0		
6:45-7:00	33%	105	105	0	0	0.00	0	318	318
7:00-7:15	24%	129	129	0	0	0.00	0	376	376
7:15-7:30	36%	194	194	28	28	6.94	194	495	495
7:30-7:45	13%	73	73	0	0	0.00	0	501	501
7:45-8:00	27%	146	146	0	0	0.00	0	542	542
8:00-8:15	25%	170	170	4	4	0.94	170	583	583
8:15-8:30	23%	154	154	0	0	0.00	0	543	543
8:30-8:45	26%	176	176	10	10	2.44	176	646	646
8:45-9:00	27%	182	182	16	26	6.38	182	682	682
9:00-9:15	27%	170	170	4	29	7.31	170	682	682
9:15-9:30	25%	160	160	0	23	5.75	160	688	688
9:30-9:45	22%	143	143	0	0	0.00	0	655	655
9:45-10:00	26%	167	167	1	1	0.19	167	640	640

Total Delay (veh-hr)	30
Total Vehicles Delayed (veh)	1,219
Average Delay (hr)	0.02
Average Delay (min)	1.47

Maximum Queue (veh)	29
Maximum Queue (ft)	439

Location: SR 65/Blue Oaks Blvd — **Configuration: 2 metered**
Ramp: Blue Oaks Blvd to Northbound SR 65 — **Peak Hour Volume: 1,000**
Scenario: Design Year Conditions — **Peak Period Volume: 3,550**

HOV Bypass (%)	0%
Metered Volume (veh/hr)	1,000
Metering Rate (veh/hr)	1,120
Discharge Rate (veh/15 min)	280

Storage Length (ft)	470
Storage Lanes	2
Maximum Storage (veh)	31

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	19%	199	199	0	0	0.00	0		
3:15-3:30	26%	263	263	0	0	0.00	0		
3:30-3:45	30%	311	311	31	31	7.75	311		
3:45-4:00	25%	256	256	0	7	1.75	256	1029	1029
4:00-4:15	25%	253	253	0	0	0.00	0	1083	1083
4:15-4:30	25%	258	258	0	0	0.00	0	1078	1078
4:30-4:45	27%	274	274	0	0	0.00	0	1041	1041
4:45-5:00	23%	239	239	0	0	0.00	0	1024	1024
5:00-5:15	24%	235	235	0	0	0.00	0	1006	1006
5:15-5:30	31%	300	300	20	20	5.00	300	1048	1048
5:30-5:45	23%	219	219	0	0	0.00	0	993	993
5:45-6:00	23%	219	219	0	0	0.00	0	973	973
6:00-6:15	26%	234	234	0	0	0.00	0	972	972
6:15-6:30	30%	268	268	0	0	0.00	0	940	940
6:30-6:45	23%	211	211	0	0	0.00	0	932	932
6:45-7:00	21%	191	191	0	0	0.00	0	904	904

Total Delay (veh-hr)	15
Total Vehicles Delayed (veh)	867
Average Delay (hr)	0.02
Average Delay (min)	1.00

Maximum Queue (veh)	31
Maximum Queue (ft)	465

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: Eastbound Sunset Blvd to NB SR 65 — **Peak Hour Volume: 160**
Scenario: Design Year Conditions — **Peak Period Volume: 580**

HOV Bypass (%)	17%
Metered Volume (veh/hr)	133
Metering Rate (veh/hr)	240
Discharge Rate (veh/15 min)	60

Storage Length (ft)	570
Storage Lanes	1
Maximum Storage (veh)	19

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	25%	34	28	0	0	0.00	0		
6:15-6:30	25%	34	28	0	0	0.00	0		
6:30-6:45	25%	34	28	0	0	0.00	0		
6:45-7:00	25%	34	28	0	0	0.00	0	136	113
7:00-7:15	14%	16	13	0	0	0.00	0	118	98
7:15-7:30	36%	42	35	0	0	0.00	0	126	105
7:30-7:45	18%	21	17	0	0	0.00	0	113	94
7:45-8:00	32%	37	31	0	0	0.00	0	116	96
8:00-8:15	30%	59	49	0	0	0.00	0	159	132
8:15-8:30	17%	33	27	0	0	0.00	0	150	124
8:30-8:45	27%	52	43	0	0	0.00	0	181	150
8:45-9:00	27%	52	43	0	0	0.00	0	196	163
9:00-9:15	26%	18	15	0	0	0.00	0	155	129
9:15-9:30	26%	18	15	0	0	0.00	0	140	116
9:30-9:45	26%	18	15	0	0	0.00	0	106	88
9:45-10:00	22%	16	13	0	0	0.00	0	70	58

Total Delay (veh-hr)	0
Total Vehicles Delayed (veh)	0
Average Delay (hr)	0.00
Average Delay (min)	0.00

Maximum Queue (veh)	0
Maximum Queue (ft)	0

Location: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: Eastbound Sunset Blvd to NB SR 65 — **Peak Hour Volume: 420**
Scenario: Design Year Conditions — **Peak Period Volume: 1,630**

HOV Bypass (%)	15%
Metered Volume (veh/hr)	356
Metering Rate (veh/hr)	445
Discharge Rate (veh/15 min)	111

Storage Length (ft)	570
Storage Lanes	1
Maximum Storage (veh)	19

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	23%	49	42	0	0	0.00	0		
3:15-3:30	25%	53	45	0	0	0.00	0		
3:30-3:45	32%	69	58	0	0	0.00	0		
3:45-4:00	21%	45	38	0	0	0.00	0	216	183
4:00-4:15	33%	100	85	0	0	0.00	0	267	226
4:15-4:30	22%	68	58	0	0	0.00	0	282	239
4:30-4:45	33%	100	85	0	0	0.00	0	313	265
4:45-5:00	12%	36	30	0	0	0.00	0	304	258
5:00-5:15	26%	139	118	6	6	1.62	118	343	291
5:15-5:30	20%	108	91	0	0	0.00	0	383	324
5:30-5:45	28%	146	124	12	12	3.11	124	429	363
5:45-6:00	26%	139	118	6	19	4.73	118	532	451
6:00-6:15	35%	53	45	0	0	0.00	0	446	378
6:15-6:30	25%	38	32	0	0	0.00	0	376	318
6:30-6:45	27%	41	35	0	0	0.00	0	271	230
6:45-7:00	12%	18	15	0	0	0.00	0	150	127

Total Delay (veh-hr)	9
Total Vehicles Delayed (veh)	359
Average Delay (hr)	0.03
Average Delay (min)	1.58

Maximum Queue (veh)	19
Maximum Queue (ft)	567

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: Westbound Sunset Blvd to NB SR 65 — **Peak Hour Volume: 270**
Scenario: Design Year Conditions — **Peak Period Volume: 700**

HOV Bypass (%)	14%
Metered Volume (veh/hr)	232
Metering Rate (veh/hr)	260
Discharge Rate (veh/15 min)	65

Storage Length (ft)	800
Storage Lanes	1
Maximum Storage (veh)	27

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	22%	30	26	0	0	0.00	0		
6:15-6:30	22%	30	26	0	0	0.00	0		
6:30-6:45	25%	35	30	0	0	0.00	0		
6:45-7:00	32%	45	39	0	0	0.00	0	140	120
7:00-7:15	15%	45	39	0	0	0.00	0	155	133
7:15-7:30	25%	75	64	0	0	0.00	0	200	172
7:30-7:45	30%	90	77	12	12	3.05	77	255	219
7:45-8:00	29%	87	75	10	22	5.46	75	297	255
8:00-8:15	29%	72	62	0	19	4.65	62	324	278
8:15-8:30	35%	85	73	8	27	6.63	73	334	287
8:30-8:45	21%	51	44	0	5	1.31	44	295	253
8:45-9:00	15%	36	31	0	0	0.00	0	244	209
9:00-9:15	17%	34	29	0	0	0.00	0	206	177
9:15-9:30	31%	63	54	0	0	0.00	0	184	158
9:30-9:45	32%	65	56	0	0	0.00	0	198	170
9:45-10:00	20%	40	34	0	0	0.00	0	202	173

Total Delay (veh-hr)	21
Total Vehicles Delayed (veh)	330
Average Delay (hr)	0.06
Average Delay (min)	3.83

Maximum Queue (veh)	27
Maximum Queue (ft)	795

Location: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: Westbound Sunset Blvd to NB SR 65 — **Peak Hour Volume: 480**
Scenario: Design Year Conditions — **Peak Period Volume: 1,830**

HOV Bypass (%)	20%
Metered Volume (veh/hr)	385
Metering Rate (veh/hr)	405
Discharge Rate (veh/15 min)	101

Storage Length (ft)	800
Storage Lanes	1
Maximum Storage (veh)	27

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	23%	101	81	0	0	0.00	0		
3:15-3:30	24%	107	86	0	0	0.00	0		
3:30-3:45	28%	125	100	0	0	0.00	0		
3:45-4:00	25%	110	88	0	0	0.00	0	443	356
4:00-4:15	22%	116	93	0	0	0.00	0	458	368
4:15-4:30	28%	147	118	17	17	4.20	118	498	400
4:30-4:45	26%	137	110	9	26	6.38	110	510	410
4:45-5:00	23%	119	96	0	20	4.96	96	519	417
5:00-5:15	25%	110	88	0	7	1.73	88	513	412
5:15-5:30	25%	110	88	0	0	0.00	0	476	382
5:30-5:45	26%	115	92	0	0	0.00	0	454	365
5:45-6:00	25%	113	91	0	0	0.00	0	448	360
6:00-6:15	31%	112	90	0	0	0.00	0	450	361
6:15-6:30	28%	101	81	0	0	0.00	0	441	354
6:30-6:45	19%	71	57	0	0	0.00	0	397	319
6:45-7:00	22%	81	65	0	0	0.00	0	365	293

Total Delay (veh-hr)	17
Total Vehicles Delayed (veh)	412
Average Delay (hr)	0.04
Average Delay (min)	2.51

Maximum Queue (veh)	26
Maximum Queue (ft)	766

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: EB Whitney Ranch Pkwy to NB SR 65 — **Peak Hour Volume: 480**
Scenario: Design Year Conditions — **Peak Period Volume: 1,750**

HOV Bypass (%)	12%
Metered Volume (veh/hr)	420
Metering Rate (veh/hr)	555
Discharge Rate (veh/15 min)	139

Storage Length (ft)	590
Storage Lanes	1
Maximum Storage (veh)	20

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	25%	47	41	0	0	0.00	0		
6:15-6:30	25%	47	41	0	0	0.00	0		
6:30-6:45	25%	47	41	0	0	0.00	0		
6:45-7:00	25%	47	41	0	0	0.00	0	188	165
7:00-7:15	14%	50	44	0	0	0.00	0	191	167
7:15-7:30	36%	135	118	0	0	0.00	0	279	244
7:30-7:45	18%	67	59	0	0	0.00	0	299	262
7:45-8:00	32%	118	103	0	0	0.00	0	370	324
8:00-8:15	30%	180	158	19	19	4.69	158	500	438
8:15-8:30	17%	100	88	0	0	0.00	0	465	407
8:30-8:45	27%	160	140	1	1	0.31	140	558	488
8:45-9:00	27%	160	140	1	3	0.63	140	600	525
9:00-9:15	26%	67	59	0	0	0.00	0	487	426
9:15-9:30	26%	67	59	0	0	0.00	0	454	397
9:30-9:45	26%	67	59	0	0	0.00	0	361	316
9:45-10:00	22%	57	50	0	0	0.00	0	258	226

Total Delay (veh-hr)	6
Total Vehicles Delayed (veh)	438
Average Delay (hr)	0.01
Average Delay (min)	0.77

Maximum Queue (veh)	19
Maximum Queue (ft)	563

Location: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: EB Whitney Ranch Pkwy to NB SR 65 — **Peak Hour Volume: 420**
Scenario: Design Year Conditions — **Peak Period Volume: 1,630**

HOV Bypass (%)	18%
Metered Volume (veh/hr)	345
Metering Rate (veh/hr)	595
Discharge Rate (veh/15 min)	149

Storage Length (ft)	590
Storage Lanes	1
Maximum Storage (veh)	20

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	23%	144	118	0	0	0.00	0		
3:15-3:30	25%	156	128	0	0	0.00	0		
3:30-3:45	32%	204	168	19	19	4.73	168		
3:45-4:00	21%	132	108	0	0	0.00	0	636	523
4:00-4:15	33%	136	112	0	0	0.00	0	628	516
4:15-4:30	22%	93	76	0	0	0.00	0	565	464
4:30-4:45	33%	136	112	0	0	0.00	0	497	409
4:45-5:00	12%	49	40	0	0	0.00	0	414	340
5:00-5:15	26%	113	93	0	0	0.00	0	391	321
5:15-5:30	20%	88	72	0	0	0.00	0	386	317
5:30-5:45	28%	120	99	0	0	0.00	0	370	304
5:45-6:00	26%	113	93	0	0	0.00	0	434	357
6:00-6:15	35%	208	171	22	22	5.55	171	529	435
6:15-6:30	25%	150	123	0	0	0.00	0	591	486
6:30-6:45	27%	162	133	0	0	0.00	0	633	520
6:45-7:00	12%	69	57	0	0	0.00	0	589	484

Total Delay (veh-hr)	5
Total Vehicles Delayed (veh)	168
Average Delay (hr)	0.03
Average Delay (min)	1.69

Maximum Queue (veh)	19
Maximum Queue (ft)	568

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: WB Whitney Ranch Pkwy to NB SR 65 — **Peak Hour Volume: 430**
Scenario: Design Year Conditions — **Peak Period Volume: 1,120**

HOV Bypass (%)	15%
Metered Volume (veh/hr)	367
Metering Rate (veh/hr)	470
Discharge Rate (veh/15 min)	118

Storage Length (ft)	870
Storage Lanes	1
Maximum Storage (veh)	29

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	22%	36	31	0	0	0.00	0		
6:15-6:30	22%	36	31	0	0	0.00	0		
6:30-6:45	25%	42	36	0	0	0.00	0		
6:45-7:00	32%	54	46	0	0	0.00	0	168	143
7:00-7:15	15%	78	66	0	0	0.00	0	210	179
7:15-7:30	25%	129	110	0	0	0.00	0	303	258
7:30-7:45	30%	156	133	15	15	3.87	133	417	355
7:45-8:00	29%	151	129	11	27	6.67	129	514	438
8:00-8:15	29%	101	86	0	0	0.00	0	537	458
8:15-8:30	35%	120	102	0	0	0.00	0	528	450
8:30-8:45	21%	72	61	0	0	0.00	0	444	378
8:45-9:00	15%	51	43	0	0	0.00	0	344	293
9:00-9:15	17%	46	39	0	0	0.00	0	289	246
9:15-9:30	31%	85	72	0	0	0.00	0	254	217
9:30-9:45	32%	87	74	0	0	0.00	0	269	229
9:45-10:00	20%	53	45	0	0	0.00	0	271	231

Total Delay (veh-hr)	11
Total Vehicles Delayed (veh)	262
Average Delay (hr)	0.04
Average Delay (min)	2.42

Maximum Queue (veh)	27
Maximum Queue (ft)	800

Location: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: WB Whitney Ranch Pkwy to NB SR 65 — **Peak Hour Volume: 670**
Scenario: Design Year Conditions — **Peak Period Volume: 2,550**

HOV Bypass (%)	18%
Metered Volume (veh/hr)	547
Metering Rate (veh/hr)	745
Discharge Rate (veh/15 min)	186

Storage Length (ft)	870
Storage Lanes	1
Maximum Storage (veh)	29

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	23%	211	172	0	0	0.00	0		
3:15-3:30	24%	223	182	0	0	0.00	0		
3:30-3:45	28%	261	213	27	27	6.68	213		
3:45-4:00	25%	230	188	1	28	7.04	188	925	755
4:00-4:15	22%	154	126	0	0	0.00	0	868	708
4:15-4:30	28%	195	159	0	0	0.00	0	840	685
4:30-4:45	26%	181	148	0	0	0.00	0	760	620
4:45-5:00	23%	157	128	0	0	0.00	0	687	561
5:00-5:15	25%	161	131	0	0	0.00	0	694	566
5:15-5:30	25%	161	131	0	0	0.00	0	660	539
5:30-5:45	26%	168	137	0	0	0.00	0	647	528
5:45-6:00	25%	166	135	0	0	0.00	0	656	535
6:00-6:15	31%	208	170	0	0	0.00	0	703	574
6:15-6:30	28%	187	153	0	0	0.00	0	729	595
6:30-6:45	19%	132	108	0	0	0.00	0	693	566
6:45-7:00	22%	150	122	0	0	0.00	0	677	552

Total Delay (veh-hr)	14
Total Vehicles Delayed (veh)	401
Average Delay (hr)	0.03
Average Delay (min)	2.06

Maximum Queue (veh)	28
Maximum Queue (ft)	845

RAMP METERING ANALYSIS

Location: SR 65/Twelve Bridges Dr
Ramp: Twelve Bridges Dr to Northbound SR 65
Scenario: Design Year Conditions

Configuration: 1 metered + 1 HOV
Peak Hour Volume: 880
Peak Period Volume: 1,700

HOV Bypass (%)	22%
Metered Volume (veh/hr)	684
Metering Rate (veh/hr)	900
Discharge Rate (veh/15 min)	225

Storage Length (ft)	950
Storage Lanes	1
Maximum Storage (veh)	32

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	13%	18	14	0	0	0.00	0		
6:15-6:30	28%	39	30	0	0	0.00	0		
6:30-6:45	30%	41	32	0	0	0.00	0		
6:45-7:00	28%	39	30	0	0	0.00	0	137	106
7:00-7:15	9%	60	47	0	0	0.00	0	179	139
7:15-7:30	14%	87	68	0	0	0.00	0	227	176
7:30-7:45	38%	239	186	0	0	0.00	0	425	330
7:45-8:00	39%	249	193	0	0	0.00	0	635	493
8:00-8:15	42%	467	363	138	138	34.46	363	1042	810
8:15-8:30	20%	223	173	0	86	21.53	173	1178	915
8:30-8:45	20%	219	170	0	31	7.82	170	1158	900
8:45-9:00	19%	210	163	0	0	0.00	0	1119	869
9:00-9:15	20%	128	99	0	0	0.00	0	780	606
9:15-9:30	29%	190	148	0	0	0.00	0	747	580
9:30-9:45	24%	155	120	0	0	0.00	0	683	531
9:45-10:00	28%	181	141	0	0	0.00	0	654	508

Total Delay (veh-hr)	64
Total Vehicles Delayed (veh)	706
Average Delay (hr)	0.09
Average Delay (min)	5.42

Maximum Queue (veh)	**138**
Maximum Queue (ft)	4,136

Location: SR 65/Twelve Bridges Dr
Ramp: Twelve Bridges Dr to Northbound SR 65
Scenario: Design Year Conditions

Configuration: 1 metered + 1 HOV
Peak Hour Volume: 1,030
Peak Period Volume: 3,390

HOV Bypass (%)	20%
Metered Volume (veh/hr)	827
Metering Rate (veh/hr)	900
Discharge Rate (veh/15 min)	225

Storage Length (ft)	950
Storage Lanes	1
Maximum Storage (veh)	32

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	28%	309	248	23	23	5.74	248		
3:15-3:30	23%	255	205	0	3	0.66	205		
3:30-3:45	25%	284	228	3	6	1.38	228		
3:45-4:00	24%	266	213	0	0	0.00	0	1114	894
4:00-4:15	27%	285	229	4	4	0.93	229	1090	875
4:15-4:30	22%	235	189	0	0	0.00	0	1070	859
4:30-4:45	26%	270	217	0	0	0.00	0	1056	847
4:45-5:00	25%	263	211	0	0	0.00	0	1053	845
5:00-5:15	32%	321	258	33	33	8.15	258	1089	874
5:15-5:30	26%	257	206	0	14	3.46	206	1111	892
5:30-5:45	21%	206	165	0	0	0.00	0	1047	840
5:45-6:00	21%	213	171	0	0	0.00	0	997	800
6:00-6:15	24%	239	192	0	0	0.00	0	915	734
6:15-6:30	38%	375	301	76	76	18.99	301	1033	829
6:30-6:45	19%	185	148	0	0	0.00	0	1012	812
6:45-7:00	20%	195	156	0	0	0.00	0	994	798

Total Delay (veh-hr)	20
Total Vehicles Delayed (veh)	1,373
Average Delay (hr)	0.01
Average Delay (min)	0.89

Maximum Queue (veh)	**33**
Maximum Queue (ft)	978

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements
Ramp: Twelve Bridges Dr to Northbound SR 65
Scenario: Design Year Conditions

Configuration: 2 metered
Peak Hour Volume: 880
Peak Period Volume: 1,700

HOV Bypass (%)	0%
Metered Volume (veh/hr)	880
Metering Rate (veh/hr)	1,645
Discharge Rate (veh/15 min)	411

Storage Length (ft)	850
Storage Lanes	2
Maximum Storage (veh)	57

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	13%	18	18	0	0	0.00	0		
6:15-6:30	28%	39	39	0	0	0.00	0		
6:30-6:45	30%	41	41	0	0	0.00	0		
6:45-7:00	28%	39	39	0	0	0.00	0	137	137
7:00-7:15	9%	60	60	0	0	0.00	0	179	179
7:15-7:30	14%	87	87	0	0	0.00	0	227	227
7:30-7:45	38%	239	239	0	0	0.00	0	425	425
7:45-8:00	39%	249	249	0	0	0.00	0	635	635
8:00-8:15	42%	467	467	56	56	13.94	467	1042	1042
8:15-8:30	20%	223	223	0	0	0.00	0	1178	1178
8:30-8:45	20%	219	219	0	0	0.00	0	1158	1158
8:45-9:00	19%	210	210	0	0	0.00	0	1119	1119
9:00-9:15	20%	128	128	0	0	0.00	0	780	780
9:15-9:30	29%	190	190	0	0	0.00	0	747	747
9:30-9:45	24%	155	155	0	0	0.00	0	683	683
9:45-10:00	28%	181	181	0	0	0.00	0	654	654

Total Delay (veh-hr)	14
Total Vehicles Delayed (veh)	467
Average Delay (hr)	0.03
Average Delay (min)	1.79

Maximum Queue (veh)	56
Maximum Queue (ft)	836

Location: SR 65 Capacity & Operational Improvements
Ramp: Twelve Bridges Dr to Northbound SR 65
Scenario: Design Year Conditions

Configuration: 2 metered
Peak Hour Volume: 1,030
Peak Period Volume: 3,390

HOV Bypass (%)	0%
Metered Volume (veh/hr)	1,030
Metering Rate (veh/hr)	1,085
Discharge Rate (veh/15 min)	271

Storage Length (ft)	850
Storage Lanes	2
Maximum Storage (veh)	57

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	28%	309	309	38	38	9.44	309		
3:15-3:30	23%	255	255	0	22	5.38	255		
3:30-3:45	25%	284	284	13	34	8.56	284		
3:45-4:00	24%	266	266	0	29	7.25	266	1114	1114
4:00-4:15	27%	285	285	14	43	10.69	285	1090	1090
4:15-4:30	22%	235	235	0	7	1.63	235	1070	1070
4:30-4:45	26%	270	270	0	5	1.31	270	1056	1056
4:45-5:00	25%	263	263	0	0	0.00	0	1053	1053
5:00-5:15	32%	321	321	50	50	12.44	321	1089	1089
5:15-5:30	26%	257	257	0	36	8.88	257	1111	1111
5:30-5:45	21%	206	206	0	0	0.00	0	1047	1047
5:45-6:00	21%	213	213	0	0	0.00	0	997	997
6:00-6:15	24%	239	239	0	0	0.00	0	915	915
6:15-6:30	38%	375	375	104	104	25.94	375	1033	1033
6:30-6:45	19%	185	185	0	18	4.38	185	1012	1012
6:45-7:00	20%	195	195	0	0	0.00	0	994	994

Total Delay (veh-hr)	66
Total Vehicles Delayed (veh)	2,482
Average Delay (hr)	0.03
Average Delay (min)	1.58

Maximum Queue (veh)	50
Maximum Queue (ft)	746

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements
Ramp: Twelve Bridges Dr to Northbound SR 65
Scenario: Design Year Conditions

Configuration: 2 metered + 1 HOV
Peak Hour Volume: 880
Peak Period Volume: 1,700

HOV Bypass (%)	22%
Metered Volume (veh/hr)	684
Metering Rate (veh/hr)	1,225
Discharge Rate (veh/15 min)	306

Storage Length (ft)	850
Storage Lanes	2
Maximum Storage (veh)	57

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	13%	18	14	0	0	0.00	0		
6:15-6:30	28%	39	30	0	0	0.00	0		
6:30-6:45	30%	41	32	0	0	0.00	0		
6:45-7:00	28%	39	30	0	0	0.00	0	137	106
7:00-7:15	9%	60	47	0	0	0.00	0	179	139
7:15-7:30	14%	87	68	0	0	0.00	0	227	176
7:30-7:45	38%	239	186	0	0	0.00	0	425	330
7:45-8:00	39%	249	193	0	0	0.00	0	635	493
8:00-8:15	42%	467	363	57	57	14.15	363	1042	810
8:15-8:30	20%	223	173	0	0	0.00	0	1178	915
8:30-8:45	20%	219	170	0	0	0.00	0	1158	900
8:45-9:00	19%	210	163	0	0	0.00	0	1119	869
9:00-9:15	20%	128	99	0	0	0.00	0	780	606
9:15-9:30	29%	190	148	0	0	0.00	0	747	580
9:30-9:45	24%	155	120	0	0	0.00	0	683	531
9:45-10:00	28%	181	141	0	0	0.00	0	654	508

Total Delay (veh-hr)	14
Total Vehicles Delayed (veh)	363
Average Delay (hr)	0.04
Average Delay (min)	2.34

Maximum Queue (veh)	57
Maximum Queue (ft)	849

Location: SR 65 Capacity & Operational Improvements
Ramp: Twelve Bridges Dr to Northbound SR 65
Scenario: Design Year Conditions

Configuration: 2 metered + 1 HOV
Peak Hour Volume: 1,030
Peak Period Volume: 3,390

HOV Bypass (%)	20%
Metered Volume (veh/hr)	827
Metering Rate (veh/hr)	865
Discharge Rate (veh/15 min)	216

Storage Length (ft)	850
Storage Lanes	2
Maximum Storage (veh)	57

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	28%	309	248	32	32	7.93	248		
3:15-3:30	23%	255	205	0	20	5.03	205		
3:30-3:45	25%	284	228	12	32	7.95	228		
3:45-4:00	24%	266	213	0	29	7.25	213	1114	894
4:00-4:15	27%	285	229	12	41	10.37	229	1090	875
4:15-4:30	22%	235	189	0	14	3.46	189	1070	859
4:30-4:45	26%	270	217	0	14	3.56	217	1056	847
4:45-5:00	25%	263	211	0	9	2.27	211	1053	845
5:00-5:15	32%	321	258	41	50	12.61	258	1089	874
5:15-5:30	26%	257	206	0	40	10.11	206	1111	892
5:30-5:45	21%	206	165	0	0	0.00	0	1047	840
5:45-6:00	21%	213	171	0	0	0.00	0	997	800
6:00-6:15	24%	239	192	0	0	0.00	0	915	734
6:15-6:30	38%	375	301	85	85	21.17	301	1033	829
6:30-6:45	19%	185	148	0	17	4.23	148	1012	812
6:45-7:00	20%	195	156	0	0	0.00	0	994	798

Total Delay (veh-hr)	71
Total Vehicles Delayed (veh)	2,203
Average Delay (hr)	0.03
Average Delay (min)	1.92

Maximum Queue (veh)	50
Maximum Queue (ft)	756

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements
Ramp: Lincoln Blvd to Southbound SR 65
Scenario: Design Year Conditions

Configuration: 1 metered + 1 HOV
Peak Hour Volume: 1,540
Peak Period Volume: 4,190

HOV Bypass (%)	19%
Metered Volume (veh/hr)	1,251
Metering Rate (veh/hr)	900
Discharge Rate (veh/15 min)	225

Storage Length (ft)	540
Storage Lanes	1
Maximum Storage (veh)	18

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	22%	293	238	13	13	3.28	238		
6:15-6:30	22%	289	235	10	23	5.74	235		
6:30-6:45	28%	374	304	79	102	25.47	304		
6:45-7:00	29%	386	314	89	191	47.64	314	1342	1091
7:00-7:15	19%	289	235	10	200	50.11	235	1338	1087
7:15-7:30	22%	323	262	37	238	59.48	262	1372	1115
7:30-7:45	30%	444	361	136	374	93.43	361	1442	1172
7:45-8:00	29%	435	354	129	502	125.56	354	1491	1212
8:00-8:15	29%	459	373	148	650	162.56	373	1661	1350
8:15-8:30	26%	409	332	107	758	189.40	332	1747	1420
8:30-8:45	22%	345	280	55	813	203.24	280	1648	1339
8:45-9:00	24%	382	310	85	898	224.60	310	1595	1296
9:00-9:15	26%	376	306	81	979	244.74	306	1512	1229
9:15-9:30	21%	305	248	23	1002	250.45	248	1408	1144
9:30-9:45	26%	370	301	76	1077	269.37	301	1433	1165
9:45-10:00	26%	368	299	74	1152	287.89	299	1419	1153

Total Delay (veh-hr)	2,243
Total Vehicles Delayed (veh)	4,752
Average Delay (hr)	0.47
Average Delay (min)	28.32

Maximum Queue (veh)	**1152**
Maximum Queue (ft)	34,546

Location: SR 65 Capacity & Operational Improvements
Ramp: Lincoln Blvd to Southbound SR 65
Scenario: Design Year Conditions

Configuration: 1 metered + 1 HOV
Peak Hour Volume: 1,470
Peak Period Volume: 4,570

HOV Bypass (%)	14%
Metered Volume (veh/hr)	1,268
Metering Rate (veh/hr)	900
Discharge Rate (veh/15 min)	225

Storage Length (ft)	540
Storage Lanes	1
Maximum Storage (veh)	18

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	28%	380	328	103	103	25.72	328		
3:15-3:30	27%	360	311	86	188	47.12	311		
3:30-3:45	23%	312	269	44	233	58.17	269		
3:45-4:00	23%	306	264	39	272	67.93	264	1358	1172
4:00-4:15	28%	431	372	147	419	104.64	372	1409	1216
4:15-4:30	24%	371	320	95	514	128.42	320	1420	1225
4:30-4:45	23%	348	300	75	589	147.24	300	1456	1256
4:45-5:00	24%	369	318	93	682	170.58	318	1519	1311
5:00-5:15	26%	376	324	99	782	195.44	324	1464	1263
5:15-5:30	29%	414	357	132	914	228.49	357	1507	1300
5:30-5:45	24%	342	295	70	984	246.01	295	1501	1295
5:45-6:00	21%	292	252	27	1011	252.74	252	1424	1229
6:00-6:15	28%	342	295	70	1081	270.26	295	1390	1199
6:15-6:30	26%	311	268	43	1124	281.10	268	1287	1110
6:30-6:45	25%	307	265	40	1164	291.07	265	1252	1080
6:45-7:00	20%	246	212	0	1152	287.88	212	1206	1041

Total Delay (veh-hr)	1,672
Total Vehicles Delayed (veh)	3,711
Average Delay (hr)	0.45
Average Delay (min)	27.04

Maximum Queue (veh)	**1011**
Maximum Queue (ft)	30,329

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements
Ramp: Lincoln Blvd to Southbound SR 65
Scenario: Design Year Conditions

Configuration: 2 metered
Peak Hour Volume: 1,540
Peak Period Volume: 4,190

HOV Bypass (%)	0%
Metered Volume (veh/hr)	1,540
Metering Rate (veh/hr)	1,740
Discharge Rate (veh/15 min)	435

Storage Length (ft)	540
Storage Lanes	2
Maximum Storage (veh)	36

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	22%	293	293	0	0	0.00	0		
6:15-6:30	22%	289	289	0	0	0.00	0		
6:30-6:45	28%	374	374	0	0	0.00	0		
6:45-7:00	29%	386	386	0	0	0.00	0	1342	1342
7:00-7:15	19%	289	289	0	0	0.00	0	1338	1338
7:15-7:30	22%	323	323	0	0	0.00	0	1372	1372
7:30-7:45	30%	444	444	9	9	2.25	444	1442	1442
7:45-8:00	29%	435	435	0	9	2.25	435	1491	1491
8:00-8:15	29%	459	459	24	33	8.25	459	1661	1661
8:15-8:30	26%	409	409	0	7	1.75	409	1747	1747
8:30-8:45	22%	345	345	0	0	0.00	0	1648	1648
8:45-9:00	24%	382	382	0	0	0.00	0	1595	1595
9:00-9:15	26%	376	376	0	0	0.00	0	1512	1512
9:15-9:30	21%	305	305	0	0	0.00	0	1408	1408
9:30-9:45	26%	370	370	0	0	0.00	0	1433	1433
9:45-10:00	26%	368	368	0	0	0.00	0	1419	1419

Total Delay (veh-hr)	15
Total Vehicles Delayed (veh)	1,747
Average Delay (hr)	0.01
Average Delay (min)	0.50

Maximum Queue (veh)	33
Maximum Queue (ft)	495

Location: SR 65 Capacity & Operational Improvements
Ramp: Lincoln Blvd to Southbound SR 65
Scenario: Design Year Conditions

Configuration: 2 metered
Peak Hour Volume: 1,470
Peak Period Volume: 4,570

HOV Bypass (%)	0%
Metered Volume (veh/hr)	1,470
Metering Rate (veh/hr)	1,580
Discharge Rate (veh/15 min)	395

Storage Length (ft)	540
Storage Lanes	2
Maximum Storage (veh)	36

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	28%	380	380	0	0	0.00	0		
3:15-3:30	27%	360	360	0	0	0.00	0		
3:30-3:45	23%	312	312	0	0	0.00	0		
3:45-4:00	23%	306	306	0	0	0.00	0	1358	1358
4:00-4:15	28%	431	431	36	36	9.00	431	1409	1409
4:15-4:30	24%	371	371	0	12	3.00	371	1420	1420
4:30-4:45	23%	348	348	0	0	0.00	0	1456	1456
4:45-5:00	24%	369	369	0	0	0.00	0	1519	1519
5:00-5:15	26%	376	376	0	0	0.00	0	1464	1464
5:15-5:30	29%	414	414	19	19	4.75	414	1507	1507
5:30-5:45	24%	342	342	0	0	0.00	0	1501	1501
5:45-6:00	21%	292	292	0	0	0.00	0	1424	1424
6:00-6:15	28%	342	342	0	0	0.00	0	1390	1390
6:15-6:30	26%	311	311	0	0	0.00	0	1287	1287
6:30-6:45	25%	307	307	0	0	0.00	0	1252	1252
6:45-7:00	20%	246	246	0	0	0.00	0	1206	1206

Total Delay (veh-hr)	17
Total Vehicles Delayed (veh)	1,216
Average Delay (hr)	0.01
Average Delay (min)	0.83

Maximum Queue (veh)	36
Maximum Queue (ft)	540

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements
Ramp: Lincoln Blvd to Southbound SR 65
Scenario: Design Year Conditions

Configuration: 2 metered + 1 HOV
Peak Hour Volume: 1,540
Peak Period Volume: 4,190

HOV Bypass (%)	19%
Metered Volume (veh/hr)	1,251
Metering Rate (veh/hr)	1,405
Discharge Rate (veh/15 min)	351

Storage Length (ft)	540
Storage Lanes	2
Maximum Storage (veh)	36

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	22%	293	238	0	0	0.00	0		
6:15-6:30	22%	289	235	0	0	0.00	0		
6:30-6:45	28%	374	304	0	0	0.00	0		
6:45-7:00	29%	386	314	0	0	0.00	0	1342	1091
7:00-7:15	19%	289	235	0	0	0.00	0	1338	1087
7:15-7:30	22%	323	262	0	0	0.00	0	1372	1115
7:30-7:45	30%	444	361	10	10	2.39	361	1442	1172
7:45-8:00	29%	435	354	2	12	2.95	354	1491	1212
8:00-8:15	29%	459	373	22	34	8.39	373	1661	1350
8:15-8:30	26%	409	332	0	15	3.67	332	1747	1420
8:30-8:45	22%	345	280	0	0	0.00	0	1648	1339
8:45-9:00	24%	382	310	0	0	0.00	0	1595	1296
9:00-9:15	26%	376	306	0	0	0.00	0	1512	1229
9:15-9:30	21%	305	248	0	0	0.00	0	1408	1144
9:30-9:45	26%	370	301	0	0	0.00	0	1433	1165
9:45-10:00	26%	368	299	0	0	0.00	0	1419	1153

Total Delay (veh-hr)	17
Total Vehicles Delayed (veh)	1,420
Average Delay (hr)	0.01
Average Delay (min)	0.74

Maximum Queue (veh)	34
Maximum Queue (ft)	504

Location: SR 65 Capacity & Operational Improvements
Ramp: Lincoln Blvd to Southbound SR 65
Scenario: Design Year Conditions

Configuration: 2 metered + 1 HOV
Peak Hour Volume: 1,470
Peak Period Volume: 4,570

HOV Bypass (%)	14%
Metered Volume (veh/hr)	1,268
Metering Rate (veh/hr)	1,345
Discharge Rate (veh/15 min)	336

Storage Length (ft)	540
Storage Lanes	2
Maximum Storage (veh)	36

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	28%	380	328	0	0	0.00	0		
3:15-3:30	27%	360	311	0	0	0.00	0		
3:30-3:45	23%	312	269	0	0	0.00	0		
3:45-4:00	23%	306	264	0	0	0.00	0	1358	1172
4:00-4:15	28%	431	372	36	36	8.91	372	1409	1216
4:15-4:30	24%	371	320	0	19	4.87	320	1420	1225
4:30-4:45	23%	348	300	0	0	0.00	0	1456	1256
4:45-5:00	24%	369	318	0	0	0.00	0	1519	1311
5:00-5:15	26%	376	324	0	0	0.00	0	1464	1263
5:15-5:30	29%	414	357	21	21	5.24	357	1507	1300
5:30-5:45	24%	342	295	0	0	0.00	0	1501	1295
5:45-6:00	21%	292	252	0	0	0.00	0	1424	1229
6:00-6:15	28%	342	295	0	0	0.00	0	1390	1199
6:15-6:30	26%	311	268	0	0	0.00	0	1287	1110
6:30-6:45	25%	307	265	0	0	0.00	0	1252	1080
6:45-7:00	20%	246	212	0	0	0.00	0	1206	1041

Total Delay (veh-hr)	19
Total Vehicles Delayed (veh)	1,049
Average Delay (hr)	0.02
Average Delay (min)	1.09

Maximum Queue (veh)	36
Maximum Queue (ft)	534

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements
Ramp: Twelve Bridges Dr to Southbound SR 65
Scenario: Design Year Conditions

Configuration: 1 metered + 1 HOV
Peak Hour Volume: 1,070
Peak Period Volume: 3,470

HOV Bypass (%)	17%
Metered Volume (veh/hr)	888
Metering Rate (veh/hr)	900
Discharge Rate (veh/15 min)	225

Storage Length (ft)	590
Storage Lanes	1
Maximum Storage (veh)	20

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	22%	112	93	0	0	0.00	0		
6:15-6:30	22%	110	91	0	0	0.00	0		
6:30-6:45	28%	143	119	0	0	0.00	0		
6:45-7:00	29%	148	123	0	0	0.00	0	513	426
7:00-7:15	17%	172	143	0	0	0.00	0	573	475
7:15-7:30	24%	247	205	0	0	0.00	0	710	589
7:30-7:45	30%	309	256	31	31	7.83	256	876	727
7:45-8:00	30%	315	261	36	68	16.90	261	1043	865
8:00-8:15	32%	348	289	64	131	32.81	289	1219	1011
8:15-8:30	23%	256	212	0	119	29.65	212	1228	1019
8:30-8:45	24%	258	214	0	108	26.90	214	1177	976
8:45-9:00	21%	231	192	0	74	18.55	192	1093	907
9:00-9:15	26%	278	231	6	80	19.95	231	1023	849
9:15-9:30	21%	225	187	0	41	10.36	187	992	823
9:30-9:45	26%	274	227	2	44	10.93	227	1008	836
9:45-10:00	26%	272	226	1	44	11.09	226	1049	870

Total Delay (veh-hr)	185
Total Vehicles Delayed (veh)	2,294
Average Delay (hr)	0.08
Average Delay (min)	4.84

Maximum Queue (veh)	**131**
Maximum Queue (ft)	3,938

Location: SR 65 Capacity & Operational Improvements
Ramp: Twelve Bridges Dr to Southbound SR 65
Scenario: Design Year Conditions

Configuration: 1 metered + 1 HOV
Peak Hour Volume: 940
Peak Period Volume: 3,440

HOV Bypass (%)	10%
Metered Volume (veh/hr)	844
Metering Rate (veh/hr)	900
Discharge Rate (veh/15 min)	225

Storage Length (ft)	590
Storage Lanes	1
Maximum Storage (veh)	20

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	28%	285	256	31	31	7.75	256		
3:15-3:30	27%	270	243	18	49	12.14	243		
3:30-3:45	23%	234	210	0	34	8.44	210		
3:45-4:00	23%	230	207	0	15	3.84	207	1019	915
4:00-4:15	29%	247	222	0	12	3.06	222	981	881
4:15-4:30	25%	213	191	0	0	0.00	0	924	830
4:30-4:45	23%	195	175	0	0	0.00	0	885	795
4:45-5:00	22%	189	170	0	0	0.00	0	844	758
5:00-5:15	33%	340	305	80	80	20.10	305	937	842
5:15-5:30	29%	303	272	47	128	31.90	272	1027	923
5:30-5:45	23%	235	211	0	114	28.42	211	1067	958
5:45-6:00	15%	158	142	0	31	7.66	142	1036	931
6:00-6:15	28%	123	110	0	0	0.00	0	819	736
6:15-6:30	26%	112	101	0	0	0.00	0	628	564
6:30-6:45	25%	110	99	0	0	0.00	0	503	452
6:45-7:00	20%	88	79	0	0	0.00	0	433	389

Total Delay (veh-hr)	123
Total Vehicles Delayed (veh)	2,068
Average Delay (hr)	0.06
Average Delay (min)	3.58

Maximum Queue (veh)	**128**
Maximum Queue (ft)	3,828

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements
Ramp: Twelve Bridges Dr to Southbound SR 65
Scenario: Design Year Conditions

Configuration: 2 metered
Peak Hour Volume: 1,070
Peak Period Volume: 3,470

HOV Bypass (%)	0%
Metered Volume (veh/hr)	1,070
Metering Rate (veh/hr)	1,225
Discharge Rate (veh/15 min)	306

Storage Length (ft)	850
Storage Lanes	2
Maximum Storage (veh)	57

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	22%	112	112	0	0	0.00	0		
6:15-6:30	22%	110	110	0	0	0.00	0		
6:30-6:45	28%	143	143	0	0	0.00	0		
6:45-7:00	29%	148	148	0	0	0.00	0	513	513
7:00-7:15	17%	172	172	0	0	0.00	0	573	573
7:15-7:30	24%	247	247	0	0	0.00	0	710	710
7:30-7:45	30%	309	309	3	3	0.69	309	876	876
7:45-8:00	30%	315	315	9	12	2.88	315	1043	1043
8:00-8:15	32%	348	348	42	53	13.31	348	1219	1219
8:15-8:30	23%	256	256	0	3	0.75	256	1228	1228
8:30-8:45	24%	258	258	0	0	0.00	0	1177	1177
8:45-9:00	21%	231	231	0	0	0.00	0	1093	1093
9:00-9:15	26%	278	278	0	0	0.00	0	1023	1023
9:15-9:30	21%	225	225	0	0	0.00	0	992	992
9:30-9:45	26%	274	274	0	0	0.00	0	1008	1008
9:45-10:00	26%	272	272	0	0	0.00	0	1049	1049

Total Delay (veh-hr)	18
Total Vehicles Delayed (veh)	1,228
Average Delay (hr)	0.01
Average Delay (min)	0.86

Maximum Queue (veh)	53
Maximum Queue (ft)	799

Location: SR 65 Capacity & Operational Improvements
Ramp: Twelve Bridges Dr to Southbound SR 65
Scenario: Design Year Conditions

Configuration: 2 metered
Peak Hour Volume: 940
Peak Period Volume: 3,440

HOV Bypass (%)	0%
Metered Volume (veh/hr)	940
Metering Rate (veh/hr)	1,175
Discharge Rate (veh/15 min)	294

Storage Length (ft)	850
Storage Lanes	2
Maximum Storage (veh)	57

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	28%	285	285	0	0	0.00	0		
3:15-3:30	27%	270	270	0	0	0.00	0		
3:30-3:45	23%	234	234	0	0	0.00	0		
3:45-4:00	23%	230	230	0	0	0.00	0	1019	1019
4:00-4:15	29%	247	247	0	0	0.00	0	981	981
4:15-4:30	25%	213	213	0	0	0.00	0	924	924
4:30-4:45	23%	195	195	0	0	0.00	0	885	885
4:45-5:00	22%	189	189	0	0	0.00	0	844	844
5:00-5:15	33%	340	340	46	46	11.56	340	937	937
5:15-5:30	29%	303	303	9	56	13.88	303	1027	1027
5:30-5:45	23%	235	235	0	0	0.00	0	1067	1067
5:45-6:00	15%	158	158	0	0	0.00	0	1036	1036
6:00-6:15	28%	123	123	0	0	0.00	0	819	819
6:15-6:30	26%	112	112	0	0	0.00	0	628	628
6:30-6:45	25%	110	110	0	0	0.00	0	503	503
6:45-7:00	20%	88	88	0	0	0.00	0	433	433

Total Delay (veh-hr)	25
Total Vehicles Delayed (veh)	643
Average Delay (hr)	0.04
Average Delay (min)	2.37

Maximum Queue (veh)	56
Maximum Queue (ft)	833

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements
Ramp: Westbound Placer Pkwy to SB SR 65
Scenario: Design Year Conditions

Configuration: 1 metered + 1 HOV
Peak Hour Volume: 370
Peak Period Volume: 1,110

HOV Bypass (%)	30%
Metered Volume (veh/hr)	257
Metering Rate (veh/hr)	360
Discharge Rate (veh/15 min)	90

Storage Length (ft)	640
Storage Lanes	1
Maximum Storage (veh)	21

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	18%	57	40	0	0	0.00	0		
6:15-6:30	24%	79	55	0	0	0.00	0		
6:30-6:45	28%	91	63	0	0	0.00	0		
6:45-7:00	30%	97	67	0	0	0.00	0	324	225
7:00-7:15	22%	70	49	0	0	0.00	0	337	234
7:15-7:30	26%	84	58	0	0	0.00	0	342	238
7:30-7:45	22%	70	49	0	0	0.00	0	321	223
7:45-8:00	30%	94	65	0	0	0.00	0	318	221
8:00-8:15	23%	99	69	0	0	0.00	0	347	241
8:15-8:30	33%	144	100	10	10	2.55	100	407	283
8:30-8:45	20%	88	61	0	0	0.00	0	425	296
8:45-9:00	23%	101	70	0	0	0.00	0	432	301
9:00-9:15	27%	150	104	14	14	3.59	104	483	336
9:15-9:30	24%	130	90	0	15	3.71	90	469	326
9:30-9:45	19%	106	74	0	0	0.00	0	487	339
9:45-10:00	29%	159	111	21	21	5.16	111	545	379

Total Delay (veh-hr)	15
Total Vehicles Delayed (veh)	406
Average Delay (hr)	0.04
Average Delay (min)	2.22

Maximum Queue (veh)	21
Maximum Queue (ft)	619

Location: SR 65 Capacity & Operational Improvements
Ramp: Westbound Placer Pkwy to SB SR 65
Scenario: Design Year Conditions

Configuration: 1 metered + 1 HOV
Peak Hour Volume: 390
Peak Period Volume: 1,210

HOV Bypass (%)	28%
Metered Volume (veh/hr)	280
Metering Rate (veh/hr)	340
Discharge Rate (veh/15 min)	85

Storage Length (ft)	640
Storage Lanes	1
Maximum Storage (veh)	21

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	24%	109	78	0	0	0.00	0		
3:15-3:30	23%	100	72	0	0	0.00	0		
3:30-3:45	32%	144	103	18	18	4.56	103		
3:45-4:00	21%	93	67	0	0	0.00	0	446	320
4:00-4:15	23%	108	77	0	0	0.00	0	445	319
4:15-4:30	21%	96	69	0	0	0.00	0	441	316
4:30-4:45	32%	147	105	20	20	5.10	105	444	318
4:45-5:00	24%	110	79	0	14	3.57	79	461	331
5:00-5:15	34%	110	79	0	8	2.03	79	463	332
5:15-5:30	24%	76	54	0	0	0.00	0	443	318
5:30-5:45	25%	81	58	0	0	0.00	0	377	270
5:45-6:00	17%	54	39	0	0	0.00	0	321	230
6:00-6:15	31%	96	69	0	0	0.00	0	307	220
6:15-6:30	24%	74	53	0	0	0.00	0	305	219
6:30-6:45	27%	85	61	0	0	0.00	0	309	222
6:45-7:00	18%	57	41	0	0	0.00	0	312	224

Total Delay (veh-hr)	15
Total Vehicles Delayed (veh)	366
Average Delay (hr)	0.04
Average Delay (min)	2.50

Maximum Queue (veh)	20
Maximum Queue (ft)	612

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: Eastbound Placer Pkwy to SB SR 65 — **Peak Hour Volume: 570**
Scenario: Design Year Conditions — **Peak Period Volume: 1,980**

HOV Bypass (%)	17%
Metered Volume (veh/hr)	472
Metering Rate (veh/hr)	650
Discharge Rate (veh/15 min)	163

Storage Length (ft)	920
Storage Lanes	1
Maximum Storage (veh)	31

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	26%	53	44	0	0	0.00	0		
6:15-6:30	19%	38	31	0	0	0.00	0		
6:30-6:45	26%	51	42	0	0	0.00	0		
6:45-7:00	29%	59	49	0	0	0.00	0	201	167
7:00-7:15	19%	140	116	0	0	0.00	0	288	239
7:15-7:30	25%	181	150	0	0	0.00	0	431	357
7:30-7:45	24%	174	144	0	0	0.00	0	554	459
7:45-8:00	32%	232	192	30	30	7.45	192	727	603
8:00-8:15	23%	91	75	0	0	0.00	0	678	562
8:15-8:30	27%	108	90	0	0	0.00	0	605	501
8:30-8:45	27%	108	90	0	0	0.00	0	539	447
8:45-9:00	24%	97	80	0	0	0.00	0	404	335
9:00-9:15	26%	115	95	0	0	0.00	0	428	355
9:15-9:30	25%	112	93	0	0	0.00	0	432	358
9:30-9:45	25%	113	94	0	0	0.00	0	437	362
9:45-10:00	24%	106	88	0	0	0.00	0	446	370

Total Delay (veh-hr)	7
Total Vehicles Delayed (veh)	192
Average Delay (hr)	0.04
Average Delay (min)	2.32

Maximum Queue (veh)	30
Maximum Queue (ft)	893

Location: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: Eastbound Placer Pkwy to SB SR 65 — **Peak Hour Volume: 750**
Scenario: Design Year Conditions — **Peak Period Volume: 2,820**

HOV Bypass (%)	23%
Metered Volume (veh/hr)	577
Metering Rate (veh/hr)	650
Discharge Rate (veh/15 min)	163

Storage Length (ft)	920
Storage Lanes	1
Maximum Storage (veh)	31

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	26%	225	173	11	11	2.67	173		
3:15-3:30	24%	204	157	0	5	1.30	157		
3:30-3:45	28%	241	185	23	28	7.05	185		
3:45-4:00	23%	195	150	0	16	3.95	150	865	666
4:00-4:15	28%	190	146	0	0	0.00	0	830	639
4:15-4:30	26%	175	135	0	0	0.00	0	801	617
4:30-4:45	28%	190	146	0	0	0.00	0	750	577
4:45-5:00	18%	125	96	0	0	0.00	0	680	523
5:00-5:15	27%	217	167	5	5	1.13	167	707	544
5:15-5:30	29%	235	181	18	23	5.73	181	767	590
5:30-5:45	25%	201	155	0	15	3.78	155	778	599
5:45-6:00	20%	162	125	0	0	0.00	0	815	627
6:00-6:15	24%	142	109	0	0	0.00	0	740	570
6:15-6:30	29%	169	130	0	0	0.00	0	674	519
6:30-6:45	26%	151	116	0	0	0.00	0	624	480
6:45-7:00	20%	119	92	0	0	0.00	0	581	447

Total Delay (veh-hr)	26
Total Vehicles Delayed (veh)	1,168
Average Delay (hr)	0.02
Average Delay (min)	1.31

Maximum Queue (veh)	28
Maximum Queue (ft)	846

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: Westbound Sunset Blvd to SB SR 65 — **Peak Hour Volume: 680**
Scenario: Design Year Conditions — **Peak Period Volume: 2,030**

HOV Bypass (%)	6%
Metered Volume (veh/hr)	641
Metering Rate (veh/hr)	740
Discharge Rate (veh/15 min)	185

Storage Length (ft)	595
Storage Lanes	1
Maximum Storage (veh)	20

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	18%	61	57	0	0	0.00	0		
6:15-6:30	24%	85	80	0	0	0.00	0		
6:30-6:45	28%	98	92	0	0	0.00	0		
6:45-7:00	30%	105	99	0	0	0.00	0	349	329
7:00-7:15	22%	162	153	0	0	0.00	0	450	424
7:15-7:30	26%	194	183	0	0	0.00	0	559	527
7:30-7:45	22%	162	153	0	0	0.00	0	623	587
7:45-8:00	30%	217	204	19	19	4.87	204	735	693
8:00-8:15	23%	143	135	0	0	0.00	0	716	675
8:15-8:30	33%	209	197	12	12	2.99	197	731	689
8:30-8:45	20%	127	120	0	0	0.00	0	696	656
8:45-9:00	23%	147	139	0	0	0.00	0	626	590
9:00-9:15	27%	120	113	0	0	0.00	0	603	568
9:15-9:30	24%	104	98	0	0	0.00	0	498	469
9:30-9:45	19%	85	80	0	0	0.00	0	456	430
9:45-10:00	29%	127	120	0	0	0.00	0	436	411

Total Delay (veh-hr)	8
Total Vehicles Delayed (veh)	401
Average Delay (hr)	0.02
Average Delay (min)	1.17

Maximum Queue (veh)	19
Maximum Queue (ft)	585

Location: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: Westbound Sunset Blvd to SB SR 65 — **Peak Hour Volume: 960**
Scenario: Design Year Conditions — **Peak Period Volume: 2,970**

HOV Bypass (%)	11%
Metered Volume (veh/hr)	850
Metering Rate (veh/hr)	900
Discharge Rate (veh/15 min)	225

Storage Length (ft)	595
Storage Lanes	1
Maximum Storage (veh)	20

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	24%	218	193	0	0	0.00	0		
3:15-3:30	23%	201	178	0	0	0.00	0		
3:30-3:45	32%	286	253	28	28	7.03	253		
3:45-4:00	21%	185	164	0	0	0.00	0	890	788
4:00-4:15	23%	205	181	0	0	0.00	0	877	776
4:15-4:30	21%	183	162	0	0	0.00	0	859	760
4:30-4:45	32%	280	248	23	23	5.70	248	853	755
4:45-5:00	24%	209	185	0	0	0.00	0	877	776
5:00-5:15	34%	356	315	90	90	22.52	315	1028	910
5:15-5:30	24%	246	218	0	83	20.70	218	1091	966
5:30-5:45	25%	260	230	5	88	21.97	230	1071	948
5:45-6:00	17%	173	153	0	16	4.00	153	1035	916
6:00-6:15	31%	219	194	0	0	0.00	0	898	795
6:15-6:30	24%	169	150	0	0	0.00	0	821	727
6:30-6:45	27%	194	172	0	0	0.00	0	755	668
6:45-7:00	18%	130	115	0	0	0.00	0	712	630

Total Delay (veh-hr)	82
Total Vehicles Delayed (veh)	1,417
Average Delay (hr)	0.06
Average Delay (min)	3.47

Maximum Queue (veh)	**90**
Maximum Queue (ft)	2,702

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements
Ramp: Westbound Sunset Blvd to SB SR 65
Scenario: Design Year Conditions

Configuration: 2 metered
Peak Hour Volume: 680
Peak Period Volume: 2,030

HOV Bypass (%)	0%
Metered Volume (veh/hr)	680
Metering Rate (veh/hr)	715
Discharge Rate (veh/15 min)	179

Storage Length (ft)	595
Storage Lanes	2
Maximum Storage (veh)	40

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	18%	61	61	0	0	0.00	0		
6:15-6:30	24%	85	85	0	0	0.00	0		
6:30-6:45	28%	98	98	0	0	0.00	0		
6:45-7:00	30%	105	105	0	0	0.00	0	349	349
7:00-7:15	22%	162	162	0	0	0.00	0	450	450
7:15-7:30	26%	194	194	15	15	3.81	194	559	559
7:30-7:45	22%	162	162	0	0	0.00	0	623	623
7:45-8:00	30%	217	217	38	38	9.56	217	735	735
8:00-8:15	23%	143	143	0	3	0.63	143	716	716
8:15-8:30	33%	209	209	30	33	8.19	209	731	731
8:30-8:45	20%	127	127	0	0	0.00	0	696	696
8:45-9:00	23%	147	147	0	0	0.00	0	626	626
9:00-9:15	27%	120	120	0	0	0.00	0	603	603
9:15-9:30	24%	104	104	0	0	0.00	0	498	498
9:30-9:45	19%	85	85	0	0	0.00	0	456	456
9:45-10:00	29%	127	127	0	0	0.00	0	436	436

Total Delay (veh-hr)	22
Total Vehicles Delayed (veh)	763
Average Delay (hr)	0.03
Average Delay (min)	1.74

Maximum Queue (veh)	38
Maximum Queue (ft)	574

Location: SR 65 Capacity & Operational Improvements
Ramp: Westbound Sunset Blvd to SB SR 65
Scenario: Design Year Conditions

Configuration: 2 metered
Peak Hour Volume: 960
Peak Period Volume: 2,970

HOV Bypass (%)	0%
Metered Volume (veh/hr)	960
Metering Rate (veh/hr)	1,270
Discharge Rate (veh/15 min)	318

Storage Length (ft)	595
Storage Lanes	2
Maximum Storage (veh)	40

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	24%	218	218	0	0	0.00	0		
3:15-3:30	23%	201	201	0	0	0.00	0		
3:30-3:45	32%	286	286	0	0	0.00	0		
3:45-4:00	21%	185	185	0	0	0.00	0	890	890
4:00-4:15	23%	205	205	0	0	0.00	0	877	877
4:15-4:30	21%	183	183	0	0	0.00	0	859	859
4:30-4:45	32%	280	280	0	0	0.00	0	853	853
4:45-5:00	24%	209	209	0	0	0.00	0	877	877
5:00-5:15	34%	356	356	39	39	9.63	356	1028	1028
5:15-5:30	24%	246	246	0	0	0.00	0	1091	1091
5:30-5:45	25%	260	260	0	0	0.00	0	1071	1071
5:45-6:00	17%	173	173	0	0	0.00	0	1035	1035
6:00-6:15	31%	219	219	0	0	0.00	0	898	898
6:15-6:30	24%	169	169	0	0	0.00	0	821	821
6:30-6:45	27%	194	194	0	0	0.00	0	755	755
6:45-7:00	18%	130	130	0	0	0.00	0	712	712

Total Delay (veh-hr)	10
Total Vehicles Delayed (veh)	356
Average Delay (hr)	0.03
Average Delay (min)	1.62

Maximum Queue (veh)	39
Maximum Queue (ft)	578

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements — **Configuration: 2 metered + 1 HOV**
Ramp: Eastbound Sunset Blvd to SB SR 65 — **Peak Hour Volume: 550**
Scenario: Design Year Conditions — **Peak Period Volume: 1,910**

HOV Bypass (%)	14%
Metered Volume (veh/hr)	474
Metering Rate (veh/hr)	500
Discharge Rate (veh/15 min)	125

Storage Length (ft)	560
Storage Lanes	2
Maximum Storage (veh)	37

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	26%	112	96	0	0	0.00	0		
6:15-6:30	19%	81	70	0	0	0.00	0		
6:30-6:45	26%	109	94	0	0	0.00	0		
6:45-7:00	29%	125	108	0	0	0.00	0	427	368
7:00-7:15	19%	96	83	0	0	0.00	0	411	354
7:15-7:30	25%	124	107	0	0	0.00	0	454	391
7:30-7:45	24%	119	102	0	0	0.00	0	464	399
7:45-8:00	32%	159	137	12	12	2.97	137	498	429
8:00-8:15	23%	134	115	0	2	0.56	115	536	461
8:15-8:30	27%	160	138	13	15	3.75	138	572	492
8:30-8:45	27%	160	138	13	28	6.94	138	613	528
8:45-9:00	24%	143	123	0	26	6.47	123	597	514
9:00-9:15	26%	151	130	5	31	7.72	130	614	529
9:15-9:30	25%	147	127	2	32	8.11	127	601	517
9:30-9:45	25%	149	128	3	36	8.93	128	590	508
9:45-10:00	24%	140	121	0	31	7.81	121	587	505

Total Delay (veh-hr)	53
Total Vehicles Delayed (veh)	1,156
Average Delay (hr)	0.05
Average Delay (min)	2.76

Maximum Queue (veh)	36
Maximum Queue (ft)	536

Location: SR 65 Capacity & Operational Improvements — **Configuration: 2 metered + 1 HOV**
Ramp: Eastbound Sunset Blvd to SB SR 65 — **Peak Hour Volume: 750**
Scenario: Design Year Conditions — **Peak Period Volume: 2,820**

HOV Bypass (%)	23%
Metered Volume (veh/hr)	577
Metering Rate (veh/hr)	640
Discharge Rate (veh/15 min)	160

Storage Length (ft)	560
Storage Lanes	2
Maximum Storage (veh)	37

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	26%	225	173	13	13	3.30	173		
3:15-3:30	24%	204	157	0	10	2.55	157		
3:30-3:45	28%	241	185	25	36	8.93	185		
3:45-4:00	23%	195	150	0	26	6.45	150	865	666
4:00-4:15	28%	190	146	0	12	3.01	146	830	639
4:15-4:30	26%	175	135	0	0	0.00	0	801	617
4:30-4:45	28%	190	146	0	0	0.00	0	750	577
4:45-5:00	18%	125	96	0	0	0.00	0	680	523
5:00-5:15	27%	217	167	7	7	1.76	167	707	544
5:15-5:30	29%	235	181	21	28	6.98	181	767	590
5:30-5:45	25%	201	155	0	23	5.65	155	778	599
5:45-6:00	20%	162	125	0	0	0.00	0	815	627
6:00-6:15	24%	142	109	0	0	0.00	0	740	570
6:15-6:30	29%	169	130	0	0	0.00	0	674	519
6:30-6:45	26%	151	116	0	0	0.00	0	624	480
6:45-7:00	20%	119	92	0	0	0.00	0	581	447

Total Delay (veh-hr)	39
Total Vehicles Delayed (veh)	1,315
Average Delay (hr)	0.03
Average Delay (min)	1.76

Maximum Queue (veh)	36
Maximum Queue (ft)	536

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: Westbound Blue Oaks Blvd to SB SR 65 — **Peak Hour Volume: 530**
Scenario: Design Year Conditions — **Peak Period Volume: 1,790**

HOV Bypass (%)	9%
Metered Volume (veh/hr)	481
Metering Rate (veh/hr)	510
Discharge Rate (veh/15 min)	128

Storage Length (ft)	1,140
Storage Lanes	1
Maximum Storage (veh)	38

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	20%	98	89	0	0	0.00	0		
6:15-6:30	21%	102	93	0	0	0.00	0		
6:30-6:45	29%	145	132	4	4	1.02	132		
6:45-7:00	30%	149	135	8	12	2.96	135	494	448
7:00-7:15	28%	138	125	0	10	2.39	125	534	485
7:15-7:30	27%	134	122	0	4	0.92	122	566	514
7:30-7:45	26%	128	116	0	0	0.00	0	549	498
7:45-8:00	19%	94	85	0	0	0.00	0	494	448
8:00-8:15	29%	162	147	20	20	4.88	147	518	470
8:15-8:30	28%	159	144	17	36	9.08	144	543	493
8:30-8:45	24%	138	125	0	34	8.52	125	553	502
8:45-9:00	19%	109	99	0	5	1.37	99	568	515
9:00-9:15	26%	77	70	0	0	0.00	0	483	438
9:15-9:30	28%	83	75	0	0	0.00	0	407	369
9:30-9:45	22%	63	57	0	0	0.00	0	332	301
9:45-10:00	24%	69	63	0	0	0.00	0	292	265

Total Delay (veh-hr)	31
Total Vehicles Delayed (veh)	1,029
Average Delay (hr)	0.03
Average Delay (min)	1.82

Maximum Queue (veh)	36
Maximum Queue (ft)	1,090

Location: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: Westbound Blue Oaks Blvd to SB SR 65 — **Peak Hour Volume: 370**
Scenario: Design Year Conditions — **Peak Period Volume: 1,330**

HOV Bypass (%)	2%
Metered Volume (veh/hr)	362
Metering Rate (veh/hr)	370
Discharge Rate (veh/15 min)	93

Storage Length (ft)	1,140
Storage Lanes	1
Maximum Storage (veh)	38

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	26%	92	90	0	0	0.00	0		
3:15-3:30	26%	92	90	0	0	0.00	0		
3:30-3:45	28%	101	99	6	6	1.59	99		
3:45-4:00	21%	74	72	0	0	0.00	0	359	351
4:00-4:15	24%	78	76	0	0	0.00	0	345	338
4:15-4:30	25%	81	79	0	0	0.00	0	334	327
4:30-4:45	25%	82	80	0	0	0.00	0	315	308
4:45-5:00	27%	87	85	0	0	0.00	0	328	321
5:00-5:15	32%	131	128	36	36	8.93	128	381	373
5:15-5:30	23%	94	92	0	35	8.81	92	394	386
5:30-5:45	21%	87	85	0	28	6.98	85	399	391
5:45-6:00	25%	104	102	9	37	9.30	102	416	407
6:00-6:15	28%	119	116	24	61	15.30	116	404	395
6:15-6:30	23%	99	97	4	66	16.40	97	409	400
6:30-6:45	26%	111	109	16	82	20.44	109	433	424
6:45-7:00	22%	93	91	0	80	20.07	91	422	413

Total Delay (veh-hr)	36
Total Vehicles Delayed (veh)	506
Average Delay (hr)	0.07
Average Delay (min)	4.22

Maximum Queue (veh)	37
Maximum Queue (ft)	1,116

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: Eastbound Blue Oaks Blvd to SB SR 65 — **Peak Hour Volume: 1,340**
Scenario: Design Year Conditions — **Peak Period Volume: 4,810**

HOV Bypass (%)	15%
Metered Volume (veh/hr)	1,137
Metering Rate (veh/hr)	900
Discharge Rate (veh/15 min)	225

Storage Length (ft)	800
Storage Lanes	1
Maximum Storage (veh)	27

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	19%	151	128	0	0	0.00	0		
6:15-6:30	23%	183	155	0	0	0.00	0		
6:30-6:45	30%	242	205	0	0	0.00	0		
6:45-7:00	28%	219	186	0	0	0.00	0	795	674
7:00-7:15	23%	327	277	52	52	13.09	277	971	824
7:15-7:30	27%	385	327	102	154	38.49	327	1173	995
7:30-7:45	25%	368	312	87	241	60.27	312	1299	1102
7:45-8:00	26%	371	315	90	331	82.70	315	1451	1231
8:00-8:15	22%	272	231	6	337	84.13	231	1396	1184
8:15-8:30	26%	321	272	47	384	95.95	272	1332	1130
8:30-8:45	23%	278	236	11	395	98.65	236	1242	1054
8:45-9:00	29%	362	307	82	477	119.17	307	1233	1046
9:00-9:15	30%	326	277	52	528	132.05	277	1287	1092
9:15-9:30	23%	251	213	0	516	129.02	213	1217	1032
9:30-9:45	23%	253	215	0	506	126.42	215	1192	1011
9:45-10:00	25%	272	231	6	511	127.85	231	1102	935

Total Delay (veh-hr)	1,108
Total Vehicles Delayed (veh)	3,211
Average Delay (hr)	0.34
Average Delay (min)	20.70

Maximum Queue (veh)	**528**
Maximum Queue (ft)	15,846

Location: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: Eastbound Blue Oaks Blvd to SB SR 65 — **Peak Hour Volume: 1,420**
Scenario: Design Year Conditions — **Peak Period Volume: 5,050**

HOV Bypass (%)	13%
Metered Volume (veh/hr)	1,238
Metering Rate (veh/hr)	900
Discharge Rate (veh/15 min)	225

Storage Length (ft)	800
Storage Lanes	1
Maximum Storage (veh)	27

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	23%	353	308	83	83	20.67	308		
3:15-3:30	24%	368	321	96	178	44.60	321		
3:30-3:45	27%	412	359	134	312	78.12	359		
3:45-4:00	25%	372	324	99	412	102.92	324	1505	1312
4:00-4:15	26%	366	319	94	506	126.42	319	1518	1323
4:15-4:30	25%	346	302	77	582	145.56	302	1496	1304
4:30-4:45	26%	368	321	96	678	169.49	321	1452	1266
4:45-5:00	23%	319	278	53	731	182.75	278	1399	1219
5:00-5:15	29%	421	367	142	873	218.23	367	1454	1267
5:15-5:30	24%	342	298	73	946	236.50	298	1450	1264
5:30-5:45	25%	367	320	95	1041	260.22	320	1449	1263
5:45-6:00	22%	317	276	51	1092	273.04	276	1447	1261
6:00-6:15	26%	366	319	94	1186	296.54	319	1392	1213
6:15-6:30	32%	439	383	158	1344	335.94	383	1489	1298
6:30-6:45	24%	328	286	61	1405	351.16	286	1450	1264
6:45-7:00	19%	257	224	0	1404	350.90	224	1390	1211

Total Delay (veh-hr)	1,859
Total Vehicles Delayed (veh)	3,792
Average Delay (hr)	0.49
Average Delay (min)	29.41

Maximum Queue (veh)	**1092**
Maximum Queue (ft)	32,765

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements — **Configuration: 2 metered + 1 HOV**
Ramp: Eastbound Blue Oaks Blvd to SB SR 65 — **Peak Hour Volume: 1,340**
Scenario: Design Year Conditions — **Peak Period Volume: 4,810**

HOV Bypass (%)	15%
Metered Volume (veh/hr)	1,137
Metering Rate (veh/hr)	1,205
Discharge Rate (veh/15 min)	301

Storage Length (ft)	800
Storage Lanes	2
Maximum Storage (veh)	53

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	19%	151	128	0	0	0.00	0		
6:15-6:30	23%	183	155	0	0	0.00	0		
6:30-6:45	30%	242	205	0	0	0.00	0		
6:45-7:00	28%	219	186	0	0	0.00	0	795	674
7:00-7:15	23%	327	277	0	0	0.00	0	971	824
7:15-7:30	27%	385	327	25	25	6.33	327	1173	995
7:30-7:45	25%	368	312	11	36	9.06	312	1299	1102
7:45-8:00	26%	371	315	13	50	12.42	315	1451	1231
8:00-8:15	22%	272	231	0	0	0.00	0	1396	1184
8:15-8:30	26%	321	272	0	0	0.00	0	1332	1130
8:30-8:45	23%	278	236	0	0	0.00	0	1242	1054
8:45-9:00	29%	362	307	6	6	1.45	307	1233	1046
9:00-9:15	30%	326	277	0	0	0.00	0	1287	1092
9:15-9:30	23%	251	213	0	0	0.00	0	1217	1032
9:30-9:45	23%	253	215	0	0	0.00	0	1192	1011
9:45-10:00	25%	272	231	0	0	0.00	0	1102	935

Total Delay (veh-hr)	29
Total Vehicles Delayed (veh)	1,260
Average Delay (hr)	0.02
Average Delay (min)	1.39

Maximum Queue (veh)	50
Maximum Queue (ft)	745

Location: SR 65 Capacity & Operational Improvements — **Configuration: 2 metered + 1 HOV**
Ramp: Eastbound Blue Oaks Blvd to SB SR 65 — **Peak Hour Volume: 1,420**
Scenario: Design Year Conditions — **Peak Period Volume: 5,050**

HOV Bypass (%)	13%
Metered Volume (veh/hr)	1,238
Metering Rate (veh/hr)	1,270
Discharge Rate (veh/15 min)	318

Storage Length (ft)	800
Storage Lanes	2
Maximum Storage (veh)	53

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	23%	353	308	0	0	0.00	0		
3:15-3:30	24%	368	321	3	3	0.81	321		
3:30-3:45	27%	412	359	42	45	11.20	359		
3:45-4:00	25%	372	324	7	52	12.88	324	1505	1312
4:00-4:15	26%	366	319	1	53	13.26	319	1518	1323
4:15-4:30	25%	346	302	0	37	9.27	302	1496	1304
4:30-4:45	26%	368	321	3	40	10.08	321	1452	1266
4:45-5:00	23%	319	278	0	1	0.21	278	1399	1219
5:00-5:15	29%	421	367	49	50	12.57	367	1454	1267
5:15-5:30	24%	342	298	0	31	7.71	298	1450	1264
5:30-5:45	25%	367	320	2	33	8.30	320	1449	1263
5:45-6:00	22%	317	276	0	0	0.00	0	1447	1261
6:00-6:15	26%	366	319	1	1	0.37	319	1392	1213
6:15-6:30	32%	439	383	65	67	16.65	383	1489	1298
6:30-6:45	24%	328	286	0	35	8.74	286	1450	1264
6:45-7:00	19%	257	224	0	0	0.00	0	1390	1211

Total Delay (veh-hr)	86
Total Vehicles Delayed (veh)	3,208
Average Delay (hr)	0.03
Average Delay (min)	1.61

Maximum Queue (veh)	53
Maximum Queue (ft)	795

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: WB Pleasant Grove Blvd to SB SR 65 — **Peak Hour Volume: 740**
Scenario: Design Year Conditions — **Peak Period Volume: 2,940**

HOV Bypass (%)	28%
Metered Volume (veh/hr)	534
Metering Rate (veh/hr)	565
Discharge Rate (veh/15 min)	141

Storage Length (ft)	650
Storage Lanes	1
Maximum Storage (veh)	22

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	19%	115	83	0	0	0.00	0		
6:15-6:30	23%	137	99	0	0	0.00	0		
6:30-6:45	25%	147	106	0	0	0.00	0		
6:45-7:00	33%	195	141	0	0	0.00	0	594	428
7:00-7:15	25%	202	146	4	4	1.10	146	681	491
7:15-7:30	26%	205	148	7	11	2.73	148	749	540
7:30-7:45	26%	205	148	7	17	4.37	148	807	582
7:45-8:00	23%	183	132	0	8	2.04	132	795	573
8:00-8:15	23%	155	112	0	0	0.00	0	748	539
8:15-8:30	26%	180	130	0	0	0.00	0	723	521
8:30-8:45	23%	157	113	0	0	0.00	0	675	487
8:45-9:00	28%	193	139	0	0	0.00	0	685	494
9:00-9:15	29%	152	110	0	0	0.00	0	682	492
9:15-9:30	29%	156	112	0	0	0.00	0	658	474
9:30-9:45	21%	112	81	0	0	0.00	0	613	442
9:45-10:00	21%	113	81	0	0	0.00	0	533	384

Total Delay (veh-hr)	10
Total Vehicles Delayed (veh)	573
Average Delay (hr)	0.02
Average Delay (min)	1.07

Maximum Queue (veh)	17
Maximum Queue (ft)	524

Location: SR 65 Capacity & Operational Improvements — **Configuration: 1 metered + 1 HOV**
Ramp: WB Pleasant Grove Blvd to SB SR 65 — **Peak Hour Volume: 640**
Scenario: Design Year Conditions — **Peak Period Volume: 2,630**

HOV Bypass (%)	27%
Metered Volume (veh/hr)	464
Metering Rate (veh/hr)	490
Discharge Rate (veh/15 min)	123

Storage Length (ft)	650
Storage Lanes	1
Maximum Storage (veh)	22

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	25%	165	120	0	0	0.00	0		
3:15-3:30	29%	191	139	16	16	4.02	139		
3:30-3:45	20%	132	96	0	0	0.00	0		
3:45-4:00	25%	165	120	0	0	0.00	0	653	474
4:00-4:15	25%	172	125	2	2	0.57	125	660	479
4:15-4:30	23%	163	118	0	0	0.00	0	632	459
4:30-4:45	24%	167	121	0	0	0.00	0	667	484
4:45-5:00	28%	198	144	21	21	5.29	144	700	508
5:00-5:15	24%	142	103	0	2	0.42	103	670	486
5:15-5:30	25%	146	106	0	0	0.00	0	653	474
5:30-5:45	24%	138	100	0	0	0.00	0	624	453
5:45-6:00	27%	156	113	0	0	0.00	0	582	422
6:00-6:15	24%	135	98	0	0	0.00	0	575	417
6:15-6:30	26%	151	110	0	0	0.00	0	580	421
6:30-6:45	27%	153	111	0	0	0.00	0	595	432
6:45-7:00	24%	135	98	0	0	0.00	0	574	416

Total Delay (veh-hr)	10
Total Vehicles Delayed (veh)	510
Average Delay (hr)	0.02
Average Delay (min)	1.21

Maximum Queue (veh)	21
Maximum Queue (ft)	634

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements
Ramp: EB Pleasant Grove Blvd to SB SR 65
Scenario: Design Year Conditions

Configuration: 1 metered + 1 HOV
Peak Hour Volume: 810
Peak Period Volume: 2,790

HOV Bypass (%)	16%
Metered Volume (veh/hr)	677
Metering Rate (veh/hr)	700
Discharge Rate (veh/15 min)	175

Storage Length (ft)	900
Storage Lanes	1
Maximum Storage (veh)	30

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	18%	57	48	0	0	0.00	0		
6:15-6:30	23%	75	63	0	0	0.00	0		
6:30-6:45	31%	100	84	0	0	0.00	0		
6:45-7:00	29%	93	78	0	0	0.00	0	325	272
7:00-7:15	23%	192	161	0	0	0.00	0	460	385
7:15-7:30	28%	227	190	15	15	3.71	190	612	512
7:30-7:45	25%	206	172	0	12	3.03	172	718	600
7:45-8:00	24%	194	162	0	0	0.00	0	819	685
8:00-8:15	27%	211	176	1	1	0.37	176	838	701
8:15-8:30	24%	191	160	0	0	0.00	0	802	671
8:30-8:45	24%	194	162	0	0	0.00	0	790	661
8:45-9:00	25%	197	165	0	0	0.00	0	793	663
9:00-9:15	35%	244	204	29	29	7.27	204	826	691
9:15-9:30	24%	169	141	0	0	0.00	0	804	672
9:30-9:45	24%	164	137	0	0	0.00	0	774	647
9:45-10:00	17%	116	97	0	0	0.00	0	693	580

Total Delay (veh-hr)	14
Total Vehicles Delayed (veh)	743
Average Delay (hr)	0.02
Average Delay (min)	1.16

Maximum Queue (veh)	29
Maximum Queue (ft)	872

Location: SR 65 Capacity & Operational Improvements
Ramp: EB Pleasant Grove Blvd to SB SR 65
Scenario: Design Year Conditions

Configuration: 1 metered + 1 HOV
Peak Hour Volume: 1,190
Peak Period Volume: 4,620

HOV Bypass (%)	19%
Metered Volume (veh/hr)	960
Metering Rate (veh/hr)	900
Discharge Rate (veh/15 min)	225

Storage Length (ft)	900
Storage Lanes	1
Maximum Storage (veh)	30

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	25%	281	227	2	2	0.44	227		
3:15-3:30	25%	275	222	0	0	0.00	0		
3:30-3:45	23%	258	208	0	0	0.00	0		
3:45-4:00	26%	293	236	11	11	2.86	236	1107	893
4:00-4:15	24%	272	219	0	6	1.48	219	1098	886
4:15-4:30	30%	340	274	49	55	13.82	274	1163	938
4:30-4:45	23%	264	213	0	43	10.83	213	1169	943
4:45-5:00	23%	264	213	0	31	7.83	213	1140	920
5:00-5:15	28%	350	282	57	89	22.19	282	1218	983
5:15-5:30	27%	332	268	43	132	32.92	268	1210	976
5:30-5:45	22%	271	219	0	125	31.34	219	1217	982
5:45-6:00	24%	296	239	14	139	34.80	239	1249	1008
6:00-6:15	27%	231	186	0	101	25.15	186	1130	912
6:15-6:30	28%	238	192	0	68	16.91	192	1036	836
6:30-6:45	23%	194	157	0	0	0.00	0	959	774
6:45-7:00	22%	182	147	0	0	0.00	0	845	682

Total Delay (veh-hr)	159
Total Vehicles Delayed (veh)	2,391
Average Delay (hr)	0.07
Average Delay (min)	3.98

Maximum Queue (veh)	**139**
Maximum Queue (ft)	4,176

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements
Ramp: EB Pleasant Grove Blvd to SB SR 65
Scenario: Design Year Conditions

Configuration: 2 metered
Peak Hour Volume: 810
Peak Period Volume: 2,790

HOV Bypass (%)	0%
Metered Volume (veh/hr)	810
Metering Rate (veh/hr)	805
Discharge Rate (veh/15 min)	201

Storage Length (ft)	900
Storage Lanes	2
Maximum Storage (veh)	60

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	18%	57	57	0	0	0.00	0		
6:15-6:30	23%	75	75	0	0	0.00	0		
6:30-6:45	31%	100	100	0	0	0.00	0		
6:45-7:00	29%	93	93	0	0	0.00	0	325	325
7:00-7:15	23%	192	192	0	0	0.00	0	460	460
7:15-7:30	28%	227	227	26	26	6.44	227	612	612
7:30-7:45	25%	206	206	5	31	7.63	206	718	718
7:45-8:00	24%	194	194	0	23	5.81	194	819	819
8:00-8:15	27%	211	211	10	33	8.25	211	838	838
8:15-8:30	24%	191	191	0	23	5.69	191	802	802
8:30-8:45	24%	194	194	0	16	3.88	194	790	790
8:45-9:00	25%	197	197	0	11	2.81	197	793	793
9:00-9:15	35%	244	244	43	54	13.50	244	826	826
9:15-9:30	24%	169	169	0	22	5.44	169	804	804
9:30-9:45	24%	164	164	0	0	0.00	0	774	774
9:45-10:00	17%	116	116	0	0	0.00	0	693	693

Total Delay (veh-hr)	59
Total Vehicles Delayed (veh)	1,833
Average Delay (hr)	0.03
Average Delay (min)	1.95

Maximum Queue (veh)	54
Maximum Queue (ft)	810

Location: SR 65 Capacity & Operational Improvements
Ramp: EB Pleasant Grove Blvd to SB SR 65
Scenario: Design Year Conditions

Configuration: 2 metered
Peak Hour Volume: 1,190
Peak Period Volume: 4,620

HOV Bypass (%)	0%
Metered Volume (veh/hr)	1,190
Metering Rate (veh/hr)	1,245
Discharge Rate (veh/15 min)	311

Storage Length (ft)	900
Storage Lanes	2
Maximum Storage (veh)	60

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	25%	281	281	0	0	0.00	0		
3:15-3:30	25%	275	275	0	0	0.00	0		
3:30-3:45	23%	258	258	0	0	0.00	0		
3:45-4:00	26%	293	293	0	0	0.00	0	1107	1107
4:00-4:15	24%	272	272	0	0	0.00	0	1098	1098
4:15-4:30	30%	340	340	29	29	7.19	340	1163	1163
4:30-4:45	23%	264	264	0	0	0.00	0	1169	1169
4:45-5:00	23%	264	264	0	0	0.00	0	1140	1140
5:00-5:15	28%	350	350	39	39	9.69	350	1218	1218
5:15-5:30	27%	332	332	21	60	14.88	332	1210	1210
5:30-5:45	22%	271	271	0	19	4.81	271	1217	1217
5:45-6:00	24%	296	296	0	4	1.00	296	1249	1249
6:00-6:15	27%	231	231	0	0	0.00	0	1130	1130
6:15-6:30	28%	238	238	0	0	0.00	0	1036	1036
6:30-6:45	23%	194	194	0	0	0.00	0	959	959
6:45-7:00	22%	182	182	0	0	0.00	0	845	845

Total Delay (veh-hr)	38
Total Vehicles Delayed (veh)	1,589
Average Delay (hr)	0.02
Average Delay (min)	1.42

Maximum Queue (veh)	60
Maximum Queue (ft)	893

RAMP METERING ANALYSIS

Project: SR 65 Capacity & Operational Improvements — **Configuration: 2 metered + 1 HOV**
Ramp: EB Pleasant Grove Blvd to SB SR 65 — **Peak Hour Volume: 810**
Scenario: Design Year Conditions — **Peak Period Volume: 2,790**

HOV Bypass (%)	16%
Metered Volume (veh/hr)	677
Metering Rate (veh/hr)	670
Discharge Rate (veh/15 min)	168

Storage Length (ft)	900
Storage Lanes	2
Maximum Storage (veh)	60

Time Interval	Hourly Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	18%	57	48	0	0	0.00	0		
6:15-6:30	23%	75	63	0	0	0.00	0		
6:30-6:45	31%	100	84	0	0	0.00	0		
6:45-7:00	29%	93	78	0	0	0.00	0	325	272
7:00-7:15	23%	192	161	0	0	0.00	0	460	385
7:15-7:30	28%	227	190	22	22	5.59	190	612	512
7:30-7:45	25%	206	172	5	27	6.78	172	718	600
7:45-8:00	24%	194	162	0	22	5.47	162	819	685
8:00-8:15	27%	211	176	9	31	7.71	176	838	701
8:15-8:30	24%	191	160	0	23	5.77	160	802	671
8:30-8:45	24%	194	162	0	18	4.46	162	790	661
8:45-9:00	25%	197	165	0	15	3.78	165	793	663
9:00-9:15	35%	244	204	37	52	12.92	204	826	691
9:15-9:30	24%	169	141	0	26	6.38	141	804	672
9:30-9:45	24%	164	137	0	0	0.00	0	774	647
9:45-10:00	17%	116	97	0	0	0.00	0	693	580

Total Delay (veh-hr)	59
Total Vehicles Delayed (veh)	1,533
Average Delay (hr)	0.04
Average Delay (min)	2.30

Maximum Queue (veh)	52
Maximum Queue (ft)	775

Location: SR 65 Capacity & Operational Improvements — **Configuration: 2 metered + 1 HOV**
Ramp: EB Pleasant Grove Blvd to SB SR 65 — **Peak Hour Volume: 1,190**
Scenario: Design Year Conditions — **Peak Period Volume: 4,620**

HOV Bypass (%)	19%
Metered Volume (veh/hr)	960
Metering Rate (veh/hr)	985
Discharge Rate (veh/15 min)	246

Storage Length (ft)	900
Storage Lanes	2
Maximum Storage (veh)	60

Time Interval	Arrival Distribution	15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	25%	281	227	0	0	0.00	0		
3:15-3:30	25%	275	222	0	0	0.00	0		
3:30-3:45	23%	258	208	0	0	0.00	0		
3:45-4:00	26%	293	236	0	0	0.00	0	1107	893
4:00-4:15	24%	272	219	0	0	0.00	0	1098	886
4:15-4:30	30%	340	274	28	28	7.03	274	1163	938
4:30-4:45	23%	264	213	0	0	0.00	0	1169	943
4:45-5:00	23%	264	213	0	0	0.00	0	1140	920
5:00-5:15	28%	350	282	36	36	9.04	282	1218	983
5:15-5:30	27%	332	268	22	58	14.46	268	1210	976
5:30-5:45	22%	271	219	0	30	7.56	219	1217	982
5:45-6:00	24%	296	239	0	23	5.72	239	1249	1008
6:00-6:15	27%	231	186	0	0	0.00	0	1130	912
6:15-6:30	28%	238	192	0	0	0.00	0	1036	836
6:30-6:45	23%	194	157	0	0	0.00	0	959	774
6:45-7:00	22%	182	147	0	0	0.00	0	845	682

Total Delay (veh-hr)	44
Total Vehicles Delayed (veh)	1,282
Average Delay (hr)	0.03
Average Delay (min)	2.05

Maximum Queue (veh)	58
Maximum Queue (ft)	867

RAMP METERING ANALYSIS

Project: Stanford Ranch Rd/SR 65 Northbound Ramps
Ramp: Galleria Boulevard to Southbound SR 65
Scenario: Build Alternative Design Year Conditions

Configuration: 1 metered + 1 HOV
Peak Hour Volume: 720
Peak Period Volume: 2,420

HOV Bypass (%)	21%
Metered Volume (veh/hr)	568
Metering Rate (veh/hr)	645
Discharge Rate (veh/15 min)	161

Storage Length (ft)	640
Storage Lanes	1
Maximum Storage (veh)	21

Time Interval	Hourly Arrival Distribution	Estimated 15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	18%	92	73	0	0	0.00	0		
6:15-6:30	20%	101	80	0	0	0.00	0		
6:30-6:45	29%	144	114	0	0	0.00	0		
6:45-7:00	33%	164	129	0	0	0.00	0	501	395
7:00-7:15	25%	196	155	0	0	0.00	0	605	477
7:15-7:30	21%	164	129	0	0	0.00	0	668	527
7:30-7:45	26%	207	163	2	2	0.53	163	731	577
7:45-8:00	29%	227	179	18	20	5.01	179	794	627
8:00-8:15	26%	168	133	0	0	0.00	0	766	605
8:15-8:30	27%	172	136	0	0	0.00	0	774	611
8:30-8:45	23%	148	117	0	0	0.00	0	715	564
8:45-9:00	24%	155	122	0	0	0.00	0	643	507
9:00-9:15	27%	164	129	0	0	0.00	0	639	504
9:15-9:30	23%	139	110	0	0	0.00	0	606	478
9:30-9:45	26%	154	122	0	0	0.00	0	612	483
9:45-10:00	24%	147	116	0	0	0.00	0	604	477

Total Delay (veh-hr)	6
Total Vehicles Delayed (veh)	343
Average Delay (hr)	0.02
Average Delay (min)	0.97

Maximum Queue (veh)	20
Maximum Queue (ft)	601

Project: Stanford Ranch Rd/SR 65 Northbound Ramps
Ramp: Galleria Boulevard to Southbound SR 65
Scenario: Build Alternative Design Year Conditions

Configuration: 1 metered + 1 HOV
Peak Hour Volume: 1,210
Peak Period Volume: 4,670

HOV Bypass (%)	15%
Metered Volume (veh/hr)	1,031
Metering Rate (veh/hr)	900
Discharge Rate (veh/15 min)	225

Storage Length (ft)	640
Storage Lanes	1
Maximum Storage (veh)	21

Time Interval	Hourly Arrival Distribution	Estimated 15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	25%	310	264	39	39	9.79	264		
3:15-3:30	24%	305	260	35	74	18.51	260		
3:30-3:45	25%	317	270	45	119	29.79	270		
3:45-4:00	26%	330	281	56	175	43.84	281	1262	1075
4:00-4:15	25%	324	276	51	226	56.61	276	1276	1087
4:15-4:30	25%	321	274	49	275	68.75	274	1292	1101
4:30-4:45	26%	337	287	62	337	84.29	287	1312	1118
4:45-5:00	25%	321	274	49	386	96.42	274	1303	1110
5:00-5:15	27%	303	258	33	419	104.72	258	1282	1092
5:15-5:30	25%	274	233	8	427	106.84	233	1235	1052
5:30-5:45	24%	268	228	3	431	107.68	228	1166	994
5:45-3:00	24%	267	228	3	433	108.31	228	1112	948
3:00-3:15	26%	288	245	20	454	113.41	245	1097	935
3:15-3:30	26%	285	243	18	471	117.87	243	1108	944
3:30-3:45	27%	293	250	25	496	124.04	250	1133	965
3:45-4:00	20%	222	189	0	460	115.08	189	1088	927

Total Delay (veh-hr)	836
Total Vehicles Delayed (veh)	3,133
Average Delay (hr)	0.27
Average Delay (min)	16.00

Maximum Queue (veh)	**433**
Maximum Queue (ft)	12,997

RAMP METERING ANALYSIS

Project: Stanford Ranch Rd/SR 65 Northbound Ramps
Ramp: Galleria Boulevard to Southbound SR 65
Scenario: Build Alternative Design Year Conditions

Configuration: 2 metered + 1 HOV
Peak Hour Volume: 720
Peak Period Volume: 2,420

HOV Bypass (%)	21%
Metered Volume (veh/hr)	568
Metering Rate (veh/hr)	600
Discharge Rate (veh/15 min)	150

Storage Length (ft)	640
Storage Lanes	2
Maximum Storage (veh)	43

Time Interval	Hourly Arrival Distribution	Estimated 15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
6:00-6:15	18%	92	73	0	0	0.00	0		
6:15-6:30	20%	101	80	0	0	0.00	0		
6:30-6:45	29%	144	114	0	0	0.00	0		
6:45-7:00	33%	164	129	0	0	0.00	0	501	395
7:00-7:15	25%	196	155	5	5	1.17	155	605	477
7:15-7:30	21%	164	129	0	0	0.00	0	668	527
7:30-7:45	26%	207	163	13	13	3.34	163	731	577
7:45-8:00	29%	227	179	29	43	10.63	179	794	627
8:00-8:15	26%	168	133	0	25	6.28	133	766	605
8:15-8:30	27%	172	136	0	11	2.71	136	774	611
8:30-8:45	23%	148	117	0	0	0.00	0	715	564
8:45-9:00	24%	155	122	0	0	0.00	0	643	507
9:00-9:15	27%	164	129	0	0	0.00	0	639	504
9:15-9:30	23%	139	110	0	0	0.00	0	606	478
9:30-9:45	26%	154	122	0	0	0.00	0	612	483
9:45-10:00	24%	147	116	0	0	0.00	0	604	477

Total Delay (veh-hr)	24
Total Vehicles Delayed (veh)	766
Average Delay (hr)	0.03
Average Delay (min)	1.89

Maximum Queue (veh)	43
Maximum Queue (ft)	638

Project: Stanford Ranch Rd/SR 65 Northbound Ramps
Ramp: Galleria Boulevard to Southbound SR 65
Scenario: Build Alternative Design Year Conditions

Configuration: 2 metered + 1 HOV
Peak Hour Volume: 1,210
Peak Period Volume: 4,670

HOV Bypass (%)	15%
Metered Volume (veh/hr)	1,031
Metering Rate (veh/hr)	1,080
Discharge Rate (veh/15 min)	270

Storage Length (ft)	640
Storage Lanes	2
Maximum Storage (veh)	43

Time Interval	Hourly Arrival Distribution	Estimated 15-Minute Volumes	Metered 15-Minute min flows	Excess Demand	Accum-ulated Vehicles	Total Delay (veh-hr)	Vehicles Delayed	Total Hourly Volume	Metered Hourly Volume
3:00-3:15	25%	310	264	0	0	0.00	0		
3:15-3:30	24%	305	260	0	0	0.00	0		
3:30-3:45	25%	317	270	0	0	0.03	270		
3:45-4:00	26%	330	281	11	11	2.83	281	1262	1075
4:00-4:15	25%	324	276	6	17	4.35	276	1276	1087
4:15-4:30	25%	321	274	4	21	5.23	274	1292	1101
4:30-4:45	26%	337	287	17	38	9.52	287	1312	1118
4:45-5:00	25%	321	274	4	42	10.41	274	1303	1110
5:00-5:15	27%	303	258	0	30	7.46	258	1282	1092
5:15-5:30	25%	274	233	0	0	0.00	0	1235	1052
5:30-5:45	24%	268	228	0	0	0.00	0	1166	994
5:45-3:00	24%	267	228	0	0	0.00	0	1112	948
3:00-3:15	26%	288	245	0	0	0.00	0	1097	935
3:15-3:30	26%	285	243	0	0	0.00	0	1108	944
3:30-3:45	27%	293	250	0	0	0.00	0	1133	965
3:45-4:00	20%	222	189	0	0	0.00	0	1088	927

Total Delay (veh-hr)	40
Total Vehicles Delayed (veh)	1,920
Average Delay (hr)	0.02
Average Delay (min)	1.24

Maximum Queue (veh)	42
Maximum Queue (ft)	624

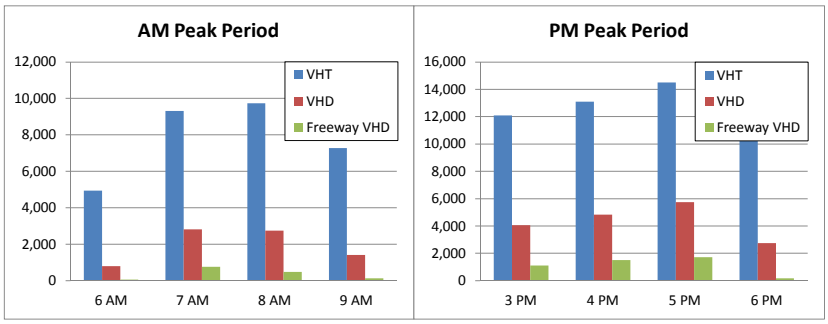
SR 65 Capacity and Operational Improvements

Vissim Model Results – Existing Conditions

I-80/SR-65 Interchange
Existing Conditions

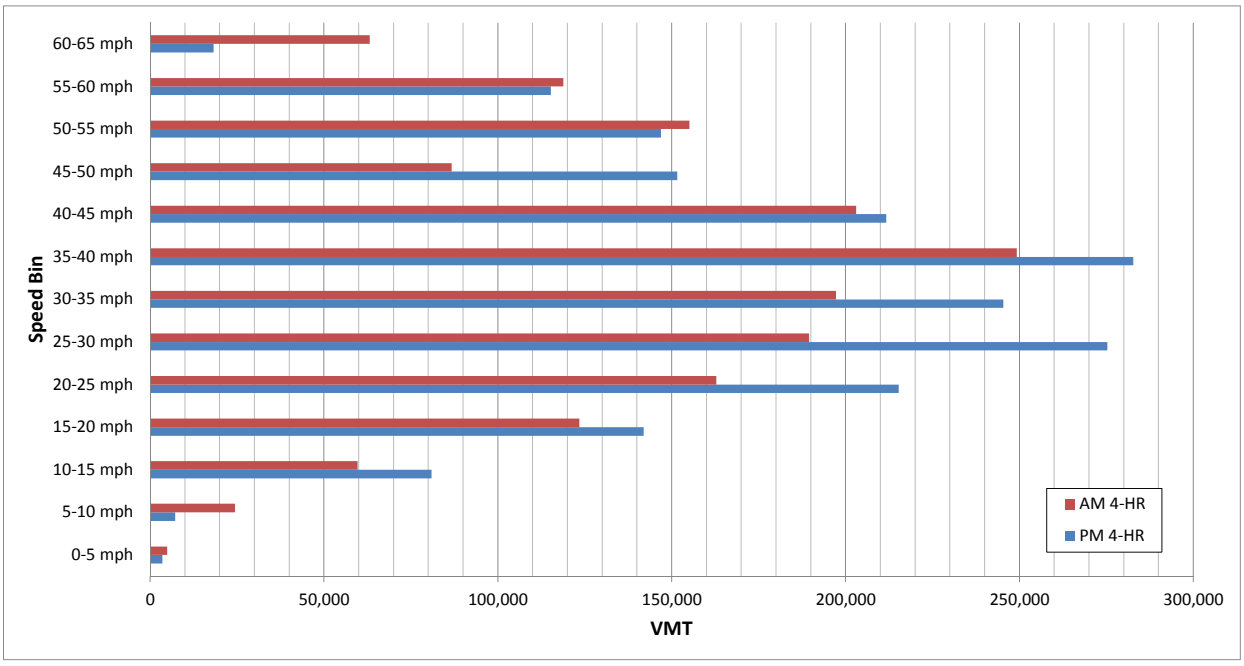
Time	VHT	VHD	Freeway VHD	VMT
6 AM	4,955	815	71	222,524
7 AM	9,325	2,820	768	326,342
8 AM	9,752	2,750	487	342,530
9 AM	7,281	1,422	133	290,677
AM 4-HR	31,314	7,807	1,459	1,182,073
3 PM	12,101	4,072	1,118	388,230
4 PM	13,111	4,838	1,510	399,194
5 PM	14,507	5,760	1,740	418,208
6 PM	10,249	2,753	195	357,162
PM 4-HR	49,967	17,423	4,564	1,562,794
AM & PM	81,281	25,230	6,023	2,744,867

Freeway VHD is delay when speed is less than 35 mph on freeway links



VMT by Speed Bin

Time	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph
6 AM	0	20	137	645	19,035	9,907	30,264	43,004	49,530	10,970	19,087	44,052	33,441
7 AM	898	1,734	6,784	46,117	62,160	58,011	67,869	76,657	51,912	24,558	38,864	18,977	5,002
8 AM	2,759	18,713	36,875	47,933	42,238	77,382	52,406	66,414	55,494	35,443	35,724	18,724	10,493
9 AM	1,200	3,910	15,849	28,721	39,373	44,156	46,698	63,137	46,069	15,678	61,416	37,048	14,161
AM 4-HR	4,856	24,377	59,646	123,416	162,806	189,457	197,237	249,212	203,006	86,650	155,092	118,801	63,097
3 PM	986	1,718	10,411	37,741	60,415	71,338	61,776	72,526	58,693	42,953	39,499	23,065	3,348
4 PM	923	2,580	32,375	39,279	61,525	67,866	62,203	82,481	51,583	42,338	34,833	19,799	2,422
5 PM	920	2,593	32,268	32,268	56,983	71,846	70,372	66,839	59,471	41,140	36,252	19,949	2,403
6 PM	652	258	5,883	32,596	36,277	64,218	51,007	60,898	41,940	25,173	36,280	52,444	10,076
PM 4-HR	3,480	7,149	80,936	141,884	215,201	275,268	245,359	282,745	211,688	151,605	146,864	115,257	18,248
AM & PM	8,337	31,526	140,582	265,300	378,006	464,725	442,596	531,956	414,693	238,254	301,955	234,059	81,345



VISSIM Metrics
Calibration Comparison
I-80 / SR-65 Interchange
Fehr & Peers
Link Volumes
February 15, 2013

AM Peak Period

Link		Measured Volumes	Modeled Conditions				Link Flow Criteria		Link GEH Criteria	
		Demand Volume (vph)	Served Volume (vph)	Difference			Measure	Meets Target?	Target	Meets Target?
Fwy	Location			vph	%	GEH				
Interstate 80	EB - Auburn Blvd Off to On-ramp	18,390	18,521	131	1%	1.0	+/- 400 vph	Yes	< 5	Yes
	EB - Auburn Blvd On-ramp	2,374	2,405	31	1%	0.6	+/- 15%	Yes	< 5	Yes
	EB - Auburn Blvd to Douglas Blvd	20,764	20,898	134	1%	0.9	+/- 400 vph	Yes	< 5	Yes
	EB - Douglas Blvd EB Off-Ramp	4,053	4,035	-18	0%	0.3	+/- 400 vph	Yes	< 5	Yes
	EB - Douglas Blvd EB to WB Off-ramp	16,711	16,832	121	1%	0.9	+/- 400 vph	Yes	< 5	Yes
	EB - Douglas Blvd WB Off-Ramp	940	972	32	3%	1.0	+/- 15%	Yes	< 5	Yes
	EB - Douglas Blvd Off to On-Ramp	15,771	15,848	77	0%	0.6	+/- 400 vph	Yes	< 5	Yes
	EB - Douglas Blvd On-Ramp	2,981	2,951	-30	-1%	0.5	+/- 400 vph	Yes	< 5	Yes
	EB - Douglas Blvd to Eureka Rd	18,752	18,783	31	0%	0.2	+/- 400 vph	Yes	< 5	Yes
	EB - Eureka Rd Off-Ramp	3,572	3,754	182	5%	3.0	+/- 400 vph	Yes	< 5	Yes
	EB - Eureka Rd Off to On-ramp	15,180	15,015	-166	-1%	1.3	+/- 400 vph	Yes	< 5	Yes
	EB - Eureka Rd EB On-Ramp	494	516	22	4%	1.0	+/- 100 vph	Yes	< 5	Yes
	EB - Eureka Rd EB to WB On-Ramp	15,674	15,526	-148	-1%	1.2	+/- 400 vph	Yes	< 5	Yes
	EB - Eureka Rd WB On-Ramp	1,475	1,384	-91	-6%	2.4	+/- 15%	Yes	< 5	Yes
	EB - Eureka Rd to Taylor Rd	17,149	16,903	-246	-1%	1.9	+/- 400 vph	Yes	< 5	Yes
	EB - Taylor Rd Off-Ramp	744	814	70	9%	2.5	+/- 15%	Yes	< 5	Yes
	EB - Taylor Rd to SR-65	16,405	16,074	-332	-2%	2.6	+/- 400 vph	Yes	< 5	Yes
	EB - SR-65 Off-Ramp	8,324	7,693	-631	-8%	7.1	+/- 400 vph	No	< 5	No
	EB - SR-65 Off to On-Ramp	8,081	8,365	284	4%	3.1	+/- 400 vph	Yes	< 5	Yes
	EB - SR-65 On-Ramp	3,601	3,595	-6	0%	0.1	+/- 400 vph	Yes	< 5	Yes
	EB - SR-65 to Rocklin Rd	11,682	11,947	265	2%	2.4	+/- 400 vph	Yes	< 5	Yes
	EB - Rocklin Rd Off-Ramp	3,709	3,797	88	2%	1.4	+/- 400 vph	Yes	< 5	Yes
	EB - Rocklin Rd Off to On-ramp	7,973	8,128	155	2%	1.7	+/- 400 vph	Yes	< 5	Yes
	EB - Rocklin Rd On-Ramp	612	592	-20	-3%	0.8	+/- 100 vph	Yes	< 5	Yes
	EB - Rocklin Rd to Sierra College Blvd	8,585	8,713	128	1%	1.4	+/- 400 vph	Yes	< 5	Yes
	EB - Sierra College Rd Off-Ramp	960	988	28	3%	0.9	+/- 15%	Yes	< 5	Yes
	EB - Sierra College Blvd Off to On-Ramp	7,625	7,716	91	1%	1.0	+/- 400 vph	Yes	< 5	Yes
	EB - Sierra College Blvd SB On-Ramp	411	402	-9	-2%	0.5	+/- 100 vph	Yes	< 5	Yes
	EB - Sierra College Blvd SB to NB On-Ramp	8,036	8,117	81	1%	0.9	+/- 400 vph	Yes	< 5	Yes
	EB - Sierra College Blvd NB On-Ramp	876	835	-41	-5%	1.4	+/- 15%	Yes	< 5	Yes
	EB - Sierra College Blvd to Horseshoe Bar Rd	8,912	8,947	35	0%	0.4	+/- 400 vph	Yes	< 5	Yes
	WB - Horseshoe Bar Rd to Sierra College Blvd	13,864	13,940	76	1%	0.6	+/- 400 vph	Yes	< 5	Yes
	WB - Sierra College Blvd Off-ramp	2,282	2,259	-23	-1%	0.5	+/- 15%	Yes	< 5	Yes
	WB - Sierra College Blvd Off to On-ramp	11,582	11,672	90	1%	0.8	+/- 400 vph	Yes	< 5	Yes
	WB - Sierra College Blvd NB On-Ramp	194	196	2	1%	0.1	+/- 100 vph	Yes	< 5	Yes
	WB - Sierra College Blvd NB to SB On-Ramp	11,776	11,864	88	1%	0.8	+/- 400 vph	Yes	< 5	Yes
	WB - Sierra College Blvd SB On-Ramp	945	971	26	3%	0.8	+/- 15%	Yes	< 5	Yes
	WB - Sierra College Blvd to Rocklin Rd	12,721	12,828	107	1%	1.0	+/- 400 vph	Yes	< 5	Yes
	WB - Rocklin Rd Off-Ramp	686	686	0	0%	0.0	+/- 100 vph	Yes	< 5	Yes
	WB - Rocklin Rd Off to On-Ramp	12,035	12,130	95	1%	0.9	+/- 400 vph	Yes	< 5	Yes
	WB - Rocklin Rd On-Ramp	2,695	2,765	70	3%	1.3	+/- 400 vph	Yes	< 5	Yes
	WB - Rocklin Rd to SR-65	14,730	14,881	151	1%	1.2	+/- 400 vph	Yes	< 5	Yes
	WB - SR-65 Off-Ramp	3,865	4,072	207	5%	3.3	+/- 400 vph	Yes	< 5	Yes
	WB - SR-65 Off to On-Ramp	10,865	10,789	-76	-1%	0.7	+/- 400 vph	Yes	< 5	Yes
	WB - SR-65 On-Ramp	11,253	11,211	-42	0%	0.4	+/- 400 vph	Yes	< 5	Yes
	WB - SR-65 to Taylor Rd	22,118	21,631	-487	-2%	3.3	+/- 400 vph	No	< 5	Yes
	WB - Taylor Rd On-Ramp	1,837	1,864	27	1%	0.6	+/- 15%	Yes	< 5	Yes
	WB - Taylor Rd to Atlantic St	23,955	23,855	-100	0%	0.6	+/- 400 vph	Yes	< 5	Yes
	WB - Atlantic St WB Off-Ramp	1,039	1,041	2	0%	0.0	+/- 15%	Yes	< 5	Yes
	WB - Atlantic St WB to EB Off-ramp	22,916	22,807	-109	0%	0.7	+/- 400 vph	Yes	< 5	Yes
	WB - Atlantic St EB Off-ramp	2,814	2,719	-95	-3%	1.8	+/- 400 vph	Yes	< 5	Yes
	WB - Atlantic St Off to On-ramp	20,102	20,087	-15	0%	0.1	+/- 400 vph	Yes	< 5	Yes
	WB - Atlantic St On-Ramp	2,382	2,293	-89	-4%	1.8	+/- 15%	Yes	< 5	Yes
	WB - Atlatnic St to Douglas Blvd	22,484	22,376	-108	0%	0.7	+/- 400 vph	Yes	< 5	Yes
	WB - Douglas Blvd Off-Ramp	3,203	3,058	-145	-5%	2.6	+/- 400 vph	Yes	< 5	Yes
	WB - Douglas Blvd Off to On-Ramp	19,281	19,318	37	0%	0.3	+/- 400 vph	Yes	< 5	Yes
	WB - Douglas Blvd WB On-Ramp	2,693	2,507	-186	-7%	3.7	+/- 15%	Yes	< 5	Yes
	WB - Douglas Blvd WB to EB On-Ramp	21,974	21,825	-150	-1%	1.0	+/- 400 vph	Yes	< 5	Yes
	WB - Douglas Blvd EB On-Ramp	1,255	1,257	2	0%	0.0	+/- 15%	Yes	< 5	Yes
	WB - Douglas Blvd to Riverside Ave	23,229	23,071	-158	-1%	1.0	+/- 400 vph	Yes	< 5	Yes
	WB - Riverside Ave Off-ramp	1,860	1,689	-171	-9%	4.1	+/- 15%	Yes	< 5	Yes
	WB - Riverside Ave Off to On-Ramp	21,369	21,375	6	0%	0.0	+/- 400 vph	Yes	< 5	Yes
	WB - Riverside Ave NB On-ramp	699	723	24	3%	0.9	+/- 100 vph	Yes	< 5	Yes
	WB - Riverside Ave NB to SB On-Ramp	22,068	22,098	30	0%	0.2	+/- 400 vph	Yes	< 5	Yes
	WB - Riverside Ave SB On-ramp	4,233	4,324	91	2%	1.4	+/- 400 vph	Yes	< 5	Yes
	WB - Riverside Ave to Antelope Rd	26,301	26,420	119	0%	0.7	+/- 400 vph	Yes	< 5	Yes
	WB - Antelope Rd Off-ramp	1,270	1,151	-119	-9%	3.4	+/- 15%	Yes	< 5	Yes
	WB - Antelope Rd Off to On-Ramp	25,031	25,275	244	1%	1.5	+/- 400 vph	Yes	< 5	Yes
	WB - Antelope Rd WB On-ramp	2,088	2,083	-5	0%	0.1	+/- 15%	Yes	< 5	Yes
	WB - Antelope Rd WB to EB On-Ramp	27,119	27,359	240	1%	1.5	+/- 400 vph	Yes	< 5	Yes
	WB - Antelope Rd EB On-ramp	1,448	1,441	-7	-1%	0.2	+/- 15%	Yes	< 5	Yes
	WB - Antelope Rd to Elkhorn Blvd	28,567	28,633	66	0%	0.4	+/- 400 vph	Yes	< 5	Yes
	WB - Elkhorn Blvd Off-ramp	2,315	2,148	-167	-7%	3.5	+/- 15%	Yes	< 5	Yes
	WB - Elkhorn Blvd Off to On-Ramp	26,252	26,653	401	2%	2.5	+/- 400 vph	No	< 5	Yes
	WB - Elkhorn Blvd WB On-ramp	2,597	2,587	-10	0%	0.2	+/- 15%	Yes	< 5	Yes
	WB - Elkhorn Blvd WB to EB On-Ramp	28,849	29,235	386	1%	2.3	+/- 400 vph	Yes	< 5	Yes
	WB - Elkhorn Blvd EB On-ramp	3,184	3,160	-24	-1%	0.4	+/- 400 vph	Yes	< 5	Yes
	WB - Elkhorn Blvd to Madison Ave	32,033	32,393	360	1%	2.0	+/- 400 vph	Yes	< 5	Yes
	NB - I-80 to Stanford Ranch Rd	12,189	11,737	-452	-4%	4.1	+/- 400 vph	No	< 5	Yes
	NB - Stanford Ranch Rd Off-Ramp	2,331	2,239	-92	-4%	1.9	+/- 15%	Yes	< 5	Yes
	NB - Stanford Ranch Rd Off to On-Ramp	9,858	9,487	-371	-4%	3.8	+/- 400 vph	Yes	< 5	Yes
	NB - Stanford Ranch Rd On-Ramp	1,712	1,698	-14	-1%	0.3	+/- 15%	Yes	< 5	Yes
	NB - Stanford Ranch Rd to Pleasant Grove Blvd	11,570	11,169	-401	-3%	3.8	+/- 400 vph	No	< 5	Yes
	NB - Pleasant Grove Blvd Off-Ramp	2,131	1,978	-153	-7%	3.4	+/- 15%	Yes	< 5	Yes
	NB - Pleasant Grove Blvd Off to On-Ramp	9,439	9,184	-255	-3%	2.6	+/- 400 vph	Yes	< 5	Yes
	NB - Pleasant Grove Blvd On-Ramp	830	810	-20	-2%	0.7	+/- 15%	Yes	< 5	Yes
	NB - Pleasant Grove to Blue Oaks Blvd	10,269	9,990	-279	-3%	2.8	+/- 400 vph	Yes	< 5	Yes

State Route 65	NB - Blue Oaks Blvd Off-Ramp	4,193	4,035	-158	-4%	2.5	+/- 400 vph	Yes	< 5	Yes
	NB - Blue Oaks Blvd Off to On-Ramp	6,076	5,942	-134	-2%	1.7	+/- 400 vph	Yes	< 5	Yes
	NB - Blue Oaks Blvd On-Ramp	1,134	1,118	-16	-1%	0.5	+/- 15%	Yes	< 5	Yes
	NB - Blue Oaks Blvd to Sunset Blvd	7,210	7,052	-158	-2%	1.9	+/- 400 vph	Yes	< 5	Yes
	NB - Sunset Blvd Off-Ramp	3,371	3,279	-92	-3%	1.6	+/- 400 vph	Yes	< 5	Yes
	NB - Sunset Blvd Off to On-ramp	3,839	3,766	-73	-2%	1.2	+/- 400 vph	Yes	< 5	Yes
	NB - Sunset Blvd EB On-Ramp	113	117	4	4%	0.4	+/- 100 vph	Yes	< 5	Yes
	NB - Sunset Blvd EB to WB On-ramp	3,952	3,883	-70	-2%	1.1	+/- 400 vph	Yes	< 5	Yes
	NB - Sunset Blvd WB On-Ramp	609	597	-12	-2%	0.5	+/- 100 vph	Yes	< 5	Yes
	NB - Sunset Blvd to Twelve Bridges Dr	4,561	4,467	-94	-2%	1.4	+/- 400 vph	Yes	< 5	Yes
	NB - Twelve Bridges Dr Off-Ramp	979	915	-64	-7%	2.1	+/- 15%	Yes	< 5	Yes
	NB - Twelve Bridges Dr Off to On-ramp	3,582	3,542	-41	-1%	0.7	+/- 400 vph	Yes	< 5	Yes
	NB - Twelve Bridges Dr On-Ramp	631	607	-24	-4%	1.0	+/- 100 vph	Yes	< 5	Yes
	NB - Twelve Bridges Dr to Sterling Pkwy	4,213	4,147	-66	-2%	1.0	+/- 400 vph	Yes	< 5	Yes
	SB - Sterling Pkwy to Twelve Bridges Dr	8,307	8,327	20	0%	0.2	+/- 400 vph	Yes	< 5	Yes
	SB - Twelve Bridges Dr Off-Ramp	865	852	-14	-2%	0.5	+/- 15%	Yes	< 5	Yes
	SB - Twelve Bridges Dr Off to On-Ramp	7,442	7,474	32	0%	0.4	+/- 400 vph	Yes	< 5	Yes
	SB - Twelve Bridges Dr On-Ramp	1,930	1,876	-54	-3%	1.2	+/- 15%	Yes	< 5	Yes
	SB - Twelve Bridges Dr to Sunset Blvd	9,372	9,343	-29	0%	0.3	+/- 400 vph	Yes	< 5	Yes
	SB - Sunset Blvd Off-Ramp	1,081	1,041	-40	-4%	1.2	+/- 15%	Yes	< 5	Yes
	SB - Sunset Blvd Off to On-ramp	8,291	8,294	3	0%	0.0	+/- 400 vph	Yes	< 5	Yes
	SB - Sunset Blvd WB On-Ramp	1,224	1,203	-21	-2%	0.6	+/- 15%	Yes	< 5	Yes
	SB - Sunset Blvd WB to EB On-Ramp	9,515	9,497	-18	0%	0.2	+/- 400 vph	Yes	< 5	Yes
	SB - Sunset Blvd EB On-Ramp	1,075	1,040	-35	-3%	1.1	+/- 15%	Yes	< 5	Yes
	SB - Sunset Blvd to Blue Oaks Blvd	10,590	10,534	-56	-1%	0.5	+/- 400 vph	Yes	< 5	Yes
	SB - Blue Oaks Blvd Off-Ramp	1,761	1,798	37	2%	0.9	+/- 15%	Yes	< 5	Yes
	SB - Blue Oaks Blvd Off to On-Ramp	8,829	8,729	-100	-1%	1.1	+/- 400 vph	Yes	< 5	Yes
	SB - Blue Oaks Blvd WB On-Ramp	1,330	1,217	-113	-9%	3.2	+/- 15%	Yes	< 5	Yes
	SB - Blue Oaks Blvd WB to EB On-Ramp	10,159	9,943	-216	-2%	2.2	+/- 400 vph	Yes	< 5	Yes
	SB - Blue Oaks Blvd EB On-Ramp	3,103	2,907	-197	-6%	3.6	+/- 400 vph	Yes	< 5	Yes
	SB - Blue Oaks Blvd to Pleasant Grove Blvd	13,262	12,846	-416	-3%	3.6	+/- 400 vph	No	< 5	Yes
	SB - Pleasant Grove Blvd Off-Ramp	1,680	1,662	-18	-1%	0.4	+/- 15%	Yes	< 5	Yes
	SB - Pleasant Grove Blvd Off to On-ramp	11,582	11,175	-407	-4%	3.8	+/- 400 vph	No	< 5	Yes
	SB - Pleasant Grove Blvd WB On-Ramp	1,649	1,602	-47	-3%	1.2	+/- 15%	Yes	< 5	Yes
	SB - Pleasant Grove Blvd WB to EB On-Ramp	13,231	12,776	-455	-3%	4.0	+/- 400 vph	No	< 5	Yes
	SB - Pleasant Grove Blvd EB On-Ramp	1,839	1,795	-44	-2%	1.0	+/- 15%	Yes	< 5	Yes
	SB - Pleasant Grove Blvd to Galleria Blvd	15,070	14,565	-506	-3%	4.2	+/- 400 vph	No	< 5	Yes
	SB - Galleria Blvd Off-Ramp	2,744	2,389	-355	-13%	7.0	+/- 15%	Yes	< 5	No
	SB - Galleria Blvd Off to On-Ramp	12,326	12,171	-155	-1%	1.4	+/- 400 vph	Yes	< 5	Yes
	SB - Galleria Blvd On-Ramp	2,528	2,652	124	5%	2.4	+/- 15%	Yes	< 5	Yes
	SB - Galleria Blvd to I-80	14,854	14,821	-33	0%	0.3	+/- 400 vph	Yes	< 5	Yes
	SB SR-65 n/o Sterling Pkwy	4,945	5,436	491	10%	6.8	+/- 400 vph	No	< 5	No
	NB SR-65 n/o Sterling Pkwy	3,235	3,197	-38	-1%	0.7	+/- 400 vph	Yes	< 5	Yes
	EB Sterling Pkwy e/o SR-65	1,115	1,085	-30	-3%	0.9	+/- 15%	Yes	< 5	Yes
	WB Sterling Pkwy e/o SR-65	3,499	3,042	-457	-13%	8.0	+/- 400 vph	No	< 5	No
	EB Twelve Bridges Dr w/o SB SR-65	531	476	-55	-10%	2.5	+/- 100 vph	Yes	< 5	Yes
	WB Twelve Bridges Dr w/o SB SR-65	887	830	-57	-6%	1.9	+/- 15%	Yes	< 5	Yes
	EB Twelve Bridges Dr e/o SB SR-65	875	807	-68	-8%	2.3	+/- 15%	Yes	< 5	Yes
	WB Twelve Bridges Dr e/o SB SR-65	2,296	2,190	-106	-5%	2.2	+/- 15%	Yes	< 5	Yes
	EB Twelve Bridges Dr e/o NB SR-65	1,451	1,450	-1	0%	0.0	+/- 15%	Yes	< 5	Yes
	WB Twelve Bridges Dr e/o NB SR-65	2,524	2,531	7	0%	0.1	+/- 15%	Yes	< 5	Yes
	EB Sunset Blvd w/o SB SR-65	1,511	1,493	-18	-1%	0.5	+/- 15%	Yes	< 5	Yes
	WB Sunset Blvd w/o SB SR-65	2,714	2,751	37	1%	0.7	+/- 400 vph	Yes	< 5	Yes
	EB Sunset Blvd e/o SB SR-65	1,193	1,172	-21	-2%	0.6	+/- 15%	Yes	< 5	Yes
	WB Sunset Blvd e/o SB SR-65	3,614	3,634	20	1%	0.3	+/- 400 vph	Yes	< 5	Yes
	EB Sunset Blvd e/o NB SR-65	2,632	2,450	-182	-7%	3.6	+/- 15%	Yes	< 5	Yes
	WB Sunset Blvd e/o NB SR-65	2,404	3,152	748	31%	14.2	+/- 400 vph	No	< 5	No
	EB Blue Oaks Blvd w/o Washington Blvd	5,406	5,339	-67	-1%	0.9	+/- 400 vph	Yes	< 5	Yes
	WB Blue Oaks Blvd w/o Washington Blvd	2,651	2,518	-133	-5%	2.6	+/- 15%	Yes	< 5	Yes
	WB Blue Oaks Blvd w/o NB SR-65 ramp	3,617	3,139	-478	-13%	8.2	+/- 400 vph	No	< 5	No
	EB Blue Oaks Blvd e/o Washington Blvd	6,018	5,583	-435	-7%	5.7	+/- 400 vph	No	< 5	No
	WB Blue Oaks Blvd e/o Washington Blvd	3,264	3,140	-124	-4%	2.2	+/- 400 vph	Yes	< 5	Yes
	SB Washington Blvd s/o Blue Oaks Blvd	1,884	2,159	275	15%	6.1	+/- 15%	Yes	< 5	No
	NB Washington Blvd s/o Blue Oaks Blvd	1,289	1,202	-87	-7%	2.5	+/- 15%	Yes	< 5	Yes
	EB Blue Oaks Blvd e/o NB SR-65	2,799	2,893	94	3%	1.8	+/- 400 vph	Yes	< 5	Yes
	WB Blue Oaks Blvd e/o NB SR-65	2,973	3,024	51	2%	0.9	+/- 400 vph	Yes	< 5	Yes
	EB Pleasant Grove Blvd w/o SB SR-65	4,344	4,359	15	0%	0.2	+/- 400 vph	Yes	< 5	Yes
	WB Pleasant Grove Blvd w/o SB SR-65	4,792	4,816	24	0%	0.3	+/- 400 vph	Yes	< 5	Yes
	EB Pleasant Grove Blvd e/o SB SR-65	2,887	2,924	37	1%	0.7	+/- 400 vph	Yes	< 5	Yes
	WB Pleasant Grove Blvd e/o SB SR-65	5,143	5,121	-22	0%	0.3	+/- 400 vph	Yes	< 5	Yes
	EB Pleasant Grove Blvd e/o NB SR-65	3,353	3,419	66	2%	1.1	+/- 400 vph	Yes	< 5	Yes
	WB Pleasant Grove Blvd e/o NB SR-65	4,308	4,467	159	4%	2.4	+/- 400 vph	Yes	< 5	Yes
	EB Five Star Blvd w/o Stanford Ranch Rd	731	643	-88	-12%	3.4	+/- 15%	Yes	< 5	Yes
	WB Five Star Blvd w/o Stanford Ranch Rd	813	811	-2	0%	0.1	+/- 15%	Yes	< 5	Yes
	EB Five Star Blvd e/o Stanford Ranch Rd	953	916	-37	-4%	1.2	+/- 15%	Yes	< 5	Yes
	WB Five Star Blvd e/o Stanford Ranch Rd	1,207	1,173	-34	-3%	1.0	+/- 15%	Yes	< 5	Yes
	SB Stanford Ranch Rd n/o Five Star Blvd	3,832	4,162	330	9%	5.2	+/- 400 vph	Yes	< 5	No
	NB Stanford Ranch Rd n/o Five Star Blvd	2,174	2,033	-141	-7%	3.1	+/- 15%	Yes	< 5	Yes
	SB Stanford Ranch Rd s/o Five Star Blvd	5,143	5,294	151	3%	2.1	+/- 400 vph	Yes	< 5	Yes
	NB Stanford Ranch Rd s/o Five Star Blvd	3,313	3,076	-237	-7%	4.2	+/- 400 vph	Yes	< 5	Yes
	SB Stanford Ranch Rd n/o NB SR-65	4,978	5,258	280	6%	3.9	+/- 400 vph	Yes	< 5	Yes
	NB Stanford Ranch Rd n/o NB SR-65	3,372	3,260	-112	-3%	1.9	+/- 400 vph	Yes	< 5	Yes
	SB Galleria Blvd n/o SB SR-65	5,173	5,272	99	2%	1.4	+/- 400 vph	Yes	< 5	Yes
	NB Galleria Blvd n/o SB SR-65	2,948	2,746	-202	-7%	3.8	+/- 400 vph	Yes	< 5	Yes
	SB Galleria Blvd s/o SB SR-65	5,320	5,196	-124	-2%	1.7	+/- 400 vph	Yes	< 5	Yes
	NB Galleria Blvd s/o SB SR-65	2,879	2,939	60	2%	1.1	+/- 400 vph	Yes	< 5	Yes
	EB Antelope Creek Dr w/o Galleria Blvd	167	177	10	6%	0.8	+/- 100 vph	Yes	< 5	Yes
	WB Antelope Creek Dr w/o Galleria Blvd	366	366	0	0%	0.0	+/- 100 vph	Yes	< 5	Yes
	EB Antelope Creek Dr e/o Galleria Blvd	593	613	20	3%	0.8	+/- 100 vph	Yes	< 5	Yes
	WB Antelope Creek Dr e/o Galleria Blvd	482	524	42	9%	1.9	+/- 100 vph	Yes	< 5	Yes
	SB Galleria Blvd n/o Antelope Creek Dr	4,660	4,497	-163	-4%	2.4	+/- 400 vph	Yes	< 5	Yes
	NB Galleria Blvd n/o Antelope Creek Dr	2,837	2,888	51	2%	1.0	+/- 400 vph	Yes	< 5	Yes
	SB Galleria Blvd s/o Antelope Creek Dr	4,292	4,162	-130	-3%	2.0	+/- 400 vph	Yes	< 5	Yes
	NB Galleria Blvd s/o Antelope Creek Dr	2,779	2,804	25	1%	0.5	+/- 400 vph	Yes	< 5	Yes
	EB Roseville Pkwy w/o Galleria Blvd	5,267	5,330	63	1%	0.9	+/- 400 vph	Yes	< 5	Yes
	WB Roseville Pkwy w/o Galleria Blvd	3,091	3,205	114	4%	2.0	+/- 400 vph	Yes	< 5	Yes
	EB Roseville Pkwy e/o Galleria Blvd	5,218	5,228	10	0%	0.1	+/- 400 vph	Yes	< 5	Yes

WB Roseville Pkwy e/o Galleria Blvd	3,859	3,908	49	1%	0.8	+/- 400 vph	Yes	< 5	Yes
SB Galleria Blvd n/o Roseville Pkwy	4,339	4,192	-147	-3%	2.3	+/- 400 vph	Yes	< 5	Yes
NB Galleria Blvd n/o Roseville Pkwy	2,900	2,928	28	1%	0.5	+/- 400 vph	Yes	< 5	Yes
SB Galleria Blvd s/o Roseville Pkwy	3,779	3,606	-173	-5%	2.9	+/- 400 vph	Yes	< 5	Yes
NB Galleria Blvd s/o Roseville Pkwy	1,523	1,537	14	1%	0.4	+/- 15%	Yes	< 5	Yes
EB Roseville Pkwy w/o Creekside Ridge Dr	5,205	5,165	-40	-1%	0.6	+/- 400 vph	Yes	< 5	Yes
WB Roseville Pkwy w/o Creekside Ridge Dr	3,958	4,010	52	1%	0.8	+/- 400 vph	Yes	< 5	Yes
SB Creekside Ridge Dr n/o Roseville Pkwy	294	341	47	16%	2.6	+/- 100 vph	Yes	< 5	Yes
NB Creekside Ridge Dr n/o Roseville Pkwy	825	700	-125	-15%	4.5	+/- 15%	No	< 5	Yes
SB Creekside Ridge Dr s/o Roseville Pkwy	54	53	-1	-2%	0.1	+/- 100 vph	Yes	< 5	Yes
NB Creekside Ridge Dr s/o Roseville Pkwy	43	48	5	11%	0.7	+/- 100 vph	Yes	< 5	Yes
EB Roseville Pkwy w/o Taylor Rd	5,267	5,434	167	3%	2.3	+/- 400 vph	Yes	< 5	Yes
WB Roseville Pkwy w/o Taylor Rd	4,562	4,690	128	3%	1.9	+/- 400 vph	Yes	< 5	Yes
EB Roseville Pkwy e/o Taylor Rd	6,555	6,307	-248	-4%	3.1	+/- 400 vph	Yes	< 5	Yes
WB Roseville Pkwy e/o Taylor Rd	4,804	4,616	-189	-4%	2.7	+/- 400 vph	Yes	< 5	Yes
SB Taylor Rd n/o Roseville Pkwy	1,907	1,781	-127	-7%	2.9	+/- 15%	Yes	< 5	Yes
NB Taylor Rd n/o Roseville Pkwy	1,193	1,203	10	1%	0.3	+/- 15%	Yes	< 5	Yes
SB Taylor Rd s/o Roseville Pkwy	1,631	1,472	-159	-10%	4.0	+/- 15%	Yes	< 5	Yes
NB Taylor Rd s/o Roseville Pkwy	1,963	1,842	-121	-6%	2.8	+/- 15%	Yes	< 5	Yes
EB Roseville Pkwy w/o Sunrise Ave	6,452	6,251	-201	-3%	2.5	+/- 400 vph	Yes	< 5	Yes
WB Roseville Pkwy w/o Sunrise Ave	4,677	4,421	-256	-5%	3.8	+/- 400 vph	Yes	< 5	Yes
EB Roseville Pkwy e/o Sunrise Ave	5,098	4,917	-182	-4%	2.6	+/- 400 vph	Yes	< 5	Yes
WB Roseville Pkwy e/o Sunrise Ave	4,484	4,268	-216	-5%	3.3	+/- 400 vph	Yes	< 5	Yes
SB Sunrise Ave n/o Roseville Pkwy	694	585	-110	-16%	4.3	+/- 100 vph	No	< 5	Yes
NB Sunrise Ave n/o Roseville Pkwy	1,700	1,624	-76	-4%	1.9	+/- 15%	Yes	< 5	Yes
SB Sunrise Ave s/o Roseville Pkwy	1,790	1,552	-238	-13%	5.8	+/- 15%	Yes	< 5	No
NB Sunrise Ave s/o Roseville Pkwy	1,635	1,409	-226	-14%	5.8	+/- 15%	Yes	< 5	No
EB Atlantic St w/o Wills Rd	2,535	2,647	112	4%	2.2	+/- 15%	Yes	< 5	Yes
WB Atlantic St w/o Wills Rd	1,895	1,882	-13	-1%	0.3	+/- 15%	Yes	< 5	Yes
EB Atlantic St w/o WB I-80	2,688	2,819	131	5%	2.5	+/- 400 vph	Yes	< 5	Yes
WB Atlantic St w/o WB I-80	2,057	2,055	-2	0%	0.0	+/- 15%	Yes	< 5	Yes
SB Wills Rd s/o Atlantic St	1,140	1,123	-17	-2%	0.5	+/- 15%	Yes	< 5	Yes
NB Wills Rd s/o Atlantic St	1,131	1,125	-6	-1%	0.2	+/- 15%	Yes	< 5	Yes
SB Galleria Blvd n/o Wills Rd	3,505	3,529	24	1%	0.4	+/- 400 vph	Yes	< 5	Yes
NB Galleria Blvd n/o Wills Rd	1,795	1,891	96	5%	2.2	+/- 15%	Yes	< 5	Yes
SB Harding Blvd s/o Wills Rd	3,388	3,259	-129	-4%	2.2	+/- 400 vph	Yes	< 5	Yes
NB Harding Blvd s/o Wills Rd	1,679	1,648	-31	-2%	0.8	+/- 15%	Yes	< 5	Yes
EB Eureka Rd w/o Taylor Rd	4,725	4,721	-5	0%	0.1	+/- 400 vph	Yes	< 5	Yes
WB Eureka Rd w/o Taylor Rd	2,623	3,893	1270	48%	22.3	+/- 400 vph	No	< 5	No
EB Eureka Rd e/o Taylor Rd	6,002	6,106	104	2%	1.3	+/- 400 vph	Yes	< 5	Yes
WB Eureka Rd e/o Taylor Rd	2,965	2,904	-61	-2%	1.1	+/- 400 vph	Yes	< 5	Yes
SB Taylor Rd n/o Eureka Rd	1,495	1,223	-272	-18%	7.4	+/- 15%	No	< 5	No
NB Taylor Rd n/o Eureka Rd	2,163	2,081	-82	-4%	1.8	+/- 15%	Yes	< 5	Yes
EB Eureka Rd w/o Sunrise Ave	5,864	5,887	23	0%	0.3	+/- 400 vph	Yes	< 5	Yes
WB Eureka Rd w/o Sunrise Ave	3,011	2,917	-94	-3%	1.7	+/- 400 vph	Yes	< 5	Yes
EB Eureka Rd e/o Sunrise Ave	4,522	4,737	215	5%	3.2	+/- 400 vph	Yes	< 5	Yes
WB Eureka Rd e/o Sunrise Ave	2,448	2,422	-26	-1%	0.5	+/- 15%	Yes	< 5	Yes
SB Sunrise Ave n/o Eureka Rd	1,588	1,458	-130	-8%	3.3	+/- 15%	Yes	< 5	Yes
NB Sunrise Ave n/o Eureka Rd	1,581	1,618	37	2%	0.9	+/- 15%	Yes	< 5	Yes
SB Sunrise Ave s/o Eureka Rd	2,211	1,876	-335	-15%	7.4	+/- 15%	No	< 5	No
NB Sunrise Ave s/o Eureka Rd	1,425	1,381	-44	-3%	1.2	+/- 15%	Yes	< 5	Yes
EB Douglas Blvd w/o Harding Blvd	3,203	3,586	383	12%	6.6	+/- 400 vph	Yes	< 5	No
WB Douglas Blvd w/o Harding Blvd	2,700	3,150	450	17%	8.3	+/- 400 vph	No	< 5	No
EB Douglas Blvd e/o Harding Blvd	3,146	4,127	981	31%	16.3	+/- 400 vph	No	< 5	No
WB Douglas Blvd e/o Harding Blvd	3,404	3,582	178	5%	3.0	+/- 400 vph	Yes	< 5	Yes
SB Harding Blvd n/o Douglas Blvd	2,009	1,236	-774	-39%	19.2	+/- 15%	No	< 5	No
NB Harding Blvd n/o Douglas Blvd	1,424	1,026	-398	-28%	11.4	+/- 15%	No	< 5	No
SB Harding Blvd s/o Douglas Blvd	256	274	18	7%	1.1	+/- 100 vph	Yes	< 5	Yes
NB Harding Blvd s/o Douglas Blvd	165	173	8	5%	0.6	+/- 100 vph	Yes	< 5	Yes
EB Douglas Blvd w/o Sunrise Ave	6,545	6,170	-375	-6%	4.7	+/- 400 vph	Yes	< 5	Yes
WB Douglas Blvd w/o Sunrise Ave	5,212	5,192	-21	0%	0.3	+/- 400 vph	Yes	< 5	Yes
EB Douglas Blvd e/o Sunrise Ave	5,497	5,225	-272	-5%	3.7	+/- 400 vph	Yes	< 5	Yes
WB Douglas Blvd e/o Sunrise Ave	4,698	4,796	98	2%	1.4	+/- 400 vph	Yes	< 5	Yes
SB Sunrise Ave n/o Douglas Blvd	1,545	1,658	113	7%	2.8	+/- 15%	Yes	< 5	Yes
NB Sunrise Ave n/o Douglas Blvd	2,298	2,324	26	1%	0.5	+/- 15%	Yes	< 5	Yes
SB Sunrise Ave s/o Douglas Blvd	1,824	1,288	-536	-29%	13.6	+/- 15%	No	< 5	No
NB Sunrise Ave s/o Douglas Blvd	2,043	2,254	211	10%	4.5	+/- 15%	Yes	< 5	Yes
EB Woodside Dr e/o Pacific St	188	184	-4	-2%	0.3	+/- 100 vph	Yes	< 5	Yes
WB Woodside Dr e/o Pacific St	469	463	-6	-1%	0.3	+/- 100 vph	Yes	< 5	Yes
SB Pacific St n/o Woodside Dr	3,309	3,201	-108	-3%	1.9	+/- 400 vph	Yes	< 5	Yes
NB Pacific St n/o Woodside Dr	1,605	1,634	29	2%	0.7	+/- 15%	Yes	< 5	Yes
SB Pacific St s/o Woodside Dr	3,594	3,475	-119	-3%	2.0	+/- 400 vph	Yes	< 5	Yes
NB Pacific St s/o Woodside Dr	1,609	1,630	21	1%	0.5	+/- 15%	Yes	< 5	Yes
EB Sunset Blvd w/o Pacific St	3,711	3,624	-87	-2%	1.4	+/- 400 vph	Yes	< 5	Yes
WB Sunset Blvd w/o Pacific St	1,672	1,814	142	8%	3.4	+/- 15%	Yes	< 5	Yes
EB Sunset Blvd e/o Pacific St	297	281	-16	-5%	0.9	+/- 100 vph	Yes	< 5	Yes
WB Sunset Blvd e/o Pacific St	463	419	-45	-10%	2.1	+/- 100 vph	Yes	< 5	Yes
SB Pacific St n/o Sunset Blvd	2,096	2,239	143	7%	3.1	+/- 15%	Yes	< 5	Yes
NB Pacific St n/o Sunset Blvd	2,529	2,557	28	1%	0.6	+/- 15%	Yes	< 5	Yes
SB Pacific St s/o Sunset Blvd	3,311	3,216	-95	-3%	1.7	+/- 400 vph	Yes	< 5	Yes
NB Pacific St s/o Sunset Blvd	1,539	1,587	48	3%	1.2	+/- 15%	Yes	< 5	Yes
EB Rocklin Rd w/o Granite Dr	2,406	2,379	-27	-1%	0.5	+/- 15%	Yes	< 5	Yes
WB Rocklin Rd w/o Granite Dr	1,982	1,934	-48	-2%	1.1	+/- 15%	Yes	< 5	Yes
EB Rocklin Rd e/o Granite Dr	3,000	3,008	8	0%	0.2	+/- 400 vph	Yes	< 5	Yes
WB Rocklin Rd e/o Granite Dr	3,009	2,922	-87	-3%	1.6	+/- 400 vph	Yes	< 5	Yes
SB Granite Dr n/o Rocklin Rd	1,160	1,165	5	0%	0.1	+/- 15%	Yes	< 5	Yes
NB Granite Dr n/o Rocklin Rd	1,673	1,596	-77	-5%	1.9	+/- 15%	Yes	< 5	Yes
EB Rocklin Rd w/o WB I-80	3,153	3,195	42	1%	0.8	+/- 400 vph	Yes	< 5	Yes
WB Rocklin Rd w/o WB I-80	3,161	3,103	-58	-2%	1.0	+/- 400 vph	Yes	< 5	Yes
EB Rocklin Rd e/o WB I-80	1,981	2,005	24	1%	0.5	+/- 15%	Yes	< 5	Yes
WB Rocklin Rd e/o WB I-80	3,998	3,994	-4	0%	0.1	+/- 400 vph	Yes	< 5	Yes
EB Rocklin Rd e/o EB I-80	3,572	3,596	24	1%	0.4	+/- 400 vph	Yes	< 5	Yes
EB Rocklin Rd e/o EB I-80	2,492	2,395	-97	-4%	2.0	+/- 15%	Yes	< 5	Yes
EB Rocklin Rd w/o Aguilar Rd	3,581	3,561	-20	-1%	0.3	+/- 400 vph	Yes	< 5	Yes
WB Rocklin Rd w/o Aguilar Rd	2,567	2,249	-319	-12%	6.5	+/- 15%	Yes	< 5	No
EB Rocklin Rd e/o Aguilar Rd	3,295	3,248	-47	-1%	0.8	+/- 400 vph	Yes	< 5	Yes
WB Rocklin Rd e/o Aguilar Rd	2,029	1,985	-44	-2%	1.0	+/- 15%	Yes	< 5	Yes

SB Aguilar Rd s/o Rocklin Rd	152	173	21	14%	1.6	+/- 100 vph	Yes	< 5	Yes
NB Aguilar Rd s/o Rocklin Rd	404	343	-61	-15%	3.2	+/- 100 vph	Yes	< 5	Yes
Overall	**1,450,418**	**1,442,063**	**-8355**	**-0.6%**	**6.9**	**+/- 5%**	**Yes**	**< 4**	**No**

Link Volumes		
	Target	% Met
< 700 vph	> 85 %	95%
> 700 & < 2,700 vph	> 85 %	96%
> 2,700 vph	> 85 %	90%
GEH Statistic	> 85 %	90%

Aggregated Volumes		
	Target	% Met
Intersections	> 85 %	86%
Interchanges	> 85 %	100%

VISSIM Metrics
Calibration Comparison
I-80/SR 65 Interchange
Fehr & Peers
Travel Time
June 3, 2012

AM Peak Period

		Measured	Modeled Conditions			Calibration Targets[1]	
Path	Time Period	Travel Time (minutes)	Travel Time (minutes)	Difference (minutes)	Percent Difference	Target	Meets Target?
I-80 WB: Blue Oaks Blvd to Antelope Road	7:15 - 7:30	10.27	8.40	-1.87	-18.2%	+/- 15%	No
	7:45 - 8:00	10.80	10.38	-0.42	-3.9%	+/- 15%	Yes
	8:15 - 8:30	8.05	8.50	0.45	5.6%	+/- 15%	Yes
I-80 EB: Antelope Road to Blue Oaks Blvd	7:00 - 7:15	6.69	6.79	0.10	1.5%	+/- 15%	Yes
	7:45 - 8:00	7.28	7.46	0.18	2.5%	+/- 15%	Yes
	8:15 - 8:30	6.99	6.89	-0.10	-1.5%	+/- 15%	Yes
	8:45 - 9:00	6.93	6.89	-0.04	-0.6%	+/- 15%	Yes
I-80 WB: Sierra College Blvd to Antelope Road	7:00 - 7:15	7.98	9.34	1.36	17.0%	+/- 15%	No
	7:30 - 7:45	8.25	8.46	0.21	2.5%	+/- 15%	Yes
	8:00 - 8:15	7.83	8.48	0.64	8.2%	+/- 15%	Yes
	8:30 - 8:45	7.73	8.33	0.60	7.7%	+/- 15%	Yes
I-80 EB: Antelope Road to Sierra College Blvd	7:15 - 7:30	5.93	6.58	0.65	10.9%	+/- 15%	Yes
	7:45 - 8:00	6.13	6.71	0.58	9.5%	+/- 15%	Yes
	8:30 - 8:45	5.91	6.55	0.64	10.9%	+/- 15%	Yes
	8:45 - 9:00	6.16	6.55	0.39	6.4%	+/- 15%	Yes

Measure	% Cases
> 85%	87%
Met Target	

VISSIM Post-Processor **I-80/SR 65 Interchange**
Average Values from 10 Runs **Existing Conditions**
Network Statistics **AM Peak Period**

Network Performance	Vehicle Types	Average	Std. Dev.
Number of Vehicles Served	All Vehicles	143,451	56
Travel Distance [mi]	All Vehicles	645,274	1,372
Travel Time [h]	All Vehicles	13,757	107.7
Average Speed [mph]	All Vehicles	46.9	0.4
Total Delay [h]	All Vehicles	2,672	118.7
Average Delay per Vehicle [s]	All Vehicles	66	2.9
VHD/VMT [min/mile]	All Vehicles	0.25	0.01
Number of Vehicles Served	HOV	29,190	103
Travel Distance [mi]	HOV	127,289	610
Travel Time [h]	HOV	2,707	23
Average Speed [mph]	HOV	47.0	0.3
Total Delay [h]	HOV	518	19
Average Delay per Vehicle [s]	HOV	63	2
VHD/VMT [min/mile]	HOV	0.24	0.01
Number of Vehicles Served	Truck	3,675	31
Travel Distance [mi]	Truck	19,339	309
Travel Time [h]	Truck	398	6
Average Speed [mph]	Truck	48.5	0
Total Delay [h]	Truck	68	3
Average Delay per Vehicle [s]	Truck	65	3
VHD/VMT [min/mile]	Truck	0.21	0.01

	Vehicle Types		
Performance Measure	HOV	Truck	All
Vehicles Served	29,190	3,670	143,450
Demand Volume	24,518	3,839	143,735
Percent Demand Served	119.1%	95.6%	99.8%
Vehicle Miles of Travel	127,290	19,340	645,270
Person Miles of Travel	267,310	20,310	786,260
Vehicle Hours of Travel	2,710	400	13,760
Vehicle Hours of Delay	520	70	2,670
VHD % of VHT	19.2%	17.5%	19.4%
Average Delay per Vehicle (min)	1.07	1.14	1.12
Person Hours of Delay	1,090	70	3,240
Average Travel Speed	47.0	48.5	46.9

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

I-80 / SR-65 Interchange
Existing Conditions
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
1	I-80 EB - Auburn Blvd On-ramp	Merge	6,073	57	112.3%	845	15	115.0%				59.1	1.3	24.5	0.6	C
2	I-80 EB - Auburn Blvd to Douglas Blvd	Basic	6,906	71	112.4%							62.2	0.2	27.9	0.3	D
3	I-80 EB - Douglas Blvd EB Off-ramp	Diverge	6,902	66	112.3%				1,398	64	109.9%	62.1	0.7	23.8	0.6	C
4	I-80 EB - Douglas Blvd WB Off-ramp	Diverge	5,505	78	113.0%				337	36	115.0%	63.4	0.3	18.7	0.4	B
5	I-80 EB - Douglas Blvd Off to On-ramp	Basic	5,162	72	112.7%							63.6	0.1	21.2	0.3	C
6	I-80 EB - Douglas Blvd On-ramp	Merge	5,161	74	112.7%	857	34	100.2%				61.3	1.1	26.8	0.9	C
7	I-80 EB - Eureka Rd Off-ramp	Diverge	6,016	101	110.7%				1,219	72	111.4%	61.7	0.4	26.2	0.5	C
8	I-80 EB - Eureka Rd Off to On-ramp	Basic	4,795	109	110.4%							63.3	0.2	21.0	0.3	C
9	I-80 EB - Eureka Rd EB On-ramp	Merge	4,798	116	110.5%	200	25	123.6%				63.3	0.2	18.6	0.3	B
10	I-80 EB - Eureka Rd to Taylor Rd	Weave	5,001	127	111.0%	438	40	102.9%	242	32	115.3%	62.4	0.4	23.0	0.6	C
11	I-80 EB - Taylor Rd to SR-65	Basic	5,201	117	110.2%							62.0	0.3	26.5	0.6	D
17	I-80 EB - SR-65 Off-ramp	Diverge	5,204	112	110.3%				2,534	83	106.6%	61.5	0.6	27.6	0.4	C
18	I-80 EB - SR-65 Off to On-ramp	Basic	2,671	96	113.9%							64.0	0.1	14.1	0.5	B
19	I-80 EB - SR-65 On-ramp	Merge	2,674	100	114.1%	1,275	72	111.5%				61.3	1.4	20.9	0.7	C
20	I-80 EB - SR-65 to Lane Drop	Basic	3,953	126	113.3%							60.4	2.1	24.9	1.0	C
21	I-80 EB - Lane Drop to Rocklin Rd	Basic	3,955	123	113.4%							62.2	0.6	24.6	0.8	C
22	I-80 EB - Rocklin Rd Off-ramp	Diverge	3,957	124	113.4%				1,284	72	113.6%	61.1	1.0	22.2	0.9	C
23	I-80 EB - Rocklin Rd Off to On-ramp	Basic	2,674	106	113.4%							63.5	0.5	16.9	0.8	B
24	I-80 EB - Rocklin Rd On-ramp	Merge	2,674	105	113.4%	220	26	119.1%				62.5	0.5	15.7	0.5	B
25	I-80 EB - Rocklin Rd to Sierra College Blvd	Basic	2,895	101	113.9%							63.9	0.1	17.2	0.7	B

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

I-80 / SR-65 Interchange
Existing Conditions
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
26	I-80 EB - Sierra College Blvd Off-ramp	Diverge	2,898	100	113.9%				296	27	110.0%	63.3	0.5	17.9	0.7	B
27	I-80 EB - Sierra College Blvd Off to On-ramp	Basic	2,606	89	114.6%							63.7	0.3	16.5	0.5	B
28	I-80 EB - Sierra College Blvd SB On-ramp	Merge	2,608	89	114.7%	133	4	102.5%				63.0	0.3	15.1	0.4	B
29	I-80 EB - Sierra College Blvd NB On-ramp	Merge	2,742	91	114.1%	277	8	107.6%				60.8	0.7	16.6	0.4	B
38	I-80 WB - Sierra College Blvd Off-ramp	Diverge	4,202	25	105.7%				733	39	107.7%	59.2	1.0	22.2	0.5	C
39	I-80 WB - Sierra College Blvd Off to On-ramp	Basic	3,466	49	105.2%							63.0	0.4	20.9	0.2	C
40	I-80 WB - Sierra College Blvd NB On-ramp	Merge	3,464	53	105.2%	55	3	103.4%				63.2	0.2	18.1	0.2	B
41	I-80 WB - Sierra College Blvd SB On-ramp	Merge	3,517	57	105.1%	292	6	109.8%				60.1	1.0	19.5	0.4	B
42	I-80 WB - Sierra College Blvd to Rocklin Rd	Basic	3,804	66	105.3%							63.4	0.1	21.2	0.3	C
43	I-80 WB - Rocklin Rd Off-ramp	Diverge	3,802	65	105.2%				240	29	111.9%	63.1	0.2	21.2	0.5	C
44	I-80 WB - Rocklin Rd Off to On-ramp	Basic	3,560	60	104.7%							63.3	0.1	19.8	0.2	C
45	I-80 WB - Rocklin Rd On-ramp	Merge	3,559	65	104.7%	763	40	104.5%				53.4	2.0	24.4	1.5	C
46	I-80 WB - Rocklin Rd to HOV Lane Start	Basic	4,313	86	104.5%							61.3	0.3	26.3	0.5	D
47	I-80 WB - HOV Lane Start to SR-65	Basic	4,312	92	104.4%							63.1	0.2	17.8	0.3	B
48	I-80 WB - SR-65 Off-ramp	Diverge	4,311	95	104.4%				1,173	52	102.2%	63.1	0.5	17.8	0.6	B
49	I-80 WB - SR-65 Off to On-ramp	Basic	3,131	85	105.0%							63.2	0.3	17.7	0.5	B
50	I-80 WB - SR-65 On-ramp	Merge	3,262	104	109.4%	2,916	80	103.0%				63.0	0.1	24.7	0.3	C

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

I-80 / SR-65 Interchange
Existing Conditions
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
60	I-80 WB - Taylor Rd On-ramp	Merge	6,040	128	103.9%	584	43	113.5%				62.1	0.2	27.7	0.4	C
61	I-80 WB - Atlantic St WB Off-ramp	Diverge	6,623	144	104.7%				347	38	112.4%	64.4	0.3	17.7	0.6	B
62	I-80 WB - Atlantic St EB Off-ramp	Diverge	6,274	141	104.3%				828	63	100.2%	52.9	3.1	37.3	2.1	E
63	I-80 WB - Atlantic St Off to On-ramp	Basic	5,434	150	104.7%							62.6	0.4	22.4	0.6	C
64	I-80 WB - Atlantic St On-ramp	Merge	5,431	137	104.6%	684	43	104.6%				59.1	2.1	24.2	0.9	C
65	I-80 WB - Douglas Blvd Off-ramp	Diverge	6,114	144	104.6%				879	55	99.7%	56.5	3.0	18.7	0.9	B
66	I-80 WB - Douglas Rd Off to On-ramp	Basic	5,239	146	105.5%							60.8	1.5	29.9	0.9	D
67	I-80 WB - Douglas Blvd WB On-ramp	Merge	5,239	139	105.5%	797	52	103.9%				52.0	3.4	35.6	2.7	E
68	I-80 WB - Douglas Blvd EB On-ramp	Merge	6,037	132	105.3%	406	39	106.8%				48.4	3.1	41.7	3.3	E
69	I-80 WB - Douglas Blvd to Riverside Ave	Basic	6,433	134	105.3%							62.5	0.3	33.1	0.7	D
70	I-80 WB - Riverside Ave Off-ramp	Diverge	6,428	134	105.2%				473	43	89.5%	54.1	5.4	40.3	4.6	E
71	I-80 WB - Riverside Ave Off to On-ramp	Basic	5,958	134	106.7%							60.8	0.9	31.4	0.9	D
72	I-80 WB - Riverside Ave NB On-ramp	Merge	5,960	132	106.8%	122	7	61.2%				63.2	0.1	19.9	0.9	B
73	I-80 WB - Riverside Ave SB On-ramp	Merge	6,083	133	105.2%	1,185	15	105.6%				62.8	0.7	23.3	0.9	C
74	I-80 WB - Riverside Ave to Antelope Rd	Basic	7,270	137	105.3%							63.0	0.1	27.8	0.6	D
75	I-80 WB - Antelope Rd Off-ramp	Diverge	7,272	142	105.3%				288	40	87.2%	60.1	7.7	27.7	7.3	C

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Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

I-80 / SR 65 Interchange
Existing Conditions
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
76	I-80 WB - Antelope Rd Off to On-ramp	Basic	6,981	122	106.2%							53.4	15.1	37.6	24.7	E
77	I-80 WB - Antelope Rd WB On-ramp	Merge	6,985	156	106.2%	546	26	103.7%				41.1	15.3	53.5	31.7	F
78	I-80 WB - Antelope Rd to Truck Scales	Weave	7,558	233	106.4%	334	10	89.8%	38	15		38.3	18.8	61.8	30.7	F
79	I-80 WB - Truck Scales Off to On-ramp	Basic	7,995	416	107.0%							30.2	14.6	89.2	31.0	F
80	I-80 WB - Truck Scales On-ramp	Merge	8,989	517	120.3%	38	15					23.5	1.2	106.3	4.3	F
81	I-80 WB - Truck Scales to Elkhorn Blvd	Basic	8,159	475	109.2%							24.1	1.8	104.6	8.6	F
82	I-80 WB - Elkhorn Blvd Off-ramp	Diverge	8,175	473	109.4%				647	54	98.7%	27.1	2.3	79.8	4.9	F
83	I-80 WB - Elkhorn Blvd Off to On-ramp	Basic	7,567	424	111.0%							56.6	0.7	29.9	1.3	D
84	I-80 WB - Elkhorn Blvd WB On-ramp	Merge	7,570	427	111.0%	635	43	100.6%				52.4	2.4	35.0	3.7	E
85	I-80 WB - Elkhorn Blvd EB On-ramp	Merge	8,195	410	110.0%	810	23	100.1%				56.6	6.2	35.0	5.9	E

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VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

I-80 / SR-65 Interchange
Existing Conditions
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
97	SR-65 SB - Twelve Bridges Dr Off-ramp	Diverge	2,633	65	109.0%				305	32	111.7%	63.4	0.3	19.0	0.5	B
98	SR-65 SB - Twelve Bridges Dr Off to On-ramp	Basic	2,326	63	108.6%							63.2	0.2	19.3	0.6	C
99	SR-65 SB - Twelve Bridges Dr On-ramp	Merge	2,323	65	108.5%	612	31	114.6%				49.7	1.7	26.0	1.3	C
100	SR-65 SB - Twelve Bridges Dr to Sunset Blvd	Basic	2,931	74	109.5%							62.6	0.1	25.0	0.5	C
101	SR-65 SB - Sunset Blvd Off-ramp	Diverge	2,927	68	109.4%				366	37	104.5%	62.7	0.2	23.2	0.4	C
102	SR-65 SB - Sunset Blvd Off to On-ramp	Basic	2,560	80	110.0%							62.7	0.2	22.0	0.7	C
103	SR-65 SB - Sunset Blvd WB On-ramp	Merge	2,557	84	109.9%	414	33	109.9%				56.3	2.7	25.2	1.6	C
104	SR-65 SB - Sunset Blvd EB On-ramp	Merge	2,973	96	110.0%	314	23	104.5%				59.8	6.4	29.5	8.4	D
105	SR-65 SB - Sunset Blvd to Blue Oaks Blvd	Basic	3,281	88	109.3%							62.0	0.3	27.7	0.9	D
106	SR-65 SB - Blue Oaks Blvd Off-ramp	Diverge	3,278	88	109.1%				633	36	117.5%	57.3	3.5	29.2	1.8	D
107	SR-65 SB - Blue Oaks Blvd Off to On-ramp	Basic	2,640	74	107.1%							48.5	13.7	31.9	11.3	D
108	SR-65 SB - Blue Oaks Blvd WB On-ramp	Merge	2,636	80	107.0%	371	32	95.8%				28.3	14.0	60.2	24.7	F
109	SR-65 SB - Blue Oaks Blvd to Pleasant Grove Blvd	Weave	3,008	96	105.5%	844	55	96.9%	635	57	105.5%	20.0	3.2	74.9	8.6	F
110	SR-65 SB - Pleasant Grove Blvd Off to On-ramp	Basic	3,198	86	102.5%							19.4	0.7	88.7	1.8	F
111	SR-65 SB - Pleasant Grove Blvd WB On-ramp	Merge	3,190	71	102.2%	453	34	106.5%				20.8	2.1	72.4	6.0	F
112	SR-65 SB - Pleasant Grove Blvd EB On-ramp	Merge	3,637	63	102.6%	546	35	102.5%				36.5	0.5	53.4	1.2	F
113	SR-65 SB - Pleasant Grove Blvd to Galleria Blvd	Basic	4,176	50	102.4%							60.0	1.7	35.6	1.1	E
114	SR-65 SB - Galleria Blvd Off-ramp	Diverge	4,176	50	102.4%				763	44	95.3%	60.6	1.1	35.2	0.5	E
115	SR-65 SB - Galleria Blvd Off to Lane Add	Basic	3,411	66	104.0%							61.6	1.9	30.3	1.3	D
116	SR-65 SB - Lane Add to Galleria Blvd On-ramp	Basic	3,414	67	104.1%							63.3	0.2	21.0	0.5	C
117	SR-65 SB - Galleria Blvd On-ramp	Merge	3,414	69	104.1%	777	45	111.6%				51.4	3.3	30.1	2.9	D
118	SR-65 SB - I-80 WB Off-ramp	Diverge	4,190	81	105.4%				2,918	82	103.1%	62.7	0.4	23.8	0.5	C

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VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

I-80 / SR-65 Interchange
Existing Conditions
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
125	SR-65 NB - I-80 WB On-ramp	Merge	2,531	94	107.1%	1,173	61	65.3%				35.6	5.2	52.9	10.5	F
126	SR-65 NB - I-80 to Stanford Ranch Rd	Basic	3,704	109	89.0%							60.4	1.6	32.2	1.1	D
127	SR-65 NB - Stanford Ranch Rd Off-ramp	Diverge	3,704	107	105.1%				633	49	101.3%	59.8	1.6	32.9	1.0	D
128	SR-65 NB - Stanford Ranch Rd Off to On-ramp	Basic	3,072	115	106.0%							62.5	0.5	26.9	1.1	D
129	SR-65 NB - Stanford Ranch Rd On-ramp	Merge	3,074	110	106.1%	561	45	106.4%				53.2	4.5	33.6	3.4	D
130	SR-65 NB - Stanford Ranch Rd to Pleasant Grove Blvd	Basic	3,632	112	106.0%							61.1	0.7	30.1	1.1	D
131	SR-65 NB - Pleasant Grove Blvd Off-ramp	Diverge	3,632	112	106.0%				611	36	100.5%	62.0	0.5	28.1	1.1	D
132	SR-65 NB - Pleasant Grove Blvd Off to On-ramp	Basic	3,018	114	107.1%							62.7	0.5	26.6	1.0	D
133	SR-65 NB - Pleasant Grove Blvd to Blue Oaks Blvd	Weave	3,021	118	107.2%	206	22	95.0%	1,430	82	104.6%	63.3	0.1	21.1	1.1	C
134	SR-65 NB - Blue Oaks Blvd Off to On-ramp	Basic	1,799	83	107.9%							63.7	0.2	16.0	0.7	B
135	SR-65 NB - Blue Oaks Blvd On-ramp	Merge	1,799	86	108.0%	319	31	99.5%				60.9	1.1	17.4	0.6	B
136	SR-65 NB - Blue Oaks Blvd to Sunset Blvd	Basic	2,115	78	106.5%							63.3	0.2	18.4	0.7	C
137	SR-65 NB - Sunset Blvd Off-ramp	Diverge	2,116	84	106.5%				1,003	50	102.4%	63.5	0.1	16.4	0.6	B
138	SR-65 NB - Sunset Blvd Off to On-ramp	Basic	1,115	58	110.6%							64.1	0.1	10.4	0.6	A
139	SR-65 NB - Sunset Blvd EB On-ramp	Merge	1,117	60	110.8%	38	14	113.9%				63.5	0.4	10.6	0.5	B
140	SR-65 NB - Sunset Blvd WB On-ramp	Merge	1,154	63	110.8%	216	27	114.2%				64.3	0.2	10.3	0.6	B
141	SR-65 NB - Sunset Blvd to Twelve Bridges Dr	Basic	1,374	71	111.7%							63.8	0.2	12.7	0.5	B
142	SR-65 NB - Twelve Bridges Dr Off-ramp	Diverge	1,377	70	112.1%				275	33	96.0%	63.6	0.1	12.8	0.5	B
143	SR-65 NB - Twelve Bridges Dr Off to On-ramp	Basic	1,106	58	117.3%							63.9	0.2	10.7	0.4	A
144	SR-65 NB - Twelve Bridges Dr On-ramp	Merge	1,109	59	117.6%	219	18	108.4%				62.7	0.4	11.7	0.3	B

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

I-80 / SR-65 Interchange
Existing Conditions
AM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
1	SR-65/Sterling Pkwy	Signal	3,592	4,018	111.9%	18.7	0.8	B
2	SR-65 SB Ramps/Twelve Bridges Dr	Signal	1,086	1,200	110.5%	3.8	0.2	A
3	SR-65 NB Ramps/Twelve Bridges Dr	Signal	1,305	1,426	109.3%	3.3	0.4	A
4	SR-65 SB Ramps/Sunset Blvd	Signal	1,789	1,961	109.6%	7.0	0.5	A
5	SR-65 NB Ramps/Sunset Blvd	Signal	2,101	2,227	106.0%	9.9	0.4	A
6	SR-65 SB Ramps-Washington Blvd/Blue Oaks	Signal	3,555	3,653	102.8%	43.4	12.9	D
7	SR-65 NB Ramps/Blue Oaks Blvd	Signal	2,229	2,308	103.5%	23.7	8.3	C
8	SR-65 SB Ramps/Pleasant Grove Blvd	Signal	3,383	3,542	104.7%	9.1	1.1	A
9	SR-65 NB Ramps/Pleasant Grove Blvd	Signal	2,720	2,864	105.3%	10.3	0.9	B
10	Stanford Ranch Rd/Five Star Blvd	Signal	2,578	2,842	110.2%	18.8	1.1	B
11	SR-65 NB Ramps/Stanford Ranch Rd	Signal	2,941	3,201	108.9%	8.5	1.3	A
12	SR-65 SB Ramps/Galleria Blvd	Signal	3,107	3,308	106.5%	12.8	0.8	B
13	Galleria Blvd/Antelope Creek Dr	Signal	2,373	2,551	107.5%	10.3	1.0	B
14	Galleria Blvd/Roseville Pkwy	Signal	4,665	5,153	110.5%	29.8	1.9	C
15	Creekside Ridge Dr/Roseville Pkwy	Signal	3,147	3,527	112.1%	5.7	0.6	A
16	Taylor Rd/East Roseville Pkwy	Signal	4,274	4,645	108.7%	29.5	3.7	C
17	North Sunrise Ave/East Roseville Pkwy	Signal	4,073	4,218	103.6%	37.2	4.4	D
18	Wills Rd/Atlantic St	Signal	1,717	1,953	113.7%	10.2	0.6	B
19	I-80 WB Ramps/Atlantic St	Signal	2,676	2,885	107.8%	7.0	0.6	A
20	Taylor Rd-I-80 EB Ramps/Eureka Rd	Signal	3,496	4,005	114.6%	26.4	3.1	C
21	North Sunrise Ave/Eureka Rd	Signal	3,296	3,463	105.1%	24.1	4.8	C
22	Harding Blvd/Wills Rd	Signal	1,952	2,133	109.3%	11.6	0.8	B
23	Harding Blvd/Douglas Blvd	Signal	2,603	2,782	106.9%	18.5	1.2	B
24	I-80 WB Ramps/Douglas Blvd	Signal	3,426	3,597	105.0%	14.4	1.4	B

Network Summary	
Total Demand Volume (veh/hr)	68,084
Total Volume Served (veh/hr)	73,464
Percent Served	107.9%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.
3. For Side-street Stop and Uncontrolled intersections, the delay for the highest movement is reported.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

I-80 / SR-65 Interchange
Existing Conditions
AM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
25	I-80 EB Ramps/Douglas Blvd	Signal	3,868	4,094	105.9%	5.5	0.5	A
26	North Sunrise Ave/Douglas Blvd	Signal	4,048	4,364	107.8%	26.3	1.1	C
27	Pacific St/Woodside Dr	Signal	1,576	1,703	108.1%	6.6	0.4	A
28	Pacific St/Sunset Blvd	Signal	2,323	2,619	112.8%	17.7	1.5	B
29	Granite Dr/Rocklin Rd	Signal	1,985	2,085	105.0%	14.7	1.5	B
30	I-80 WB Ramps/Rocklin Rd	Signal	2,326	2,514	108.1%	21.3	2.4	C
31	I-80 EB Ramps/Rocklin Rd	Signal	2,448	2,739	111.9%	17.1	1.1	B
32	Aguilar Rd/Rocklin Rd	Signal	1,783	1,979	111.0%	8.0	1.2	A
253	Galleria Blvd/Berry St	Signal	1,805	1,944	107.7%	8.5	0.9	A

Network Summary	
Total Demand Volume (veh/hr)	22,162
Total Volume Served (veh/hr)	24,042
Percent Served	108.5%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Metrics
Calibration Comparison
I-80 / SR 65 Interchange
Fehr & Peers
Link Volumes
February 15, 2013

PM Peak Period

Link		Measured Volumes	Modeled Conditions				Link Flow Criteria		Link GEH Criteria	
		Demand Volume (vph)	Served Volume (vph)	Difference			Measure	Meets Target?	Target	Meets Target?
Fwy	Location			vph	%	GEH				
Interstate 80	EB - Auburn Blvd Off to On-ramp	24,273	24,417	144	0.6%	0.9	+/- 400 vph	Yes	< 5	Yes
	EB - Auburn Blvd On-ramp	2,625	2,461	-164	-6.3%	3.3	+/- 15%	Yes	< 5	Yes
	EB - Auburn Blvd to Douglas Blvd	26,898	26,889	-9	0.0%	0.1	+/- 400 vph	Yes	< 5	Yes
	EB - Douglas Blvd EB Off-Ramp	4,450	4,467	17	0.4%	0.3	+/- 400 vph	Yes	< 5	Yes
	EB - Douglas Blvd EB to WB Off-ramp	22,448	22,430	-18	-0.1%	0.1	+/- 400 vph	Yes	< 5	Yes
	EB - Douglas Blvd WB Off-Ramp	1,519	1,594	75	4.9%	1.9	+/- 15%	Yes	< 5	Yes
	EB - Douglas Blvd Off to On-Ramp	20,929	20,839	-90	-0.4%	0.6	+/- 400 vph	Yes	< 5	Yes
	EB - Douglas Blvd On-Ramp	4,441	4,388	-53	-1.2%	0.8	+/- 400 vph	Yes	< 5	Yes
	EB - Douglas Blvd to Eureka Rd	25,370	25,232	-138	-0.5%	0.9	+/- 400 vph	Yes	< 5	Yes
	EB - Eureka Rd Off-Ramp	3,787	3,701	-86	-2.3%	1.4	+/- 400 vph	Yes	< 5	Yes
	EB - Eureka Rd Off to On-ramp	21,583	21,534	-49	-0.2%	0.3	+/- 400 vph	Yes	< 5	Yes
	EB - Eureka Rd EB On-Ramp	825	919	94	11.4%	3.2	+/- 15%	Yes	< 5	Yes
	EB - Eureka Rd EB to WB On-Ramp	22,408	22,451	43	0.2%	0.3	+/- 400 vph	Yes	< 5	Yes
	EB - Eureka Rd WB On-Ramp	3,287	3,406	119	3.6%	2.1	+/- 400 vph	Yes	< 5	Yes
	EB - Eureka Rd to Taylor Rd	25,695	25,862	167	0.7%	1.0	+/- 400 vph	Yes	< 5	Yes
	EB - Taylor Rd Off-Ramp	1,809	1,861	52	2.9%	1.2	+/- 15%	Yes	< 5	Yes
	EB - Taylor Rd to SR-65	23,886	24,009	123	0.5%	0.8	+/- 400 vph	Yes	< 5	Yes
	EB - SR-65 Off-Ramp	12,666	12,443	-223	-1.8%	2.0	+/- 400 vph	Yes	< 5	Yes
	EB - SR-65 Off to On-Ramp	11,220	11,581	361	3.2%	3.4	+/- 400 vph	Yes	< 5	Yes
	EB - SR-65 On-Ramp	5,807	5,848	41	0.7%	0.5	+/- 400 vph	Yes	< 5	Yes
	EB - SR-65 to Rocklin Rd	17,027	17,439	412	2.4%	3.1	+/- 400 vph	No	< 5	Yes
	EB - Rocklin Rd Off-Ramp	4,352	4,615	263	6.0%	3.9	+/- 400 vph	Yes	< 5	Yes
	EB - Rocklin Rd Off to On-ramp	12,675	12,852	177	1.4%	1.6	+/- 400 vph	Yes	< 5	Yes
	EB - Rocklin Rd On-Ramp	947	932	-15	-1.6%	0.5	+/- 15%	Yes	< 5	Yes
	EB - Rocklin Rd to Sierra College Blvd	13,622	13,795	173	1.3%	1.5	+/- 400 vph	Yes	< 5	Yes
	EB - Sierra College Rd Off-Ramp	1,069	1,233	164	15.3%	4.8	+/- 15%	No	< 5	Yes
	EB - Sierra College Blvd Off to On-Ramp	12,553	12,565	12	0.1%	0.1	+/- 400 vph	Yes	< 5	Yes
	EB - Sierra College Blvd SB On-Ramp	757	742	-15	-2.0%	0.6	+/- 15%	Yes	< 5	Yes
	EB - Sierra College Blvd SB to NB On-Ramp	13,310	13,310	0	0.0%	0.0	+/- 400 vph	Yes	< 5	Yes
	EB - Sierra College Blvd NB On-Ramp	1,613	1,608	-5	-0.3%	0.1	+/- 15%	Yes	< 5	Yes
	EB - Sierra College Blvd to Horseshoe Bar Rd	14,923	14,924	1	0.0%	0.0	+/- 400 vph	Yes	< 5	Yes
	WB - Horseshoe Bar Rd to Sierra College Blvd	11,488	11,488	0	0.0%	0.0	+/- 400 vph	Yes	< 5	Yes
	WB - Sierra College Blvd Off-ramp	1,748	1,727	-21	-1.2%	0.5	+/- 15%	Yes	< 5	Yes
	WB - Sierra College Blvd Off to On-ramp	9,740	9,766	26	0.3%	0.3	+/- 400 vph	Yes	< 5	Yes
	WB - Sierra College Blvd NB On-Ramp	336	328	-8	-2.4%	0.4	+/- 100 vph	Yes	< 5	Yes
	WB - Sierra College Blvd NB to SB On-Ramp	10,076	10,096	20	0.2%	0.2	+/- 400 vph	Yes	< 5	Yes
	WB - Sierra College Blvd SB On-Ramp	859	922	63	7.3%	2.1	+/- 15%	Yes	< 5	Yes
	WB - Sierra College Blvd to Rocklin Rd	10,935	11,029	94	0.9%	0.9	+/- 400 vph	Yes	< 5	Yes
	WB - Rocklin Rd Off-Ramp	926	889	-37	-4.0%	1.2	+/- 15%	Yes	< 5	Yes
	WB - Rocklin Rd Off to On-Ramp	10,009	10,151	142	1.4%	1.4	+/- 400 vph	Yes	< 5	Yes
	WB - Rocklin Rd On-Ramp	3,742	3,849	107	2.9%	1.7	+/- 400 vph	Yes	< 5	Yes
	WB - Rocklin Rd to SR-65	13,751	14,019	268	1.9%	2.3	+/- 400 vph	Yes	< 5	Yes
	WB - SR-65 Off-Ramp	4,649	4,810	161	3.5%	2.3	+/- 400 vph	Yes	< 5	Yes
	WB - SR-65 Off to On-Ramp	9,102	9,230	128	1.4%	1.3	+/- 400 vph	Yes	< 5	Yes
	WB - SR-65 On-Ramp	9,425	9,356	-69	-0.7%	0.7	+/- 400 vph	Yes	< 5	Yes
	WB - SR-65 to Taylor Rd	18,527	18,255	-272	-1.5%	2.0	+/- 400 vph	Yes	< 5	Yes
	WB - Taylor Rd On-Ramp	1,604	1,595	-9	-0.6%	0.2	+/- 15%	Yes	< 5	Yes
	WB - Taylor Rd to Atlantic St	20,131	20,192	61	0.3%	0.4	+/- 400 vph	Yes	< 5	Yes
	WB - Atlantic St WB Off-Ramp	1,282	1,378	96	7.5%	2.6	+/- 15%	Yes	< 5	Yes
	WB - Atlantic St WB to EB Off-ramp	18,849	18,827	-22	-0.1%	0.2	+/- 400 vph	Yes	< 5	Yes
	WB - Atlantic St EB Off-ramp	2,525	2,576	51	2.0%	1.0	+/- 15%	Yes	< 5	Yes
	WB - Atlantic St Off to On-ramp	16,324	16,264	-60	-0.4%	0.5	+/- 400 vph	Yes	< 5	Yes
	WB - Atlantic St On-Ramp	3,356	3,540	184	5.5%	3.1	+/- 400 vph	Yes	< 5	Yes
	WB - Atlatnic St to Douglas Blvd	19,680	19,814	134	0.7%	1.0	+/- 400 vph	Yes	< 5	Yes
	WB - Douglas Blvd Off-Ramp	3,440	3,435	-5	-0.1%	0.1	+/- 400 vph	Yes	< 5	Yes
	WB - Douglas Blvd Off to On-Ramp	16,240	16,385	145	0.9%	1.1	+/- 400 vph	Yes	< 5	Yes
	WB - Douglas Blvd WB On-Ramp	4,066	3,783	-283	-7.0%	4.5	+/- 400 vph	Yes	< 5	Yes
	WB - Douglas Blvd WB to EB On-Ramp	20,306	20,170	-136	-0.7%	1.0	+/- 400 vph	Yes	< 5	Yes
	WB - Douglas Blvd EB On-Ramp	1,618	1,614	-5	-0.3%	0.1	+/- 15%	Yes	< 5	Yes
	WB - Douglas Blvd to Riverside Ave	21,924	21,811	-113	-0.5%	0.8	+/- 400 vph	Yes	< 5	Yes
	WB - Riverside Ave Off-ramp	2,708	2,608	-100	-3.7%	1.9	+/- 400 vph	Yes	< 5	Yes
	WB - Riverside Ave Off to On-Ramp	19,216	19,227	11	0.1%	0.1	+/- 400 vph	Yes	< 5	Yes
	WB - Riverside Ave NB On-ramp	701	703	2	0.2%	0.1	+/- 15%	Yes	< 5	Yes
	WB - Riverside Ave NB to SB On-Ramp	19,917	19,932	15	0.1%	0.1	+/- 400 vph	Yes	< 5	Yes
	WB - Riverside Ave SB On-ramp	3,138	3,368	230	7.3%	4.0	+/- 400 vph	Yes	< 5	Yes
	WB - Riverside Ave to Antelope Rd	23,055	23,322	267	1.2%	1.8	+/- 400 vph	Yes	< 5	Yes
	WB - Antelope Rd Off-ramp	3,357	3,370	13	0.4%	0.2	+/- 400 vph	Yes	< 5	Yes
	WB - Antelope Rd Off to On-Ramp	19,698	19,978	280	1.4%	2.0	+/- 400 vph	Yes	< 5	Yes
	WB - Antelope Rd WB On-ramp	1,313	1,307	-6	-0.5%	0.2	+/- 15%	Yes	< 5	Yes
	WB - Antelope Rd WB to EB On-Ramp	21,011	21,289	278	1.3%	1.9	+/- 400 vph	Yes	< 5	Yes
	WB - Antelope Rd EB On-ramp	936	925	-11	-1.1%	0.3	+/- 15%	Yes	< 5	Yes
	WB - Antelope Rd to Elkhorn Blvd	21,947	22,156	209	1.0%	1.4	+/- 400 vph	Yes	< 5	Yes
	WB - Elkhorn Blvd Off-ramp	3,750	3,755	5	0.1%	0.1	+/- 400 vph	Yes	< 5	Yes
	WB - Elkhorn Blvd Off to On-Ramp	18,197	18,515	318	1.7%	2.3	+/- 400 vph	Yes	< 5	Yes
	WB - Elkhorn Blvd WB On-ramp	2,529	2,530	1	0.0%	0.0	+/- 15%	Yes	< 5	Yes
	WB - Elkhorn Blvd WB to EB On-Ramp	20,726	21,048	322	1.6%	2.2	+/- 400 vph	Yes	< 5	Yes
	WB - Elkhorn Blvd EB On-ramp	2,294	2,286	-8	-0.3%	0.2	+/- 15%	Yes	< 5	Yes
	WB - Elkhorn Blvd to Madison Ave	23,020	23,341	321	1.4%	2.1	+/- 400 vph	Yes	< 5	Yes
	NB - I-80 to Stanford Ranch Rd	17,315	17,273	-42	-0.2%	0.3	+/- 400 vph	Yes	< 5	Yes
	NB - Stanford Ranch Rd Off-Ramp	4,687	4,834	147	3.1%	2.1	+/- 400 vph	Yes	< 5	Yes
	NB - Stanford Ranch Rd Off to On-Ramp	12,628	12,446	-182	-1.4%	1.6	+/- 400 vph	Yes	< 5	Yes
	NB - Stanford Ranch Rd On-Ramp	3,634	3,483	-151	-4.2%	2.5	+/- 400 vph	Yes	< 5	Yes
	NB - Stanford Ranch Rd to Pleasant Grove Blvd	16,262	15,935	-327	-2.0%	2.6	+/- 400 vph	Yes	< 5	Yes
	NB - Pleasant Grove Blvd Off-Ramp	4,030	4,181	151	3.7%	2.4	+/- 400 vph	Yes	< 5	Yes
	NB - Pleasant Grove Blvd Off to On-Ramp	12,232	11,759	-473	-3.9%	4.3	+/- 400 vph	No	< 5	Yes
	NB - Pleasant Grove Blvd On-Ramp	2,089	2,020	-69	-3.3%	1.5	+/- 15%	Yes	< 5	Yes
	NB - Pleasant Grove to Blue Oaks Blvd	14,321	13,782	-539	-3.8%	4.5	+/- 400 vph	No	< 5	Yes

State Route 65	NB - Blue Oaks Blvd Off-Ramp	4,701	4,204	-497	-10.6%	7.5	+/- 400 vph	No	< 5	No
	NB - Blue Oaks Blvd Off to On-Ramp	9,620	9,588	-32	-0.3%	0.3	+/- 400 vph	Yes	< 5	Yes
	NB - Blue Oaks Blvd On-Ramp	1,793	1,861	68	3.8%	1.6	+/- 15%	Yes	< 5	Yes
	NB - Blue Oaks Blvd to Sunset Blvd	11,413	11,454	41	0.4%	0.4	+/- 400 vph	Yes	< 5	Yes
	NB - Sunset Blvd Off-Ramp	2,780	2,705	-75	-2.7%	1.4	+/- 400 vph	Yes	< 5	Yes
	NB - Sunset Blvd Off to On-ramp	8,633	8,754	121	1.4%	1.3	+/- 400 vph	Yes	< 5	Yes
	NB - Sunset Blvd EB On-Ramp	247	249	2	0.9%	0.1	+/- 100 vph	Yes	< 5	Yes
	NB - Sunset Blvd EB to WB On-ramp	8,880	9,003	123	1.4%	1.3	+/- 400 vph	Yes	< 5	Yes
	NB - Sunset Blvd WB On-Ramp	1,002	955	-47	-4.7%	1.5	+/- 15%	Yes	< 5	Yes
	NB - Sunset Blvd to Twelve Bridges Dr	9,882	9,958	76	0.8%	0.8	+/- 400 vph	Yes	< 5	Yes
	NB - Twelve Bridges Dr Off-Ramp	2,235	2,165	-70	-3.1%	1.5	+/- 15%	Yes	< 5	Yes
	NB - Twelve Bridges Dr Off to On-ramp	7,647	7,799	152	2.0%	1.7	+/- 400 vph	Yes	< 5	Yes
	NB - Twelve Bridges Dr On-Ramp	1,100	916	-184	-16.7%	5.8	+/- 15%	No	< 5	No
	NB - Twelve Bridges Dr to Sterling Pkwy	8,747	8,715	-32	-0.4%	0.3	+/- 400 vph	Yes	< 5	Yes
	SB - Sterling Pkwy to Twelve Bridges Dr	6,566	6,641	75	1.1%	0.9	+/- 400 vph	Yes	< 5	Yes
	SB - Twelve Bridges Dr Off-Ramp	855	840	-15	-1.8%	0.5	+/- 15%	Yes	< 5	Yes
	SB - Twelve Bridges Dr Off to On-Ramp	5,711	5,807	96	1.7%	1.3	+/- 400 vph	Yes	< 5	Yes
	SB - Twelve Bridges Dr On-Ramp	1,519	1,587	68	4.5%	1.7	+/- 15%	Yes	< 5	Yes
	SB - Twelve Bridges Dr to Sunset Blvd	7,230	7,417	187	2.6%	2.2	+/- 400 vph	Yes	< 5	Yes
	SB - Sunset Blvd Off-Ramp	912	982	70	7.7%	2.3	+/- 15%	Yes	< 5	Yes
	SB - Sunset Blvd Off to On-ramp	6,318	6,459	141	2.2%	1.8	+/- 400 vph	Yes	< 5	Yes
	SB - Sunset Blvd WB On-Ramp	1,782	1,774	-8	-0.5%	0.2	+/- 15%	Yes	< 5	Yes
	SB - Sunset Blvd WB to EB On-Ramp	8,100	8,238	138	1.7%	1.5	+/- 400 vph	Yes	< 5	Yes
	SB - Sunset Blvd EB On-Ramp	2,299	2,230	-69	-3.0%	1.5	+/- 15%	Yes	< 5	Yes
	SB - Sunset Blvd to Blue Oaks Blvd	10,399	10,485	86	0.8%	0.8	+/- 400 vph	Yes	< 5	Yes
	SB - Blue Oaks Blvd Off-Ramp	1,997	2,024	27	1.4%	0.6	+/- 15%	Yes	< 5	Yes
	SB - Blue Oaks Blvd Off to On-Ramp	8,402	8,477	75	0.9%	0.8	+/- 400 vph	Yes	< 5	Yes
	SB - Blue Oaks Blvd WB On-Ramp	1,415	1,067	-348	-24.6%	9.9	+/- 15%	No	< 5	No
	SB - Blue Oaks Blvd WB to EB On-Ramp	9,817	9,547	-270	-2.7%	2.7	+/- 400 vph	Yes	< 5	Yes
	SB - Blue Oaks Blvd EB On-Ramp	3,384	3,205	-179	-5.3%	3.1	+/- 400 vph	Yes	< 5	Yes
	SB - Blue Oaks Blvd to Pleasant Grove Blvd	13,201	12,756	-445	-3.4%	3.9	+/- 400 vph	No	< 5	Yes
	SB - Pleasant Grove Blvd Off-Ramp	2,177	2,256	79	3.6%	1.7	+/- 15%	Yes	< 5	Yes
	SB - Pleasant Grove Blvd Off to On-ramp	11,024	10,512	-512	-4.6%	4.9	+/- 400 vph	No	< 5	Yes
	SB - Pleasant Grove Blvd WB On-Ramp	1,252	1,403	151	12.1%	4.1	+/- 15%	Yes	< 5	Yes
	SB - Pleasant Grove Blvd WB to EB On-Ramp	12,276	11,917	-359	-2.9%	3.3	+/- 400 vph	Yes	< 5	Yes
	SB - Pleasant Grove Blvd EB On-Ramp	2,281	2,298	17	0.8%	0.4	+/- 15%	Yes	< 5	Yes
	SB - Pleasant Grove Blvd to Galleria Blvd	14,557	14,227	-330	-2.3%	2.7	+/- 400 vph	Yes	< 5	Yes
	SB - Galleria Blvd Off-Ramp	3,198	2,954	-244	-7.6%	4.4	+/- 400 vph	Yes	< 5	Yes
	SB - Galleria Blvd Off to On-Ramp	11,359	11,277	-82	-0.7%	0.8	+/- 400 vph	Yes	< 5	Yes
	SB - Galleria Blvd On-Ramp	3,873	3,913	40	1.0%	0.6	+/- 400 vph	Yes	< 5	Yes
	SB - Galleria Blvd to I-80	15,232	15,191	-42	-0.3%	0.3	+/- 400 vph	Yes	< 5	Yes
	SB SR 65 n/o Sterling Pkwy	4,588	4,645	57	1.2%	0.8	+/- 400 vph	Yes	< 5	Yes
	NB SR 65 n/o Sterling Pkwy	5,719	5,876	157	2.7%	2.1	+/- 400 vph	Yes	< 5	Yes
	EB Sterling Pkwy e/o SR 65	3,251	3,078	-173	-5.3%	3.1	+/- 400 vph	Yes	< 5	Yes
	WB Sterling Pkwy e/o SR 65	2,201	2,212	11	0.5%	0.2	+/- 15%	Yes	< 5	Yes
	EB Twelve Bridges Dr w/o SB SR 65	1,293	1,066	-227	-17.5%	6.6	+/- 15%	No	< 5	No
	WB Twelve Bridges Dr w/o SB SR-65	980	972	-8	-0.8%	0.2	+/- 15%	Yes	< 5	Yes
	EB Twelve Bridges Dr e/o SB SR 65	1,588	1,358	-230	-14.5%	6.0	+/- 15%	Yes	< 5	No
	WB Twelve Bridges Dr e/o SB SR-65	1,939	2,007	68	3.5%	1.5	+/- 15%	Yes	< 5	Yes
	EB Twelve Bridges Dr e/o NB SR 65	2,866	2,870	4	0.1%	0.1	+/- 400 vph	Yes	< 5	Yes
	WB Twelve Bridges Dr e/o NB SR-65	2,082	2,260	178	8.5%	3.8	+/- 15%	Yes	< 5	Yes
	EB Sunset Blvd w/o SB SR 65	3,297	3,262	-36	-1.1%	0.6	+/- 400 vph	Yes	< 5	Yes
	WB Sunset Blvd w/o SB SR-65	2,178	1,974	-204	-9.4%	4.5	+/- 15%	Yes	< 5	Yes
	EB Sunset Blvd e/o SB SR 65	1,729	1,843	114	6.6%	2.7	+/- 15%	Yes	< 5	Yes
	WB Sunset Blvd e/o SB SR-65	3,779	3,574	-205	-5.4%	3.4	+/- 400 vph	Yes	< 5	Yes
	EB Sunset Blvd e/o NB SR 65	2,794	3,011	217	7.8%	4.0	+/- 400 vph	Yes	< 5	Yes
	WB Sunset Blvd e/o NB SR-65	3,313	3,699	386	11.6%	6.5	+/- 400 vph	Yes	< 5	No
	EB Blue Oaks Blvd w/o Washington Blvd	6,884	6,938	54	0.8%	0.6	+/- 400 vph	Yes	< 5	Yes
	WB Blue Oaks Blvd w/o Washington Blvd	4,031	4,363	332	8.2%	5.1	+/- 400 vph	Yes	< 5	No
	WB Blue Oaks Blvd w/o NB SR 65 ramp	4,121	3,935	-186	-4.5%	2.9	+/- 400 vph	Yes	< 5	Yes
	EB Blue Oaks Blvd e/o Washington Blvd	7,841	8,142	301	3.8%	3.4	+/- 400 vph	Yes	< 5	Yes
	WB Blue Oaks Blvd e/o Washington Blvd	4,121	3,935	-186	-4.5%	2.9	+/- 400 vph	Yes	< 5	Yes
	SB Washington Blvd s/o Blue Oaks Blvd	2,016	2,226	210	10.4%	4.6	+/- 15%	Yes	< 5	Yes
	NB Washington Blvd s/o Blue Oaks Blvd	2,631	2,893	262	9.9%	5.0	+/- 15%	Yes	< 5	Yes
	EB Blue Oaks Blvd e/o NB SR 65	5,033	4,856	-177	-3.5%	2.5	+/- 400 vph	Yes	< 5	Yes
	WB Blue Oaks Blvd e/o NB SR 65	4,208	4,167	-41	-1.0%	0.6	+/- 400 vph	Yes	< 5	Yes
	EB Pleasant Grove Blvd w/o SB SR 65	8,489	8,443	-46	-0.5%	0.5	+/- 400 vph	Yes	< 5	Yes
	WB Pleasant Grove Blvd w/o SB SR-65	7,805	7,617	-188	-2.4%	2.1	+/- 400 vph	Yes	< 5	Yes
	EB Pleasant Grove Blvd e/o SB SR 65	6,863	6,824	-39	-0.6%	0.5	+/- 400 vph	Yes	< 5	Yes
	WB Pleasant Grove Blvd e/o SB SR-65	7,535	7,439	-96	-1.3%	1.1	+/- 400 vph	Yes	< 5	Yes
	EB Pleasant Grove Blvd e/o NB SR 65	7,475	8,013	538	7.2%	6.1	+/- 400 vph	No	< 5	No
	WB Pleasant Grove Blvd e/o NB SR-65	6,206	6,460	254	4.1%	3.2	+/- 400 vph	Yes	< 5	Yes
	EB Five Star Blvd w/o Stanford Ranch Rd	2,109	1,952	-157	-7.5%	3.5	+/- 15%	Yes	< 5	Yes
	WB Five Star Blvd w/o Stanford Ranch Rd	2,278	2,440	162	7.1%	3.3	+/- 15%	Yes	< 5	Yes
	EB Five Star Blvd e/o Stanford Ranch Rd	2,045	1,973	-72	-3.5%	1.6	+/- 15%	Yes	< 5	Yes
	WB Five Star Blvd e/o Stanford Ranch Rd	2,149	2,048	-101	-4.7%	2.2	+/- 15%	Yes	< 5	Yes
	SB Stanford Ranch Rd n/o Five Star Blvd	4,046	4,073	27	0.7%	0.4	+/- 400 vph	Yes	< 5	Yes
	NB Stanford Ranch Rd n/o Five Star Blvd	5,446	5,674	228	4.2%	3.1	+/- 400 vph	Yes	< 5	Yes
	SB Stanford Ranch Rd s/o Five Star Blvd	6,916	6,422	-494	-7.1%	6.0	+/- 400 vph	No	< 5	No
	NB Stanford Ranch Rd s/o Five Star Blvd	8,381	8,436	55	0.7%	0.6	+/- 400 vph	Yes	< 5	Yes
	SB Stanford Ranch Rd n/o NB SR 65	7,033	7,188	155	2.2%	1.8	+/- 400 vph	Yes	< 5	Yes
	NB Stanford Ranch Rd n/o NB SR 65	8,645	8,930	285	3.3%	3.0	+/- 400 vph	Yes	< 5	Yes
	SB Galleria Blvd n/o SB SR 65	7,496	7,542	46	0.6%	0.5	+/- 400 vph	Yes	< 5	Yes
	NB Galleria Blvd n/o SB SR 65	8,055	7,920	-135	-1.7%	1.5	+/- 400 vph	Yes	< 5	Yes
	SB Galleria Blvd s/o SB SR 65	7,601	7,650	49	0.6%	0.6	+/- 400 vph	Yes	< 5	Yes
	NB Galleria Blvd s/o SB SR 65	8,835	8,978	143	1.6%	1.5	+/- 400 vph	Yes	< 5	Yes
	EB Antelope Creek Dr w/o Galleria Blvd	2,174	1,568	-606	-27.9%	14.0	+/- 15%	No	< 5	No
	WB Antelope Creek Dr w/o Galleria Blvd	1,268	1,268	0	0.0%	0.0	+/- 15%	Yes	< 5	Yes
	EB Antelope Creek Dr e/o Galleria Blvd	1,729	1,711	-18	-1.0%	0.4	+/- 15%	Yes	< 5	Yes
	WB Antelope Creek Dr e/o Galleria Blvd	2,233	2,264	31	1.4%	0.6	+/- 15%	Yes	< 5	Yes
	SB Galleria Blvd n/o Antelope Creek Dr	5,692	5,706	14	0.2%	0.2	+/- 400 vph	Yes	< 5	Yes
	NB Galleria Blvd n/o Antelope Creek Dr	8,167	8,262	95	1.2%	1.0	+/- 400 vph	Yes	< 5	Yes
	SB Galleria Blvd s/o Antelope Creek Dr	5,838	5,547	-291	-5.0%	3.9	+/- 400 vph	Yes	< 5	Yes
	NB Galleria Blvd s/o Antelope Creek Dr	6,903	7,010	107	1.5%	1.3	+/- 400 vph	Yes	< 5	Yes
	EB Roseville Pkwy w/o Galleria Blvd	7,361	7,396	35	0.5%	0.4	+/- 400 vph	Yes	< 5	Yes
	WB Roseville Pkwy w/o Galleria Blvd	7,438	7,603	165	2.2%	1.9	+/- 400 vph	Yes	< 5	Yes
	EB Roseville Pkwy e/o Galleria Blvd	6,337	6,253	-84	-1.3%	1.1	+/- 400 vph	Yes	< 5	Yes

WB Roseville Pkwy e/o Galleria Blvd	7,876	7,764	-112	-1.4%	1.3	+/- 400 vph	Yes	< 5	Yes
SB Galleria Blvd n/o Roseville Pkwy	5,990	5,795	-195	-3.3%	2.5	+/- 400 vph	Yes	< 5	Yes
NB Galleria Blvd n/o Roseville Pkwy	6,770	6,928	158	2.3%	1.9	+/- 400 vph	Yes	< 5	Yes
SB Galleria Blvd s/o Roseville Pkwy	4,986	4,833	-153	-3.1%	2.2	+/- 400 vph	Yes	< 5	Yes
NB Galleria Blvd s/o Roseville Pkwy	4,304	4,663	359	8.3%	5.4	+/- 400 vph	Yes	< 5	No
EB Roseville Pkwy w/o Creekside Ridge Dr	6,104	5,974	-130	-2.1%	1.7	+/- 400 vph	Yes	< 5	Yes
WB Roseville Pkwy w/o Creekside Ridge Dr	8,191	8,079	-112	-1.4%	1.2	+/- 400 vph	Yes	< 5	Yes
SB Creekside Ridge Dr n/o Roseville Pkwy	1,277	1,196	-81	-6.3%	2.3	+/- 15%	Yes	< 5	Yes
NB Creekside Ridge Dr n/o Roseville Pkwy	1,114	1,049	-65	-5.8%	2.0	+/- 15%	Yes	< 5	Yes
SB Creekside Ridge Dr s/o Roseville Pkwy	200	107	-93	-46.6%	7.5	+/- 100 vph	Yes	< 5	No
NB Creekside Ridge Dr s/o Roseville Pkwy	219	180	-39	-17.8%	2.8	+/- 100 vph	Yes	< 5	Yes
EB Roseville Pkwy w/o Taylor Rd	6,880	6,964	84	1.2%	1.0	+/- 400 vph	Yes	< 5	Yes
WB Roseville Pkwy w/o Taylor Rd	8,785	8,885	100	1.1%	1.1	+/- 400 vph	Yes	< 5	Yes
EB Roseville Pkwy e/o Taylor Rd	7,238	7,048	-190	-2.6%	2.3	+/- 400 vph	Yes	< 5	Yes
WB Roseville Pkwy e/o Taylor Rd	9,251	8,800	-451	-4.9%	4.8	+/- 400 vph	No	< 5	Yes
SB Taylor Rd n/o Roseville Pkwy	2,071	2,153	82	3.9%	1.8	+/- 15%	Yes	< 5	Yes
NB Taylor Rd n/o Roseville Pkwy	3,106	2,834	-272	-8.8%	5.0	+/- 400 vph	Yes	< 5	Yes
SB Taylor Rd s/o Roseville Pkwy	2,246	2,166	-80	-3.6%	1.7	+/- 15%	Yes	< 5	Yes
NB Taylor Rd s/o Roseville Pkwy	3,173	3,017	-156	-4.9%	2.8	+/- 400 vph	Yes	< 5	Yes
EB Roseville Pkwy w/o Sunrise Ave	7,106	7,018	-88	-1.2%	1.0	+/- 400 vph	Yes	< 5	Yes
WB Roseville Pkwy w/o Sunrise Ave	9,053	8,465	-589	-6.5%	6.3	+/- 400 vph	No	< 5	No
EB Roseville Pkwy e/o Sunrise Ave	6,566	6,647	81	1.2%	1.0	+/- 400 vph	Yes	< 5	Yes
WB Roseville Pkwy e/o Sunrise Ave	7,019	6,617	-402	-5.7%	4.9	+/- 400 vph	No	< 5	Yes
SB Sunrise Ave n/o Roseville Pkwy	1,633	1,612	-21	-1.3%	0.5	+/- 15%	Yes	< 5	Yes
NB Sunrise Ave n/o Roseville Pkwy	840	842	2	0.3%	0.1	+/- 15%	Yes	< 5	Yes
SB Sunrise Ave s/o Roseville Pkwy	2,297	2,087	-210	-9.1%	4.5	+/- 15%	Yes	< 5	Yes
NB Sunrise Ave s/o Roseville Pkwy	2,998	2,794	-205	-6.8%	3.8	+/- 400 vph	Yes	< 5	Yes
EB Atlantic St w/o Wills Rd	2,932	2,955	23	0.8%	0.4	+/- 400 vph	Yes	< 5	Yes
WB Atlantic St w/o Wills Rd	3,655	3,753	98	2.7%	1.6	+/- 400 vph	Yes	< 5	Yes
EB Atlantic St w/o WB I-80	2,999	3,242	243	8.1%	4.3	+/- 400 vph	Yes	< 5	Yes
WB Atlantic St w/o WB I-80	3,376	3,704	328	9.7%	5.5	+/- 400 vph	Yes	< 5	No
SB Wills Rd s/o Atlantic St	1,580	1,554	-26	-1.6%	0.6	+/- 15%	Yes	< 5	Yes
NB Wills Rd s/o Atlantic St	1,926	1,884	-42	-2.2%	1.0	+/- 15%	Yes	< 5	Yes
SB Galleria Blvd n/o Wills Rd	4,110	4,126	16	0.4%	0.2	+/- 400 vph	Yes	< 5	Yes
NB Galleria Blvd n/o Wills Rd	4,521	4,695	174	3.8%	2.6	+/- 400 vph	Yes	< 5	Yes
SB Harding Blvd s/o Wills Rd	3,793	3,654	-139	-3.7%	2.3	+/- 400 vph	Yes	< 5	Yes
NB Harding Blvd s/o Wills Rd	4,541	4,580	39	0.9%	0.6	+/- 400 vph	Yes	< 5	Yes
EB Eureka Rd w/o Taylor Rd	4,744	4,898	154	3.2%	2.2	+/- 400 vph	Yes	< 5	Yes
WB Eureka Rd w/o Taylor Rd	7,602	8,335	733	9.6%	8.2	+/- 400 vph	No	< 5	No
EB Eureka Rd e/o Taylor Rd	5,485	5,641	156	2.8%	2.1	+/- 400 vph	Yes	< 5	Yes
WB Eureka Rd e/o Taylor Rd	6,615	7,145	530	8.0%	6.4	+/- 400 vph	No	< 5	No
SB Taylor Rd n/o Eureka Rd	2,455	2,320	-135	-5.5%	2.8	+/- 15%	Yes	< 5	Yes
NB Taylor Rd n/o Eureka Rd	3,334	3,171	-163	-4.9%	2.9	+/- 400 vph	Yes	< 5	Yes
EB Eureka Rd w/o Sunrise Ave	5,440	5,569	129	2.4%	1.7	+/- 400 vph	Yes	< 5	Yes
WB Eureka Rd w/o Sunrise Ave	6,603	6,884	281	4.2%	3.4	+/- 400 vph	Yes	< 5	Yes
EB Eureka Rd e/o Sunrise Ave	4,540	4,517	-23	-0.5%	0.3	+/- 400 vph	Yes	< 5	Yes
WB Eureka Rd e/o Sunrise Ave	5,199	5,669	470	9.0%	6.4	+/- 400 vph	No	< 5	No
SB Sunrise Ave n/o Eureka Rd	2,573	2,172	-401	-15.6%	8.2	+/- 15%	No	< 5	No
NB Sunrise Ave n/o Eureka Rd	2,887	2,854	-33	-1.1%	0.6	+/- 400 vph	Yes	< 5	Yes
SB Sunrise Ave s/o Eureka Rd	2,968	2,571	-397	-13.4%	7.5	+/- 400 vph	Yes	< 5	No
NB Sunrise Ave s/o Eureka Rd	3,786	3,415	-371	-9.8%	6.2	+/- 400 vph	Yes	< 5	No
EB Douglas Blvd w/o Harding Blvd	3,619	4,160	541	14.9%	8.7	+/- 400 vph	No	< 5	No
WB Douglas Blvd w/o Harding Blvd	4,768	5,027	259	5.4%	3.7	+/- 400 vph	Yes	< 5	Yes
EB Douglas Blvd e/o Harding Blvd	5,056	5,665	609	12.0%	8.3	+/- 400 vph	No	< 5	No
WB Douglas Blvd e/o Harding Blvd	5,967	5,737	-230	-3.9%	3.0	+/- 400 vph	Yes	< 5	Yes
SB Harding Blvd n/o Douglas Blvd	3,376	2,632	-744	-22.0%	13.6	+/- 400 vph	No	< 5	No
NB Harding Blvd n/o Douglas Blvd	2,470	1,891	-579	-23.4%	12.4	+/- 15%	No	< 5	No
SB Harding Blvd s/o Douglas Blvd	415	454	39	9.3%	1.9	+/- 100 vph	Yes	< 5	Yes
NB Harding Blvd s/o Douglas Blvd	473	508	35	7.3%	1.6	+/- 100 vph	Yes	< 5	Yes
EB Douglas Blvd w/o Sunrise Ave	7,692	7,814	122	1.6%	1.4	+/- 400 vph	Yes	< 5	Yes
WB Douglas Blvd w/o Sunrise Ave	9,202	8,682	-521	-5.7%	5.5	+/- 400 vph	No	< 5	No
EB Douglas Blvd e/o Sunrise Ave	6,883	7,007	124	1.8%	1.5	+/- 400 vph	Yes	< 5	Yes
WB Douglas Blvd e/o Sunrise Ave	7,717	7,699	-18	-0.2%	0.2	+/- 400 vph	Yes	< 5	Yes
SB Sunrise Ave n/o Douglas Blvd	3,697	3,860	163	4.4%	2.6	+/- 400 vph	Yes	< 5	Yes
NB Sunrise Ave n/o Douglas Blvd	3,461	3,650	189	5.4%	3.2	+/- 400 vph	Yes	< 5	Yes
SB Sunrise Ave s/o Douglas Blvd	3,085	1,925	-1160	-37.6%	23.2	+/- 400 vph	No	< 5	No
NB Sunrise Ave s/o Douglas Blvd	3,525	3,544	19	0.5%	0.3	+/- 400 vph	Yes	< 5	Yes
EB Woodside Dr e/o Pacific St	580	617	37	6.4%	1.5	+/- 100 vph	Yes	< 5	Yes
WB Woodside Dr e/o Pacific St	370	347	-23	-6.3%	1.2	+/- 100 vph	Yes	< 5	Yes
SB Pacific St n/o Woodside Dr	3,154	3,268	114	3.6%	2.0	+/- 400 vph	Yes	< 5	Yes
NB Pacific St n/o Woodside Dr	4,234	4,198	-36	-0.9%	0.6	+/- 400 vph	Yes	< 5	Yes
SB Pacific St s/o Woodside Dr	3,220	3,306	86	2.7%	1.5	+/- 400 vph	Yes	< 5	Yes
NB Pacific St s/o Woodside Dr	4,510	4,506	-4	-0.1%	0.1	+/- 400 vph	Yes	< 5	Yes
EB Sunset Blvd w/o Pacific St	3,589	3,923	334	9.3%	5.4	+/- 400 vph	Yes	< 5	No
WB Sunset Blvd w/o Pacific St	4,959	5,288	329	6.6%	4.6	+/- 400 vph	Yes	< 5	Yes
EB Sunset Blvd e/o Pacific St	705	545	-160	-22.8%	6.4	+/- 15%	No	< 5	No
WB Sunset Blvd e/o Pacific St	852	761	-92	-10.7%	3.2	+/- 15%	Yes	< 5	Yes
SB Pacific St n/o Sunset Blvd	3,840	3,919	79	2.1%	1.3	+/- 400 vph	Yes	< 5	Yes
NB Pacific St n/o Sunset Blvd	3,656	3,656	-1	0.0%	0.0	+/- 400 vph	Yes	< 5	Yes
SB Pacific St s/o Sunset Blvd	3,102	3,250	148	4.8%	2.6	+/- 400 vph	Yes	< 5	Yes
NB Pacific St s/o Sunset Blvd	4,141	4,136	-6	-0.1%	0.1	+/- 400 vph	Yes	< 5	Yes
EB Rocklin Rd w/o Granite Dr	3,081	3,143	62	2.0%	1.1	+/- 400 vph	Yes	< 5	Yes
WB Rocklin Rd w/o Granite Dr	3,512	3,862	350	10.0%	5.8	+/- 400 vph	Yes	< 5	No
EB Rocklin Rd e/o Granite Dr	4,132	4,045	-87	-2.1%	1.4	+/- 400 vph	Yes	< 5	Yes
WB Rocklin Rd e/o Granite Dr	4,491	4,579	88	2.0%	1.3	+/- 400 vph	Yes	< 5	Yes
SB Granite Dr n/o Rocklin Rd	2,645	2,362	-283	-10.7%	5.7	+/- 15%	Yes	< 5	No
NB Granite Dr n/o Rocklin Rd	2,633	2,212	-422	-16.0%	8.6	+/- 15%	No	< 5	No
EB Rocklin Rd w/o WB I-80	4,238	4,193	-45	-1.1%	0.7	+/- 400 vph	Yes	< 5	Yes
WB Rocklin Rd w/o WB I-80	4,736	4,774	38	0.8%	0.6	+/- 400 vph	Yes	< 5	Yes
EB Rocklin Rd e/o WB I-80	2,597	2,516	-81	-3.1%	1.6	+/- 15%	Yes	< 5	Yes
WB Rocklin Rd e/o WB I-80	5,911	6,059	148	2.5%	1.9	+/- 400 vph	Yes	< 5	Yes
EB Rocklin Rd e/o EB I-80	4,246	4,236	-10	-0.2%	0.2	+/- 400 vph	Yes	< 5	Yes
EB Rocklin Rd e/o EB I-80	4,155	4,060	-95	-2.3%	1.5	+/- 400 vph	Yes	< 5	Yes
EB Rocklin Rd w/o Aguilar Rd	4,373	4,294	-79	-1.8%	1.2	+/- 400 vph	Yes	< 5	Yes
WB Rocklin Rd w/o Aguilar Rd	4,217	3,843	-374	-8.9%	5.9	+/- 400 vph	Yes	< 5	No
EB Rocklin Rd e/o Aguilar Rd	3,705	3,529	-176	-4.8%	2.9	+/- 400 vph	Yes	< 5	Yes
WB Rocklin Rd e/o Aguilar Rd	3,722	3,546	-176	-4.7%	2.9	+/- 400 vph	Yes	< 5	Yes

SB Aguilar Rd s/o Rocklin Rd	497	446	-51	-10.2%	2.3	+/- 100 vph	Yes	< 5	Yes
NB Aguilar Rd s/o Rocklin Rd	324	297	-27	-8.3%	1.5	+/- 100 vph	Yes	< 5	Yes
Overall	**1,749,267**	**1,748,116**	**-1,151**	**-0.1%**	**0.9**	**+/- 5%**	**Yes**	**< 4**	**Yes**

Link Volumes		
	Target	% Met
< 700 vph	> 85 %	96%
> 700 & < 2,700 vph	> 85 %	96%
> 2,700 vph	> 85 %	100%
GEH Statistic	> 85 %	86%

Aggregated Volumes		
	Target	Modeled
Intersections	> 85 %	93%
Interchanges	> 85 %	100%

VISSIM Metrics
Calibration Comparison
I-80/SR 65 Interchange
Fehr & Peers
Travel Time
February 21, 2013

PM Peak Period

		Measured	Modeled Conditions			Calibration Targets[1]	
Path	Time Period	Travel Time (minutes)	Travel Time (minutes)	Difference (minutes)	Percent Difference	Target	Meets Target?
	4:00 -4:15	8.17	**8.27**	0.10	**1.3%**	+/- 15%	Yes
	4:30 - 4:45	8.03	**8.41**	0.38	**4.7%**	+/- 15%	Yes
	5:00 -5:15	8.27	**8.41**	0.14	**1.7%**	+/- 15%	Yes
	5:45 - 6:00	9.03	**8.20**	-0.83	**-9.2%**	+/- 15%	Yes
I-80 WB: Blue Oaks Blvd to Antelope Road	6:15 - 6.:30	8.05	**8.05**	0.00	**0.0%**	+/- 15%	Yes
	3:45 - 4:00	7.39	**9.52**	2.13	**28.7%**	+/- 15%	No
	4:15 - 4:30	8.06	**9.21**	1.15	**14.2%**	+/- 15%	Yes
	4:45 -5:00	8.61	**10.20**	1.59	**18.4%**	+/- 15%	No
	5:15 - 5:30	12.21	**9.58**	-2.63	**-21.5%**	+/- 15%	No
I-80 EB: Antelope Road to Blue Oaks Blvd	6:00 - 6:15	9.04	**8.25**	-0.79	**-8.7%**	+/- 15%	Yes
	4:00 -4:15	8.75	**8.07**	-0.68	**-7.8%**	+/- 15%	Yes
	5:00 -5:15	8.50	**8.19**	-0.31	**-3.6%**	+/- 15%	Yes
	5:30 -5:45	7.30	**8.10**	0.80	**11.0%**	+/- 15%	Yes
	6:00 - 6:15	7.77	**7.98**	0.22	**2.8%**	+/- 15%	Yes
I-80 WB: Sierra College Blvd to Antelope Road	6:30 - 6:45	7.68	**7.94**	0.26	**3.3%**	+/- 15%	Yes
	4:15 - 4:30	5.84	**6.55**	0.71	**12.1%**	+/- 15%	Yes
	4:45 -5:00	6.08	**6.63**	0.55	**9.0%**	+/- 15%	Yes
	5:15 - 5:30	6.26	**6.57**	0.31	**4.9%**	+/- 15%	Yes
I-80 EB: Antelope Road to Sierra College Blvd	5:45 - 6:00	7.06	**6.41**	-0.65	**-9.3%**	+/- 15%	Yes

Measure	% Cases
> 85%	84%
Not Met	

VISSIM Post-Processor
Average Values from 10 Runs
Peak Hour Travel Time

I-80/SR 65 Interchange
Existing Conditions
PM Peak Period

Mode	Description	Distance (ft)	Volume (vehicles)		Travel Time (min.:sec.)		Speed (mph)
			Average	Std. Dev.	Average	Std. Dev.	Average
SOV	SR-65 at Blue Oaks to I-80 at Antelope	43,109	466	0	08:25	00:00	23.3
	I-80 at Auburn to SR-65 at Blue Oaks	32,854	1113	0	09:16	00:00	16.1
	I-80 at Sierra College to I-80 at Antelope	44,492	473	0	08:11	00:00	24.7
	I-80 at Auburn to I-80 at Sierra College	35,359	874	0	06:35	00:00	24.4
HOV	SR-65 at Blue Oaks to I-80 at Antelope	43,109	131	0	08:17	00:00	23.7
	I-80 at Auburn to SR-65 at Blue Oaks	32,854	246	0	09:11	00:00	16.3
	I-80 at Sierra College to I-80 at Antelope	44,492	160	0	08:01	00:00	25.2
	I-80 at Auburn to I-80 at Sierra College	35,359	156	0	06:23	00:00	25.2

VISSIM Post-Processor **I-80/SR 65 Interchange**
Average Values from 10 Runs **Existing Conditions**
Network Statistics **PM Peak Period**

Network Performance	Vehicle Types	Average	Std. Dev.
Number of Vehicles Served	All Vehicles	198,170	39
Travel Distance [mi]	All Vehicles	730,101	1,288
Travel Time [h]	All Vehicles	16,851	93.9
Average Speed [mph]	All Vehicles	43.3	0.2
Total Delay [h]	All Vehicles	3,946	91.1
Average Delay per Vehicle [s]	All Vehicles	71	1.6
VHD/VMT [min/mile]	All Vehicles	0.32	0.01
Number of Vehicles Served	HOV	36,144	153
Travel Distance [mi]	HOV	135,800	858
Travel Time [h]	HOV	3,038	20
Average Speed [mph]	HOV	44.7	0.2
Total Delay [h]	HOV	652	16
Average Delay per Vehicle [s]	HOV	64	2
VHD/VMT [min/mile]	HOV	0.29	0.01
Number of Vehicles Served	Truck	2,717	49
Travel Distance [mi]	Truck	13,929	276
Travel Time [h]	Truck	297	5
Average Speed [mph]	Truck	46.9	1
Total Delay [h]	Truck	60	3
Average Delay per Vehicle [s]	Truck	78	5
VHD/VMT [min/mile]	Truck	0.26	0.02

	Vehicle Types		
Performance Measure	HOV	Truck	All
Vehicles Served	36,140	2,720	198,170
Demand Volume	35,829	2,724	195,975
Percent Demand Served	100.9%	99.9%	101.1%
Vehicle Miles of Travel	135,800	13,930	730,100
Person Miles of Travel	285,180	14,630	880,180
Vehicle Hours of Travel	3,040	300	16,850
Vehicle Hours of Delay	650	60	3,950
VHD % of VHT	21.4%	20.0%	23.4%
Average Delay per Vehicle (min)	1.08	1.32	1.20
Person Hours of Delay	1,370	60	4,670
Average Travel Speed	44.7	46.9	43.3

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

I-80 / SR-65 Interchange
Existing Conditions
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
1	I-80 EB - Auburn Blvd On-ramp	Merge	6,296	44	101.8%	649	10	92.6%				60.1	1.4	24.2	0.6	C
2	I-80 EB - Auburn Blvd to Douglas Blvd	Basic	6,935	67	100.7%							55.6	2.9	39.4	2.1	E
3	I-80 EB - Douglas Blvd EB Off-ramp	Diverge	6,929	75	100.6%				1,171	72	102.3%	62.2	0.3	22.3	0.4	C
4	I-80 EB - Douglas Blvd WB Off-ramp	Diverge	5,760	93	100.4%				410	37	106.1%	62.6	1.8	18.0	1.1	B
5	I-80 EB - Douglas Blvd Off to On-ramp	Basic	5,351	79	100.0%							62.7	2.3	22.7	2.8	C
6	I-80 EB - Douglas Blvd On-ramp	Merge	5,349	86	99.9%	1,192	45	102.4%				56.7	7.3	30.5	9.1	D
7	I-80 EB - Eureka Rd Off-ramp	Diverge	6,549	128	100.5%				890	55	94.6%	52.0	9.2	46.4	19.6	F
8	I-80 EB - Eureka Rd Off to On-ramp	Basic	5,670	133	101.7%							62.0	1.7	23.3	0.8	C
9	I-80 EB - Eureka Rd EB On-ramp	Merge	5,670	127	101.7%	297	33	129.6%				62.0	0.4	19.5	1.5	B
10	I-80 EB - Eureka Rd to Taylor Rd	Weave	5,965	124	102.7%	977	55	108.7%	539	37	106.0%	48.1	12.4	38.8	15.7	E
11	I-80 EB - Taylor Rd to SR-65	Basic	6,412	147	103.5%							44.4	9.8	39.5	11.3	E
17	I-80 EB - SR-65 Off-ramp	Diverge	6,416	153	103.5%				3,181	94	99.8%	44.3	6.6	51.6	13.4	F
18	I-80 EB - SR-65 Off to On-ramp	Basic	3,231	108	107.4%							63.9	0.2	16.8	0.8	B
19	I-80 EB - SR-65 On-ramp	Merge	3,230	108	107.4%	1,581	89	100.0%				60.8	3.8	22.4	1.6	C
20	I-80 EB - SR-65 to Lane Drop	Basic	4,809	150	104.7%							58.5	3.3	27.5	1.5	D
21	I-80 EB - Lane Drop to Rocklin Rd	Basic	4,803	150	104.6%							61.7	0.5	26.9	0.6	D
22	I-80 EB - Rocklin Rd Off-ramp	Diverge	4,803	151	104.6%				1,217	65	107.4%	61.0	1.0	23.8	0.7	C
23	I-80 EB - Rocklin Rd Off to On-ramp	Basic	3,586	138	103.7%							63.1	0.4	20.2	0.8	C
24	I-80 EB - Rocklin Rd On-ramp	Merge	3,587	138	103.7%	267	26	104.8%				61.5	0.7	19.0	0.9	B
25	I-80 EB - Rocklin Rd to Sierra College Blvd	Basic	3,857	147	103.9%							63.5	0.2	20.7	0.8	C

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

I-80 / SR-65 Interchange
Existing Conditions
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
26	I-80 EB - Sierra College Blvd Off-ramp	Diverge	3,857	147	103.9%				374	41	131.6%	62.2	1.3	21.8	0.9	C
27	I-80 EB - Sierra College Blvd Off to On-ramp	Basic	3,482	138	101.5%							63.3	0.5	19.6	0.6	C
28	I-80 EB - Sierra College Blvd SB On-ramp	Merge	3,481	132	101.5%	236	6	107.2%				62.5	0.4	18.2	0.7	B
29	I-80 EB - Sierra College Blvd NB On-ramp	Merge	3,720	121	101.9%	464	9	102.0%				59.7	1.1	21.0	0.9	C
38	I-80 WB - Sierra College Blvd Off-ramp	Diverge	3,241	18	106.0%				490	42	104.5%	60.7	0.8	16.5	0.3	B
39	I-80 WB - Sierra College Blvd Off to On-ramp	Basic	2,749	52	106.3%							63.7	0.2	16.4	0.3	B
40	I-80 WB - Sierra College Blvd NB On-ramp	Merge	2,747	54	106.2%	70	3	100.4%				63.6	0.1	14.2	0.3	B
41	I-80 WB - Sierra College Blvd SB On-ramp	Merge	2,819	60	106.1%	293	7	122.0%				61.5	0.6	15.3	0.4	B
42	I-80 WB - Sierra College Blvd to Rocklin Rd	Basic	3,106	60	107.2%							63.8	0.1	16.8	0.4	B
43	I-80 WB - Rocklin Rd Off-ramp	Diverge	3,104	63	107.2%				273	28	101.3%	63.2	0.3	19.4	0.5	B
44	I-80 WB - Rocklin Rd Off to On-ramp	Basic	2,831	64	107.7%							63.4	0.2	17.0	0.3	B
45	I-80 WB - Rocklin Rd On-ramp	Merge	2,829	59	107.7%	1,080	60	111.2%				50.8	1.6	24.0	1.5	C
46	I-80 WB - Rocklin Rd to HOV Lane Start	Basic	3,912	80	108.7%							61.8	0.4	24.2	0.6	C
47	I-80 WB - HOV Lane Start to SR-65	Basic	3,904	69	108.5%							63.2	0.2	16.2	0.2	B
48	I-80 WB - SR-65 Off-ramp	Diverge	3,903	67	108.4%				1,258	53	107.3%	52.6	9.9	45.9	31.7	F
49	I-80 WB - SR-65 Off to On-ramp	Basic	2,632	67	108.4%							63.8	0.2	14.9	0.3	B
50	I-80 WB - SR-65 On-ramp	Merge	2,740	78	112.9%	2,498	96	102.3%				63.5	0.1	20.6	0.6	C

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

I-80 / SR-65 Interchange
Existing Conditions
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
60	I-80 WB - Taylor Rd On-ramp	Merge	5,126	109	105.2%	470	34	104.6%				62.8	0.1	23.7	0.5	C
61	I-80 WB - Atlantic St WB Off-ramp	Diverge	5,589	122	105.1%				422	46	113.0%	64.0	0.4	21.1	0.7	C
62	I-80 WB - Atlantic St EB Off-ramp	Diverge	5,169	110	104.5%				682	58	103.0%	60.3	1.8	26.8	0.9	C
63	I-80 WB - Atlantic St Off to On-ramp	Basic	4,489	122	104.8%							63.4	0.3	17.7	0.6	B
64	I-80 WB - Atlantic St On-ramp	Merge	4,490	123	104.8%	1,126	65	114.6%				61.1	1.4	21.6	0.8	C
65	I-80 WB - Douglas Blvd Off-ramp	Diverge	5,616	145	106.6%				956	71	107.0%	60.6	2.3	17.6	0.7	B
66	I-80 WB - Douglas Rd Off to On-ramp	Basic	4,656	105	106.4%							62.3	1.2	25.6	0.7	C
67	I-80 WB - Douglas Blvd WB On-ramp	Merge	4,656	103	106.5%	1,029	61	89.5%				49.7	3.1	33.5	3.3	D
68	I-80 WB - Douglas Blvd EB On-ramp	Merge	5,683	125	102.9%	524	41	113.6%				49.5	3.6	37.1	2.6	E
69	I-80 WB - Douglas Blvd to Riverside Ave	Basic	6,198	135	103.6%							62.8	0.1	31.4	0.7	D
70	I-80 WB - Riverside Ave Off-ramp	Diverge	6,199	132	103.6%				759	59	101.6%	57.3	2.8	36.1	2.4	E
71	I-80 WB - Riverside Ave Off to On-ramp	Basic	5,446	118	104.0%							61.5	0.6	28.4	0.7	D
72	I-80 WB - Riverside Ave NB On-ramp	Merge	5,443	122	103.9%	199	7	99.4%				63.3	0.1	17.9	0.6	B
73	I-80 WB - Riverside Ave SB On-ramp	Merge	5,639	124	103.7%	985	11	110.5%				62.9	0.5	21.7	0.6	C
74	I-80 WB - Riverside Ave to Antelope Rd	Basic	6,612	138	104.5%							63.1	0.1	25.9	0.6	C
75	I-80 WB - Antelope Rd Off-ramp	Diverge	6,604	137	104.4%				959	40	102.6%	56.7	2.7	31.1	1.7	D

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

I-80 / SR 65 Interchange
Existing Conditions
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
76	I-80 WB - Antelope Rd Off to On-ramp	Basic	5,632	145	104.4%							59.7	0.8	23.4	0.6	C
77	I-80 WB - Antelope Rd WB On-ramp	Merge	5,633	143	104.5%	321	8	97.7%				60.5	0.9	22.0	1.0	C
78	I-80 WB - Antelope Rd to Truck Scales	Weave	5,948	138	104.0%	261	5	99.7%	19	10		62.9	0.2	22.1	0.5	C
79	I-80 WB - Truck Scales Off to On-ramp	Basic	6,180	135	103.3%							63.2	0.1	23.7	0.5	C
80	I-80 WB - Truck Scales On-ramp	Merge	6,631	147	110.9%	19	10					63.0	0.1	22.9	0.7	C
81	I-80 WB - Truck Scales to Elkhorn Blvd	Basic	6,189	144	103.5%							63.0	0.2	23.8	0.7	C
82	I-80 WB - Elkhorn Blvd Off-ramp	Diverge	6,190	143	103.5%				1,011	56	99.0%	58.3	1.6	26.1	1.0	C
83	I-80 WB - Elkhorn Blvd Off to On-ramp	Basic	5,174	150	104.3%							61.6	0.8	20.6	0.7	C
84	I-80 WB - Elkhorn Blvd WB On-ramp	Merge	5,175	148	104.4%	708	9	106.9%				58.8	0.7	20.7	0.7	C
85	I-80 WB - Elkhorn Blvd EB On-ramp	Merge	5,875	152	104.5%	605	9	105.6%				62.7	0.7	24.0	0.5	C

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Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

I-80 / SR-65 Interchange
Existing Conditions
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
97	SR-65 SB - Twelve Bridges Dr Off-ramp	Diverge	1,745	43	101.6%				210	26	101.3%	63.8	0.2	12.4	0.3	B
98	SR-65 SB - Twelve Bridges Dr Off to On-ramp	Basic	1,532	38	101.5%							63.6	0.3	12.7	0.3	B
99	SR-65 SB - Twelve Bridges Dr On-ramp	Merge	1,532	39	101.4%	388	26	101.8%				57.7	0.9	14.9	0.5	B
100	SR-65 SB - Twelve Bridges Dr to Sunset Blvd	Basic	1,928	53	102.0%							63.2	0.3	15.9	0.6	B
101	SR-65 SB - Sunset Blvd Off-ramp	Diverge	1,930	56	102.1%				268	27	109.8%	63.3	0.3	14.7	0.4	B
102	SR-65 SB - Sunset Blvd Off to On-ramp	Basic	1,660	52	100.8%							63.3	0.3	13.4	0.5	B
103	SR-65 SB - Sunset Blvd WB On-ramp	Merge	1,662	53	100.9%	547	24	108.1%				56.1	1.6	17.6	0.8	B
104	SR-65 SB - Sunset Blvd EB On-ramp	Merge	2,210	59	102.7%	617	32	102.8%				62.4	0.3	22.0	0.6	C
105	SR-65 SB - Sunset Blvd to Blue Oaks Blvd	Basic	2,821	77	102.5%							62.4	0.3	23.3	0.6	C
106	SR-65 SB - Blue Oaks Blvd Off-ramp	Diverge	2,822	74	102.5%				528	41	97.5%	60.7	1.6	23.8	0.8	C
107	SR-65 SB - Blue Oaks Blvd Off to On-ramp	Basic	2,294	75	103.8%							62.6	0.6	19.4	0.8	C
108	SR-65 SB - Blue Oaks Blvd WB On-ramp	Merge	2,293	74	103.7%	282	24	76.1%				60.2	1.0	19.7	0.6	B
109	SR-65 SB - Blue Oaks Blvd to Pleasant Grove Blvd	Weave	2,578	74	99.9%	907	45	97.7%	559	42	99.2%	60.8	0.3	21.1	0.6	C
110	SR-65 SB - Pleasant Grove Blvd Off to On-ramp	Basic	2,922	101	99.2%							61.9	0.8	25.0	0.8	C
111	SR-65 SB - Pleasant Grove Blvd WB On-ramp	Merge	2,922	97	99.1%	352	25	117.6%				51.4	4.3	31.3	3.1	D
112	SR-65 SB - Pleasant Grove Blvd EB On-ramp	Merge	3,276	94	100.9%	620	45	106.1%				47.5	3.8	38.8	4.0	E
113	SR-65 SB - Pleasant Grove Blvd to Galleria Blvd	Basic	3,895	104	101.7%							61.9	0.6	32.4	1.0	D
114	SR-65 SB - Galleria Blvd Off-ramp	Diverge	3,895	104	101.7%				831	52	105.6%	62.0	0.4	32.2	1.0	D
115	SR-65 SB - Galleria Blvd Off to Lane Add	Basic	3,060	108	100.6%							62.0	0.4	27.1	1.0	D
116	SR-65 SB - Lane Add to Galleria Blvd On-ramp	Basic	3,057	109	100.5%							63.3	0.2	19.4	0.3	C
117	SR-65 SB - Galleria Blvd On-ramp	Merge	3,057	111	100.5%	1,021	70	104.0%				55.8	2.7	24.3	1.8	C
118	SR-65 SB - I-80 WB Off-ramp	Diverge	4,079	134	101.4%				2,498	96	102.3%	62.9	0.1	21.6	0.8	C

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Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

I-80 / SR-65 Interchange
Existing Conditions
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
125	SR-65 NB - I-80 WB On-ramp	Merge	3,178	94	99.7%	1,232	58	105.1%				20.8	1.5	95.2	3.8	F
126	SR-65 NB - I-80 to Stanford Ranch Rd	Basic	4,405	94	101.1%							28.7	2.7	76.5	5.7	F
127	SR-65 NB - Stanford Ranch Rd Off-ramp	Diverge	4,404	94	101.0%				1,247	56	108.8%	34.4	3.4	62.4	4.8	F
128	SR-65 NB - Stanford Ranch Rd Off to On-ramp	Basic	3,157	93	98.2%							58.7	4.8	27.4	2.6	D
129	SR-65 NB - Stanford Ranch Rd On-ramp	Merge	3,156	89	98.2%	961	57	103.9%				48.9	10.0	39.2	8.8	E
130	SR-65 NB - Stanford Ranch Rd to Pleasant Grove Blvd	Basic	4,118	113	99.5%							60.8	0.4	31.5	1.1	D
131	SR-65 NB - Pleasant Grove Blvd Off-ramp	Diverge	4,118	113	99.5%				1,109	69	109.8%	62.2	0.2	27.9	0.9	C
132	SR-65 NB - Pleasant Grove Blvd Off to On-ramp	Basic	3,010	116	96.2%							63.2	0.2	24.2	1.1	C
133	SR-65 NB - Pleasant Grove Blvd to Blue Oaks Blvd	Weave	3,012	115	96.3%	516	51	94.5%	1,061	67	90.4%	63.1	0.1	21.3	0.9	C
134	SR-65 NB - Blue Oaks Blvd Off to On-ramp	Basic	2,465	99	98.6%							63.1	0.4	20.1	1.1	C
135	SR-65 NB - Blue Oaks Blvd On-ramp	Merge	2,464	103	98.6%	528	33	110.2%				56.2	2.7	24.5	2.2	C
136	SR-65 NB - Blue Oaks Blvd to Sunset Blvd	Basic	2,991	116	100.4%							62.7	0.2	25.3	0.9	C
137	SR-65 NB - Sunset Blvd Off-ramp	Diverge	2,988	111	100.3%				651	54	94.4%	62.9	0.1	22.7	0.7	C
138	SR-65 NB - Sunset Blvd Off to On-ramp	Basic	2,334	97	101.9%							63.2	0.2	19.7	0.8	C
139	SR-65 NB - Sunset Blvd EB On-ramp	Merge	2,330	99	101.7%	66	14	93.7%				62.3	0.3	20.0	0.8	C
140	SR-65 NB - Sunset Blvd WB On-ramp	Merge	2,395	94	101.5%	274	24	102.2%				62.8	0.3	19.5	0.8	B
141	SR-65 NB - Sunset Blvd to Twelve Bridges Dr	Basic	2,667	92	101.5%							62.5	0.2	23.1	0.7	C
142	SR-65 NB - Twelve Bridges Dr Off-ramp	Diverge	2,657	95	101.1%				508	48	89.5%	61.9	0.3	23.3	0.8	C
143	SR-65 NB - Twelve Bridges Dr Off to On-ramp	Basic	2,146	82	104.2%							63.0	0.1	18.6	0.5	C
144	SR-65 NB - Twelve Bridges Dr On-ramp	Merge	2,147	81	104.2%	238	23	81.1%				62.1	0.4	19.6	0.5	B

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

I-80 / SR-65 Interchange
Existing Conditions
PM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
1	SR-65 /Sterling Parkway	Signal	4,125	4,171	101.1%	18.0	2.6	B
2	SR-65 SB Ramps/Twelve Bridges Dr	Signal	1,055	970	91.9%	4.6	0.5	A
3	SR-65 NB Ramps/Twelve Bridges Dr	Signal	1,520	1,431	94.1%	3.0	0.3	A
4	SR-65 SB Ramps/Sunset Blvd	Signal	2,112	2,131	100.9%	6.0	0.2	A
5	SR-65 NB Ramps/Sunset Blvd	Signal	2,081	2,125	102.1%	9.3	0.4	A
6	SR-65 SB Ramps-Washington Blvd/Blue Oaks	Signal	4,225	4,384	103.8%	32.8	3.3	C
7	SR-65 NB Ramps/Blue Oaks Blvd	Signal	2,891	2,954	102.2%	22.6	1.3	C
8	SR-65 SB Ramps/Pleasant Grove Blvd	Signal	4,642	4,705	101.3%	7.9	0.6	A
9	SR-65 NB Ramps/Pleasant Grove Blvd	Signal	4,337	4,496	103.7%	14.2	1.0	B
10	Stanford Ranch Rd/Five Star Blvd	Signal	4,292	4,370	101.8%	32.0	2.0	C
11	SR-65 NB Ramps/Stanford Ranch Rd	Signal	5,088	5,350	105.1%	15.2	2.1	B
12	SR-65 SB Ramps/Galleria Blvd	Signal	5,081	5,279	103.9%	19.3	1.6	B
13	Galleria Blvd/Antelope Creek Dr	Signal	4,480	4,526	101.0%	24.4	2.1	C
14	Galleria Blvd/Roseville Pkwy	Signal	6,853	7,146	104.3%	36.4	1.6	D
15	Creekside Ridge Dr/Roseville Pkwy	Signal	4,484	4,508	100.5%	17.4	2.1	B
16	Taylor Rd/East Roseville Pkwy	Signal	5,875	5,808	98.9%	28.3	3.5	C
17	North Sunrise Ave/East Roseville Pkwy	Signal	5,080	5,030	99.0%	37.3	3.1	D
18	Wills Rd/Atlantic St	Signal	2,312	2,514	108.7%	12.3	1.2	B
19	I-80 WB Ramps/Atlantic St	Signal	3,239	3,595	111.0%	10.9	0.6	B
20	Taylor Rd-I-80 EB Ramps/Eureka Rd	Signal	4,818	5,175	107.4%	60.6	11.0	E
21	North Sunrise Ave/Eureka Rd	Signal	4,692	4,869	103.8%	29.9	1.9	C
22	Harding Blvd/Wills Rd	Signal	2,793	3,018	108.0%	13.4	1.1	B
23	Harding Blvd/Douglas Blvd	Signal	3,536	3,596	101.7%	27.7	1.8	C
24	I-80 WB Ramps/Douglas Blvd	Signal	4,479	4,480	100.0%	16.7	1.8	B

Network Summary	
Total Demand Volume (veh/hr)	94,090
Total Volume Served (veh/hr)	96,629
Percent Served	102.7%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

I-80 / SR 65 Interchange
Existing Conditions
PM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
25	I-80 EB Ramps/Douglas Blvd	Signal	5,030	5,060	100.6%	5.8	0.6	A
26	North Sunrise Ave/Douglas Blvd	Signal	5,999	6,144	102.4%	35.4	1.7	D
27	Pacific St/Woodside Dr	Signal	2,211	2,202	99.6%	6.1	1.1	A
28	Pacific St/Sunset Blvd	Signal	3,385	3,465	102.4%	28.9	2.5	C
29	Granite Dr/Rocklin Rd	Signal	2,870	2,919	101.7%	36.5	2.3	D
30	I-80 WB Ramps/Rocklin Rd	Signal	2,935	3,092	105.3%	16.9	1.0	B
31	I-80 EB Ramps/Rocklin Rd	Signal	2,844	2,993	105.2%	20.0	1.0	B
32	Aguilar Rd/Rocklin Rd	Signal	2,132	2,137	100.2%	13.2	9.2	B
253	Galleria Blvd/Berry St	Signal	2,522	2,726	108.1%	8.6	1.1	A

Network Summary	
Total Demand Volume (veh/hr)	29,928
Total Volume Served (veh/hr)	30,737
Percent Served	102.7%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

SR 65 Capacity and Operational Improvements

Vissim Model Results – Design Year
Alternative 1 (Carpool Lane)

VISSIM Post-Processor **SR 65 Widening**
Average Values from 10 Runs **Design Year - HOV Lane Alternative**
Network Statistics **AM Peak Period**

Network Performance	Vehicle Types	Average	Std. Dev.
Number of Vehicles Served	All Vehicles	208,159	165
Travel Distance [mi]	All Vehicles	940,218	1,802
Travel Time [h]	All Vehicles	21,708	210.4
Average Speed [mph]	All Vehicles	43.3	0.4
Total Delay [h]	All Vehicles	5,539	208.7
Average Delay per Vehicle [s]	All Vehicles	94	3.5
VHD/VMT [min/mile]	All Vehicles	0.35	0.01
Number of Vehicles Served	HOV	34,962	45
Travel Distance [mi]	HOV	155,430	743
Travel Time [h]	HOV	3,347	31
Average Speed [mph]	HOV	46.4	0.4
Total Delay [h]	HOV	699	29
Average Delay per Vehicle [s]	HOV	71	3
VHD/VMT [min/mile]	HOV	0.27	0.01
Number of Vehicles Served	Truck	7,584	18
Travel Distance [mi]	Truck	42,929	371
Travel Time [h]	Truck	972	16
Average Speed [mph]	Truck	44.2	1
Total Delay [h]	Truck	240	13
Average Delay per Vehicle [s]	Truck	111	6
VHD/VMT [min/mile]	Truck	0.34	0.02

	Vehicle Types		
Performance Measure	HOV	Truck	All
Vehicles Served	34,960	7,580	208,160
Demand Volume	35,840	8,220	210,080
Percent Demand Served	97.5%	92.2%	99.1%
Vehicle Miles of Travel	155,430	42,930	940,220
Person Miles of Travel	326,400	45,080	1,113,340
Vehicle Hours of Travel	3,350	970	21,710
Vehicle Hours of Delay	700	240	5,540
VHD % of VHT	20.9%	24.7%	25.5%
Average Delay per Vehicle (min)	1.20	1.90	1.60
Person Hours of Delay	1,470	250	6,320
Average Travel Speed	46.4	44.2	43.3

VISSIM Post-Processor
Average Values from 10 Runs
Peak Hour Travel Time

SR 65 Widening
Design Year - HOV Lane Alternative
AM Peak Period

Mode	Description	Distance (ft)	Volume (vehicles)		Travel Time (min.:sec.)		Speed (mph)
			Average	Std. Dev.	Average	Std. Dev.	Average
SOV	SR-65 at Blue Oaks to I-80 at Antelope	43,087	1014	16	08:35	00:12	22.8
	I-80 at Auburn to SR-65 at Blue Oaks	32,845	1747	18	06:25	00:02	23.3
	I-80: Sierra College to Antelope	45,844	1239	14	08:27	00:10	24.7
	I-80: Auburn to Sierra College	36,738	793	13	06:40	00:02	25.1
	SR-65: I-80 to Sunset	43,097	1342	15	04:12	00:01	46.6
	SR-65: Sunset to Ferrari Ranch	45,833	441	10	03:31	00:00	59.3
	SR-65: Ferrari Ranch to Sunset	36,734	1300	11	03:37	00:02	46.2
	SR-65: Sunset to I-80	32,850	1822	22	04:12	00:03	35.5
HOV	SR-65 at Blue Oaks to I-80 at Antelope	43,087	438	9	08:23	00:03	46.6
	I-80 at Auburn to SR-65 at Blue Oaks	32,845	383	10	06:16	00:01	59.3
	I-80: Sierra College to Antelope	45,844	409	9	08:20	00:04	46.2
	I-80: Auburn to Sierra College	36,738	154	6	06:33	00:02	35.5
	SR-65: I-80 to Sunset	43,097	98	5	04:13	00:02	23.3
	SR-65: Sunset to Ferrari Ranch	45,833	51	3	03:30	00:02	23.8
	SR-65: Ferrari Ranch to Sunset	36,734	234	6	03:36	00:01	25.0
	SR-65: Sunset to I-80	32,850	537	11	04:07	00:01	25.5

VISSIM Post-Processor **SR 65 Widening**
Average Values from 10 Runs **Design Year - HOV Lane Alternative**
Network Statistics **PM Peak Period**

Network Performance	Vehicle Types	Average	Std. Dev.
Number of Vehicles Served	All Vehicles	300,778	400
Travel Distance [mi]	All Vehicles	1,160,701	2,052
Travel Time [h]	All Vehicles	30,886	216.4
Average Speed [mph]	All Vehicles	37.6	0.3
Total Delay [h]	All Vehicles	10,468	229.4
Average Delay per Vehicle [s]	All Vehicles	123	2.8
VHD/VMT [min/mile]	All Vehicles	0.54	0.01
Number of Vehicles Served	HOV	53,198	114
Travel Distance [mi]	HOV	218,121	780
Travel Time [h]	HOV	5,387	36
Average Speed [mph]	HOV	40.5	0.3
Total Delay [h]	HOV	1,586	36
Average Delay per Vehicle [s]	HOV	105	2
VHD/VMT [min/mile]	HOV	0.44	0.01
Number of Vehicles Served	Truck	8,041	25
Travel Distance [mi]	Truck	39,639	237
Travel Time [h]	Truck	971	9
Average Speed [mph]	Truck	40.8	0
Total Delay [h]	Truck	287	8
Average Delay per Vehicle [s]	Truck	126	3
VHD/VMT [min/mile]	Truck	0.44	0.01

	Vehicle Types		
Performance Measure	HOV	Truck	All
Vehicles Served	53,200	8,040	300,780
Demand Volume	54,330	8,650	301,970
Percent Demand Served	97.9%	92.9%	99.6%
Vehicle Miles of Travel	218,120	39,640	1,160,700
Person Miles of Travel	458,050	41,620	1,402,610
Vehicle Hours of Travel	5,390	970	30,890
Vehicle Hours of Delay	1,590	290	10,470
VHD % of VHT	29.5%	29.9%	33.9%
Average Delay per Vehicle (min)	1.79	2.16	2.09
Person Hours of Delay	3,340	300	12,230
Average Travel Speed	40.5	40.8	37.6

VISSIM Post-Processor
Average Values from 10 Runs
Peak Hour Travel Time

SR 65 Widening
Design Year - HOV Lane Alternative
PM Peak Period

Mode	Description	Distance (ft)	Volume (vehicles)		Travel Time (min.:sec.)		Speed (mph)
			Average	Std. Dev.	Average	Std. Dev.	Average
SOV	SR-65 at Blue Oaks to I-80 at Antelope	43,086	859	13	08:22	00:05	23.4
	I-80 at Auburn to SR-65 at Blue Oaks	32,847	1584	14	06:31	00:06	22.9
	I-80: Sierra College to Antelope	45,844	628	9	08:21	00:03	24.9
	I-80: Auburn to Sierra College	36,738	905	15	06:44	00:04	24.8
	SR-65: I-80 to Sunset	43,096	2036	21	04:18	00:02	45.6
	SR-65: Sunset to Ferrari Ranch	45,833	584	13	03:34	00:00	58.4
	SR-65: Ferrari Ranch to Sunset	36,734	937	12	03:31	00:00	47.6
	SR-65: Sunset to I-80	32,852	1384	19	04:07	00:04	36.3
HOV	SR-65 at Blue Oaks to I-80 at Antelope	43,086	281	7	08:18	00:03	45.6
	I-80 at Auburn to SR-65 at Blue Oaks	32,847	699	11	06:20	00:01	58.4
	I-80: Sierra College to Antelope	45,844	201	5	08:16	00:03	47.6
	I-80: Auburn to Sierra College	36,738	317	7	06:37	00:02	36.3
	SR-65: I-80 to Sunset	43,096	96	5	04:18	00:02	23.6
	SR-65: Sunset to Ferrari Ranch	45,833	102	5	03:33	00:01	23.6
	SR-65: Ferrari Ranch to Sunset	36,734	187	6	03:31	00:01	25.2
	SR-65: Sunset to I-80	32,852	282	8	04:03	00:02	25.2

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Design Year - HOV Lane Alternative
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
1	I-80 EB - Auburn Blvd On-ramp	Merge	7,491	32	110.2%	1,243	20	110.0%				58.8	3.7	34.9	2.7	D
2	I-80 EB - Auburn Blvd to Douglas Blvd	Basic	8,727	79	110.1%							55.8	4.3	39.2	3.6	E
3	I-80 EB - Douglas Blvd EB Off-ramp	Diverge	8,721	95	110.0%				1,391	75	109.6%	59.9	2.0	30.7	1.6	D
4	I-80 EB - Douglas Blvd WB Off-ramp	Diverge	7,321	114	109.9%				370	34	112.1%	61.1	1.5	26.3	1.3	C
5	I-80 EB - Douglas Blvd Off to On-ramp	Basic	6,949	116	109.8%							62.4	0.4	28.0	0.5	D
6	I-80 EB - Douglas Blvd to Eureka Rd	Weave	6,950	132	109.8%	1,167	40	95.6%	1,788	91	105.2%	62.2	0.5	27.1	0.6	C
7	I-80 EB CD - Eureka Rd to Taylor Rd/SR-65	Weave	626	43	104.3%	1,233	63	105.4%	880	43	102.3%	61.3	1.0	15.8	0.6	B
8	I-80 EB - Eureka Rd to SR-65	Basic	6,324	129	108.1%							60.7	1.6	30.3	1.2	D
9	I-80 EB - HOV Connector Off-ramp	Diverge	6,325	125	108.1%				585	49	106.3%	58.1	2.0	30.5	1.3	D
10	I-80 EB - SR-65 Off-ramp	Diverge	5,742	117	108.3%				3,311	114	107.8%	62.3	1.0	24.4	0.6	C
11	I-80 EB - SR-65 Off-ramp to Eureka Rd On-ramp	Basic	2,434	94	109.2%							63.9	0.3	15.1	0.4	B
17	I-80 EB - Eureka Rd On-ramp	Merge	2,436	92	109.2%	580	38	101.7%				62.8	0.8	15.2	0.5	B
18	I-80 EB - Eureka Rd On-ramp to SR-65 On-ramp	Basic	3,015	95	107.7%							63.7	0.3	16.7	0.5	B
19	I-80 EB - SR-65 On-ramp	Merge	3,015	97	107.7%	2,073	90	109.1%				60.2	0.3	27.5	0.8	C
20	I-80 EB - SR-65 to Rocklin Rd	Basic	5,088	124	108.2%							62.8	0.1	25.5	0.6	C
22	I-80 EB - Rocklin Rd Off-ramp	Diverge	5,109	133	108.7%				1,762	90	106.8%	63.5	0.1	24.9	0.4	C
23	I-80 EB - Rocklin Rd Off to On-ramp	Basic	3,360	103	110.2%							63.7	0.2	20.6	0.5	C
24	I-80 EB - Rocklin Rd On-ramp	Merge	3,363	102	110.3%	183	3	96.2%				60.9	1.0	22.0	0.7	C
25	I-80 EB - Rocklin Rd to Sierra College Blvd	Basic	3,552	105	109.6%							63.2	0.3	21.6	0.6	C
26	I-80 EB - Sierra College Blvd Off-ramp	Diverge	3,554	107	109.7%				684	46	114.1%	62.2	0.7	23.8	0.8	C
27	I-80 EB - Sierra College Blvd Off to On-ramp	Basic	2,874	99	108.9%							63.5	0.2	17.4	0.5	B
28	I-80 EB - Sierra College Blvd SB On-ramp	Merge	2,875	99	108.9%	140	5	93.0%				62.5	0.3	17.6	0.4	B
29	I-80 EB - Sierra College Blvd NB On-ramp	Merge	3,018	96	108.2%	522	19	106.5%				61.8	0.4	20.0	0.4	B
38	I-80 WB - Sierra College Blvd Off-ramp	Diverge	5,376	25	105.8%				1,104	66	106.1%	53.0	3.5	33.0	2.1	D
39	I-80 WB - Sierra College Blvd Off to On-ramp	Basic	4,269	69	105.7%							61.6	0.7	25.6	0.6	C
40	I-80 WB - Sierra College Blvd NB On-ramp	Merge	4,269	70	105.7%	50	4	83.0%				62.9	0.4	23.3	0.7	C
41	I-80 WB - Sierra College Blvd SB On-ramp	Merge	4,315	74	105.2%	321	15	103.4%				60.9	1.1	25.1	0.8	C
42	I-80 WB - Sierra College Blvd to Rocklin Rd	Basic	4,632	84	105.0%							62.7	0.2	26.4	0.5	D
43	I-80 WB - Rocklin Rd Off-ramp	Diverge	4,632	83	105.0%				270	25	103.7%	62.2	0.5	27.1	0.8	C
44	I-80 WB - Rocklin Rd Off to On-ramp	Basic	4,358	86	105.0%							62.7	0.2	24.8	0.5	C
45	I-80 WB - Rocklin Rd On-ramp	Merge	4,356	93	105.0%	980	48	99.0%				59.5	0.7	29.0	0.8	D
46	I-80 WB - Rocklin Rd to HOV Lane Start	Basic	5,325	111	103.6%							60.2	1.0	31.0	0.8	D
47	I-80 WB - HOV Lane Start to SR-65	Basic	5,324	117	103.6%							62.2	0.3	23.8	0.4	C
48	I-80 WB - SR-65 Off-ramp	Diverge	5,323	116	103.6%				1,699	77	104.2%	63.6	0.2	22.0	0.4	C
49	I-80 WB - SR-65 Off to On-ramp	Basic	3,615	98	103.0%							63.6	0.1	19.5	0.5	C
60	I-80 WB - SR-65 to Atlantic St	Weave	3,611	106	102.9%	5,772	128	105.9%	518	43	101.5%	57.7	0.8	27.0	0.7	C
62	I-80 WB - Atlantic St EB Off-ramp	Diverge	8,817	153	104.3%				1,289	66	103.9%	56.9	2.9	33.4	1.8	D
63	I-80 WB - Atlantic St EB Off to On-ramp	Basic	7,527	155	104.4%							61.5	1.0	28.8	0.6	D
64	I-80 WB - Atlantic St On-ramp	Merge	7,523	153	104.3%	915	50	108.9%				56.2	4.0	41.1	2.9	E
65	I-80 WB - Douglas Blvd Off-ramp	Diverge	8,431	167	104.7%				1,166	70	99.6%	61.1	0.5	35.7	0.9	E
66	I-80 WB - Douglas Blvd Off to On-ramp	Basic	7,256	174	105.5%							63.1	0.1	27.7	0.4	D
67	I-80 WB - Douglas Blvd WB On-ramp	Merge	7,256	176	105.5%	937	62	105.3%				57.9	1.9	33.2	1.4	D
68	I-80 WB - Douglas Blvd EB On-ramp	Merge	8,197	175	105.5%	462	34	110.1%				56.3	4.2	39.1	3.5	E
69	I-80 WB - Douglas Blvd to Riverside Ave	Basic	8,660	140	105.7%							61.0	0.6	34.9	0.8	D
70	I-80 WB - Riverside Ave Off-ramp	Diverge	8,674	187	105.9%				1,077	58	101.6%	62.3	0.1	35.0	0.7	D
71	I-80 WB - Riverside Ave Off to On-ramp	Basic	7,594	170	106.5%							62.7	0.1	30.0	0.6	D
72	I-80 WB - Riverside Ave NB On-ramp	Merge	7,595	167	106.5%	215	7	85.9%				62.9	0.3	27.9	0.5	C
73	I-80 WB - Riverside Ave SB On-ramp	Merge	7,812	157	105.8%	788	12	101.0%				62.3	0.8	33.7	0.6	D
74	I-80 WB - Riverside Ave to Antelope Rd	Basic	8,610	162	105.5%							60.8	1.7	34.9	1.3	D
75	I-80 WB - Antelope Rd Off-ramp	Diverge	8,613	174	105.6%				470	34	90.4%	57.1	10.3	40.3	11.6	E
76	I-80 WB - Antelope Rd Off to On-ramp	Basic	8,146	173	106.6%							55.3	14.9	43.3	23.4	E
77	I-80 WB - Antelope Rd WB On-ramp	Merge	8,153	181	106.7%	525	13	99.1%				52.9	14.5	47.9	26.4	F
78	I-80 WB - Antelope Rd to Truck Scales	Weave	8,703	202	106.5%	444	14	88.7%	95	18	86.1%	48.4	13.1	48.3	18.0	F
79	I-80 WB - Truck Scales Off to On-ramp	Basic	9,147	240	106.9%							41.4	12.2	60.5	19.2	F
80	I-80 WB - Truck Scales On-ramp	Merge	9,177	277	107.2%	95	18	86.5%				34.9	8.9	78.8	16.6	F
81	I-80 WB - Truck Scales to Elkhorn Blvd	Basic	9,352	262	107.9%							35.1	4.1	68.0	7.1	F
82	I-80 WB - Elkhorn Blvd Off-ramp	Diverge	9,372	263	108.1%				1,131	88	109.8%	34.9	2.6	59.7	4.3	F
83	I-80 WB - Elkhorn Blvd Off to On-ramp	Basic	8,347	244	109.3%							26.1	0.6	90.7	1.6	F
84	I-80 WB - Elkhorn Blvd WB On-ramp	Merge	8,390	222	109.8%	740	12	93.6%				26.6	0.7	91.4	2.9	F
85	I-80 WB - Elkhorn Blvd EB On-ramp	Merge	9,187	214	109.0%	811	18	98.9%				32.8	0.5	74.7	0.8	F

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Design Year - HOV Lane Alternative
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
100	SR-65 NB - EB I-80 Connector	Basic	3,312	113	107.9%							61.3	1.7	29.1	1.1	D
101	SR-65 NB - Eureka Rd On-ramp	Merge	3,313	113	107.9%	979	52	106.4%				48.6	0.2	32.2	0.8	D
102	SR-65 NB - WB I-80 Connector	Basic	1,700	78	104.3%							52.9	0.2	18.1	0.8	C
103	SR-65 NB - I-80 to Stanford Ranch Rd	Weave	4,283	111	107.3%	2,284	88	104.8%	850	46	103.7%	59.5	0.3	27.8	0.7	C
106	SR-65 NB - Stanford Ranch Rd Off to On-ramp	Basic	5,716	149	106.8%							62.6	0.2	30.8	0.8	D
107	SR-65 NB - Stanford Ranch Rd to Pleasant Grove Blvd	Weave	5,722	155	107.0%	698	25	102.7%	1,027	62	96.9%	61.7	1.1	29.6	1.1	D
110	SR-65 NB - Pleasant Grove Blvd Off to On-ramp	Basic	5,403	149	108.7%							57.6	4.5	31.7	2.0	D
111	SR-65 NB - Pleasant Grove Blvd On-ramp	Merge	5,406	140	108.8%	291	26	100.4%				61.5	0.7	30.6	0.7	D
112	SR-65 NB - Blue Oaks Blvd Off-ramp	Diverge	5,698	138	108.3%				2,210	84	110.5%	62.9	0.2	27.5	0.6	C
114	SR-65 NB - Blue Oaks Blvd Off to On-ramp	Basic	3,493	100	107.1%							63.6	0.2	20.2	0.6	C
115	SR-65 NB - Blue Oaks Blvd On-ramp	Merge	3,490	101	107.0%	643	50	100.4%				62.6	0.2	18.2	0.6	B
116	SR-65 NB - Blue Oaks Blvd to Sunset Blvd	Basic	4,131	115	105.9%							63.4	0.1	19.5	0.4	C
118	SR-65 NB - Sunset Blvd Off-ramp	Diverge	4,132	117	105.9%				1,448	72	106.4%	63.8	0.2	19.8	0.4	B
119	SR-65 NB - Sunset Blvd Off to On-ramp	Basic	2,686	88	105.7%							64.0	0.1	14.9	0.4	B
120	SR-65 NB - Sunset Blvd EB On-ramp	Merge	2,686	85	105.8%	163	20	101.8%				63.6	0.1	15.6	0.3	B
121	SR-65 NB - Sunset Blvd to Whitney Ranch Pkwy	Weave	2,852	79	105.6%	285	18	101.6%	795	51	98.1%	63.8	0.1	14.7	0.3	B
124	SR-65 NB - Whitney Ranch Pkwy Off to On-ramp	Basic	2,342	72	107.9%							64.1	0.2	13.2	0.4	B
125	SR-65 NB - Whitney Ranch Pkwy EB On-ramp	Merge	2,341	69	107.9%	522	36	106.5%				62.3	0.4	16.3	0.4	B
126	SR-65 NB - Whitney Ranch Pkwy to Twelve Bridges Dr	Weave	2,864	87	107.7%	461	19	107.1%	689	48	93.1%	63.6	0.1	15.4	0.4	B
129	SR-65 NB - Twelve Bridges Dr Off to On-ramp	Basic	2,640	81	112.4%							63.8	0.1	16.3	0.5	B
130	SR-65 NB - Twelve Bridges Dr to Lincoln Blvd	Weave	2,642	79	112.4%	944	49	107.3%	865	59	115.3%	63.0	0.4	17.1	0.3	B
133	SR-65 NB - Lincoln Blvd to Ferrari Ranch Rd	Basic	2,725	93	109.9%							63.1	0.3	21.5	0.7	C
134	SR-65 NB - Ferrari Ranch Rd Off-ramp	Diverge	2,725	91	109.9%				1,156	54	102.3%	63.7	0.1	18.2	0.5	B
135	SR-65 NB - Ferrari Ranch Rd Off to On-ramp	Basic	1,571	69	116.4%							64.0	0.1	15.2	0.5	B
136	SR-65 NB - Ferrari Ranch Rd On-ramp	Merge	1,573	68	116.5%	181	6	106.2%				62.2	0.2	15.9	0.4	B
150	SR-65 SB - Ferrari Ranch Rd Off-ramp	Diverge	2,007	32	107.9%				144	23	102.9%	63.1	0.2	25.9	0.3	C
151	SR-65 SB - Ferrari Ranch Rd Off to On-ramp	Basic	1,864	46	108.4%							63.1	0.2	24.5	0.5	C
152	SR-65 SB - Ferrari Ranch Rd WB On-ramp	Merge	1,865	44	108.4%	1,161	19	104.6%				60.6	0.3	24.8	0.3	C
153	SR-65 SB - Ferrari Ranch Rd EB On-ramp	Merge	3,027	51	107.0%	1,045	24	92.4%				58.2	1.7	28.4	0.8	D
154	SR-65 SB - Ferrari Ranch Rd to Lincoln Blvd	Basic	4,077	58	103.0%							62.1	2.2	30.5	1.4	D
156	SR-65 SB - Lincoln Blvd to Twelve Bridges Dr	Weave	4,080	65	103.0%	1,369	70	119.1%	932	56	107.1%	53.9	4.3	33.8	3.5	D
159	SR-65 SB - Twelve Bridges Dr Off to On-ramp	Basic	4,517	83	106.5%							61.8	0.8	30.1	0.6	D
160	SR-65 SB - Twelve Bridges Dr to Placer Pkwy	Weave	4,518	88	106.6%	1,206	51	112.7%	1,131	46	112.0%	60.2	1.2	30.1	0.8	D
163	SR-65 SB - Placer Pkwy Off to On-ramp	Basic	4,597	93	106.9%							62.7	0.1	28.0	0.4	D
164	SR-65 SB - Placer Pkwy WB On-ramp	Merge	4,601	92	107.0%	415	34	109.2%				61.4	0.9	31.2	0.9	D
165	SR-65 SB - Placer Pkwy to Sunset Blvd	Weave	5,016	98	107.2%	624	40	109.5%	833	64	105.4%	60.5	0.6	29.3	0.6	D
168	SR-65 SB - Sunset Blvd Off to On-ramp	Basic	4,798	115	107.6%							62.4	0.4	29.3	0.8	D
169	SR-65 SB - Sunset Blvd WB On-ramp	Merge	4,797	116	107.6%	802	33	114.6%				59.0	5.0	33.5	3.5	D
170	SR-65 SB - Sunset Blvd to Blue Oaks Blvd	Weave	5,601	127	108.5%	530	14	96.4%	1,097	56	108.6%	61.6	0.7	28.9	0.8	D
172	SR-65 SB - Blue Oaks Blvd Off to HOV Lane Start	Basic	5,033	106	107.1%							62.4	0.1	29.2	0.7	D
173	SR-65 SB - HOV Lane Start to Blue Oaks Blvd WB On-ramp	Basic	5,034	108	107.1%							62.3	0.3	29.0	0.7	D
174	SR-65 SB - Blue Oaks Blvd WB On-ramp	Merge	5,033	109	107.1%	624	40	105.7%				58.1	2.0	31.5	1.5	D
175	SR-65 SB - Blue Oaks Blvd to Pleasant Grove Blvd	Weave	5,660	107	107.0%	1,330	56	100.8%	867	65	107.0%	58.9	1.8	32.6	1.4	D
178	SR-65 SB - Pleasant Grove Blvd Off to On-ramp	Basic	6,128	120	105.7%							61.5	0.8	33.8	0.7	D
179	SR-65 SB - Pleasant Grove Blvd WB On-ramp	Merge	6,129	117	105.7%	709	36	102.7%				58.5	1.0	34.7	0.7	D
180	SR-65 SB - Pleasant Grove Blvd EB On-ramp	Merge	6,839	124	105.4%	824	38	103.0%				53.9	4.2	32.8	3.1	D
181	SR-65 SB - Pleasant Grove Blvd to Galleria Blvd	Basic	7,661	144	105.1%							59.3	2.2	35.1	1.6	E
182	SR-65 SB - Galleria Blvd Off-ramp	Diverge	7,660	145	105.1%				1,348	64	101.4%	60.3	3.8	33.3	2.6	D
183	SR-65 SB - Galleria Blvd Off to On-ramp	Basic	6,316	126	106.0%							58.5	2.2	37.4	1.8	E
184	SR-65 SB - Galleria Blvd to I-80	Weave	6,317	119	106.0%	734	29	102.0%	4,992	128	104.4%	60.3	0.7	29.9	0.7	D
187	SR-65 SB - EB I-80 Connector	Basic	2,069	90	108.9%							50.8	0.8	30.4	1.6	D
188	SR-65 SB - WB I-80 Connector	Basic	4,094	120	101.1%							54.0	0.6	27.2	1.0	D

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VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Design Year - HOV Lane Alternative
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
1	I-80 EB - Auburn Blvd On-ramp	Merge	8,026	45	102.0%	994	10	95.5%				61.8	0.7	28.9	0.4	D
2	I-80 EB - Auburn Blvd to Douglas Blvd	Basic	9,006	65	101.1%							61.8	0.3	31.9	0.4	D
3	I-80 EB - Douglas Blvd EB Off-ramp	Diverge	8,991	96	100.9%				1,137	72	98.8%	61.1	1.8	29.1	1.1	D
4	I-80 EB - Douglas Blvd WB Off-ramp	Diverge	7,840	117	101.0%				389	32	99.6%	61.9	1.5	26.0	0.9	C
5	I-80 EB - Douglas Blvd Off to On-ramp	Basic	7,455	132	101.1%							62.8	0.5	25.9	0.4	C
6	I-80 EB - Douglas Blvd to Eureka Rd	Weave	7,454	143	101.1%	1,743	29	92.7%	1,710	66	101.2%	62.3	0.3	26.8	0.4	C
7	I-80 EB CD - Eureka Rd to Taylor Rd/SR-65	Weave	1,067	49	103.5%	1,602	70	99.5%	1,303	70	102.6%	60.5	1.6	19.8	1.0	B
8	I-80 EB - Eureka Rd to SR-65	Basic	7,482	159	99.0%							60.9	1.1	30.7	0.7	D
9	I-80 EB - HOV Connector Off-ramp	Diverge	7,479	156	98.9%				1,065	51	95.9%	56.7	1.7	32.2	1.0	D
10	I-80 EB - SR-65 Off-ramp	Diverge	6,412	128	99.4%				3,650	94	100.8%	62.4	0.9	24.4	0.4	C
11	I-80 EB - SR-65 Off-ramp to Eureka Rd On-ramp	Basic	2,757	89	97.4%							64.2	0.1	12.8	0.6	B
17	I-80 EB - Eureka Rd On-ramp	Merge	2,752	94	97.2%	706	45	103.8%				62.7	0.5	14.5	0.5	B
18	I-80 EB - Eureka Rd On-ramp to SR-65 On-ramp	Basic	3,455	100	98.4%							63.9	0.1	15.9	0.5	B
19	I-80 EB - SR-65 On-ramp	Merge	3,453	98	98.4%	2,674	80	99.4%				59.4	0.7	28.1	0.4	D
20	I-80 EB - SR-65 to Rocklin Rd	Basic	6,128	126	98.8%							63.0	0.3	25.8	0.3	C
22	I-80 EB - Rocklin Rd Off-ramp	Diverge	6,110	107	98.6%				1,672	78	98.9%	63.5	0.2	25.4	0.5	C
23	I-80 EB - Rocklin Rd Off to On-ramp	Basic	4,432	126	98.3%							63.6	0.3	22.1	0.7	C
24	I-80 EB - Rocklin Rd On-ramp	Merge	4,430	122	98.2%	264	27	101.7%				60.0	0.8	23.8	0.9	C
25	I-80 EB - Rocklin Rd to Sierra College Blvd	Basic	4,690	121	98.3%							63.3	0.2	23.6	0.7	C
26	I-80 EB - Sierra College Blvd Off-ramp	Diverge	4,688	121	98.3%				557	46	88.4%	62.8	0.5	24.5	0.9	C
27	I-80 EB - Sierra College Blvd Off to On-ramp	Basic	4,128	109	99.7%							63.2	0.3	21.5	0.7	C
28	I-80 EB - Sierra College Blvd SB On-ramp	Merge	4,126	106	99.7%	324	8	95.1%				60.8	0.4	22.3	0.6	C
29	I-80 EB - Sierra College Blvd NB On-ramp	Merge	4,450	106	99.3%	881	21	102.5%				60.1	0.4	26.3	0.7	C
38	I-80 WB - Sierra College Blvd Off-ramp	Diverge	4,081	18	106.0%				758	51	103.9%	60.2	0.6	20.2	0.4	C
39	I-80 WB - Sierra College Blvd Off to On-ramp	Basic	3,318	55	106.3%							63.6	0.3	17.7	0.4	B
40	I-80 WB - Sierra College Blvd NB On-ramp	Merge	3,319	57	106.4%	407	11	101.6%				62.3	0.4	18.0	0.6	B
41	I-80 WB - Sierra College Blvd SB On-ramp	Merge	3,725	62	105.8%	433	9	100.8%				62.0	0.6	20.6	0.6	C
42	I-80 WB - Sierra College Blvd to Rocklin Rd	Basic	4,155	67	105.2%							63.4	0.2	21.2	0.5	C
43	I-80 WB - Rocklin Rd Off-ramp	Diverge	4,156	66	105.2%				302	29	108.0%	63.0	0.4	22.3	0.7	C
44	I-80 WB - Rocklin Rd Off to On-ramp	Basic	3,851	76	104.9%							63.3	0.2	19.7	0.4	C
45	I-80 WB - Rocklin Rd On-ramp	Merge	3,850	77	104.9%	1,629	45	103.1%				58.5	1.3	27.8	1.1	C
46	I-80 WB - Rocklin Rd to HOV Lane Start	Basic	5,475	79	104.3%							60.4	1.0	29.7	1.0	D
47	I-80 WB - HOV Lane Start to SR-65	Basic	5,469	104	104.2%							61.8	0.5	22.4	0.4	C
48	I-80 WB - SR-65 Off-ramp	Diverge	5,466	107	104.1%				2,324	77	102.8%	63.8	0.2	20.5	0.2	C
49	I-80 WB - SR-65 Off to On-ramp	Basic	3,137	83	104.9%							63.9	0.1	16.5	0.5	B
60	I-80 WB - SR-65 to Atlantic St	Weave	3,140	83	105.0%	5,072	116	99.8%	536	53	101.1%	59.5	0.4	23.0	0.5	C
62	I-80 WB - Atlantic St EB Off-ramp	Diverge	7,774	185	103.1%				1,277	77	100.5%	61.0	1.5	26.9	1.0	C
63	I-80 WB - Atlantic St EB Off to On-ramp	Basic	6,493	164	103.6%							63.1	0.2	24.2	0.8	C
64	I-80 WB - Atlantic St On-ramp	Merge	6,495	163	103.6%	1,232	60	99.4%				59.0	1.4	37.0	1.1	E
65	I-80 WB - Douglas Blvd Off-ramp	Diverge	7,726	184	102.9%				1,216	75	101.3%	61.8	0.3	33.7	1.1	D
66	I-80 WB - Douglas Blvd Off to On-ramp	Basic	6,508	143	103.1%							63.4	0.1	24.1	0.7	C
67	I-80 WB - Douglas Blvd WB On-ramp	Merge	6,507	135	103.1%	1,129	90	83.6%				58.0	1.8	29.1	1.0	D
68	I-80 WB - Douglas Blvd EB On-ramp	Merge	7,637	154	99.7%	742	29	101.7%				60.3	0.8	33.5	0.6	D
69	I-80 WB - Douglas Blvd to Riverside Ave	Basic	8,379	128	99.9%							61.3	0.6	32.3	0.6	D
70	I-80 WB - Riverside Ave Off-ramp	Diverge	8,378	145	99.9%				1,299	61	103.1%	62.5	0.2	33.5	0.7	D
71	I-80 WB - Riverside Ave Off to On-ramp	Basic	7,079	144	99.3%							63.1	0.3	26.2	0.9	D
72	I-80 WB - Riverside Ave NB On-ramp	Merge	7,077	141	99.2%	200	1	100.0%				63.4	0.1	23.9	0.9	C
73	I-80 WB - Riverside Ave SB On-ramp	Merge	7,272	131	99.2%	524	13	98.8%				60.9	1.1	27.6	1.3	C
74	I-80 WB - Riverside Ave to Antelope Rd	Basic	7,790	146	99.1%							61.9	0.5	28.7	0.9	D
75	I-80 WB - Antelope Rd Off-ramp	Diverge	7,787	156	99.1%				1,154	60	100.4%	62.3	1.2	30.9	1.1	D
76	I-80 WB - Antelope Rd Off to On-ramp	Basic	6,633	146	98.9%							63.0	0.6	24.1	0.9	C
77	I-80 WB - Antelope Rd WB On-ramp	Merge	6,636	147	98.9%	342	3	97.6%				60.4	0.9	24.1	0.8	C
78	I-80 WB - Antelope Rd to Truck Scales	Weave	6,978	152	98.8%	528	17	99.5%	76	20	69.5%	62.0	0.4	25.8	0.7	C
79	I-80 WB - Truck Scales Off to On-ramp	Basic	7,429	151	99.3%							62.8	0.1	27.0	0.8	D
80	I-80 WB - Truck Scales On-ramp	Merge	7,425	158	99.3%	76	17	69.5%				62.5	0.2	27.5	0.8	C
81	I-80 WB - Truck Scales to Elkhorn Blvd	Basic	7,506	153	98.9%							61.7	0.4	28.7	0.8	D
82	I-80 WB - Elkhorn Blvd Off-ramp	Diverge	7,501	161	98.8%				1,208	62	96.6%	61.8	0.7	28.0	0.7	D
83	I-80 WB - Elkhorn Blvd Off to On-ramp	Basic	6,294	143	99.3%							62.9	0.4	23.1	0.7	C
84	I-80 WB - Elkhorn Blvd WB On-ramp	Merge	6,294	145	99.3%	898	5	99.8%				55.6	1.3	27.5	1.3	C
85	I-80 WB - Elkhorn Blvd EB On-ramp	Merge	7,200	152	99.4%	582	10	100.3%				61.0	1.4	29.1	0.9	D

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Design Year - HOV Lane Alternative
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
100	SR-65 NB - EB I-80 Connector	Basic	3,651	93	100.9%							61.7	0.7	32.3	0.9	D
101	SR-65 NB - Eureka Rd On-ramp	Merge	3,653	93	100.9%	1,361	65	99.4%				48.3	0.2	36.6	1.0	E
102	SR-65 NB - WB I-80 Connector	Basic	2,323	80	102.8%							52.2	0.4	23.5	0.6	C
103	SR-65 NB - I-80 to Stanford Ranch Rd	Weave	5,016	124	100.5%	3,389	93	100.6%	1,441	72	99.4%	55.8	1.5	32.9	1.4	D
106	SR-65 NB - Stanford Ranch Rd Off to On-ramp	Basic	6,950	148	100.6%							62.4	0.2	33.0	0.8	D
107	SR-65 NB - Stanford Ranch Rd to Pleasant Grove Blvd	Weave	6,950	148	100.6%	1,391	67	100.1%	1,692	86	100.7%	60.8	0.5	32.8	0.7	D
110	SR-65 NB - Pleasant Grove Blvd Off to On-ramp	Basic	6,642	139	100.3%							59.6	1.0	32.6	0.7	D
111	SR-65 NB - Pleasant Grove Blvd On-ramp	Merge	6,646	139	100.4%	539	30	98.1%				60.8	0.6	32.9	0.7	D
112	SR-65 NB - Blue Oaks Blvd Off-ramp	Diverge	7,189	145	100.3%				2,396	85	99.4%	62.5	0.2	31.0	0.5	D
114	SR-65 NB - Blue Oaks Blvd Off to On-ramp	Basic	4,787	132	100.6%							63.0	0.2	26.2	0.8	D
115	SR-65 NB - Blue Oaks Blvd On-ramp	Merge	4,785	132	100.5%	1,092	78	101.1%				61.4	0.2	24.8	0.4	C
116	SR-65 NB - Blue Oaks Blvd to Sunset Blvd	Basic	5,875	136	100.6%							62.4	0.2	25.9	0.6	C
118	SR-65 NB - Sunset Blvd Off-ramp	Diverge	5,873	136	100.6%				1,277	66	101.3%	63.1	0.1	25.9	0.5	C
119	SR-65 NB - Sunset Blvd Off to On-ramp	Basic	4,591	128	100.2%							63.0	0.2	24.7	0.6	C
120	SR-65 NB - Sunset Blvd EB On-ramp	Merge	4,587	126	100.2%	448	31	99.6%				60.8	1.8	27.2	1.1	C
121	SR-65 NB - Sunset Blvd to Whitney Ranch Pkwy	Weave	5,034	121	100.1%	547	33	105.2%	1,197	62	102.3%	61.9	0.4	26.1	0.7	C
124	SR-65 NB - Whitney Ranch Pkwy Off to On-ramp	Basic	4,378	119	99.9%							63.0	0.2	24.8	0.6	C
125	SR-65 NB - Whitney Ranch Pkwy EB On-ramp	Merge	4,374	120	99.9%	432	37	100.5%				61.9	1.0	26.7	0.9	C
126	SR-65 NB - Whitney Ranch Pkwy to Twelve Bridges Dr	Weave	4,798	119	99.8%	702	41	103.3%	1,084	52	101.3%	62.3	0.5	24.4	0.6	C
129	SR-65 NB - Twelve Bridges Dr Off to On-ramp	Basic	4,400	123	99.5%							62.9	0.2	24.9	0.7	C
130	SR-65 NB - Twelve Bridges Dr to Lincoln Blvd	Weave	4,395	125	99.4%	992	53	97.2%	1,651	85	118.8%	62.3	0.4	23.6	0.7	C
133	SR-65 NB - Lincoln Blvd to Ferrari Ranch Rd	Basic	3,735	108	92.2%							61.9	0.5	27.7	0.8	D
134	SR-65 NB - Ferrari Ranch Rd Off-ramp	Diverge	3,734	106	92.2%				2,026	83	99.3%	62.9	0.2	23.4	0.8	C
135	SR-65 NB - Ferrari Ranch Rd Off to On-ramp	Basic	1,706	68	84.9%							64.1	0.1	14.2	0.8	B
136	SR-65 NB - Ferrari Ranch Rd On-ramp	Merge	1,703	68	84.7%	212	10	100.9%				62.1	0.3	14.9	0.8	B
150	SR-65 SB - Ferrari Ranch Rd Off-ramp	Diverge	2,055	49	100.7%				267	24	99.0%	63.6	0.2	18.3	0.3	B
151	SR-65 SB - Ferrari Ranch Rd Off to On-ramp	Basic	1,787	64	101.0%							63.9	0.2	15.6	0.5	B
152	SR-65 SB - Ferrari Ranch Rd WB On-ramp	Merge	1,789	62	101.1%	700	21	98.5%				61.8	0.4	15.4	0.4	B
153	SR-65 SB - Ferrari Ranch Rd EB On-ramp	Merge	2,489	66	100.4%	679	18	99.8%				61.5	0.2	16.2	0.2	B
154	SR-65 SB - Ferrari Ranch Rd to Lincoln Blvd	Basic	3,162	71	100.1%							63.9	0.2	17.9	0.3	B
156	SR-65 SB - Lincoln Blvd to Twelve Bridges Dr	Weave	3,163	73	100.1%	780	50	100.0%	872	51	100.2%	62.4	0.4	17.0	0.3	B
159	SR-65 SB - Twelve Bridges Dr Off to On-ramp	Basic	3,068	89	99.9%							63.8	0.2	16.8	0.5	B
160	SR-65 SB - Twelve Bridges Dr to Placer Pkwy	Weave	3,070	85	100.0%	874	29	92.0%	1,077	65	97.9%	62.9	0.1	17.3	0.3	B
163	SR-65 SB - Placer Pkwy Off to On-ramp	Basic	2,870	95	98.3%							63.8	0.2	15.5	0.6	B
164	SR-65 SB - Placer Pkwy WB On-ramp	Merge	2,871	95	98.3%	409	31	102.2%				62.6	0.3	18.7	0.8	B
165	SR-65 SB - Placer Pkwy to Sunset Blvd	Weave	3,283	101	98.9%	758	53	101.0%	614	47	97.4%	63.0	0.2	18.4	0.7	B
168	SR-65 SB - Sunset Blvd Off to On-ramp	Basic	3,423	99	99.5%							63.7	0.1	18.6	0.8	C
169	SR-65 SB - Sunset Blvd WB On-ramp	Merge	3,426	100	99.6%	1,011	42	106.5%				61.2	0.5	23.9	0.6	C
170	SR-65 SB - Sunset Blvd to Blue Oaks Blvd	Weave	4,435	106	101.0%	1,136	43	102.4%	873	56	98.1%	62.7	0.3	24.5	0.5	C
172	SR-65 SB - Blue Oaks Blvd Off- Ramp to HOV Lane Start	Basic	4,695	106	101.8%							63.0	0.2	26.0	0.5	C
173	SR-65 SB - HOV Lane Start to Blue Oaks Blvd WB On-ramp	Basic	4,696	108	101.9%							63.0	0.1	25.8	0.5	C
174	SR-65 SB - Blue Oaks Blvd WB On-ramp	Merge	4,697	109	101.9%	383	51	100.8%				61.6	0.2	26.9	0.6	C
175	SR-65 SB - Blue Oaks Blvd to Pleasant Grove Blvd	Weave	5,075	108	101.7%	1,401	43	99.4%	651	41	95.7%	61.5	0.8	27.6	0.5	C
178	SR-65 SB - Pleasant Grove Blvd Off to On-ramp	Basic	5,826	130	101.8%							62.7	0.2	30.5	0.7	D
179	SR-65 SB - Pleasant Grove Blvd WB On-ramp	Merge	5,826	126	101.9%	581	37	100.2%				61.4	0.4	29.9	0.7	D
180	SR-65 SB - Pleasant Grove Blvd EB On-ramp	Merge	6,410	129	101.7%	1,187	47	99.7%				57.5	3.0	29.7	1.8	D
181	SR-65 SB - Pleasant Grove Blvd to Galleria Blvd	Basic	7,594	138	101.4%							59.2	8.0	33.9	6.7	D
182	SR-65 SB - Galleria Blvd Off-ramp	Diverge	7,592	143	101.4%				1,630	84	100.6%	59.0	10.8	35.1	13.8	E
183	SR-65 SB - Galleria Blvd Off to On-ramp	Basic	5,955	140	101.4%							60.3	2.2	34.6	1.2	D
184	SR-65 SB - Galleria Blvd to I-80	Weave	5,954	144	101.4%	1,204	55	101.1%	4,469	111	102.3%	61.5	0.6	28.0	1.1	D
187	SR-65 SB - EB I-80 Connector	Basic	2,685	87	99.8%							47.6	1.7	39.1	2.6	E
188	SR-65 SB - WB I-80 Connector	Basic	3,804	99	99.8%							54.3	0.4	24.3	0.6	C

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Design Year - HOV Lane Alternative
AM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
1	Lincoln Blvd/Sterling Pkwy	Signal	3,125	3,430	109.8%	14.7	1.3	B
2	SR-65 SB Ramps/Twelve Bridges Dr	Signal	2,655	2,880	108.5%	14.8	0.6	B
3	SR-65 NB Ramps/Twelve Bridges Dr	Signal	2,655	2,823	106.3%	21.9	2.5	C
4	SR-65 SB Ramps/Sunset Blvd	Signal	3,735	4,073	109.1%	32.4	10.6	C
5	SR-65 NB Ramps/Sunset Blvd	Signal	4,055	4,439	109.5%	12.3	1.0	B
6	SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd	Signal	5,560	5,816	104.6%	56.5	7.9	E
7	SR-65 NB Ramps/Blue Oaks Blvd	Signal	3,535	3,778	106.9%	16.9	0.8	B
8	SR-65 SB Ramps/Pleasant Grove Blvd	Signal	4,585	4,715	102.8%	8.6	0.9	A
9	SR-65 NB Ramps/Pleasant Grove Blvd	Signal	3,550	3,572	100.6%	15.7	0.9	B
10	Stanford Ranch Rd/Five Star Blvd	Signal	2,755	2,863	103.9%	27.2	2.8	C
11	SR-65 NB Ramps/Stanford Ranch Rd	Signal	3,115	3,243	104.1%	11.0	0.6	B
12	SR-65 SB Ramps/Galleria Blvd	Signal	3,490	3,596	103.0%	18.6	3.5	B
13	Galleria Blvd/Antelope Creek Dr	Signal	2,701	2,794	103.4%	9.6	1.6	A
14	Galleria Blvd/Roseville Pkwy	Signal	5,336	5,735	107.5%	46.9	5.8	D
15	Creekside Ridge Dr/Roseville Pkwy	Signal	3,470	3,685	106.2%	8.4	2.7	A
16	Taylor Rd/East Roseville Pkwy	Signal	4,880	5,261	107.8%	70.0	11.6	E
17	North Sunrise Ave/East Roseville Pkwy	Signal	4,810	5,175	107.6%	32.7	3.6	C
18	Wills Rd/Atlantic St	Signal	2,295	2,473	107.8%	22.7	2.6	C
19	I-80 WB Ramps/Atlantic St	Signal	3,830	4,073	106.3%	10.9	2.1	B
20	Taylor Rd-I-80 EB Ramps/Eureka Rd	Signal	5,400	5,658	104.8%	30.2	2.5	C
21	North Sunrise Ave/Eureka Rd	Signal	5,110	5,380	105.3%	40.6	3.9	D
22	Harding Blvd/Wills Rd	Signal	2,145	2,294	106.9%	16.1	2.2	B
23	Harding Blvd/Douglas Blvd	Signal	2,710	2,954	109.0%	26.4	3.5	C
24	I-80 WB Ramps/Douglas Blvd	Signal	3,935	4,177	106.2%	20.9	5.8	C

Network Summary	
Total Demand Volume (veh/hr)	89,437
Total Volume Served (veh/hr)	94,888
Percent Served	106.1%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Design Year - HOV Lane Alternative
AM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
25	I-80 EB Ramps/Douglas Blvd	Signal	4,239	4,533	106.9%	27.6	13.6	C
26	North Sunrise Ave/Douglas Blvd	Signal	4,580	4,833	105.5%	53.5	21.2	D
27	Pacific St/Woodside Dr	Signal	2,283	2,448	107.3%	7.6	1.1	A
28	Pacific St/Sunset Blvd	Signal	3,514	3,654	104.0%	25.8	1.5	C
29	Granite Dr/Rocklin Rd	Signal	2,974	2,986	100.4%	28.5	2.4	C
30	I-80 WB Ramps/Rocklin Rd	Signal	3,078	3,107	101.0%	22.6	1.2	C
31	I-80 EB Ramps/Rocklin Rd	Signal	3,240	3,415	105.4%	29.8	16.0	C
32	Aguilar Rd/Rocklin Rd	Signal	2,315	2,513	108.6%	9.8	0.8	A
33	Lincoln Blvd/SR-65 NB Off-Ramp	Signal	2,761	3,179	115.1%	9.6	0.8	A
34	Lincoln Blvd/SR-65 SB On-Ramp	Signal	2,030	2,302	113.4%	21.8	3.5	C
35	SR-65 SB Ramps/Placer Pkwy	Signal	3,851	4,401	114.3%	24.1	7.0	C
36	SR-65 NB Ramps/Whitney Ranch Pkwy	Signal	3,586	3,946	110.0%	16.0	5.7	B
40	Galleria Blvd/Berry St	Signal	2,005	2,139	106.7%	10.2	1.7	B

Network Summary	
Total Demand Volume (veh/hr)	40,455
Total Volume Served (veh/hr)	43,456
Percent Served	107.4%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Design Year - HOV Lane Alternative
PM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
1	Lincoln Blvd/Sterling Pkwy	Signal	3,670	3,666	99.9%	22.7	1.2	C
2	SR-65 SB Ramps/Twelve Bridges Dr	Signal	2,655	2,588	97.5%	26.8	13.3	C
3	SR-65 NB Ramps/Twelve Bridges Dr	Signal	2,870	2,839	98.9%	20.2	2.0	C
4	SR-65 SB Ramps/Sunset Blvd	Signal	4,950	5,092	102.9%	9.9	0.8	A
5	SR-65 NB Ramps/Sunset Blvd	Signal	4,750	4,919	103.6%	15.5	3.6	B
6	SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd	Signal	7,155	7,248	101.3%	140.1	24.3	F
7	SR-65 NB Ramps/Blue Oaks Blvd	Signal	4,665	4,794	102.8%	45.0	36.3	D
8	SR-65 SB Ramps/Pleasant Grove Blvd	Signal	6,285	6,291	100.1%	9.2	0.7	A
9	SR-65 NB Ramps/Pleasant Grove Blvd	Signal	5,450	5,470	100.4%	14.8	0.9	B
10	Stanford Ranch Rd/Five Star Blvd	Signal	4,390	4,355	99.2%	82.0	24.7	F
11	SR-65 NB Ramps/Stanford Ranch Rd	Signal	5,570	5,566	99.9%	36.4	41.0	D
12	SR-65 SB Ramps/Galleria Blvd	Signal	5,925	5,963	100.6%	25.1	22.1	C
13	Galleria Blvd/Antelope Creek Dr	Signal	4,490	4,468	99.5%	28.2	2.3	C
14	Galleria Blvd/Roseville Pkwy	Signal	8,005	7,644	95.5%	93.3	18.0	F
15	Creekside Ridge Dr/Roseville Pkwy	Signal	4,655	4,407	94.7%	50.4	7.5	D
16	Taylor Rd/East Roseville Pkwy	Signal	6,710	6,460	96.3%	51.5	6.5	D
17	North Sunrise Ave/East Roseville Pkwy	Signal	6,325	6,361	100.6%	70.3	69.5	E
18	Wills Rd/Atlantic St	Signal	3,210	3,303	102.9%	24.1	2.6	C
19	I-80 WB Ramps/Atlantic St	Signal	4,860	4,942	101.7%	13.3	2.1	B
20	Taylor Rd-I-80 EB Ramps/Eureka Rd	Signal	6,575	6,688	101.7%	75.0	15.4	E
21	North Sunrise Ave/Eureka Rd	Signal	6,790	7,077	104.2%	93.8	25.7	F
22	Harding Blvd/Wills Rd	Signal	2,915	2,991	102.6%	16.5	1.5	B
23	Harding Blvd/Douglas Blvd	Signal	3,910	3,831	98.0%	91.1	12.9	F
24	I-80 WB Ramps/Douglas Blvd	Signal	4,705	4,429	94.1%	27.5	19.9	C

Network Summary	
Total Demand Volume (veh/hr)	121,485
Total Volume Served (veh/hr)	121,392
Percent Served	99.9%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Design Year - HOV Lane Alternative
PM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
25	I-80 EB Ramps/Douglas Blvd	Signal	5,445	4,985	91.6%	37.3	29.2	D
26	North Sunrise Ave/Douglas Blvd	Signal	6,275	5,566	88.7%	254.2	27.1	F
27	Pacific St/Woodside Dr	Signal	3,350	3,349	100.0%	9.8	1.7	A
28	Pacific St/Sunset Blvd	Signal	5,105	5,108	100.1%	32.5	1.4	C
29	Granite Dr/Rocklin Rd	Signal	3,990	4,126	103.4%	94.8	27.0	F
30	I-80 WB Ramps/Rocklin Rd	Signal	3,850	3,949	102.6%	67.5	15.4	E
31	I-80 EB Ramps/Rocklin Rd	Signal	3,825	3,874	101.3%	20.6	2.1	C
32	Aguilar Rd/Rocklin Rd	Signal	3,010	3,051	101.3%	31.5	11.7	C
33	Lincoln Blvd/SR-65 NB Off-Ramp	Signal	3,240	3,254	100.4%	12.2	1.2	B
34	Lincoln Blvd/SR-65 SB On-Ramp	Signal	1,600	1,606	100.4%	17.0	1.1	B
35	SR-65 SB Ramps/Placer Pkwy	Signal	4,860	4,933	101.5%	18.5	1.8	B
36	SR-65 NB Ramps/Whitney Ranch Pkwy	Signal	4,630	4,711	101.7%	21.8	2.2	C
40	Galleria Blvd/Berry St	Signal	2,930	2,960	101.0%	12.0	1.2	B

Network Summary	
Total Demand Volume (veh/hr)	52,110
Total Volume Served (veh/hr)	51,472
Percent Served	98.8%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - HOV Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 2 **SR-65 SB Ramps/Twelve Bridges Dr** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	440	41	13	230	39	NO
	Through						
	Right Turn	1,500	36	14	226	39	NO

Intersection 3 **SR-65 NB Ramps/Twelve Bridges Dr** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	700	25	23	177	35	NO
	Through						
	Right Turn	1,500	25	23	177	35	NO

Intersection 4 **SR-65 SB Ramps/Sunset Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	360	67	6	260	38	NO
	Through						
	Right Turn	1,330	69	6	263	38	NO

Intersection 5 **SR-65 NB Ramps/Sunset Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,400	52	3	224	45	NO
	Through						
	Right Turn	1,400	27	3	172	39	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - HOV Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 6 **SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	200	39	9	199	113	NO
	Through	2,260	219	150	1,420	333	NO
	Right Turn	200	79	117	1,231	421	MAX

Intersection 7 **SR-65 NB Ramps/Blue Oaks Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	400	50	22	318	37	NO
	Through						
	Right Turn	1,100	49	22	317	37	NO

Intersection 8 **SR-65 SB Ramps/Pleasant Grove Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	430	33	4	190	31	NO
	Through						
	Right Turn	1,130	36	4	192	31	NO

Intersection 9 **SR-65 NB Ramps/Pleasant Grove Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,420	47	8	196	23	NO
	Through						
	Right Turn	1,420	46	8	196	23	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - HOV Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 11 **SR-65 NB Ramps/Stanford Ranch Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
EB	Left Turn						
	Through						
	Right Turn	1,800	0	0	7	15	NO
WB	Left Turn						
	Through						
	Right Turn	1,170	31	3	176	20	NO

Intersection 12 **SR-65 SB Ramps/Galleria Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
EB	Left Turn						
	Through						
	Right Turn	1,130	66	5	362	72	NO
WB	Left Turn						
	Through						
	Right Turn	1,780	0	0	43	28	NO

Intersection 19 **I-80 WB Ramps/Atlantic St** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	1,150	0	0	40	128	NO
SB	Left Turn						
	Through						
	Right Turn	1,430	0	0	12	21	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - HOV Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 20 **Taylor Rd-I-80 EB Ramps/Eureka Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	180	137	71	693	576	MAX
	Through	1,700	104	44	610	489	NO
	Right Turn	1,700	58	68	616	763	NO
SB	Left Turn	550	31	5	103	27	NO
	Through						
	Right Turn	550	34	4	176	57	NO
EB	Left Turn	1,120	36	7	132	18	NO
	Through	1,120	110	35	722	62	NO
	Right Turn	810	13	11	320	52	NO
WB	Left Turn						
	Through	1,370	90	25	587	72	NO
	Right Turn	280	1	0	38	25	NO

Intersection 24 **I-80 WB Ramps/Douglas Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	1,530	80	80	392	89	NO
	Through	1,530	80	80	392	89	NO
	Right Turn	730	80	80	392	89	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - HOV Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 25 **I-80 EB Ramps/Douglas Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	1,400	0	0	48	114	NO
SB	Left Turn						
	Through						
	Right Turn	1,250	15	2	99	20	NO

Intersection 30 **I-80 WB Ramps/Rocklin Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	700	21	2	136	61	NO
	Through						
	Right Turn	1,230	29	4	156	61	NO

Intersection 31 **I-80 EB Ramps/Rocklin Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,080	59	5	286	47	NO
	Through						
	Right Turn	1,080	48	12	302	47	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - HOV Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 33 **Lincoln Blvd/SR-65 NB Off-Ramp** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
WB	Left Turn	1,940	0	0	0	0	NO
	Through						
	Right Turn	1,940	25	8	178	44	NO

Intersection 35 **SR-65 SB Ramps/Placer Pkwy** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	1,650	172	150	971	253	NO
	Through						
	Right Turn	1,650	173	150	972	253	NO

Intersection 36 **SR-65 NB Ramps/Whitney Ranch Pkwy** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,620	61	7	283	35	NO
	Through						
	Right Turn	1,620	61	7	283	35	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - HOV Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 2 **SR-65 SB Ramps/Twelve Bridges Dr** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	440	52	5	211	33	NO
	Through						
	Right Turn	1,500	48	6	207	33	NO

Intersection 3 **SR-65 NB Ramps/Twelve Bridges Dr** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	700	26	3	103	18	NO
	Through						
	Right Turn	1,500	26	3	103	18	NO

Intersection 4 **SR-65 SB Ramps/Sunset Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	360	59	3	200	34	NO
	Through						
	Right Turn	1,330	61	3	202	34	NO

Intersection 5 **SR-65 NB Ramps/Sunset Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,400	63	1	243	41	NO
	Through						
	Right Turn	1,400	16	4	139	67	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - HOV Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 6 **SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	200	99	37	496	401	MAX
	Through	2,260	145	86	880	313	NO
	Right Turn	200	28	37	600	313	MAX

Intersection 7 **SR-65 NB Ramps/Blue Oaks Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	400	49	7	236	50	NO
	Through						
	Right Turn	1,100	49	7	236	50	NO

Intersection 8 **SR-65 SB Ramps/Pleasant Grove Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	430	32	5	137	28	NO
	Through						
	Right Turn	1,130	35	5	139	28	NO

Intersection 9 **SR-65 NB Ramps/Pleasant Grove Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,420	52	2	214	42	NO
	Through						
	Right Turn	1,420	52	2	214	42	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - HOV Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 11 **SR-65 NB Ramps/Stanford Ranch Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
EB	Left Turn						
	Through						
	Right Turn	1,800	0	0	24	18	NO
WB	Left Turn						
	Through						
	Right Turn	1,170	145	85	471	487	NO

Intersection 12 **SR-65 SB Ramps/Galleria Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
EB	Left Turn						
	Through						
	Right Turn	1,130	80	4	386	87	NO
WB	Left Turn						
	Through						
	Right Turn	1,780	78	81	320	476	NO

Intersection 19 **I-80 WB Ramps/Atlantic St** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	1,150	5	5	227	392	NO
SB	Left Turn						
	Through						
	Right Turn	1,430	0	0	40	44	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - HOV Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 20 **Taylor Rd-I-80 EB Ramps/Eureka Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	180	80	4	339	146	MAX
	Through	1,700	27	9	158	43	NO
	Right Turn	1,700	1	1	71	156	NO
SB	Left Turn	550	31	13	123	17	NO
	Through						
	Right Turn	550	104	54	580	126	MAX
EB	Left Turn	1,120	56	8	198	48	NO
	Through	1,120	202	25	783	50	NO
	Right Turn	810	38	9	370	47	NO
WB	Left Turn						
	Through	1,370	654	190	1,456	119	MAX
	Right Turn	280	16	17	296	364	MAX

Intersection 24 **I-80 WB Ramps/Douglas Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	1,530	158	166	509	416	NO
	Through	1,530	158	166	509	416	NO
	Right Turn	730	159	166	509	416	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - HOV Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 25 **I-80 EB Ramps/Douglas Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	1,400	176	269	1,128	737	NO
SB	Left Turn						
	Through						
	Right Turn	1,250	22	2	171	112	NO

Intersection 30 **I-80 WB Ramps/Rocklin Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	700	87	80	418	165	NO
	Through						
	Right Turn	1,230	101	82	437	165	NO

Intersection 31 **I-80 EB Ramps/Rocklin Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,080	76	6	300	66	NO
	Through						
	Right Turn	1,080	59	5	310	67	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - HOV Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 33 **Lincoln Blvd/SR-65 NB Off-Ramp** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
WB	Left Turn	1,940	0	0	0	0	NO
	Through						
	Right Turn	1,940	82	3	402	62	NO

Intersection 35 **SR-65 SB Ramps/Placer Pkwy** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	1,650	82	9	373	70	NO
	Through						
	Right Turn	1,650	83	9	374	70	NO

Intersection 36 **SR-65 NB Ramps/Whitney Ranch Pkwy** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,620	127	23	480	88	NO
	Through						
	Right Turn	1,620	127	23	480	88	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

SR 65 Capacity and Operational Improvements

Vissim Model Results – Design Year
Alternative 2 (General Purpose Lane)

VISSIM Post-Processor **SR 65 Widening**
Average Values from 10 Runs **Design Year - GP Lane Alternative**
Network Statistics **AM Peak Period**

Network Performance	Vehicle Types	Average	Std. Dev.
Number of Vehicles Served	All Vehicles	207,465	65
Travel Distance [mi]	All Vehicles	950,657	1,683
Travel Time [h]	All Vehicles	21,965	78.4
Average Speed [mph]	All Vehicles	43.3	0.1
Total Delay [h]	All Vehicles	5,623	69.4
Average Delay per Vehicle [s]	All Vehicles	95	1.2
VHD/VMT [min/mile]	All Vehicles	0.35	0.00
Number of Vehicles Served	HOV	34,600	49
Travel Distance [mi]	HOV	164,213	803
Travel Time [h]	HOV	3,575	17
Average Speed [mph]	HOV	45.9	0.1
Total Delay [h]	HOV	775	9
Average Delay per Vehicle [s]	HOV	79	1
VHD/VMT [min/mile]	HOV	0.28	0.00
Number of Vehicles Served	Truck	7,555	20
Travel Distance [mi]	Truck	43,490	383
Travel Time [h]	Truck	970	9
Average Speed [mph]	Truck	44.8	0
Total Delay [h]	Truck	231	5
Average Delay per Vehicle [s]	Truck	107	2
VHD/VMT [min/mile]	Truck	0.32	0.01

	Vehicle Types		
Performance Measure	**HOV**	**Truck**	**All**
Vehicles Served	34,600	7,560	207,470
Demand Volume	35,900	8,200	210,070
Percent Demand Served	96.4%	92.2%	98.8%
Vehicle Miles of Travel	164,210	43,490	950,660
Person Miles of Travel	344,850	45,660	1,133,470
Vehicle Hours of Travel	3,580	970	21,960
Vehicle Hours of Delay	780	230	5,620
VHD % of VHT	21.8%	23.7%	25.6%
Average Delay per Vehicle (min)	1.35	1.83	1.63
Person Hours of Delay	1,640	240	6,490
Average Travel Speed	45.9	44.8	43.3

VISSIM Post-Processor
Average Values from 10 Runs
Peak Hour Travel Time

SR 65 Widening
Design Year - GP Lane Alternative
AM Peak Period

Mode	Description	Distance (ft)	Volume (vehicles)		Travel Time (min.:sec.)		Speed (mph)
			Average	Std. Dev.	Average	Std. Dev.	Average
SOV	SR-65 at Blue Oaks to I-80 at Antelope	43,090	1,091	16	08:37	00:10	22.7
	I-80 at Auburn to SR-65 at Blue Oaks	32,847	1,867	16	06:25	00:02	23.3
	I-80: Sierra College to Antelope	45,844	1,213	14	08:25	00:05	24.7
	I-80: Auburn to Sierra College	36,738	799	12	06:39	00:02	25.1
	SR-65: I-80 to Sunset	43,099	1,343	23	04:13	00:01	46.4
	SR-65: Sunset to Ferrari Ranch	45,832	416	9	03:31	00:00	59.4
	SR-65: Ferrari Ranch to Sunset	36,734	1,362	12	03:37	00:01	46.3
	SR-65: Sunset to I-80	32,852	1,832	19	04:16	00:05	35.0
HOV	SR-65 at Blue Oaks to I-80 at Antelope	43,090	301	8	08:29	00:06	46.4
	I-80 at Auburn to SR-65 at Blue Oaks	32,847	295	8	06:16	00:02	59.4
	I-80: Sierra College to Antelope	45,844	412	7	08:19	00:02	46.3
	I-80: Auburn to Sierra College	36,738	159	5	06:33	00:02	35.0
	SR-65: I-80 to Sunset	43,099	94	4	04:11	00:02	23.1
	SR-65: Sunset to Ferrari Ranch	45,832	53	3	03:30	00:02	23.8
	SR-65: Ferrari Ranch to Sunset	36,734	241	7	03:36	00:01	25.1
	SR-65: Sunset to I-80	32,852	501	10	04:14	00:06	25.5

VISSIM Post-Processor **SR 65 Widening**
Average Values from 10 Runs **Design Year - General Purpose Lane Alternative**
Network Statistics **PM Peak Period**

Network Performance	Vehicle Types	Average	Std. Dev.
Number of Vehicles Served	All Vehicles	300,817	277
Travel Distance [mi]	All Vehicles	1,166,400	1,721
Travel Time [h]	All Vehicles	30,922	354.6
Average Speed [mph]	All Vehicles	37.7	0.4
Total Delay [h]	All Vehicles	10,428	343.5
Average Delay per Vehicle [s]	All Vehicles	123	4.1
VHD/VMT [min/mile]	All Vehicles	0.54	0.02
Number of Vehicles Served	HOV	53,306	89
Travel Distance [mi]	HOV	212,655	607
Travel Time [h]	HOV	5,269	55
Average Speed [mph]	HOV	40.4	0.3
Total Delay [h]	HOV	1,558	49
Average Delay per Vehicle [s]	HOV	103	3
VHD/VMT [min/mile]	HOV	0.44	0.01
Number of Vehicles Served	Truck	8,051	23
Travel Distance [mi]	Truck	40,271	346
Travel Time [h]	Truck	988	16
Average Speed [mph]	Truck	40.8	0
Total Delay [h]	Truck	294	12
Average Delay per Vehicle [s]	Truck	129	5
VHD/VMT [min/mile]	Truck	0.44	0.02

	Vehicle Types		
Performance Measure	**HOV**	**Truck**	**All**
Vehicles Served	53,310	8,050	300,820
Demand Volume	54,550	8,640	301,760
Percent Demand Served	97.7%	93.2%	99.7%
Vehicle Miles of Travel	212,650	40,270	1,166,400
Person Miles of Travel	446,570	42,280	1,402,330
Vehicle Hours of Travel	5,270	990	30,920
Vehicle Hours of Delay	1,560	290	10,430
VHD % of VHT	29.6%	29.3%	33.7%
Average Delay per Vehicle (min)	1.76	2.16	2.08
Person Hours of Delay	3,280	300	12,160
Average Travel Speed	40.4	40.8	37.7

VISSIM Post-Processor
Average Values from 10 Runs
Peak Hour Travel Time

SR 65 Widening
Design Year - General Purpose Lane Alternative
PM Peak Period

Mode	Description	Distance (ft)	Volume (vehicles)		Travel Time (min.:sec.)		Speed (mph)
			Average	Std. Dev.	Average	Std. Dev.	Average
SOV	SR-65 at Blue Oaks to I-80 at Antelope	43,091	924	12	08:24	00:03	23.3
	I-80 at Auburn to SR-65 at Blue Oaks	32,846	1,706	14	06:32	00:05	22.9
	I-80: Sierra College to Antelope	45,844	632	9	08:22	00:02	24.9
	I-80: Auburn to Sierra College	36,738	906	16	06:44	00:05	24.8
	SR-65: I-80 to Sunset	43,100	2,080	21	04:19	00:02	45.4
	SR-65: Sunset to Ferrari Ranch	45,833	623	11	03:34	00:01	58.4
	SR-65: Ferrari Ranch to Sunset	36,734	941	11	03:31	00:00	47.6
	SR-65: Sunset to I-80	32,851	1,385	19	04:07	00:02	36.2
HOV	SR-65 at Blue Oaks to I-80 at Antelope	43,091	212	6	08:19	00:03	45.4
	I-80 at Auburn to SR-65 at Blue Oaks	32,846	596	9	06:20	00:02	58.4
	I-80: Sierra College to Antelope	45,844	201	6	08:15	00:02	47.6
	I-80: Auburn to Sierra College	36,738	315	8	06:38	00:02	36.2
	SR-65: I-80 to Sunset	43,100	89	4	04:17	00:02	23.6
	SR-65: Sunset to Ferrari Ranch	45,833	128	5	03:34	00:01	23.5
	SR-65: Ferrari Ranch to Sunset	36,734	187	5	03:31	00:01	25.2
	SR-65: Sunset to I-80	32,851	282	8	04:06	00:02	25.2

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Design Year - GP Lane Alternative
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
1	I-80 EB - Auburn Blvd On-ramp	Merge	7,491	44	110.2%	1,242	18	109.9%				62.0	0.5	29.7	0.3	D
2	I-80 EB - Auburn Blvd to Douglas Blvd	Basic	8,726	89	110.0%							61.4	0.5	32.2	0.4	D
3	I-80 EB - Douglas Blvd EB Off-ramp	Diverge	8,714	117	109.9%				1,383	51	108.0%	61.0	2.9	28.8	1.8	D
4	I-80 EB - Douglas Blvd WB Off-ramp	Diverge	7,327	133	110.2%				355	27	110.9%	62.5	1.1	24.2	0.6	C
5	I-80 EB - Douglas Blvd Off to On-ramp	Basic	6,969	128	110.1%							63.0	0.3	24.9	0.3	C
6	I-80 EB - Douglas Blvd to Eureka Rd	Weave	6,968	127	110.1%	1,186	29	97.2%	1,764	71	104.4%	62.5	0.3	23.4	0.3	C
7	I-80 EB CD - Eureka Rd to Taylor Rd/SR-65	Weave	613	39	102.2%	1,268	65	105.7%	876	39	103.0%	61.6	1.2	14.8	0.7	B
8	I-80 EB - Eureka Rd to SR-65	Basic	6,388	105	109.0%							62.2	0.2	27.2	0.4	D
9	I-80 EB - HOV Connector Off-ramp	Diverge	6,386	109	109.0%				586	43	108.4%	60.2	0.7	27.2	0.6	C
10	I-80 EB - SR-65 Off-ramp	Diverge	5,804	98	109.1%				3,365	101	108.6%	63.3	0.4	22.2	0.3	C
11	I-80 EB - SR-65 Off-ramp to Eureka Rd On-ramp	Basic	2,440	65	109.9%							64.0	0.2	13.5	0.5	B
17	I-80 EB - Eureka Rd On-ramp	Merge	2,442	72	110.0%	578	29	103.2%				63.0	0.2	14.1	0.7	B
18	I-80 EB - Eureka Rd On-ramp to SR-65 On-ramp	Basic	3,021	84	108.7%							63.8	0.2	15.3	0.6	B
19	I-80 EB - SR-65 On-ramp	Merge	3,021	85	108.7%	2,084	77	109.1%				60.7	0.6	27.7	0.6	C
20	I-80 EB - SR-65 to Rocklin Rd	Basic	5,104	112	108.8%							63.4	0.1	23.5	0.4	C
22	I-80 EB - Rocklin Rd Off-ramp	Diverge	5,118	112	109.1%				1,780	74	107.9%	63.3	0.6	22.1	0.4	C
23	I-80 EB - Rocklin Rd Off to On-ramp	Basic	3,349	102	110.2%							63.4	0.5	19.4	0.7	C
24	I-80 EB - Rocklin Rd On-ramp	Merge	3,351	104	110.2%	182	3	95.5%				61.8	0.3	19.3	0.6	B
25	I-80 EB - Rocklin Rd to Sierra College Blvd	Basic	3,535	112	109.5%							63.4	0.3	19.7	0.7	C
26	I-80 EB - Sierra College Blvd Off-ramp	Diverge	3,537	113	109.5%				659	48	109.9%	62.5	1.0	20.8	0.7	C
27	I-80 EB - Sierra College Blvd Off to On-ramp	Basic	2,882	100	109.6%							63.7	0.4	16.8	0.6	B
28	I-80 EB - Sierra College Blvd SB On-ramp	Merge	2,883	98	109.6%	139	5	92.5%				62.8	0.3	15.6	0.6	B
29	I-80 EB - Sierra College Blvd NB On-ramp	Merge	3,021	96	108.7%	523	19	106.8%				62.0	0.2	17.6	0.7	B
38	I-80 WB - Sierra College Blvd Off-ramp	Diverge	5,378	27	105.9%				1,115	57	107.2%	56.0	2.1	28.3	1.0	D
39	I-80 WB - Sierra College Blvd Off to On-ramp	Basic	4,259	68	105.4%							62.0	0.6	23.8	0.3	C
40	I-80 WB - Sierra College Blvd NB On-ramp	Merge	4,259	68	105.4%	50	4	82.8%				63.3	0.2	21.0	0.5	C
41	I-80 WB - Sierra College Blvd SB On-ramp	Merge	4,305	70	105.0%	335	13	101.5%				61.6	0.5	22.4	0.6	C
42	I-80 WB - Sierra College Blvd to Rocklin Rd	Basic	4,636	71	104.7%							62.6	0.3	25.4	0.5	C
43	I-80 WB - Rocklin Rd Off-ramp	Diverge	4,635	75	104.6%				292	31	104.2%	61.7	0.6	26.0	0.9	C
44	I-80 WB - Rocklin Rd Off to On-ramp	Basic	4,338	89	104.5%							63.2	0.2	23.6	0.6	C
45	I-80 WB - Rocklin Rd On-ramp	Merge	4,337	91	104.5%	976	49	98.6%				61.0	0.7	24.7	0.7	C
46	I-80 WB - Rocklin Rd to HOV Lane Start	Basic	5,307	115	103.2%							61.8	0.7	27.3	0.8	D
47	I-80 WB - HOV Lane Start to SR-65	Basic	5,305	129	103.2%							62.5	0.4	22.1	0.4	C
48	I-80 WB - SR-65 Off-ramp	Diverge	5,303	130	103.2%				1,700	92	103.7%	63.5	0.3	20.4	0.3	C
49	I-80 WB - SR-65 Off to On-ramp	Basic	3,598	127	102.8%							63.8	0.1	17.9	0.3	B
60	I-80 WB - SR-65 to Atlantic St	Weave	3,593	119	102.7%	5,765	164	105.6%	490	41	102.1%	58.8	0.6	23.8	0.6	C
62	I-80 WB - Atlantic St EB Off-ramp	Diverge	8,805	199	103.8%				1,297	68	103.7%	60.1	1.6	29.6	1.6	D
63	I-80 WB - Atlantic St EB Off to On-ramp	Basic	7,502	170	103.8%							62.3	0.6	26.5	1.0	D
64	I-80 WB - Atlantic St On-ramp	Merge	7,501	169	103.8%	885	37	106.6%				59.9	1.5	35.8	1.1	E
65	I-80 WB - Douglas Blvd Off-ramp	Diverge	8,383	175	104.0%				1,167	61	98.9%	61.2	0.4	32.0	0.7	D
66	I-80 WB - Douglas Blvd Off to On-ramp	Basic	7,213	172	104.8%							63.1	0.2	26.7	0.5	D
67	I-80 WB - Douglas Blvd WB On-ramp	Merge	7,213	170	104.8%	952	58	105.7%				61.0	0.4	27.2	0.7	C
68	I-80 WB - Douglas Blvd EB On-ramp	Merge	8,167	173	105.0%	460	43	109.4%				61.3	0.7	31.3	0.9	D
69	I-80 WB - Douglas Blvd to Riverside Ave	Basic	8,627	133	105.2%							62.0	0.4	31.5	0.7	D
70	I-80 WB - Riverside Ave Off-ramp	Diverge	8,637	167	105.3%				1,061	70	100.1%	62.6	0.1	32.8	0.5	D
71	I-80 WB - Riverside Ave Off to On-ramp	Basic	7,575	165	106.1%							63.0	0.1	27.1	0.6	D
72	I-80 WB - Riverside Ave NB On-ramp	Merge	7,578	164	106.1%	208	9	83.2%				62.9	0.2	26.1	0.6	C
73	I-80 WB - Riverside Ave SB On-ramp	Merge	7,787	166	105.4%	772	9	100.2%				62.5	0.3	32.2	0.9	D
74	I-80 WB - Riverside Ave to Antelope Rd	Basic	8,567	172	105.0%							61.6	0.3	32.1	0.7	D
75	I-80 WB - Antelope Rd Off-ramp	Diverge	8,572	167	105.0%				460	40	88.5%	59.1	5.9	35.6	4.9	E
76	I-80 WB - Antelope Rd Off to On-ramp	Basic	8,127	151	106.4%							54.8	9.3	36.6	10.3	E
77	I-80 WB - Antelope Rd WB On-ramp	Merge	8,148	164	106.7%	552	2	104.1%				43.9	13.4	53.0	20.3	F
78	I-80 WB - Antelope Rd to Truck Scales	Weave	8,748	183	107.1%	443	16	88.6%	93	19	84.8%	35.9	7.1	58.9	10.5	F
79	I-80 WB - Truck Scales Off to On-ramp	Basic	9,245	163	108.0%							31.8	3.0	77.3	7.2	F
80	I-80 WB - Truck Scales On-ramp	Merge	9,295	173	108.6%	94	19	85.5%				27.1	1.0	87.9	3.8	F
81	I-80 WB - Truck Scales to Elkhorn Blvd	Basic	9,471	169	109.2%							39.7	1.0	58.6	1.4	F
82	I-80 WB - Elkhorn Blvd Off-ramp	Diverge	9,479	168	109.3%				1,134	66	110.1%	55.3	2.6	34.4	1.4	D
83	I-80 WB - Elkhorn Blvd Off to On-ramp	Basic	8,367	193	109.5%							50.9	15.4	46.5	22.9	F
84	I-80 WB - Elkhorn Blvd WB On-ramp	Merge	8,388	184	109.8%	753	7	95.3%				46.5	16.7	53.8	28.6	F
85	I-80 WB - Elkhorn Blvd EB On-ramp	Merge	9,174	199	108.8%	810	18	98.8%				47.2	15.5	55.6	19.3	F

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Design Year - GP Lane Alternative
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
100	SR-65 NB - EB I-80 Connector	Basic	3,363	106	108.5%							62.4	0.3	28.6	1.0	D
101	SR-65 NB - Eureka Rd On-ramp	Merge	3,364	104	108.5%	1,007	69	105.9%				48.7	0.2	32.4	1.1	D
102	SR-65 NB - WB I-80 Connector	Basic	1,700	89	103.7%							53.1	0.1	18.1	0.9	C
103	SR-65 NB - I-80 to Stanford Ranch Rd	Weave	4,367	121	107.8%	2,286	98	104.9%	836	63	103.2%	59.5	0.6	27.7	0.8	C
106	SR-65 NB - Stanford Ranch Rd Off to On-ramp	Basic	5,819	123	107.4%							62.6	0.1	30.4	0.8	D
107	SR-65 NB - Stanford Ranch Rd to Pleasant Grove Blvd	Weave	5,822	123	107.4%	754	36	104.7%	1,054	57	98.5%	61.3	1.2	29.9	1.1	D
110	SR-65 NB - Pleasant Grove Blvd Off to On-ramp	Basic	5,536	142	109.2%							56.7	3.1	32.2	1.5	D
111	SR-65 NB - Pleasant Grove Blvd On-ramp	Merge	5,539	143	109.2%	282	27	97.4%				61.0	1.3	31.1	0.9	D
112	SR-65 NB - Blue Oaks Blvd Off-ramp	Diverge	5,821	140	108.6%				2,341	78	111.5%	62.8	0.4	27.5	0.7	C
114	SR-65 NB - Blue Oaks Blvd Off to On-ramp	Basic	3,481	120	106.8%							63.6	0.3	20.0	1.0	C
115	SR-65 NB - Blue Oaks Blvd On-ramp	Merge	3,479	121	106.7%	626	41	100.9%				62.8	0.2	17.8	0.5	B
116	SR-65 NB - Blue Oaks Blvd to Sunset Blvd	Basic	4,104	122	105.8%							63.6	0.2	19.2	0.5	C
118	SR-65 NB - Sunset Blvd Off-ramp	Diverge	4,103	123	105.8%				1,449	70	108.1%	63.8	0.2	19.5	0.4	B
119	SR-65 NB - Sunset Blvd Off to On-ramp	Basic	2,659	108	104.7%							64.0	0.1	14.6	0.4	B
120	SR-65 NB - Sunset Blvd EB On-ramp	Merge	2,659	105	104.7%	159	23	99.3%				63.5	0.3	15.2	0.4	B
121	SR-65 NB - Sunset Blvd to Whitney Ranch Pkwy	Weave	2,816	105	104.3%	292	19	108.3%	789	61	97.4%	63.8	0.1	14.2	0.3	B
124	SR-65 NB - Whitney Ranch Pkwy Off to On-ramp	Basic	2,317	84	107.3%							64.0	0.1	13.3	0.4	B
125	SR-65 NB - Whitney Ranch Pkwy EB On-ramp	Merge	2,317	86	107.3%	522	26	106.6%				62.2	0.4	15.9	0.6	B
126	SR-65 NB - Whitney Ranch Pkwy to Twelve Bridges Dr	Weave	2,837	95	107.0%	467	16	108.5%	672	54	89.6%	63.6	0.2	15.5	0.4	B
129	SR-65 NB - Twelve Bridges Dr Off to On-ramp	Basic	2,640	85	113.3%							63.8	0.1	16.3	0.4	B
130	SR-65 NB - Twelve Bridges Dr to Lincoln Blvd	Weave	2,641	87	113.3%	942	36	107.1%	861	51	113.3%	63.2	0.3	17.2	0.5	B
133	SR-65 NB - Lincoln Blvd to Ferrari Ranch Rd	Basic	2,719	94	111.0%							63.2	0.3	21.5	0.9	C
134	SR-65 NB - Ferrari Ranch Rd Off-ramp	Diverge	2,720	94	111.0%				1,186	76	105.0%	63.7	0.2	18.4	0.7	B
135	SR-65 NB - Ferrari Ranch Rd Off to On-ramp	Basic	1,541	68	116.8%							64.0	0.2	15.1	0.5	B
136	SR-65 NB - Ferrari Ranch Rd On-ramp	Merge	1,543	69	116.9%	181	5	106.2%				61.9	0.7	15.6	0.5	B
150	SR-65 SB - Ferrari Ranch Rd Off-ramp	Diverge	2,145	44	114.7%				143	20	102.0%	62.7	0.3	27.2	0.4	C
151	SR-65 SB - Ferrari Ranch Rd Off to On-ramp	Basic	2,003	49	115.8%							63.0	0.2	25.8	0.4	C
152	SR-65 SB - Ferrari Ranch Rd WB On-ramp	Merge	2,004	55	115.9%	1,162	20	104.7%				60.5	0.4	25.7	0.4	C
153	SR-65 SB - Ferrari Ranch Rd EB On-ramp	Merge	3,167	55	111.5%	1,044	26	92.4%				58.1	1.7	29.3	1.0	D
154	SR-65 SB - Ferrari Ranch Rd to Lincoln Blvd	Basic	4,217	75	106.2%							62.7	0.3	30.9	0.5	D
156	SR-65 SB - Lincoln Blvd to Twelve Bridges Dr	Weave	4,219	73	106.3%	1,237	69	107.6%	948	50	108.9%	55.2	2.7	32.8	2.0	D
159	SR-65 SB - Twelve Bridges Dr Off to On-ramp	Basic	4,509	112	106.1%							61.7	0.8	29.9	0.5	D
160	SR-65 SB - Twelve Bridges Dr to Placer Pkwy	Weave	4,508	116	106.1%	1,212	52	113.2%	1,119	77	110.8%	61.0	0.5	29.1	0.3	D
163	SR-65 SB - Placer Pkwy Off to On-ramp	Basic	4,601	109	106.7%							62.8	0.1	28.1	0.5	D
164	SR-65 SB - Placer Pkwy WB On-ramp	Merge	4,601	111	106.7%	413	30	108.6%				60.7	1.4	31.8	1.0	D
165	SR-65 SB - Placer Pkwy to Sunset Blvd	Weave	5,017	126	107.0%	635	28	111.4%	843	57	108.1%	60.6	0.5	29.3	0.7	D
168	SR-65 SB - Sunset Blvd Off to On-ramp	Basic	4,805	106	107.3%							62.3	1.0	29.3	1.0	D
169	SR-65 SB - Sunset Blvd WB On-ramp	Merge	4,805	113	107.3%	767	27	112.8%				57.7	6.8	34.4	5.3	D
170	SR-65 SB - Sunset Blvd to Blue Oaks Blvd	Weave	5,576	117	108.1%	543	17	98.6%	1,115	54	109.4%	61.9	0.4	28.8	0.7	D
173	SR-65 SB - Blue Oaks Blvd Off to On-ramp	Basic	4,996	126	106.5%							62.4	0.2	29.4	0.7	D
174	SR-65 SB - Blue Oaks Blvd WB On-ramp	Merge	4,996	121	106.5%	578	33	109.1%				58.8	2.2	31.9	1.5	D
175	SR-65 SB - Blue Oaks Blvd WB to EB On-ramp	Basic	5,579	117	106.9%							62.2	0.3	32.0	0.7	D
176	SR-65 SB - Blue Oaks Blvd EB On-ramp	Merge	5,579	116	106.9%	1,375	53	102.6%				60.8	0.4	31.5	0.8	D
177	SR-65 SB - Pleasant Grove Blvd Off-ramp	Diverge	6,957	120	106.0%				863	55	110.6%	59.4	2.8	32.3	2.1	D
178	SR-65 SB - Pleasant Grove Blvd Off to On-ramp	Basic	6,096	111	105.5%							58.3	6.0	29.6	5.1	D
179	SR-65 SB - Pleasant Grove Blvd WB On-ramp	Merge	6,094	105	105.4%	765	45	103.4%				42.4	10.3	46.3	11.1	F
180	SR-65 SB - Pleasant Grove Blvd EB On-ramp	Merge	6,860	130	105.2%	839	43	103.6%				43.0	10.1	46.1	11.6	F
181	SR-65 SB - Pleasant Grove Blvd to Galleria Blvd	Basic	7,701	171	105.1%							58.2	1.4	36.4	1.2	E
182	SR-65 SB - Galleria Blvd Off-ramp	Diverge	7,700	169	105.0%				1,389	62	102.9%	60.3	2.7	33.2	1.7	D
183	SR-65 SB - Galleria Blvd Off to On-ramp	Basic	6,308	155	105.5%							60.0	1.8	36.0	1.1	E
184	SR-65 SB - Galleria Blvd to I-80	Weave	6,307	151	105.5%	731	33	101.6%	4,971	152	103.8%	60.7	1.2	29.2	0.8	D
187	SR-65 SB - EB I-80 Connector	Basic	2,080	77	108.9%							51.1	1.1	29.8	1.2	D
188	SR-65 SB - WB I-80 Connector	Basic	4,091	139	100.5%							54.0	0.8	27.8	1.5	D

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Design Year - General Purpose Lane Alternative
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
1	I-80 EB - Auburn Blvd On-ramp	Merge	8,072	52	102.0%	1,043	10	99.3%				61.4	1.2	30.5	0.8	D
2	I-80 EB - Auburn Blvd to Douglas Blvd	Basic	9,095	65	101.5%							58.5	6.3	35.6	6.1	E
3	I-80 EB - Douglas Blvd EB Off-ramp	Diverge	9,075	100	101.3%				1,146	86	99.6%	54.6	8.7	41.7	18.3	E
4	I-80 EB - Douglas Blvd WB Off-ramp	Diverge	7,920	111	101.4%				387	41	99.3%	62.1	0.8	26.7	0.7	C
5	I-80 EB - Douglas Blvd Off to On-ramp	Basic	7,532	124	101.5%							62.8	0.3	27.1	0.4	D
6	I-80 EB - Douglas Blvd to Eureka Rd	Weave	7,533	140	101.5%	1,751	46	92.6%	1,748	68	101.6%	62.0	0.4	26.6	0.4	C
7	I-80 EB CD - Eureka Rd to Taylor Rd/SR-65	Weave	1,072	53	104.0%	1,572	88	97.6%	1,303	49	101.8%	60.3	1.0	20.7	0.5	C
8	I-80 EB - Eureka Rd to SR-65	Basic	7,537	153	99.3%							60.0	2.3	32.2	1.3	D
9	I-80 EB - HOV Connector Off-ramp	Diverge	7,533	141	99.3%				1,070	63	97.3%	54.3	4.6	34.9	3.8	D
10	I-80 EB - SR-65 Off-ramp	Diverge	6,461	130	99.6%				3,701	104	101.7%	61.2	1.2	25.2	0.8	C
11	I-80 EB - SR-65 Off-ramp to Eureka Rd On-ramp	Basic	2,755	102	96.7%							63.9	0.2	16.1	0.5	B
17	I-80 EB - Eureka Rd On-ramp	Merge	2,752	111	96.6%	707	43	102.4%				63.3	0.2	15.3	0.7	B
18	I-80 EB - Eureka Rd On-ramp to SR-65 On-ramp	Basic	3,455	120	97.6%							63.7	0.1	17.0	0.7	B
19	I-80 EB - SR-65 On-ramp	Merge	3,455	117	97.6%	2,672	94	99.3%				58.2	1.0	32.3	0.9	D
20	I-80 EB - SR-65 to Rocklin Rd	Basic	6,127	137	98.3%							62.9	0.3	27.0	0.4	D
22	I-80 EB - Rocklin Rd Off-ramp	Diverge	6,111	142	98.1%				1,678	81	99.3%	62.9	0.4	26.4	0.5	C
23	I-80 EB - Rocklin Rd Off to On-ramp	Basic	4,431	123	97.6%							62.9	0.4	26.2	0.6	D
24	I-80 EB - Rocklin Rd On-ramp	Merge	4,427	114	97.5%	261	25	100.2%				59.0	1.3	26.3	0.9	C
25	I-80 EB - Rocklin Rd to Sierra College Blvd	Basic	4,683	113	97.6%							62.7	0.3	27.0	0.6	D
26	I-80 EB - Sierra College Blvd Off-ramp	Diverge	4,684	114	97.6%				551	39	87.4%	59.7	2.3	28.9	1.3	D
27	I-80 EB - Sierra College Blvd Off to On-ramp	Basic	4,121	115	98.8%							62.6	0.4	23.5	0.7	C
28	I-80 EB - Sierra College Blvd SB On-ramp	Merge	4,121	117	98.8%	324	8	95.3%				59.7	0.9	22.8	1.0	C
29	I-80 EB - Sierra College Blvd NB On-ramp	Merge	4,445	112	98.6%	884	18	102.7%				57.0	2.4	28.9	1.9	D
38	I-80 WB - Sierra College Blvd Off-ramp	Diverge	4,080	23	106.0%				760	43	102.7%	59.6	0.8	22.2	0.5	C
39	I-80 WB - Sierra College Blvd Off to On-ramp	Basic	3,313	58	106.5%							63.1	0.4	20.5	0.4	C
40	I-80 WB - Sierra College Blvd NB On-ramp	Merge	3,314	60	106.6%	403	10	100.6%				61.9	0.5	19.5	0.6	B
41	I-80 WB - Sierra College Blvd SB On-ramp	Merge	3,717	63	105.9%	438	9	97.4%				62.1	0.5	21.7	0.7	C
42	I-80 WB - Sierra College Blvd to Rocklin Rd	Basic	4,153	64	104.9%							62.9	0.2	23.9	0.8	C
43	I-80 WB - Rocklin Rd Off-ramp	Diverge	4,151	63	104.8%				302	31	104.2%	62.3	0.6	24.7	0.9	C
44	I-80 WB - Rocklin Rd Off to On-ramp	Basic	3,847	68	104.8%							63.3	0.1	22.3	0.6	C
45	I-80 WB - Rocklin Rd On-ramp	Merge	3,847	70	104.8%	1,645	46	103.5%				57.9	0.9	28.8	0.6	D
46	I-80 WB - Rocklin Rd to HOV Lane Start	Basic	5,489	84	104.4%							57.1	3.8	33.4	2.8	D
47	I-80 WB - HOV Lane Start to SR-65	Basic	5,482	88	104.2%							59.9	0.8	23.6	0.3	C
48	I-80 WB - SR-65 Off-ramp	Diverge	5,479	87	104.2%				2,349	69	102.6%	63.7	0.2	21.3	0.4	C
49	I-80 WB - SR-65 Off to On-ramp	Basic	3,129	83	105.3%							63.8	0.1	18.1	0.5	C
60	I-80 WB - SR-65 to Atlantic St	Weave	3,127	82	105.3%	5,159	128	98.6%	518	47	97.7%	59.1	0.6	23.9	0.5	C
62	I-80 WB - Atlantic St EB Off-ramp	Diverge	7,874	163	102.7%				1,315	73	102.0%	59.3	2.7	29.7	4.5	D
63	I-80 WB - Atlantic St EB Off to On-ramp	Basic	6,561	149	102.8%							62.8	0.4	25.0	0.5	C
64	I-80 WB - Atlantic St On-ramp	Merge	6,560	148	102.8%	1,257	59	103.9%				57.0	3.5	38.0	2.7	E
65	I-80 WB - Douglas Blvd Off-ramp	Diverge	7,812	169	102.9%				1,229	63	102.4%	59.4	2.9	32.2	2.7	D
66	I-80 WB - Douglas Blvd Off to On-ramp	Basic	6,583	166	103.0%							63.1	0.4	26.2	0.7	D
67	I-80 WB - Douglas Blvd WB On-ramp	Merge	6,583	163	103.0%	1,208	65	89.4%				58.6	2.3	28.2	1.9	D
68	I-80 WB - Douglas Blvd EB On-ramp	Merge	7,796	171	100.7%	752	39	101.6%				58.8	4.5	35.2	4.1	E
69	I-80 WB - Douglas Blvd to Riverside Ave	Basic	8,548	133	100.8%							61.0	0.4	33.7	0.8	D
70	I-80 WB - Riverside Ave Off-ramp	Diverge	8,542	178	100.7%				1,311	77	103.2%	62.4	0.6	34.5	1.1	D
71	I-80 WB - Riverside Ave Off to On-ramp	Basic	7,226	177	100.2%							63.0	0.3	27.5	0.8	D
72	I-80 WB - Riverside Ave NB On-ramp	Merge	7,221	173	100.1%	200	0	100.0%				63.2	0.1	24.6	0.8	C
73	I-80 WB - Riverside Ave SB On-ramp	Merge	7,416	168	100.1%	526	8	99.3%				60.1	1.2	29.4	0.6	D
74	I-80 WB - Riverside Ave to Antelope Rd	Basic	7,948	156	100.1%							61.5	0.4	30.6	0.7	D
75	I-80 WB - Antelope Rd Off-ramp	Diverge	7,947	156	100.1%				1,147	59	100.6%	61.5	1.1	31.7	0.8	D
76	I-80 WB - Antelope Rd Off to On-ramp	Basic	6,799	154	100.0%							62.7	0.4	26.4	0.4	D
77	I-80 WB - Antelope Rd WB On-ramp	Merge	6,800	157	100.0%	341	4	97.5%				60.7	0.8	24.3	1.0	C
78	I-80 WB - Antelope Rd to Truck Scales	Weave	7,138	161	99.8%	528	13	99.6%	78	16	70.9%	62.0	0.2	25.9	0.5	C
79	I-80 WB - Truck Scales Off to On-ramp	Basic	7,585	154	100.2%							62.7	0.1	28.6	0.5	D
80	I-80 WB - Truck Scales On-ramp	Merge	7,584	150	100.2%	78	14	71.0%				62.1	0.6	29.0	0.7	D
81	I-80 WB - Truck Scales to Elkhorn Blvd	Basic	7,661	138	99.7%							60.0	1.6	31.2	0.9	D
82	I-80 WB - Elkhorn Blvd Off-ramp	Diverge	7,663	134	99.8%				1,222	58	97.8%	60.9	1.6	28.2	1.0	D
83	I-80 WB - Elkhorn Blvd Off to On-ramp	Basic	6,440	118	100.2%							62.3	1.0	25.4	0.5	C
84	I-80 WB - Elkhorn Blvd WB On-ramp	Merge	6,442	123	100.2%	898	5	99.8%				55.7	1.4	28.0	1.1	C
85	I-80 WB - Elkhorn Blvd EB On-ramp	Merge	7,345	127	100.2%	581	10	100.1%				61.6	0.6	29.5	0.6	D

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VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Design Year - General Purpose Lane Alternative
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
100	SR-65 NB - EB I-80 Connector	Basic	3,702	103	101.7%							61.8	0.8	31.7	0.9	D
101	SR-65 NB - Eureka Rd On-ramp	Merge	3,701	105	101.7%	1,337	80	96.9%				48.4	0.1	36.0	0.8	E
102	SR-65 NB - WB I-80 Connector	Basic	2,348	71	102.5%							52.1	0.3	24.1	0.7	C
103	SR-65 NB - I-80 to Stanford Ranch Rd	Weave	5,041	144	100.4%	3,418	79	100.8%	1,440	73	100.0%	56.4	1.4	32.5	1.3	D
106	SR-65 NB - Stanford Ranch Rd Off to On-ramp	Basic	7,018	143	100.7%							62.5	0.2	32.6	0.6	D
107	SR-65 NB - Stanford Ranch Rd to Pleasant Grove Blvd	Weave	7,021	146	100.7%	1,433	60	100.9%	1,597	69	101.1%	59.1	1.9	34.4	1.4	D
110	SR-65 NB - Pleasant Grove Blvd Off to On-ramp	Basic	6,858	144	100.7%							58.0	3.3	34.4	1.7	D
111	SR-65 NB - Pleasant Grove Blvd On-ramp	Merge	6,861	143	100.7%	548	30	99.7%				59.0	2.7	34.7	2.1	D
112	SR-65 NB - Blue Oaks Blvd Off-ramp	Diverge	7,416	157	100.8%				2,551	88	98.9%	62.2	0.4	31.9	0.4	D
114	SR-65 NB - Blue Oaks Blvd Off to On-ramp	Basic	4,865	120	101.8%							63.0	0.3	26.8	0.6	D
115	SR-65 NB - Blue Oaks Blvd On-ramp	Merge	4,866	122	101.8%	1,030	64	103.0%				61.9	0.4	24.4	0.5	C
116	SR-65 NB - Blue Oaks Blvd to Sunset Blvd	Basic	5,891	141	101.9%							62.7	0.3	25.9	0.6	C
118	SR-65 NB - Sunset Blvd Off-ramp	Diverge	5,888	151	101.9%				1,285	71	102.8%	63.1	0.1	26.1	0.6	C
119	SR-65 NB - Sunset Blvd Off to On-ramp	Basic	4,597	148	101.5%							63.0	0.1	25.0	0.7	C
120	SR-65 NB - Sunset Blvd EB On-ramp	Merge	4,594	146	101.4%	430	27	102.4%				61.1	0.9	27.2	0.9	C
121	SR-65 NB - Sunset Blvd to Whitney Ranch Pkwy	Weave	5,027	130	101.6%	522	45	106.5%	1,196	63	102.2%	61.9	0.7	25.8	0.8	C
124	SR-65 NB - Whitney Ranch Pkwy Off to On-ramp	Basic	4,348	128	101.8%							63.1	0.2	24.6	0.6	C
125	SR-65 NB - Whitney Ranch Pkwy EB On-ramp	Merge	4,346	131	101.8%	430	35	99.9%				62.3	0.8	26.2	0.8	C
126	SR-65 NB - Whitney Ranch Pkwy to Twelve Bridges Dr	Weave	4,769	119	101.5%	702	38	103.3%	1,101	58	101.9%	62.6	0.3	24.1	0.6	C
129	SR-65 NB - Twelve Bridges Dr Off to On-ramp	Basic	4,353	126	101.2%							62.9	0.1	24.7	0.7	C
130	SR-65 NB - Twelve Bridges Dr to Lincoln Blvd	Weave	4,350	115	101.2%	991	53	96.2%	1,446	78	101.8%	62.4	0.4	23.6	0.6	C
133	SR-65 NB - Lincoln Blvd to Ferrari Ranch Rd	Basic	3,892	106	99.5%							61.5	1.1	28.3	0.9	D
134	SR-65 NB - Ferrari Ranch Rd Off-ramp	Diverge	3,889	110	99.5%				2,018	85	98.9%	62.9	0.2	23.8	0.7	C
135	SR-65 NB - Ferrari Ranch Rd Off to On-ramp	Basic	1,865	89	99.7%							64.0	0.2	15.3	0.9	B
136	SR-65 NB - Ferrari Ranch Rd On-ramp	Merge	1,865	86	99.7%	212	11	100.7%				61.6	0.9	16.0	0.9	B
150	SR-65 SB - Ferrari Ranch Rd Off-ramp	Diverge	2,071	56	100.5%				264	26	97.9%	63.6	0.1	18.4	0.4	B
151	SR-65 SB - Ferrari Ranch Rd Off to On-ramp	Basic	1,806	63	100.9%							64.0	0.1	15.6	0.5	B
152	SR-65 SB - Ferrari Ranch Rd WB On-ramp	Merge	1,806	62	100.9%	697	17	98.1%				62.0	0.2	15.5	0.4	B
153	SR-65 SB - Ferrari Ranch Rd EB On-ramp	Merge	2,503	62	100.1%	668	19	98.2%				61.6	0.2	16.2	0.4	B
154	SR-65 SB - Ferrari Ranch Rd to Lincoln Blvd	Basic	3,170	68	99.7%							64.0	0.1	18.0	0.3	B
156	SR-65 SB - Lincoln Blvd to Twelve Bridges Dr	Weave	3,173	71	99.8%	762	50	99.0%	869	51	99.9%	62.2	0.7	17.2	0.3	B
159	SR-65 SB - Twelve Bridges Dr Off to On-ramp	Basic	3,067	76	99.6%							63.6	0.6	17.0	0.4	B
160	SR-65 SB - Twelve Bridges Dr to Placer Pkwy	Weave	3,070	79	99.7%	876	36	93.2%	1,067	63	97.0%	61.0	1.0	21.7	0.9	C
163	SR-65 SB - Placer Pkwy Off to On-ramp	Basic	2,876	100	98.5%							63.8	0.2	15.5	0.7	B
164	SR-65 SB - Placer Pkwy WB On-ramp	Merge	2,877	101	98.5%	413	32	103.1%				62.6	0.3	18.6	0.8	B
165	SR-65 SB - Placer Pkwy to Sunset Blvd	Weave	3,292	102	99.1%	759	57	101.2%	626	44	97.8%	62.8	0.1	18.7	0.7	B
168	SR-65 SB - Sunset Blvd Off to On-ramp	Basic	3,425	111	99.8%							63.5	0.1	18.7	0.7	C
169	SR-65 SB - Sunset Blvd WB On-ramp	Merge	3,425	110	99.9%	1,016	42	105.8%				60.7	0.5	24.0	0.5	C
170	SR-65 SB - Sunset Blvd to Blue Oaks Blvd	Weave	4,439	117	101.1%	1,134	39	101.2%	877	60	98.6%	62.6	0.2	24.7	0.6	C
173	SR-65 SB - Blue Oaks Blvd Off to On-ramp	Basic	4,685	117	101.4%							62.9	0.1	26.2	0.7	D
174	SR-65 SB - Blue Oaks Blvd WB On-ramp	Merge	4,684	116	101.4%	375	23	98.8%				61.5	0.2	27.5	0.8	C
175	SR-65 SB - Blue Oaks Blvd WB to EB On-ramp	Basic	5,055	116	101.1%							62.9	0.2	27.5	0.7	D
176	SR-65 SB - Blue Oaks Blvd EB On-ramp	Merge	5,056	118	101.1%	1,414	41	98.9%				61.7	0.2	28.2	0.3	D
177	SR-65 SB - Pleasant Grove Blvd Off-ramp	Diverge	6,474	120	100.7%				626	43	96.3%	59.9	2.6	29.2	1.3	D
178	SR-65 SB - Pleasant Grove Blvd Off to On-ramp	Basic	5,857	99	101.3%							62.4	0.9	24.6	0.6	C
179	SR-65 SB - Pleasant Grove Blvd WB On-ramp	Merge	5,855	103	101.3%	652	45	101.8%				59.7	1.3	30.3	1.0	D
180	SR-65 SB - Pleasant Grove Blvd EB On-ramp	Merge	6,508	117	101.4%	1,198	52	99.9%				53.1	6.1	33.5	4.6	D
181	SR-65 SB - Pleasant Grove Blvd to Galleria Blvd	Basic	7,705	109	101.1%							60.6	0.5	33.5	0.5	D
182	SR-65 SB - Galleria Blvd Off-ramp	Diverge	7,705	108	101.1%				1,650	70	100.6%	62.4	0.3	31.7	0.4	D
183	SR-65 SB - Galleria Blvd Off to On-ramp	Basic	6,051	121	101.2%							61.3	0.6	34.4	0.7	D
184	SR-65 SB - Galleria Blvd to I-80	Weave	6,054	115	101.2%	1,185	58	96.3%	4,563	115	101.0%	60.5	1.2	28.3	0.8	D
187	SR-65 SB - EB I-80 Connector	Basic	2,674	86	99.4%							47.6	0.9	38.6	1.3	E
188	SR-65 SB - WB I-80 Connector	Basic	3,921	112	98.5%							54.2	0.6	25.1	0.8	C

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Design Year - GP Lane Alternative
AM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
1	Lincoln Blvd/Sterling Pkwy	Signal	2,990	3,296	110.2%	14.4	0.9	B
2	SR-65 SB Ramps/Twelve Bridges Dr	Signal	2,660	2,892	108.7%	15.8	1.1	B
3	SR-65 NB Ramps/Twelve Bridges Dr	Signal	2,655	2,819	106.2%	23.3	4.0	C
4	SR-65 SB Ramps/Sunset Blvd	Signal	3,730	4,082	109.4%	27.0	9.2	C
5	SR-65 NB Ramps/Sunset Blvd	Signal	4,005	4,412	110.2%	12.2	1.4	B
6	SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd	Signal	5,480	5,743	104.8%	59.1	8.8	E
7	SR-65 NB Ramps/Blue Oaks Blvd	Signal	3,515	3,762	107.0%	15.6	1.7	B
8	SR-65 SB Ramps/Pleasant Grove Blvd	Signal	4,615	4,763	103.2%	7.6	0.6	A
9	SR-65 NB Ramps/Pleasant Grove Blvd	Signal	3,620	3,653	100.9%	16.3	0.9	B
10	Stanford Ranch Rd/Five Star Blvd	Signal	2,755	2,874	104.3%	25.9	1.5	C
11	SR-65 NB Ramps/Stanford Ranch Rd	Signal	3,145	3,308	105.2%	11.7	1.1	B
12	SR-65 SB Ramps/Galleria Blvd	Signal	3,545	3,692	104.1%	17.2	0.6	B
13	Galleria Blvd/Antelope Creek Dr	Signal	2,805	2,890	103.0%	9.8	1.4	A
14	Galleria Blvd/Roseville Pkwy	Signal	5,326	5,725	107.5%	45.2	2.8	D
15	Creekside Ridge Dr/Roseville Pkwy	Signal	3,355	3,632	108.2%	8.2	2.2	A
16	Taylor Rd/East Roseville Pkwy	Signal	4,825	5,212	108.0%	65.8	15.6	E
17	North Sunrise Ave/East Roseville Pkwy	Signal	4,785	5,164	107.9%	34.9	3.3	C
18	Wills Rd/Atlantic St	Signal	2,265	2,445	108.0%	21.1	2.7	C
19	I-80 WB Ramps/Atlantic St	Signal	3,790	4,024	106.2%	14.3	4.1	B
20	Taylor Rd-I-80 EB Ramps/Eureka Rd	Signal	5,375	5,648	105.1%	30.0	5.3	C
21	North Sunrise Ave/Eureka Rd	Signal	5,125	5,417	105.7%	40.7	5.0	D
22	Harding Blvd/Wills Rd	Signal	2,135	2,248	105.3%	14.8	2.5	B
23	Harding Blvd/Douglas Blvd	Signal	2,720	2,974	109.3%	28.1	5.2	C
24	I-80 WB Ramps/Douglas Blvd	Signal	3,955	4,224	106.8%	18.7	3.5	B

Network Summary	
Total Demand Volume (veh/hr)	89,176
Total Volume Served (veh/hr)	94,897
Percent Served	106.4%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Design Year - GP Lane Alternative
AM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
25	I-80 EB Ramps/Douglas Blvd	Signal	4,270	4,582	107.3%	24.0	10.9	C
26	North Sunrise Ave/Douglas Blvd	Signal	4,595	4,871	106.0%	44.3	20.5	D
27	Pacific St/Woodside Dr	Signal	2,230	2,459	110.3%	7.7	0.6	A
28	Pacific St/Sunset Blvd	Signal	3,305	3,641	110.2%	25.6	1.5	C
29	Granite Dr/Rocklin Rd	Signal	2,885	3,013	104.4%	27.5	1.1	C
30	I-80 WB Ramps/Rocklin Rd	Signal	3,000	3,139	104.6%	23.5	1.9	C
31	I-80 EB Ramps/Rocklin Rd	Signal	3,195	3,446	107.9%	26.2	4.6	C
32	Aguilar Rd/Rocklin Rd	Signal	2,305	2,512	109.0%	9.6	1.2	A
33	Lincoln Blvd/SR-65 NB Off-Ramp	Signal	2,755	3,043	110.5%	9.4	1.2	A
34	Lincoln Blvd/SR-65 SB On-Ramp	Signal	1,995	2,177	109.1%	20.1	2.5	C
35	SR-65 SB Ramps/Placer Pkwy	Signal	4,010	4,395	109.6%	20.0	5.7	B
36	SR-65 NB Ramps/Whitney Ranch Pkwy	Signal	3,720	3,944	106.0%	14.9	3.0	B
40	Galleria Blvd/Berry St-Cattlemens Drwy	Signal	2,020	2,128	105.3%	10.1	1.8	B

Network Summary	
Total Demand Volume (veh/hr)	40,285
Total Volume Served (veh/hr)	43,351
Percent Served	107.6%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Design Year - General Purpose Lane Alternative
PM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
1	Lincoln Blvd/Sterling Pkwy	Signal	3,430	3,452	100.6%	17.2	0.9	B
2	SR-65 SB Ramps/Twelve Bridges Dr	Signal	2,655	2,582	97.3%	28.0	13.1	C
3	SR-65 NB Ramps/Twelve Bridges Dr	Signal	2,880	2,858	99.2%	19.6	1.1	B
4	SR-65 SB Ramps/Sunset Blvd	Signal	4,970	5,112	102.9%	15.0	3.8	B
5	SR-65 NB Ramps/Sunset Blvd	Signal	4,735	4,929	104.1%	11.4	0.8	B
6	SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd	Signal	7,110	7,193	101.2%	153.1	19.8	F
7	SR-65 NB Ramps/Blue Oaks Blvd	Signal	4,755	4,879	102.6%	49.2	39.8	D
8	SR-65 SB Ramps/Pleasant Grove Blvd	Signal	6,360	6,377	100.3%	8.1	0.6	A
9	SR-65 NB Ramps/Pleasant Grove Blvd	Signal	5,380	5,412	100.6%	13.8	0.6	B
10	Stanford Ranch Rd/Five Star Blvd	Signal	4,355	4,337	99.6%	56.7	12.2	E
11	SR-65 NB Ramps/Stanford Ranch Rd	Signal	5,590	5,609	100.3%	18.6	1.7	B
12	SR-65 SB Ramps/Galleria Blvd	Signal	6,015	5,993	99.6%	19.0	2.0	B
13	Galleria Blvd/Antelope Creek Dr	Signal	4,590	4,476	97.5%	29.4	2.0	C
14	Galleria Blvd/Roseville Pkwy	Signal	8,000	7,662	95.8%	82.4	10.6	F
15	Creekside Ridge Dr/Roseville Pkwy	Signal	4,575	4,398	96.1%	46.5	13.4	D
16	Taylor Rd/East Roseville Pkwy	Signal	6,690	6,501	97.2%	51.8	11.8	D
17	North Sunrise Ave/East Roseville Pkwy	Signal	6,330	6,369	100.6%	56.5	33.3	E
18	Wills Rd/Atlantic St	Signal	3,215	3,293	102.4%	24.8	3.1	C
19	I-80 WB Ramps/Atlantic St	Signal	4,830	4,974	103.0%	23.7	9.8	C
20	Taylor Rd-I-80 EB Ramps/Eureka Rd	Signal	6,580	6,704	101.9%	80.9	17.7	F
21	North Sunrise Ave/Eureka Rd	Signal	6,855	7,077	103.2%	103.3	26.0	F
22	Harding Blvd/Wills Rd	Signal	2,915	3,006	103.1%	16.0	1.6	B
23	Harding Blvd/Douglas Blvd	Signal	3,920	3,878	98.9%	96.2	7.4	F
24	I-80 WB Ramps/Douglas Blvd	Signal	4,715	4,553	96.6%	32.9	14.1	C

Network Summary	
Total Demand Volume (veh/hr)	121,450
Total Volume Served (veh/hr)	121,624
Percent Served	100.1%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Design Year - General Purpose Lane Alternative
PM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
25	I-80 EB Ramps/Douglas Blvd	Signal	5,445	5,078	93.3%	37.2	25.8	D
26	North Sunrise Ave/Douglas Blvd	Signal	6,285	5,738	91.3%	241.3	10.3	F
27	Pacific St/Woodside Dr	Signal	3,360	3,365	100.2%	10.8	1.2	B
28	Pacific St/Sunset Blvd	Signal	5,090	5,118	100.5%	36.7	3.7	D
29	Granite Dr/Rocklin Rd	Signal	3,970	4,134	104.1%	83.5	20.0	F
30	I-80 WB Ramps/Rocklin Rd	Signal	3,865	3,986	103.1%	62.5	15.3	E
31	I-80 EB Ramps/Rocklin Rd	Signal	3,830	3,893	101.6%	19.9	2.1	B
32	Aguilar Rd/Rocklin Rd	Signal	2,995	3,057	102.1%	31.3	7.6	C
33	Lincoln Blvd/SR-65 NB Off-Ramp	Signal	3,000	3,032	101.1%	10.4	0.4	B
34	Lincoln Blvd/SR-65 SB On-Ramp	Signal	1,580	1,588	100.5%	17.1	1.7	B
35	SR-65 SB Ramps/Placer Pkwy	Signal	4,870	4,935	101.3%	22.2	1.1	C
36	SR-65 NB Ramps/Whitney Ranch Pkwy	Signal	4,625	4,703	101.7%	21.4	2.8	C
40	Galleria Blvd/Berry St	Signal	2,940	3,001	102.1%	12.6	1.0	B

Network Summary	
Total Demand Volume (veh/hr)	51,855
Total Volume Served (veh/hr)	51,627
Percent Served	99.6%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - GP Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 2 **SR-65 SB Ramps/Twelve Bridges Dr** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	440	45	18	258	34	NO
	Through						
	Right Turn	1,500	39	20	253	34	NO

Intersection 3 **SR-65 NB Ramps/Twelve Bridges Dr** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	700	20	18	157	32	NO
	Through						
	Right Turn	1,500	20	18	157	32	NO

Intersection 4 **SR-65 SB Ramps/Sunset Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	360	68	8	261	24	NO
	Through						
	Right Turn	1,330	70	8	263	24	NO

Intersection 5 **SR-65 NB Ramps/Sunset Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,400	55	5	228	32	NO
	Through						
	Right Turn	1,400	24	5	150	18	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - GP Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 6 **SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	200	41	9	208	174	MAX
	Through	2,260	175	73	952	350	NO
	Right Turn	200	43	53	699	416	MAX

Intersection 7 **SR-65 NB Ramps/Blue Oaks Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	400	52	19	284	48	NO
	Through						
	Right Turn	1,100	51	19	283	48	NO

Intersection 8 **SR-65 SB Ramps/Pleasant Grove Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	430	31	5	158	23	NO
	Through						
	Right Turn	1,130	33	5	160	23	NO

Intersection 9 **SR-65 NB Ramps/Pleasant Grove Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,420	48	10	194	23	NO
	Through						
	Right Turn	1,420	47	10	193	23	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - GP Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 11 **SR-65 NB Ramps/Stanford Ranch Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
EB	Left Turn						
	Through						
	Right Turn	1,800	0	0	13	11	NO
WB	Left Turn						
	Through						
	Right Turn	1,170	30	4	179	54	NO

Intersection 12 **SR-65 SB Ramps/Galleria Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
EB	Left Turn						
	Through						
	Right Turn	1,130	67	8	380	64	NO
WB	Left Turn						
	Through						
	Right Turn	1,780	0	0	39	13	NO

Intersection 19 **I-80 WB Ramps/Atlantic St** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	1,150	1	1	72	228	NO
SB	Left Turn						
	Through						
	Right Turn	1,430	0	0	0	0	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - GP Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 20 **Taylor Rd-I-80 EB Ramps/Eureka Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	180	86	15	473	444	MAX
	Through	1,700	76	26	488	289	NO
	Right Turn	1,700	10	11	396	503	NO
SB	Left Turn	550	27	3	98	24	NO
	Through						
	Right Turn	550	36	2	183	40	NO
EB	Left Turn	1,120	36	3	127	23	NO
	Through	1,120	121	26	739	100	NO
	Right Turn	810	14	9	325	101	NO
WB	Left Turn						
	Through	1,370	98	20	632	126	NO
	Right Turn	280	0	0	29	12	NO

Intersection 24 **I-80 WB Ramps/Douglas Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	1,530	90	92	429	131	NO
	Through	1,530	90	92	429	131	NO
	Right Turn	730	90	92	429	131	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - GP Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 25 **I-80 EB Ramps/Douglas Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	1,400	0	0	18	34	NO
SB	Left Turn						
	Through						
	Right Turn	1,250	13	3	103	24	NO

Intersection 30 **I-80 WB Ramps/Rocklin Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	700	25	5	165	70	NO
	Through						
	Right Turn	1,230	34	7	185	70	NO

Intersection 31 **I-80 EB Ramps/Rocklin Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,080	60	5	269	45	NO
	Through						
	Right Turn	1,080	49	7	280	31	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - GP Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 33 **Lincoln Blvd/SR-65 NB Off-Ramp** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
WB	Left Turn	1,940	0	0	0	0	NO
	Through						
	Right Turn	1,940	24	7	157	30	NO

Intersection 35 **SR-65 SB Ramps/Placer Pkwy** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	1,650	149	108	824	441	NO
	Through						
	Right Turn	1,650	150	108	825	441	NO

Intersection 36 **SR-65 NB Ramps/Whitney Ranch Pkwy** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,620	63	11	319	51	NO
	Through						
	Right Turn	1,620	63	11	319	51	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - General Purpose Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 2 **SR-65 SB Ramps/Twelve Bridges Dr** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	440	52	6	217	38	NO
	Through						
	Right Turn	1,500	47	7	212	38	NO

Intersection 3 **SR-65 NB Ramps/Twelve Bridges Dr** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	700	25	2	97	21	NO
	Through						
	Right Turn	1,500	25	2	97	21	NO

Intersection 4 **SR-65 SB Ramps/Sunset Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	360	61	1	199	24	NO
	Through						
	Right Turn	1,330	63	1	201	24	NO

Intersection 5 **SR-65 NB Ramps/Sunset Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,400	63	2	237	37	NO
	Through						
	Right Turn	1,400	18	3	140	24	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - General Purpose Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 6 **SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	200	83	29	528	382	MAX
	Through	2,260	140	76	846	302	NO
	Right Turn	200	22	33	565	302	MAX

Intersection 7 **SR-65 NB Ramps/Blue Oaks Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	400	61	6	272	54	NO
	Through						
	Right Turn	1,100	61	6	272	54	NO

Intersection 8 **SR-65 SB Ramps/Pleasant Grove Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	430	30	4	134	16	NO
	Through						
	Right Turn	1,130	32	4	137	16	NO

Intersection 9 **SR-65 NB Ramps/Pleasant Grove Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,420	51	0	194	21	NO
	Through						
	Right Turn	1,420	50	0	193	21	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - General Purpose Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 11 **SR-65 NB Ramps/Stanford Ranch Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
EB	Left Turn						
	Through						
	Right Turn	1,800	0	0	25	27	NO
WB	Left Turn						
	Through						
	Right Turn	1,170	56	4	303	33	NO

Intersection 12 **SR-65 SB Ramps/Galleria Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
EB	Left Turn						
	Through						
	Right Turn	1,130	81	3	388	65	NO
WB	Left Turn						
	Through						
	Right Turn	1,780	6	3	166	55	NO

Intersection 19 **I-80 WB Ramps/Atlantic St** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	1,150	21	37	398	687	NO
SB	Left Turn						
	Through						
	Right Turn	1,430	0	0	0	0	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - General Purpose Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 20 **Taylor Rd-I-80 EB Ramps/Eureka Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	180	82	10	387	210	MAX
	Through	1,700	26	11	163	30	NO
	Right Turn	1,700	1	1	113	191	NO
SB	Left Turn	550	32	12	124	21	NO
	Through						
	Right Turn	550	140	83	671	89	MAX
EB	Left Turn	1,120	56	4	197	40	NO
	Through	1,120	232	27	803	101	NO
	Right Turn	810	52	14	386	101	NO
WB	Left Turn						
	Through	1,370	657	246	1,502	39	MAX
	Right Turn	280	13	15	281	282	MAX

Intersection 24 **I-80 WB Ramps/Douglas Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	1,530	145	156	548	402	NO
	Through	1,530	145	156	548	402	NO
	Right Turn	730	146	157	548	402	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - General Purpose Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 25 **I-80 EB Ramps/Douglas Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	1,400	167	274	1,156	799	NO
SB	Left Turn						
	Through						
	Right Turn	1,250	31	10	208	172	NO

Intersection 30 **I-80 WB Ramps/Rocklin Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	700	75	66	335	211	NO
	Through						
	Right Turn	1,230	88	68	355	211	NO

Intersection 31 **I-80 EB Ramps/Rocklin Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,080	74	9	288	44	NO
	Through						
	Right Turn	1,080	56	4	288	33	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Design Year - General Purpose Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 33 **Lincoln Blvd/SR-65 NB Off-Ramp** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
WB	Left Turn	1,940	0	0	0	0	NO
	Through						
	Right Turn	1,940	74	4	356	91	NO

Intersection 35 **SR-65 SB Ramps/Placer Pkwy** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	1,650	67	6	344	33	NO
	Through						
	Right Turn	1,650	68	6	345	33	NO

Intersection 36 **SR-65 NB Ramps/Whitney Ranch Pkwy** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,620	127	26	494	89	NO
	Through						
	Right Turn	1,620	127	26	494	89	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

SR 65 Capacity and Operational Improvements

Vissim Model Results – Design Year
Alternative 3 (No Build)

VISSIM Post-Processor **SR 65 Widening**
Average Values from 10 Runs **Design Year - No Build**
Network Statistics **AM Peak Period**

Network Performance	Vehicle Types	Average	Std. Dev.
Number of Vehicles Served	All Vehicles	208,799	146
Travel Distance [mi]	All Vehicles	917,290	1,551
Travel Time [h]	All Vehicles	22,142	179.1
Average Speed [mph]	All Vehicles	41.4	0.4
Total Delay [h]	All Vehicles	6,325	185.5
Average Delay per Vehicle [s]	All Vehicles	106	3.1
VHD/VMT [min/mile]	All Vehicles	0.41	0.01
Number of Vehicles Served	HOV	34,742	49
Travel Distance [mi]	HOV	159,556	600
Travel Time [h]	HOV	3,611	32
Average Speed [mph]	HOV	44.2	0.4
Total Delay [h]	HOV	885	29
Average Delay per Vehicle [s]	HOV	90	3
VHD/VMT [min/mile]	HOV	0.33	0.01
Number of Vehicles Served	Truck	7,619	19
Travel Distance [mi]	Truck	42,426	480
Travel Time [h]	Truck	987	16
Average Speed [mph]	Truck	43.0	1
Total Delay [h]	Truck	264	13
Average Delay per Vehicle [s]	Truck	121	6
VHD/VMT [min/mile]	Truck	0.37	0.02

	Vehicle Types		
Performance Measure	**HOV**	**Truck**	**All**
Vehicles Served	34,740	7,620	208,800
Demand Volume	35,960	8,270	211,350
Percent Demand Served	96.6%	92.1%	98.8%
Vehicle Miles of Travel	159,560	42,430	917,290
Person Miles of Travel	335,070	44,550	1,094,920
Vehicle Hours of Travel	3,610	990	22,140
Vehicle Hours of Delay	890	260	6,330
VHD % of VHT	24.7%	26.3%	28.6%
Average Delay per Vehicle (min)	1.54	2.05	1.82
Person Hours of Delay	1,870	270	7,320
Average Travel Speed	44.2	43.0	41.4

VISSIM Post-Processor
Average Values from 10 Runs
Peak Hour Travel Time

SR 65 Widening
Design Year - No Build
AM Peak Period

Mode	Description	Distance (ft)	Volume (vehicles)		Travel Time (min.:sec.)		Speed (mph)
			Average	Std. Dev.	Average	Std. Dev.	Average
SOV	SR-65 at Blue Oaks to I-80 at Antelope	43,094	579	11	09:41	00:17	20.2
	I-80 at Auburn to SR-65 at Blue Oaks	32,831	1661	16	06:29	00:04	23.0
	I-80: Sierra College to Antelope	45,844	1227	15	08:22	00:03	24.9
	I-80: Auburn to Sierra College	36,738	805	13	06:41	00:02	25.0
	SR-65: I-80 to Sunset	43,104	1259	19	04:16	00:04	45.8
	SR-65: Sunset to Ferrari Ranch	45,833	402	7	03:31	00:00	59.3
	SR-65: Ferrari Ranch to Sunset	36,734	1292	15	03:36	00:05	46.4
	SR-65: Sunset to I-80	32,846	1663	16	07:35	00:52	19.7
HOV	SR-65 at Blue Oaks to I-80 at Antelope	43,094	240	8	09:37	00:17	45.8
	I-80 at Auburn to SR-65 at Blue Oaks	32,831	266	8	06:15	00:02	59.3
	I-80: Sierra College to Antelope	45,844	411	8	08:16	00:02	46.4
	I-80: Auburn to Sierra College	36,738	156	5	06:32	00:02	19.7
	SR-65: I-80 to Sunset	43,104	78	4	04:11	00:03	20.4
	SR-65: Sunset to Ferrari Ranch	45,833	51	3	03:31	00:01	23.9
	SR-65: Ferrari Ranch to Sunset	36,734	197	7	03:36	00:05	25.2
	SR-65: Sunset to I-80	32,846	441	11	07:26	00:55	25.5

VISSIM Post-Processor **SR 65 Widening**
Average Values from 10 Runs **Design Year - No Build**
Network Statistics **PM Peak Period**

Network Performance	Vehicle Types	Average	Std. Dev.
Number of Vehicles Served	All Vehicles	302,584	315
Travel Distance [mi]	All Vehicles	1,106,394	1,394
Travel Time [h]	All Vehicles	32,921	479.3
Average Speed [mph]	All Vehicles	33.6	0.5
Total Delay [h]	All Vehicles	13,378	475.7
Average Delay per Vehicle [s]	All Vehicles	156	5.6
VHD/VMT [min/mile]	All Vehicles	0.73	0.03
Number of Vehicles Served	HOV	52,957	168
Travel Distance [mi]	HOV	200,204	642
Travel Time [h]	HOV	5,368	56
Average Speed [mph]	HOV	37.3	0.4
Total Delay [h]	HOV	1,860	51
Average Delay per Vehicle [s]	HOV	124	3
VHD/VMT [min/mile]	HOV	0.56	0.02
Number of Vehicles Served	Truck	8,062	29
Travel Distance [mi]	Truck	38,340	320
Travel Time [h]	Truck	1,085	30
Average Speed [mph]	Truck	35.4	1
Total Delay [h]	Truck	422	26
Average Delay per Vehicle [s]	Truck	184	11
VHD/VMT [min/mile]	Truck	0.66	0.04

	Vehicle Types		
Performance Measure	HOV	Truck	All
Vehicles Served	52,960	8,060	302,580
Demand Volume	54,620	8,720	305,210
Percent Demand Served	97.0%	92.4%	99.1%
Vehicle Miles of Travel	200,200	38,340	1,106,390
Person Miles of Travel	420,430	40,260	1,328,540
Vehicle Hours of Travel	5,370	1,080	32,920
Vehicle Hours of Delay	1,860	420	13,380
VHD % of VHT	34.6%	38.9%	40.6%
Average Delay per Vehicle (min)	2.11	3.13	2.65
Person Hours of Delay	3,910	440	15,450
Average Travel Speed	37.3	35.4	33.6

VISSIM Post-Processor
Average Values from 10 Runs
Peak Hour Travel Time

SR 65 Widening
Design Year - No Build
PM Peak Period

Mode	Description	Distance (ft)	Volume (vehicles)		Travel Time (min.:sec.)		Speed (mph)
			Average	Std. Dev.	Average	Std. Dev.	Average
SOV	SR-65 at Blue Oaks to I-80 at Antelope	43,094	844	16	09:18	00:45	21.0
	I-80 at Auburn to SR-65 at Blue Oaks	32,825	1,511	13	11:47	01:43	12.7
	I-80: Sierra College to Antelope	45,844	636	9	08:21	00:02	25.0
	I-80: Auburn to Sierra College	36,738	908	14	07:19	00:37	22.8
	SR-65: I-80 to Sunset	43,104	1,590	26	07:34	00:44	25.9
	SR-65: Sunset to Ferrari Ranch	45,833	463	11	03:33	00:01	58.8
	SR-65: Ferrari Ranch to Sunset	36,734	798	12	03:30	00:00	47.6
	SR-65: Sunset to I-80	32,840	1,256	15	05:15	01:10	28.4
HOV	SR-65 at Blue Oaks to I-80 at Antelope	43,094	126	5	09:11	00:42	25.9
	I-80 at Auburn to SR-65 at Blue Oaks	32,825	451	10	06:34	00:07	58.8
	I-80: Sierra College to Antelope	45,844	202	6	08:14	00:03	47.6
	I-80: Auburn to Sierra College	36,738	320	8	06:44	00:09	28.4
	SR-65: I-80 to Sunset	43,104	52	4	06:02	00:40	21.3
	SR-65: Sunset to Ferrari Ranch	45,833	102	5	03:32	00:01	22.7
	SR-65: Ferrari Ranch to Sunset	36,734	175	7	03:31	00:01	25.3
	SR-65: Sunset to I-80	32,840	247	7	05:13	01:11	24.8

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Design Year - No Build
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
1	I-80 EB - Auburn Blvd On-ramp	Merge	7,466	44	110.3%	1,238	24	110.5%				60.8	1.5	33.5	1.1	D
2	I-80 EB - Auburn Blvd to Douglas Blvd	Basic	8,698	74	110.2%							52.9	4.2	42.0	4.1	E
3	I-80 EB - Douglas Blvd EB Off-ramp	Diverge	8,690	91	110.1%				1,382	48	108.0%	59.1	3.7	31.3	3.3	D
4	I-80 EB - Douglas Blvd WB Off-ramp	Diverge	7,307	101	110.5%				385	36	113.3%	62.0	1.0	25.6	1.1	C
5	I-80 EB - Douglas Blvd Off to On-ramp	Basic	6,919	111	110.3%							62.6	0.4	27.8	0.4	D
6	I-80 EB - Douglas Blvd to Eureka Rd	Weave	6,918	118	110.3%	1,134	26	94.5%	1,841	81	105.2%	62.4	0.2	26.6	0.3	C
7	I-80 EB CD - Eureka Rd to Taylor Rd/SR-65	Weave	644	48	109.1%	1,220	69	105.2%	925	52	105.1%	61.9	1.1	15.2	1.0	B
8	I-80 EB - Eureka Rd to SR-65	Basic	6,215	106	108.7%							61.9	0.3	29.2	0.5	D
9	I-80 EB - HOV Connector Off-ramp	Diverge	6,215	101	108.6%				534	41	106.8%	59.0	1.5	29.7	1.2	D
10	I-80 EB - SR-65 Off-ramp	Diverge	5,678	113	108.8%				3,231	94	108.1%	62.9	0.6	23.9	0.5	C
11	I-80 EB - SR-65 Off-ramp to Eureka Rd On-ramp	Basic	2,446	68	109.7%							63.9	0.2	14.7	0.5	B
17	I-80 EB - Eureka Rd On-ramp	Merge	2,450	68	109.9%	619	43	104.9%				62.6	0.6	15.5	0.6	B
18	I-80 EB - Eureka Rd On-ramp to SR-65 On-ramp	Basic	3,070	88	108.9%							63.7	0.2	16.9	0.6	B
19	I-80 EB - SR-65 On-ramp	Merge	3,069	90	108.8%	1,841	76	104.0%				61.2	0.3	26.3	0.5	C
20	I-80 EB - SR-65 to Rocklin Rd	Basic	4,910	116	107.0%							63.1	0.2	24.0	0.5	C
22	I-80 EB - Rocklin Rd Off-ramp	Diverge	4,918	101	107.1%				1,749	73	108.0%	63.4	0.1	22.9	0.3	C
23	I-80 EB - Rocklin Rd Off to On-ramp	Basic	3,182	105	107.1%							63.6	0.2	20.2	0.5	C
24	I-80 EB - Rocklin Rd On-ramp	Merge	3,185	101	107.2%	249	5	99.6%				60.1	0.7	20.6	0.6	C
25	I-80 EB - Rocklin Rd to Sierra College Blvd	Basic	3,440	106	106.8%							63.2	0.3	21.3	0.6	C
26	I-80 EB - Sierra College Blvd Off-ramp	Diverge	3,442	107	106.9%				624	46	107.5%	62.2	0.7	22.6	0.6	C
27	I-80 EB - Sierra College Blvd Off to On-ramp	Basic	2,823	91	106.9%							63.4	0.3	18.6	0.6	C
28	I-80 EB - Sierra College Blvd SB On-ramp	Merge	2,825	88	107.0%	139	6	92.7%				62.7	0.2	17.3	0.6	B
29	I-80 EB - Sierra College Blvd NB On-ramp	Merge	2,966	91	106.3%	489	22	101.8%				61.9	0.4	19.3	0.6	B
38	I-80 WB - Sierra College Blvd Off-ramp	Diverge	5,377	22	105.8%				1,116	57	107.3%	52.8	2.1	32.5	1.2	D
39	I-80 WB - Sierra College Blvd Off to On-ramp	Basic	4,258	68	105.4%							61.1	0.7	26.0	0.2	C
40	I-80 WB - Sierra College Blvd NB On-ramp	Merge	4,258	70	105.4%	50	3	82.8%				62.9	0.2	22.9	0.5	C
41	I-80 WB - Sierra College Blvd SB On-ramp	Merge	4,307	83	105.0%	320	14	103.1%				60.8	1.3	24.8	1.0	C
42	I-80 WB - Sierra College Blvd to Rocklin Rd	Basic	4,619	86	104.7%							62.2	0.4	27.4	0.5	D
43	I-80 WB - Rocklin Rd Off-ramp	Diverge	4,618	82	104.7%				297	33	102.4%	60.8	0.5	28.1	0.6	D
44	I-80 WB - Rocklin Rd Off to On-ramp	Basic	4,316	90	104.8%							63.0	0.2	25.6	0.4	C
45	I-80 WB - Rocklin Rd On-ramp	Merge	4,316	91	104.7%	967	50	99.7%				60.5	1.0	27.0	0.8	C
46	I-80 WB - Rocklin Rd to HOV Lane Start	Basic	5,273	118	103.6%							60.9	0.8	30.0	0.8	D
47	I-80 WB - HOV Lane Start to SR-65	Basic	5,270	124	103.5%							62.1	0.5	24.4	0.7	C
48	I-80 WB - SR-65 Off-ramp	Diverge	5,269	126	103.5%				1,608	97	103.1%	63.4	0.3	22.5	0.8	C
49	I-80 WB - SR-65 Off to On-ramp	Basic	3,654	121	103.5%							63.6	0.1	20.3	0.8	C
60	I-80 WB - SR-65 to Atlantic St	Weave	3,650	126	103.4%	5,275	135	100.5%	477	45	101.5%	58.8	0.8	24.8	0.6	C
62	I-80 WB - Atlantic St EB Off-ramp	Diverge	8,403	162	101.1%				1,237	65	100.6%	57.2	4.6	31.2	3.0	D
63	I-80 WB - Atlantic St EB Off to On-ramp	Basic	7,164	166	101.2%							62.2	0.5	27.3	0.4	D
64	I-80 WB - Atlantic St On-ramp	Merge	7,161	159	101.1%	903	31	105.0%				57.6	2.1	38.1	1.3	E
65	I-80 WB - Douglas Blvd Off-ramp	Diverge	8,058	142	101.5%				1,075	62	96.0%	59.0	2.8	33.6	1.8	D
66	I-80 WB - Douglas Blvd Off to On-ramp	Basic	6,982	147	102.4%							62.7	0.7	28.0	0.5	D
67	I-80 WB - Douglas Blvd WB On-ramp	Merge	6,985	143	102.4%	937	49	105.3%				59.5	2.5	30.2	1.8	D
68	I-80 WB - Douglas Blvd EB On-ramp	Merge	7,921	141	102.7%	459	40	109.3%				59.3	1.5	35.2	1.3	E
69	I-80 WB - Douglas Blvd to Riverside Ave	Basic	8,381	130	103.1%							61.6	0.5	33.8	0.6	D
70	I-80 WB - Riverside Ave Off-ramp	Diverge	8,383	140	103.1%				1,040	73	98.1%	62.1	0.6	34.4	0.7	D
71	I-80 WB - Riverside Ave Off to On-ramp	Basic	7,341	150	103.8%							62.6	0.3	29.4	0.5	D
72	I-80 WB - Riverside Ave NB On-ramp	Merge	7,342	153	103.8%	213	6	85.2%				63.0	0.2	27.2	0.9	C
73	I-80 WB - Riverside Ave SB On-ramp	Merge	7,553	155	103.2%	778	14	94.8%				62.6	0.2	32.7	1.1	D
74	I-80 WB - Riverside Ave to Antelope Rd	Basic	8,344	150	102.5%							61.4	0.3	33.7	0.8	D
75	I-80 WB - Antelope Rd Off-ramp	Diverge	8,354	146	102.6%				464	29	89.1%	57.0	5.3	37.0	3.4	E
76	I-80 WB - Antelope Rd Off to On-ramp	Basic	7,932	128	104.1%							47.1	13.0	45.9	14.7	F
77	I-80 WB - Antelope Rd WB On-ramp	Merge	7,955	143	104.4%	521	14	98.2%				34.5	11.2	70.2	21.2	F
78	I-80 WB - Antelope Rd to Truck Scales	Weave	8,530	189	104.7%	444	13	88.9%	91	17	82.4%	32.7	7.3	70.3	11.7	F
79	I-80 WB - Truck Scales Off to On-ramp	Basic	9,026	193	105.7%							31.7	2.8	77.8	7.4	F
80	I-80 WB - Truck Scales On-ramp	Merge	9,075	231	106.3%	92	15	83.5%				31.2	1.1	86.6	3.4	F
81	I-80 WB - Truck Scales to Elkhorn Blvd	Basic	9,248	227	106.9%							39.2	1.5	59.5	2.2	F
82	I-80 WB - Elkhorn Blvd Off-ramp	Diverge	9,256	224	107.0%				1,087	63	105.5%	52.5	6.3	36.6	4.6	E
83	I-80 WB - Elkhorn Blvd Off to On-ramp	Basic	8,207	213	107.7%							46.6	16.7	54.0	26.6	F
84	I-80 WB - Elkhorn Blvd WB On-ramp	Merge	8,232	220	108.0%	742	11	93.9%				42.9	16.8	60.9	29.8	F
85	I-80 WB - Elkhorn Blvd EB On-ramp	Merge	9,008	254	107.1%	810	18	98.8%				45.1	14.2	57.5	19.7	F

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Design Year - No Build
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
100	SR-65 NB - EB I-80 Connector	Basic	3,231	95	108.1%							62.5	0.3	28.0	1.0	D
101	SR-65 NB - Eureka Rd On-ramp	Merge	3,230	95	108.0%	941	58	105.7%				48.8	0.2	31.2	0.9	D
102	SR-65 NB - WB I-80 Connector	Basic	1,609	91	103.2%							53.1	0.3	17.6	0.9	B
103	SR-65 NB - I-80 to Stanford Ranch Rd	Weave	4,164	94	107.3%	2,142	93	104.0%	1,074	64	104.3%	59.9	0.4	25.8	0.8	C
106	SR-65 NB - Stanford Ranch Rd Off to On-ramp	Basic	5,235	109	106.6%							58.8	8.0	29.1	6.1	D
107	SR-65 NB - Stanford Ranch Rd On-ramp	Merge	5,240	110	106.7%	519	26	98.0%				51.2	7.4	40.1	6.2	E
109	SR-65 NB - Pleasant Grove Blvd Off-ramp	Diverge	5,762	128	105.9%				1,141	59	100.1%	55.5	2.9	39.5	3.3	E
110	SR-65 NB - Pleasant Grove Blvd Off to On-ramp	Basic	4,623	112	107.5%							61.8	1.9	30.0	1.2	D
111	SR-65 NB - Pleasant Grove Blvd to Blue Oaks Blvd	Weave	4,625	117	107.6%	278	29	95.7%	1,821	85	110.4%	63.1	0.3	23.1	0.5	C
114	SR-65 NB - Blue Oaks Blvd Off to On-ramp	Basic	3,078	111	104.7%							63.9	0.2	17.2	0.7	B
115	SR-65 NB - Blue Oaks Blvd On-ramp	Merge	3,078	111	104.7%	483	31	100.7%				62.2	0.3	19.4	0.7	B
116	SR-65 NB - Blue Oaks Blvd to Sunset Blvd	Basic	3,562	133	104.1%							63.1	0.3	20.9	0.8	C
118	SR-65 NB - Sunset Blvd Off-ramp	Diverge	3,563	135	104.2%				1,168	58	104.3%	63.8	0.2	18.7	0.6	B
119	SR-65 NB - Sunset Blvd Off to On-ramp	Basic	2,397	96	104.2%							64.0	0.2	13.8	0.7	B
120	SR-65 NB - Sunset Blvd EB On-ramp	Merge	2,398	91	104.3%	161	20	94.4%				63.4	0.3	13.9	0.6	B
121	SR-65 NB - Sunset Blvd to Whitney Ranch Pkwy	Weave	2,559	83	103.6%	456	19	108.6%	680	43	93.1%	63.7	0.2	13.7	0.4	B
124	SR-65 NB - Whitney Ranch Pkwy Off to On-ramp	Basic	2,335	76	108.1%							64.0	0.1	13.6	0.4	B
125	SR-65 NB - Whitney Ranch Pkwy EB On-ramp	Merge	2,337	79	108.2%	497	26	105.8%				62.1	0.3	16.3	0.4	B
126	SR-65 NB - Whitney Ranch Pkwy WB On-ramp	Merge	2,834	84	107.8%	465	26	110.8%				63.4	0.1	18.6	0.4	B
127	SR-65 NB - Whitney Ranch Pkwy to Twelve Bridges Dr	Basic	3,298	91	108.1%							63.5	0.1	19.1	0.5	C
128	SR-65 NB - Twelve Bridges Dr Off-ramp	Diverge	3,300	89	108.2%				701	50	96.1%	62.7	0.4	23.1	0.8	C
129	SR-65 NB - Twelve Bridges Dr Off to On-ramp	Basic	2,602	84	112.1%							63.7	0.3	15.8	0.3	B
130	SR-65 NB - Twelve Bridges Dr to Lincoln Blvd	Weave	2,602	87	112.2%	942	53	107.0%	824	58	114.5%	63.3	0.2	17.2	0.4	B
133	SR-65 NB - Lincoln Blvd to Ferrari Ranch Rd	Basic	2,720	83	109.7%							63.1	0.4	21.6	0.6	C
134	SR-65 NB - Ferrari Ranch Rd Off-ramp	Diverge	2,721	83	109.7%				1,186	51	104.9%	63.6	0.2	18.5	0.5	B
135	SR-65 NB - Ferrari Ranch Rd Off to On-ramp	Basic	1,540	78	114.1%							64.1	0.2	14.6	0.5	B
136	SR-65 NB - Ferrari Ranch Rd On-ramp	Merge	1,542	76	114.2%	181	5	106.2%				61.8	0.6	15.3	0.5	B
150	SR-65 SB - Ferrari Ranch Rd Off-ramp	Diverge	2,183	40	112.5%				146	23	104.3%	62.9	0.3	27.3	0.5	C
151	SR-65 SB - Ferrari Ranch Rd Off to On-ramp	Basic	2,035	48	113.1%							63.0	0.2	25.7	0.7	C
152	SR-65 SB - Ferrari Ranch Rd WB On-ramp	Merge	2,036	48	113.1%	1,023	22	106.6%				61.1	0.2	24.9	0.5	C
153	SR-65 SB - Ferrari Ranch Rd EB On-ramp	Merge	3,057	55	110.8%	1,020	25	93.5%				58.3	2.3	28.5	1.3	D
154	SR-65 SB - Ferrari Ranch Rd to Lincoln Blvd	Basic	4,081	64	106.0%							62.9	0.1	30.0	0.5	D
156	SR-65 SB - Lincoln Blvd to Twelve Bridges Dr	Weave	4,081	63	106.0%	887	67	108.2%	1,012	60	108.8%	59.5	1.3	28.1	0.8	D
159	SR-65 SB - Twelve Bridges Dr Off to On-ramp	Basic	3,953	97	105.7%							62.7	0.5	26.1	0.4	D
160	SR-65 SB - Twelve Bridges Dr On-ramp	Merge	3,953	96	105.7%	639	32	116.2%				60.7	1.6	29.2	1.0	D
161	SR-65 SB - Twelve Bridges Dr to Placer Pkwy	Basic	4,594	121	107.1%							62.4	0.2	29.6	0.5	D
162	SR-65 SB - Placer Pkwy Off-ramp	Diverge	4,592	116	107.0%				841	57	109.2%	61.2	1.7	29.1	0.6	D
163	SR-65 SB - Placer Pkwy Off to On-ramp	Basic	3,750	104	106.5%							62.4	0.5	23.3	0.7	C
164	SR-65 SB - Placer Pkwy WB On-ramp	Merge	3,750	102	106.5%	332	28	103.8%				62.4	0.6	25.4	0.6	C
165	SR-65 SB - Placer Pkwy to Sunset Blvd	Weave	4,079	101	106.2%	641	30	112.5%	853	52	106.6%	61.7	0.2	23.9	0.4	C
168	SR-65 SB - Sunset Blvd Off to On-ramp	Basic	3,862	90	107.0%							47.4	22.5	38.6	34.5	E
169	SR-65 SB - Sunset Blvd WB On-ramp	Merge	3,852	102	106.7%	114	16	103.7%				33.6	23.6	74.0	53.9	F
170	SR-65 SB - Sunset Blvd EB On-ramp	Merge	3,923	143	105.5%	349	15	97.0%				19.6	15.3	97.0	29.9	F
171	SR-65 SB - Sunset Blvd to Blue Oaks Blvd	Basic	4,188	179	102.6%							16.5	8.6	101.7	22.2	F
172	SR-65 SB - Blue Oaks Blvd Off-ramp	Diverge	4,168	174	102.1%				601	63	103.6%	15.3	2.5	97.3	8.6	F
173	SR-65 SB - Blue Oaks Blvd Off-ramp to Lane Drop	Basic	3,494	137	99.8%							14.1	1.4	113.7	4.7	F
174	SR-65 SB - Lane Drop to Blue Oaks Blvd WB On-ramp	Basic	3,469	149	99.1%							14.4	1.5	113.9	5.4	F
175	SR-65 SB - Blue Oaks Blvd WB On-ramp	Merge	3,461	150	98.9%	390	15	100.1%				15.7	1.9	106.9	5.7	F
176	SR-65 SB - Blue Oaks Blvd to Pleasant Grove Blvd	Weave	3,803	172	97.8%	1,272	75	102.6%	599	51	98.3%	24.3	3.0	79.1	6.1	F
178	SR-65 SB - Pleasant Grove Blvd Off to On-ramp	Basic	4,426	126	97.9%							30.2	3.4	73.7	5.6	F
179	SR-65 SB - Pleasant Grove Blvd WB On-ramp	Merge	4,420	127	97.8%	1,081	36	102.0%				24.8	2.3	78.8	4.7	F
180	SR-65 SB - Pleasant Grove Blvd EB On-ramp	Merge	5,464	106	97.9%	857	51	103.2%				28.1	0.6	81.6	2.3	F
181	SR-65 SB - Pleasant Grove Blvd to Galleria Blvd	Basic	6,288	110	98.1%							55.7	1.3	36.9	1.3	E
182	SR-65 SB - Galleria Blvd Off-ramp	Diverge	6,288	109	98.1%				1,074	58	92.6%	60.0	0.6	34.2	0.9	D
183	SR-65 SB - Galleria Blvd Off to On-ramp	Basic	5,218	121	99.4%							62.3	0.3	28.3	0.7	D
184	SR-65 SB - Galleria Blvd to I-80	Weave	5,220	105	99.4%	1,120	53	101.8%	4,511	130	98.5%	61.6	0.9	24.4	0.4	C
187	SR-65 SB - EB I-80 Connector	Basic	1,833	77	103.6%							52.5	0.8	25.4	1.1	C
188	SR-65 SB - WB I-80 Connector	Basic	3,674	106	94.9%							54.7	0.5	23.6	0.6	C

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Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Design Year - No Build
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
1	I-80 EB - Auburn Blvd On-ramp	Merge	8,054	46	102.0%	995	18	101.6%				61.5	1.2	29.9	0.8	D
2	I-80 EB - Auburn Blvd to Douglas Blvd	Basic	9,038	74	101.8%							58.8	5.4	35.1	4.6	E
3	I-80 EB - Douglas Blvd EB Off-ramp	Diverge	9,021	108	101.6%				1,141	76	99.2%	53.7	8.0	41.8	16.6	E
4	I-80 EB - Douglas Blvd WB Off-ramp	Diverge	7,858	118	101.7%				388	46	97.0%	62.3	0.6	26.1	0.7	C
5	I-80 EB - Douglas Blvd Off to On-ramp	Basic	7,470	120	101.9%							61.3	4.7	27.2	3.1	D
6	I-80 EB - Douglas Blvd to Eureka Rd	Weave	7,463	138	101.8%	1,722	47	91.6%	1,770	88	101.2%	52.5	14.1	41.5	23.0	E
7	I-80 EB CD - Eureka Rd to Taylor Rd/SR-65	Weave	1,148	61	103.4%	1,417	74	93.2%	1,424	78	98.9%	19.7	15.9	87.9	29.6	F
8	I-80 EB - Eureka Rd to SR-65	Basic	7,306	186	97.9%							40.4	18.3	65.0	33.5	F
9	I-80 EB - HOV Connector Off-ramp	Diverge	7,272	197	97.5%				978	52	96.8%	36.2	12.3	61.8	20.5	F
10	I-80 EB - SR-65 Off-ramp	Diverge	6,261	220	97.1%				3,506	140	97.7%	41.3	10.5	57.8	17.6	F
11	I-80 EB - SR-65 Off-ramp to Eureka Rd On-ramp	Basic	2,724	141	95.2%							63.6	0.2	17.0	0.7	B
17	I-80 EB - Eureka Rd On-ramp	Merge	2,720	142	95.1%	740	52	98.7%				62.5	0.7	15.3	0.6	B
18	I-80 EB - Eureka Rd On-ramp to SR-65 On-ramp	Basic	3,456	145	95.7%							63.8	0.2	17.1	0.4	B
19	I-80 EB - SR-65 On-ramp	Merge	3,456	148	95.7%	2,485	135	95.9%				60.1	0.8	28.2	0.8	D
20	I-80 EB - SR-65 to Rocklin Rd	Basic	5,940	198	95.8%							62.6	0.4	26.2	0.8	D
22	I-80 EB - Rocklin Rd Off-ramp	Diverge	5,934	199	95.7%				1,634	88	96.7%	63.2	0.1	25.2	0.7	C
23	I-80 EB - Rocklin Rd Off to On-ramp	Basic	4,290	166	95.1%							63.2	0.2	25.0	1.0	C
24	I-80 EB - Rocklin Rd On-ramp	Merge	4,285	175	95.0%	267	26	102.5%				59.0	1.5	25.3	1.6	C
25	I-80 EB - Rocklin Rd to Sierra College Blvd	Basic	4,548	166	95.4%							62.9	0.3	25.8	1.1	C
26	I-80 EB - Sierra College Blvd Off-ramp	Diverge	4,549	169	95.4%				553	57	86.3%	60.2	2.1	27.6	1.9	C
27	I-80 EB - Sierra College Blvd Off to On-ramp	Basic	3,995	140	96.7%							63.3	0.2	22.6	0.5	C
28	I-80 EB - Sierra College Blvd SB On-ramp	Merge	3,993	139	96.7%	325	8	95.4%				59.8	1.0	21.7	1.0	C
29	I-80 EB - Sierra College Blvd NB On-ramp	Merge	4,315	144	96.5%	889	20	102.1%				59.2	0.7	26.8	1.0	C
38	I-80 WB - Sierra College Blvd Off-ramp	Diverge	4,075	25	105.9%				764	45	104.7%	59.9	0.6	22.0	0.4	C
39	I-80 WB - Sierra College Blvd Off to On-ramp	Basic	3,308	55	106.0%							63.1	0.5	20.4	0.6	C
40	I-80 WB - Sierra College Blvd NB On-ramp	Merge	3,309	58	106.1%	386	10	101.6%				61.9	0.5	19.4	0.4	B
41	I-80 WB - Sierra College Blvd SB On-ramp	Merge	3,697	59	105.6%	385	10	101.3%				62.5	0.2	21.4	0.4	C
42	I-80 WB - Sierra College Blvd to Rocklin Rd	Basic	4,079	62	105.1%							62.9	0.2	23.7	0.6	C
43	I-80 WB - Rocklin Rd Off-ramp	Diverge	4,079	62	105.1%				312	41	107.7%	62.0	0.5	24.6	0.7	C
44	I-80 WB - Rocklin Rd Off to On-ramp	Basic	3,765	81	104.9%							63.3	0.1	22.0	0.6	C
45	I-80 WB - Rocklin Rd On-ramp	Merge	3,764	85	104.8%	1,559	73	103.9%				58.4	1.4	27.6	0.8	C
46	I-80 WB - Rocklin Rd to HOV Lane Start	Basic	5,317	123	104.4%							60.2	0.9	30.3	0.6	D
47	I-80 WB - HOV Lane Start to SR-65	Basic	5,307	125	104.3%							61.9	0.6	23.2	0.6	C
48	I-80 WB - SR-65 Off-ramp	Diverge	5,306	123	104.2%				2,066	88	102.8%	63.7	0.2	21.3	0.5	C
49	I-80 WB - SR-65 Off to On-ramp	Basic	3,240	97	105.2%							63.8	0.1	18.4	0.6	C
60	I-80 WB - SR-65 to Atlantic St	Weave	3,242	95	105.3%	4,970	100	99.2%	579	45	101.5%	59.3	1.6	23.7	1.2	C
62	I-80 WB - Atlantic St EB Off-ramp	Diverge	7,703	157	102.4%				1,094	55	98.6%	59.5	4.8	29.8	6.9	D
63	I-80 WB - Atlantic St EB Off to On-ramp	Basic	6,609	140	103.1%							62.7	0.4	25.3	0.7	C
64	I-80 WB - Atlantic St On-ramp	Merge	6,610	146	103.1%	1,253	54	98.6%				56.1	3.2	38.9	2.5	E
65	I-80 WB - Douglas Blvd Off-ramp	Diverge	7,861	157	102.4%				1,177	71	102.3%	60.9	0.7	31.6	0.9	D
66	I-80 WB - Douglas Blvd Off to On-ramp	Basic	6,684	140	102.4%							63.1	0.3	26.5	0.4	D
67	I-80 WB - Douglas Blvd WB On-ramp	Merge	6,684	143	102.4%	1,197	48	88.7%				57.8	2.4	28.8	1.5	D
68	I-80 WB - Douglas Blvd EB On-ramp	Merge	7,883	162	100.0%	726	43	99.5%				57.9	3.9	35.7	3.0	E
69	I-80 WB - Douglas Blvd to Riverside Ave	Basic	8,609	135	100.0%							61.2	0.5	33.3	0.7	D
70	I-80 WB - Riverside Ave Off-ramp	Diverge	8,613	156	100.0%				1,260	61	100.8%	61.5	1.5	34.8	1.4	D
71	I-80 WB - Riverside Ave Off to On-ramp	Basic	7,358	138	100.0%							62.6	0.4	27.8	0.4	D
72	I-80 WB - Riverside Ave NB On-ramp	Merge	7,356	136	99.9%	200	0	100.0%				62.6	0.2	31.6	0.7	D
73	I-80 WB - Riverside Ave SB On-ramp	Merge	7,551	133	99.9%	553	5	98.7%				59.2	2.2	34.4	0.8	D
74	I-80 WB - Riverside Ave to Antelope Rd	Basic	8,095	144	99.7%							60.7	1.1	32.0	1.1	D
75	I-80 WB - Antelope Rd Off-ramp	Diverge	8,095	141	99.7%				1,168	75	99.8%	62.1	0.6	32.9	0.5	D
76	I-80 WB - Antelope Rd Off to On-ramp	Basic	6,936	141	99.8%							63.0	0.4	26.9	0.5	D
77	I-80 WB - Antelope Rd WB On-ramp	Merge	6,935	140	99.8%	341	3	97.5%				61.1	0.7	24.8	0.5	C
78	I-80 WB - Antelope Rd to Truck Scales	Weave	7,278	139	99.7%	528	16	99.5%	76	14	69.1%	61.9	0.5	27.5	0.6	C
79	I-80 WB - Truck Scales Off to On-ramp	Basic	7,729	148	100.1%							62.8	0.1	28.8	0.3	D
80	I-80 WB - Truck Scales On-ramp	Merge	7,722	148	100.0%	77	18	70.0%				62.4	0.3	29.0	0.5	D
81	I-80 WB - Truck Scales to Elkhorn Blvd	Basic	7,797	157	99.6%							60.8	1.4	31.0	0.8	D
82	I-80 WB - Elkhorn Blvd Off-ramp	Diverge	7,794	157	99.5%				1,220	68	97.6%	61.3	0.9	28.2	0.5	D
83	I-80 WB - Elkhorn Blvd Off to On-ramp	Basic	6,579	130	100.0%							62.5	0.8	25.9	0.4	C
84	I-80 WB - Elkhorn Blvd WB On-ramp	Merge	6,580	133	100.0%	898	4	99.7%				56.2	1.6	28.0	1.2	C
85	I-80 WB - Elkhorn Blvd EB On-ramp	Merge	7,481	138	100.0%	582	8	100.3%				61.6	0.5	30.0	0.5	D

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VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Design Year - No Build
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
100	SR-65 NB - EB I-80 Connector	Basic	3,494	143	97.3%							20.5	15.4	98.8	31.6	F
101	SR-65 NB - Eureka Rd On-ramp	Merge	3,481	148	97.0%	1,072	87	89.4%				16.7	11.1	108.0	27.6	F
102	SR-65 NB - WB I-80 Connector	Basic	2,066	90	102.8%							41.9	7.9	27.7	6.9	D
103	SR-65 NB - I-80 to Stanford Ranch Rd	Weave	4,468	236	93.3%	3,045	98	100.8%	1,572	104	92.5%	24.7	8.3	78.7	13.9	F
106	SR-65 NB - Stanford Ranch Rd Off to On-ramp	Basic	5,829	146	95.4%							24.1	1.9	109.9	14.1	F
107	SR-65 NB - Stanford Ranch Rd On-ramp	Merge	5,826	126	95.4%	960	53	97.0%				30.4	1.2	66.9	1.7	F
109	SR-65 NB - Pleasant Grove Blvd Off-ramp	Diverge	6,795	91	95.7%				1,964	69	96.3%	52.6	1.2	40.5	1.1	E
110	SR-65 NB - Pleasant Grove Blvd Off to On-ramp	Basic	4,830	89	95.5%							62.6	0.4	27.3	0.6	D
111	SR-65 NB - Pleasant Grove Blvd to Blue Oaks Blvd	Weave	4,830	90	95.4%	588	35	98.0%	1,953	69	96.7%	63.1	0.3	22.5	0.3	C
114	SR-65 NB - Blue Oaks Blvd Off to On-ramp	Basic	3,471	81	95.4%							63.6	0.2	19.1	0.4	C
115	SR-65 NB - Blue Oaks Blvd On-ramp	Merge	3,472	79	95.4%	428	44	89.1%				62.5	0.3	20.5	0.6	C
116	SR-65 NB - Blue Oaks Blvd to Sunset Blvd	Basic	3,894	113	94.5%							63.2	0.2	21.4	0.7	C
118	SR-65 NB - Sunset Blvd Off-ramp	Diverge	3,896	109	94.6%				695	49	97.8%	63.6	0.1	19.5	0.6	B
119	SR-65 NB - Sunset Blvd Off to On-ramp	Basic	3,202	106	93.9%							63.6	0.2	17.3	0.5	B
120	SR-65 NB - Sunset Blvd EB On-ramp	Merge	3,202	109	93.9%	455	37	101.2%				62.2	0.4	19.0	0.6	B
121	SR-65 NB - Sunset Blvd to Whitney Ranch Pkwy	Weave	3,660	117	94.8%	903	39	107.4%	1,058	60	97.9%	63.2	0.4	19.2	0.4	B
124	SR-65 NB - Whitney Ranch Pkwy Off to On-ramp	Basic	3,507	97	96.9%							63.6	0.1	18.8	0.3	C
125	SR-65 NB - Whitney Ranch Pkwy EB On-ramp	Merge	3,508	101	96.9%	296	22	98.5%				62.9	0.3	20.4	0.5	C
126	SR-65 NB - Whitney Ranch Pkwy WB On-ramp	Merge	3,803	95	97.0%	516	27	105.4%				63.0	0.2	22.5	0.4	C
127	SR-65 NB - Whitney Ranch Pkwy to Twelve Bridges Dr	Basic	4,317	102	97.9%							63.0	0.2	23.5	0.4	C
128	SR-65 NB - Twelve Bridges Dr Off-ramp	Diverge	4,318	106	97.9%				795	55	101.9%	61.0	3.2	27.7	1.8	C
129	SR-65 NB - Twelve Bridges Dr Off to On-ramp	Basic	3,519	89	96.9%							63.4	0.2	19.5	0.5	C
130	SR-65 NB - Twelve Bridges Dr to Lincoln Blvd	Weave	3,515	90	96.8%	1,056	50	96.0%	952	75	96.2%	62.8	0.2	20.4	0.6	C
133	SR-65 NB - Lincoln Blvd to Ferrari Ranch Rd	Basic	3,611	127	96.5%							62.4	0.4	26.1	0.9	D
134	SR-65 NB - Ferrari Ranch Rd Off-ramp	Diverge	3,612	127	96.6%				1,812	65	96.4%	63.2	0.2	21.9	0.9	C
135	SR-65 NB - Ferrari Ranch Rd Off to On-ramp	Basic	1,796	97	96.6%							64.1	0.2	14.5	0.8	B
136	SR-65 NB - Ferrari Ranch Rd On-ramp	Merge	1,799	95	96.7%	212	11	100.9%				62.0	0.5	15.2	0.7	B
150	SR-65 SB - Ferrari Ranch Rd Off-ramp	Diverge	2,063	48	99.7%				270	31	100.0%	63.6	0.5	18.5	0.3	B
151	SR-65 SB - Ferrari Ranch Rd Off to On-ramp	Basic	1,793	56	99.6%							63.9	0.3	15.8	0.4	B
152	SR-65 SB - Ferrari Ranch Rd WB On-ramp	Merge	1,793	52	99.6%	662	17	97.4%				61.9	0.3	15.5	0.3	B
153	SR-65 SB - Ferrari Ranch Rd EB On-ramp	Merge	2,456	57	99.0%	661	16	98.6%				61.5	0.2	16.1	0.3	B
154	SR-65 SB - Ferrari Ranch Rd to Lincoln Blvd	Basic	3,117	62	99.0%							63.9	0.1	17.9	0.4	B
156	SR-65 SB - Lincoln Blvd to Twelve Bridges Dr	Weave	3,121	63	99.1%	749	50	101.2%	895	52	100.6%	62.5	0.4	17.0	0.5	B
159	SR-65 SB - Twelve Bridges Dr Off to On-ramp	Basic	2,973	79	99.1%							63.8	0.1	16.4	0.4	B
160	SR-65 SB - Twelve Bridges Dr On-ramp	Merge	2,973	77	99.1%	567	40	96.2%				62.3	0.3	19.0	0.5	B
161	SR-65 SB - Twelve Bridges Dr to Placer Pkwy	Basic	3,544	77	98.7%							63.5	0.1	19.3	0.4	C
162	SR-65 SB - Placer Pkwy Off-ramp	Diverge	3,546	80	98.8%				1,032	54	98.3%	63.4	0.2	19.6	0.6	B
163	SR-65 SB - Placer Pkwy Off to On-ramp	Basic	2,512	81	98.9%							63.8	0.2	14.1	0.4	B
164	SR-65 SB - Placer Pkwy WB On-ramp	Merge	2,514	82	99.0%	392	35	103.0%				62.5	0.3	17.6	0.6	B
165	SR-65 SB - Placer Pkwy to Sunset Blvd	Weave	2,907	91	99.5%	730	55	100.1%	738	55	97.1%	63.2	0.2	16.6	0.4	B
168	SR-65 SB - Sunset Blvd Off to On-ramp	Basic	2,903	86	100.4%							63.9	0.2	16.1	0.4	B
169	SR-65 SB - Sunset Blvd WB On-ramp	Merge	2,904	88	100.5%	381	25	102.9%				63.3	0.2	17.7	0.5	B
170	SR-65 SB - Sunset Blvd EB On-ramp	Merge	3,285	85	100.8%	752	29	103.1%				62.1	1.0	25.4	0.7	C
171	SR-65 SB - Sunset Blvd to Blue Oaks Blvd	Basic	4,038	95	101.2%							59.2	8.5	28.5	6.6	D
172	SR-65 SB - Blue Oaks Blvd Off-ramp	Diverge	4,038	95	101.2%				706	44	99.5%	58.3	13.2	30.9	17.3	D
173	SR-65 SB - Blue Oaks Blvd Off-ramp to Lane Drop	Basic	3,340	101	101.8%							56.8	15.1	36.8	25.4	E
174	SR-65 SB - Lane Drop to Blue Oaks Blvd WB On-ramp	Basic	3,344	96	101.9%							50.7	19.7	42.9	30.0	E
175	SR-65 SB - Blue Oaks Blvd WB On-ramp	Merge	3,344	95	102.0%	374	41	95.8%				46.4	19.2	48.2	31.2	F
176	SR-65 SB - Blue Oaks Blvd to Pleasant Grove Blvd	Weave	3,726	112	101.5%	1,238	83	88.4%	560	53	96.6%	45.0	16.8	48.4	22.4	F
178	SR-65 SB - Pleasant Grove Blvd Off to On-ramp	Basic	4,407	123	98.2%							45.5	16.8	55.2	20.8	F
179	SR-65 SB - Pleasant Grove Blvd WB On-ramp	Merge	4,404	120	98.1%	822	46	100.3%				34.9	14.2	63.4	22.6	F
180	SR-65 SB - Pleasant Grove Blvd EB On-ramp	Merge	5,219	116	98.3%	1,123	88	94.4%				28.0	0.8	89.4	4.8	F
181	SR-65 SB - Pleasant Grove Blvd to Galleria Blvd	Basic	6,334	90	97.4%							57.5	0.9	36.5	0.7	E
182	SR-65 SB - Galleria Blvd Off-ramp	Diverge	6,334	90	97.4%				1,190	73	97.5%	60.9	0.6	34.2	0.5	D
183	SR-65 SB - Galleria Blvd Off to On-ramp	Basic	5,142	109	97.4%							62.2	0.2	29.1	0.7	D
184	SR-65 SB - Galleria Blvd to I-80	Weave	5,144	106	97.4%	1,655	41	103.5%	4,339	116	101.1%	59.9	2.8	26.0	2.2	C
187	SR-65 SB - EB I-80 Connector	Basic	2,479	117	95.7%							47.4	10.7	37.1	22.0	E
188	SR-65 SB - WB I-80 Connector	Basic	3,695	103	98.8%							54.6	0.3	23.5	0.6	C

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Design Year - No Build
AM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
1	Lincoln Blvd/Sterling Pkwy	Signal	3,025	3,330	110.1%	15.3	1.0	B
2	SR-65 SB Ramps/Twelve Bridges Dr	Signal	2,280	2,494	109.4%	16.2	1.0	B
3	SR-65 NB Ramps/Twelve Bridges Dr	Signal	2,425	2,592	106.9%	28.7	6.2	C
4	SR-65 SB Ramps/Sunset Blvd	Signal	3,035	3,245	106.9%	16.5	5.4	B
5	SR-65 NB Ramps/Sunset Blvd	Signal	3,530	3,792	107.4%	13.6	5.3	B
6	SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd	Signal	5,325	5,504	103.4%	89.5	14.6	F
7	SR-65 NB Ramps/Blue Oaks Blvd	Signal	3,300	3,471	105.2%	16.5	25.9	B
8	SR-65 SB Ramps/Pleasant Grove Blvd	Signal	4,760	4,835	101.6%	16.9	8.7	B
9	SR-65 NB Ramps/Pleasant Grove Blvd	Signal	3,955	4,041	102.2%	14.4	0.6	B
10	Stanford Ranch Rd/Five Star Blvd	Signal	3,735	3,903	104.5%	26.3	2.2	C
11	SR-65 NB Ramps/Stanford Ranch Rd	Signal	3,950	4,102	103.9%	18.6	8.8	B
12	SR-65 SB Ramps/Galleria Blvd	Signal	3,800	3,806	100.2%	54.6	14.5	D
13	Galleria Blvd/Antelope Creek Dr	Signal	2,405	2,416	100.4%	8.4	1.1	A
14	Galleria Blvd/Roseville Pkwy	Signal	5,321	5,631	105.8%	40.7	1.5	D
15	Creekside Ridge Dr/Roseville Pkwy	Signal	3,465	3,637	105.0%	7.6	2.1	A
16	Taylor Rd/East Roseville Pkwy	Signal	4,945	5,266	106.5%	60.4	15.3	E
17	North Sunrise Ave/East Roseville Pkwy	Signal	4,865	5,182	106.5%	33.1	3.6	C
18	Wills Rd/Atlantic St	Signal	2,265	2,454	108.3%	18.8	4.6	B
19	I-80 WB Ramps/Atlantic St	Signal	3,805	4,009	105.4%	30.2	12.7	C
20	Taylor Rd-I-80 EB Ramps/Eureka Rd	Signal	5,440	5,669	104.2%	30.0	3.2	C
21	North Sunrise Ave/Eureka Rd	Signal	5,145	5,382	104.6%	40.7	4.6	D
22	Harding Blvd/Wills Rd	Signal	2,120	2,240	105.7%	14.5	2.2	B
23	Harding Blvd/Douglas Blvd	Signal	2,720	2,970	109.2%	25.6	4.1	C
24	I-80 WB Ramps/Douglas Blvd	Signal	3,880	4,128	106.4%	22.4	7.1	C

Network Summary	
Total Demand Volume (veh/hr)	89,496
Total Volume Served (veh/hr)	94,098
Percent Served	105.1%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Design Year - No Build
AM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
25	I-80 EB Ramps/Douglas Blvd	Signal	4,235	4,527	106.9%	28.5	10.0	C
26	North Sunrise Ave/Douglas Blvd	Signal	4,585	4,839	105.5%	43.0	9.8	D
27	Pacific St/Woodside Dr	Signal	2,300	2,548	110.8%	7.6	0.4	A
28	Pacific St/Sunset Blvd	Signal	3,580	3,968	110.8%	28.8	1.3	C
29	Granite Dr/Rocklin Rd	Signal	3,006	3,139	104.4%	26.1	1.7	C
30	I-80 WB Ramps/Rocklin Rd	Signal	3,105	3,247	104.6%	22.2	2.2	C
31	I-80 EB Ramps/Rocklin Rd	Signal	3,255	3,511	107.9%	40.7	11.4	D
32	Aguilar Rd/Rocklin Rd	Signal	2,310	2,516	108.9%	9.2	0.9	A
33	Lincoln Blvd/SR-65 NB Off-Ramp	Signal	2,720	3,006	110.5%	9.5	0.8	A
34	Lincoln Blvd/SR-65 SB On-Ramp	Signal	2,000	2,180	109.0%	17.4	3.3	B
35	SR-65 SB Ramps/Placer Pkwy	Signal	3,800	4,114	108.3%	18.8	3.8	B
36	SR-65 NB Ramps/Whitney Ranch Pkwy	Signal	3,545	3,714	104.8%	13.5	4.4	B
40	Galleria Blvd/Berry St	Signal	2,005	2,124	105.9%	9.9	1.3	A

Network Summary	
Total Demand Volume (veh/hr)	40,446
Total Volume Served (veh/hr)	43,432
Percent Served	107.4%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Design Year - No Build
PM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
1	Lincoln Blvd/Sterling Pkwy	Signal	3,460	3,417	98.8%	20.4	0.8	C
2	SR-65 SB Ramps/Twelve Bridges Dr	Signal	2,305	2,302	99.9%	15.6	1.2	B
3	SR-65 NB Ramps/Twelve Bridges Dr	Signal	2,540	2,512	98.9%	21.6	1.7	C
4	SR-65 SB Ramps/Sunset Blvd	Signal	4,105	4,193	102.1%	16.6	7.6	B
5	SR-65 NB Ramps/Sunset Blvd	Signal	4,210	4,340	103.1%	13.9	1.3	B
6	SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd	Signal	7,075	6,500	91.9%	213.8	16.4	F
7	SR-65 NB Ramps/Blue Oaks Blvd	Signal	4,100	3,853	94.0%	94.3	48.8	F
8	SR-65 SB Ramps/Pleasant Grove Blvd	Signal	6,340	6,222	98.1%	29.5	28.0	C
9	SR-65 NB Ramps/Pleasant Grove Blvd	Signal	5,905	5,798	98.2%	12.9	0.8	B
10	Stanford Ranch Rd/Five Star Blvd	Signal	5,405	5,351	99.0%	85.0	18.7	F
11	SR-65 NB Ramps/Stanford Ranch Rd	Signal	6,115	6,022	98.5%	20.6	2.6	C
12	SR-65 SB Ramps/Galleria Blvd	Signal	5,930	5,924	99.9%	27.4	10.8	C
13	Galleria Blvd/Antelope Creek Dr	Signal	4,150	4,104	98.9%	27.9	2.4	C
14	Galleria Blvd/Roseville Pkwy	Signal	8,080	7,658	94.8%	92.5	21.0	F
15	Creekside Ridge Dr/Roseville Pkwy	Signal	4,685	4,388	93.7%	50.2	16.7	D
16	Taylor Rd/East Roseville Pkwy	Signal	6,855	6,554	95.6%	55.4	7.1	E
17	North Sunrise Ave/East Roseville Pkwy	Signal	6,345	6,369	100.4%	88.5	57.8	F
18	Wills Rd/Atlantic St	Signal	3,385	3,450	101.9%	30.4	8.5	C
19	I-80 WB Ramps/Atlantic St	Signal	4,900	4,909	100.2%	21.5	14.2	C
20	Taylor Rd-I-80 EB Ramps/Eureka Rd	Signal	6,575	6,473	98.5%	99.3	15.0	F
21	North Sunrise Ave/Eureka Rd	Signal	6,645	6,762	101.8%	104.2	22.9	F
22	Harding Blvd/Wills Rd	Signal	3,025	3,095	102.3%	18.5	2.2	B
23	Harding Blvd/Douglas Blvd	Signal	3,870	3,825	98.8%	68.9	7.9	E
24	I-80 WB Ramps/Douglas Blvd	Signal	4,675	4,525	96.8%	20.1	4.0	C

Network Summary	
Total Demand Volume (veh/hr)	120,680
Total Volume Served (veh/hr)	118,547
Percent Served	98.2%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Design Year - No Build
PM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
25	I-80 EB Ramps/Douglas Blvd	Signal	5,500	5,166	93.9%	39.0	26.0	D
26	North Sunrise Ave/Douglas Blvd	Signal	6,325	5,816	92.0%	238.5	8.7	F
27	Pacific St/Woodside Dr	Signal	3,510	3,526	100.5%	10.0	0.8	A
28	Pacific St/Sunset Blvd	Signal	5,485	5,516	100.6%	37.4	3.7	D
29	Granite Dr/Rocklin Rd	Signal	4,190	4,321	103.1%	101.4	9.3	F
30	I-80 WB Ramps/Rocklin Rd	Signal	3,955	4,061	102.7%	53.9	19.7	D
31	I-80 EB Ramps/Rocklin Rd	Signal	3,885	3,923	101.0%	21.4	3.9	C
32	Aguilar Rd/Rocklin Rd	Signal	3,025	3,075	101.6%	27.6	6.4	C
33	Lincoln Blvd/SR-65 NB Off-Ramp	Signal	2,930	2,894	98.8%	7.8	1.0	A
34	Lincoln Blvd/SR-65 SB On-Ramp	Signal	1,940	1,949	100.5%	14.8	1.6	B
35	SR-65 SB Ramps/Placer Pkwy	Signal	4,765	4,830	101.4%	24.4	2.6	C
36	SR-65 NB Ramps/Whitney Ranch Pkwy	Signal	4,270	4,277	100.2%	23.7	5.2	C
40	Galleria Blvd/Berry St	Signal	2,960	3,009	101.6%	10.8	1.2	B

Network Summary	
Total Demand Volume (veh/hr)	52,740
Total Volume Served (veh/hr)	52,364
Percent Served	99.3%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

SR 65 Capacity and Operational Improvements

Vissim Model Results – Construction Year Alternative 1 (Carpool Lane)

VISSIM Post-Processor **SR 65 Widening**
Average Values from 10 Runs **Construction Year - HOV Lane Alternative**
Network Statistics **AM Peak Period**

Network Performance	Vehicle Types	Average	Std. Dev.
Number of Vehicles Served	All Vehicles	167,492	95
Travel Distance [mi]	All Vehicles	799,522	1,334
Travel Time [h]	All Vehicles	18,061	156.4
Average Speed [mph]	All Vehicles	44.3	0.4
Total Delay [h]	All Vehicles	4,351	150.8
Average Delay per Vehicle [s]	All Vehicles	91	3.1
VHD/VMT [min/mile]	All Vehicles	0.33	0.01
Number of Vehicles Served	HOV	32,238	42
Travel Distance [mi]	HOV	164,736	723
Travel Time [h]	HOV	3,525	28
Average Speed [mph]	HOV	46.7	0.4
Total Delay [h]	HOV	727	26
Average Delay per Vehicle [s]	HOV	79	3
VHD/VMT [min/mile]	HOV	0.26	0.01
Number of Vehicles Served	Truck	7,508	15
Travel Distance [mi]	Truck	38,847	354
Travel Time [h]	Truck	902	9
Average Speed [mph]	Truck	43.1	1
Total Delay [h]	Truck	231	10
Average Delay per Vehicle [s]	Truck	108	5
VHD/VMT [min/mile]	Truck	0.36	0.02

	Vehicle Types		
Performance Measure	HOV	Truck	All
Vehicles Served	32,240	7,510	167,490
Demand Volume	33,420	8,100	169,440
Percent Demand Served	96.5%	92.7%	98.8%
Vehicle Miles of Travel	164,740	38,850	799,520
Person Miles of Travel	345,950	40,790	982,670
Vehicle Hours of Travel	3,520	900	18,060
Vehicle Hours of Delay	730	230	4,350
VHD % of VHT	20.7%	25.6%	24.1%
Average Delay per Vehicle (min)	1.36	1.84	1.56
Person Hours of Delay	1,530	240	5,160
Average Travel Speed	46.7	43.1	44.3

VISSIM Post-Processor
Average Values from 10 Runs
Peak Hour Travel Time

SR 65 Widening
Construction Year - HOV Lane Alternative
AM Peak Period

Mode	Description	Distance (ft)	Volume (vehicles)		Travel Time (min.:sec.)		Speed (mph)
			Average	Std. Dev.	Average	Std. Dev.	Average
SOV	SR-65 at Blue Oaks to I-80 at Antelope	43,097	835	13	08:51	00:21	22.1
	I-80 at Auburn to SR-65 at Blue Oaks	30,585	1,593	16	06:41	00:05	20.8
	I-80: Sierra College to Antelope	45,827	1,130	12	08:38	00:15	24.1
	I-80: Auburn to Sierra College	36,777	684	11	06:38	00:02	25.2
	SR-65: I-80 to Sunset	43,107	653	12	04:17	00:00	45.8
	SR-65: Sunset to Ferrari Ranch	45,816	175	6	03:31	00:01	59.3
	SR-65: Ferrari Ranch to Sunset	36,773	1,045	11	03:44	00:06	44.8
	SR-65: Sunset to I-80	30,586	1,266	15	04:25	00:09	31.4
HOV	SR-65 at Blue Oaks to I-80 at Antelope	43,097	386	8	08:33	00:13	45.8
	I-80 at Auburn to SR-65 at Blue Oaks	30,585	425	9	06:37	00:04	59.3
	I-80: Sierra College to Antelope	45,827	499	7	08:18	00:05	44.8
	I-80: Auburn to Sierra College	36,777	227	5	06:33	00:01	31.4
	SR-65: I-80 to Sunset	43,107	162	6	04:17	00:01	22.9
	SR-65: Sunset to Ferrari Ranch	45,816	33	3	03:31	00:03	21.0
	SR-65: Ferrari Ranch to Sunset	36,773	122	3	03:43	00:06	25.1
	SR-65: Sunset to I-80	30,586	403	11	04:21	00:08	25.5

VISSIM Post-Processor **SR 65 Widening**
Average Values from 10 Runs **Construction Year - HOV Lane Alternative**
Network Statistics **PM Peak Period**

Network Performance	Vehicle Types	Average	Std. Dev.
Number of Vehicles Served	All Vehicles	231,395	372
Travel Distance [mi]	All Vehicles	924,671	1,366
Travel Time [h]	All Vehicles	27,208	152.8
Average Speed [mph]	All Vehicles	34.0	0.2
Total Delay [h]	All Vehicles	10,937	160.1
Average Delay per Vehicle [s]	All Vehicles	166	2.6
VHD/VMT [min/mile]	All Vehicles	0.71	0.01
Number of Vehicles Served	HOV	45,782	104
Travel Distance [mi]	HOV	199,634	531
Travel Time [h]	HOV	5,111	24
Average Speed [mph]	HOV	39.1	0.2
Total Delay [h]	HOV	1,642	25
Average Delay per Vehicle [s]	HOV	127	2
VHD/VMT [min/mile]	HOV	0.49	0.01
Number of Vehicles Served	Truck	8,906	20
Travel Distance [mi]	Truck	36,993	431
Travel Time [h]	Truck	1,196	23
Average Speed [mph]	Truck	30.9	0
Total Delay [h]	Truck	539	17
Average Delay per Vehicle [s]	Truck	212	6
VHD/VMT [min/mile]	Truck	0.87	0.02

	Vehicle Types		
Performance Measure	HOV	Truck	All
Vehicles Served	45,780	8,910	231,400
Demand Volume	46,980	9,680	233,230
Percent Demand Served	97.4%	92.0%	99.2%
Vehicle Miles of Travel	199,630	36,990	924,670
Person Miles of Travel	419,230	38,840	1,146,120
Vehicle Hours of Travel	5,110	1,200	27,210
Vehicle Hours of Delay	1,640	540	10,940
VHD % of VHT	32.1%	45.0%	40.2%
Average Delay per Vehicle (min)	2.15	3.64	2.84
Person Hours of Delay	3,440	570	12,770
Average Travel Speed	39.1	30.9	34.0

VISSIM Post-Processor
Average Values from 10 Runs
Peak Hour Travel Time

SR 65 Widening
Construction Year - HOV Lane Alternative
PM Peak Period

Mode	Description	Distance (ft)	Volume (vehicles)		Travel Time (min.:sec.)		Speed (mph)
			Average	Std. Dev.	Average	Std. Dev.	Average
SOV	SR-65 at Blue Oaks to I-80 at Antelope	43,101	663	13	08:18	00:02	23.6
	I-80 at Auburn to SR-65 at Blue Oaks	30,589	1,217	18	20:03	00:54	6.9
	I-80: Sierra College to Antelope	45,827	502	8	08:16	00:01	25.2
	I-80: Auburn to Sierra College	36,777	685	13	19:47	01:02	8.5
	SR-65: I-80 to Sunset	43,110	1,216	18	04:22	00:05	44.8
	SR-65: Sunset to Ferrari Ranch	45,816	296	9	03:34	00:00	58.4
	SR-65: Ferrari Ranch to Sunset	36,773	688	12	03:31	00:00	47.5
	SR-65: Sunset to I-80	30,590	836	9	04:12	00:01	33.1
HOV	SR-65 at Blue Oaks to I-80 at Antelope	43,101	272	8	08:12	00:02	44.8
	I-80 at Auburn to SR-65 at Blue Oaks	30,589	722	12	09:23	00:29	58.4
	I-80: Sierra College to Antelope	45,827	199	5	08:09	00:02	47.5
	I-80: Auburn to Sierra College	36,777	290	7	08:32	00:36	33.1
	SR-65: I-80 to Sunset	43,110	448	12	04:22	00:05	23.9
	SR-65: Sunset to Ferrari Ranch	45,816	65	4	03:34	00:01	14.8
	SR-65: Ferrari Ranch to Sunset	36,773	101	5	03:30	00:01	25.6
	SR-65: Sunset to I-80	30,590	212	7	04:09	00:01	19.6

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Construction Year - HOV Lane Alternative
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
1	I-80 EB - Auburn Blvd On-ramp	Merge	7,230	34	110.2%	1,023	17	110.0%				62.1	0.4	28.6	0.2	D
2	I-80 EB - Auburn Blvd to Douglas Blvd	Basic	8,244	48	110.1%							59.5	1.8	34.3	1.2	D
3	I-80 EB - Douglas Blvd Slip Off	Diverge	8,238	66	110.0%				1,401	74	107.8%	59.8	2.6	29.9	1.7	D
4	I-80 EB - Douglas Blvd WB Off-ramp	Diverge	6,828	162	110.3%				502	45	106.8%	62.2	1.0	23.3	1.2	C
5	I-80 EB - Douglas Blvd Off to On-ramp	Basic	6,324	158	110.6%							63.1	0.2	24.8	0.8	C
6	I-80 EB - Douglas Blvd On-ramp	Merge	6,323	149	110.5%	849	21	93.3%				62.1	0.8	28.2	1.2	D
7	I-80 EB - Eureka Rd Off-ramp	Diverge	7,173	135	108.2%				1,359	63	107.0%	60.8	2.3	30.2	2.7	D
8	I-80 EB - Eureka Rd Off to On-ramp	Basic	5,809	130	108.4%							62.8	0.5	24.7	0.5	C
9	I-80 EB - Eureka Rd EB On-ramp	Merge	5,809	135	108.4%	186	9	97.7%				63.1	0.1	22.9	0.7	C
10	I-80 EB - Eureka Rd to Taylor Rd	Weave	5,998	141	108.1%	444	38	103.3%	377	34	107.6%	62.5	0.3	25.1	0.5	C
11	I-80 EB -Taylor Rd to SR 65	Basic	6,066	143	107.7%							59.5	2.3	31.3	1.6	D
17	I-80 EB - SR 65 Off-ramp	Diverge	6,068	139	107.8%				3,214	117	108.2%	59.0	5.1	33.2	5.5	D
18	I-80 EB - SR 65 Off to On-ramp	Basic	2,854	79	107.3%							63.9	0.1	15.7	0.4	B
19	I-80 EB - SR-65 On-ramp	Merge	2,854	84	107.3%	1,561	82	108.4%				62.8	0.2	22.9	1.0	C
21	I-80 EB - SR-65 to Rocklin Rd	Basic	4,417	117	107.7%							63.4	0.1	21.6	0.6	C
22	I-80 EB - Rocklin Rd Off-ramp	Diverge	4,422	119	107.8%				1,490	82	104.9%	63.5	0.2	21.0	0.4	C
23	I-80 EB - Rocklin Rd Off to On-ramp	Basic	2,934	96	109.5%							63.7	0.1	18.2	0.7	C
24	I-80 EB - Rocklin Rd On-ramp	Merge	2,935	102	109.5%	180	7	94.8%				61.7	0.7	18.4	0.7	B
25	I-80 EB - Rocklin Rd to Sierra College Blvd	Basic	3,119	105	108.7%							63.5	0.2	19.0	0.7	C
26	I-80 EB - Sierra College Blvd Off-ramp	Diverge	3,118	111	108.7%				413	39	105.8%	63.1	0.2	20.1	0.8	C
27	I-80 EB - Sierra College Blvd Off to On-ramp	Basic	2,709	102	109.2%							63.7	0.1	17.3	0.7	B
28	I-80 EB - Sierra College Blvd SB On-ramp	Merge	2,712	104	109.3%	131	4	101.1%				62.9	0.2	16.3	0.6	B
29	I-80 EB - Sierra College Blvd NB On-ramp	Merge	2,848	105	109.1%	417	11	109.7%				62.3	0.6	18.0	0.6	B
38	I-80 WB - Sierra College Blvd Off-ramp	Diverge	4,879	23	105.8%				850	49	106.2%	57.2	1.1	27.8	0.4	C
39	I-80 WB - Sierra College Blvd Off to On-ramp	Basic	4,030	66	105.8%							62.1	0.4	24.8	0.3	C
40	I-80 WB - Sierra College Blvd NB On-ramp	Merge	4,032	68	105.8%	51	4	84.7%				62.9	0.3	22.1	0.5	C
41	I-80 WB - Sierra College Blvd SB On-ramp	Merge	4,079	72	105.4%	310	11	103.4%				61.5	0.6	23.6	0.4	C
42	I-80 WB - Sierra College Blvd to Rocklin Rd	Basic	4,389	77	105.2%							62.3	0.3	26.6	0.4	D
43	I-80 WB - Rocklin Rd Off-ramp	Diverge	4,387	80	105.2%				227	26	103.4%	61.0	0.7	27.5	0.5	C
44	I-80 WB - Rocklin Rd Off to On-ramp	Basic	4,159	89	105.3%							62.9	0.2	24.9	0.5	C
45	I-80 WB - Rocklin Rd On-ramp	Merge	4,158	89	105.3%	903	54	101.4%				60.7	0.6	26.6	0.7	C
46	I-80 WB - Rocklin Rd to HOV Lane Start	Basic	5,054	120	104.4%							62.3	0.3	28.7	0.6	D
47	I-80 WB - HOV Lane Start to SR-65	Basic	5,054	129	104.4%							62.1	0.2	24.1	0.5	C
48	I-80 WB - SR-65 Off-ramp	Diverge	5,052	131	104.4%				1,466	55	106.2%	63.5	0.2	22.0	0.5	C
49	I-80 WB - SR-65 Off to On-ramp	Basic	3,582	123	103.5%							63.7	0.1	19.6	0.4	C
50	I-80 WB - SR-65 On-ramp	Merge	3,582	121	103.5%	3,902	100	104.6%				60.5	0.7	30.0	1.0	D
60	I-80 WB - Taylor Rd On-ramp	Merge	7,481	157	104.1%	626	35	111.8%				54.3	4.6	38.3	3.6	E
61	I-80 WB - Atlantic St WB Off-ramp	Diverge	8,106	157	104.6%				343	33	104.0%	59.2	1.6	35.7	1.7	E
62	I-80 WB - Atlantic St EB Off-ramp	Diverge	7,761	144	104.6%				997	54	102.8%	61.6	0.7	34.9	0.6	D
63	I-80 WB - Atlantic St EB Off to On-ramp	Basic	6,763	131	104.9%							62.9	0.2	26.9	0.6	D
64	I-80 WB - Atlantic St On-ramp	Merge	6,759	137	104.8%	1,182	66	107.5%				57.3	4.1	37.0	2.9	E
65	I-80 WB - Douglas Blvd Off-ramp	Diverge	7,936	143	105.1%				956	46	101.7%	60.0	0.6	32.9	0.8	D
66	I-80 WB - Douglas Blvd Off to On-ramp	Basic	6,976	140	105.5%							62.8	0.2	28.3	0.4	D
67	I-80 WB - Douglas Blvd WB On-ramp	Merge	6,975	142	105.5%	1,020	44	107.4%				58.7	1.2	30.8	1.1	D
68	I-80 WB - Douglas Blvd Slip On	Merge	7,995	155	105.8%	453	32	105.4%				58.3	5.0	35.4	4.4	E
69	I-80 WB - Douglas Blvd to Riverside Ave	Basic	8,452	150	105.8%							61.8	0.3	33.9	0.5	D
70	I-80 WB - Riverside Ave Off-ramp	Diverge	8,457	144	105.8%				902	55	99.2%	62.4	0.1	33.6	0.6	D
71	I-80 WB - Riverside Ave Off to On-ramp	Basic	7,559	151	106.8%							62.7	0.1	30.1	0.6	D
72	I-80 WB - Riverside Ave NB On-ramp	Merge	7,559	151	106.8%	285	6	83.8%				63.0	0.1	28.2	0.8	D
73	I-80 WB - Riverside Ave SB On-ramp	Merge	7,840	155	105.7%	823	14	100.3%				62.5	0.2	34.5	0.9	D
74	I-80 WB - Riverside Ave to Antelope Rd	Basic	8,660	152	105.1%							52.6	11.0	40.8	10.8	E
75	I-80 WB - Antelope Rd Off-ramp	Diverge	8,663	185	105.1%				345	27	90.7%	43.8	12.9	53.3	16.1	F
76	I-80 WB - Antelope Rd Off to On-ramp	Basic	8,335	216	106.0%							40.8	15.2	62.1	24.8	F
77	I-80 WB - Antelope Rd WB On-ramp	Merge	8,338	228	106.1%	566	12	97.6%				31.9	10.8	80.1	21.8	F
78	I-80 WB - Antelope Rd to Truck Scales	Weave	8,919	241	105.7%	444	14	96.6%	91	18	82.8%	33.0	7.3	70.4	11.5	F
79	I-80 WB - Truck Scales Off to On-ramp	Basic	9,367	228	106.6%							30.6	2.2	81.8	6.3	F
80	I-80 WB - Truck Scales On-ramp	Merge	9,404	231	107.0%	91	17	82.5%				29.2	1.8	91.6	5.9	F
81	I-80 WB - Truck Scales to Elkhorn Blvd	Basic	9,569	220	107.5%							34.4	4.3	68.4	7.7	F
82	I-80 WB - Elkhorn Blvd Off-ramp	Diverge	9,578	213	107.6%				809	61	109.4%	36.8	9.0	55.2	10.8	F
83	I-80 WB - Elkhorn Blvd Off to On-ramp	Basic	8,806	131	107.9%							28.1	5.2	87.8	13.9	F
84	I-80 WB - Elkhorn Blvd WB On-ramp	Merge	8,822	119	108.1%	803	10	95.6%				26.7	1.0	95.5	5.0	F
85	I-80 WB - Elkhorn Blvd EB On-ramp	Merge	9,637	109	107.1%	882	25	95.8%				32.7	0.4	76.9	1.0	F

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Construction Year - HOV Lane Alternative
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
100	SR-65 NB - EB I-80 Connector	Basic	3,216	117	108.3%							41.5	1.7	45.4	4.0	F
101	SR-65 NB - WB I-80 Connector	Basic	1,465	55	106.2%							51.4	0.3	23.4	0.7	C
103	SR-65 NB - I-80 WB On-ramp	Merge	3,215	106	108.2%	1,466	55	106.2%				61.1	0.6	28.3	1.1	D
104	SR-65 NB - I-80 to Stanford Ranch Rd	Basic	4,682	133	107.6%							63.0	0.2	27.1	0.9	D
105	SR-65 NB - Stanford Ranch Rd Off-ramp	Diverge	4,682	133	107.6%				694	53	103.6%	62.9	0.2	25.2	0.8	C
106	SR-65 NB - Stanford Ranch Rd Off to On-ramp	Basic	3,987	113	108.3%							63.2	0.2	23.3	0.7	C
107	SR-65 NB - Stanford Ranch Rd to Pleasant Grove Blvd	Weave	3,986	119	108.3%	903	52	108.8%	651	46	101.6%	62.4	0.3	23.9	0.6	C
110	SR-65 NB - Pleasant Grove Blvd Off to On-ramp	Basic	4,240	131	109.6%							62.8	0.2	25.0	0.7	C
111	SR-65 NB - Pleasant Grove Blvd On-ramp	Merge	4,239	126	109.5%	230	24	100.0%				60.5	0.6	33.1	1.1	D
112	SR-65 NB - Blue Oaks Blvd Off-ramp	Diverge	4,470	115	109.0%				1,969	93	109.4%	62.2	0.4	27.0	0.6	C
114	SR-65 NB - Blue Oaks Blvd Off to On-ramp	Basic	2,502	72	108.8%							63.3	0.2	22.0	0.6	C
115	SR-65 NB - Blue Oaks Blvd On-ramp	Merge	2,504	71	108.9%	522	35	100.4%				62.6	0.2	19.0	0.4	B
116	SR-65 NB - Blue Oaks Blvd to Sunset Blvd	Basic	3,029	82	107.4%							63.5	0.2	18.9	0.3	C
118	SR-65 NB - Sunset Blvd Off-ramp	Diverge	3,029	78	107.4%				1,316	55	107.9%	63.6	0.1	18.3	0.5	B
119	SR-65 NB - Sunset Blvd Off to On-ramp	Basic	1,712	66	107.0%							63.7	0.2	14.9	0.6	B
120	SR-65 NB - Sunset Blvd EB On-ramp	Merge	1,711	66	106.9%	54	12	107.4%				63.7	0.4	15.0	0.6	B
121	SR-65 NB - Sunset Blvd to Whitney Ranch Pkwy	Weave	1,765	67	107.0%	161	16	107.1%	354	37	98.4%	63.5	0.2	14.3	0.4	B
124	SR-65 NB - Whitney Ranch Pkwy Off to On-ramp	Basic	1,576	55	109.5%							63.7	0.2	13.9	0.3	B
125	SR-65 NB - Whitney Ranch Pkwy EB On-ramp	Merge	1,576	56	109.5%	185	15	97.2%				63.5	0.2	14.3	0.4	B
126	SR-65 NB - Whitney Ranch Pkwy to Twelve Bridges Dr	Weave	1,763	63	108.1%	212	12	106.1%	412	37	95.8%	63.7	0.3	13.0	0.3	B
129	SR-65 NB - Twelve Bridges Dr Off to On-ramp	Basic	1,563	73	111.6%							63.8	0.2	14.4	0.6	B
130	SR-65 NB - Twelve Bridges Dr to Lincoln Blvd	Weave	1,564	70	111.7%	266	29	106.3%	646	60	113.4%	63.8	0.2	13.0	0.5	B
133	SR-65 NB - Lincoln Blvd to Ferrari Ranch Rd	Basic	1,184	56	109.6%							64.1	0.2	12.8	0.4	B
134	SR-65 NB - Ferrari Ranch Rd Off-ramp	Diverge	1,183	56	109.6%				702	52	107.9%	64.4	0.2	10.4	0.3	B
135	SR-65 NB - Ferrari Ranch Rd Off to On-ramp	Basic	482	42	112.1%							64.6	0.3	4.7	0.5	A
136	SR-65 NB - Ferrari Ranch Rd On-ramp	Merge	483	44	112.2%	114	8	103.6%				62.4	0.3	5.3	0.5	A
150	SR-65 SB - Ferrari Ranch Rd Off-ramp	Diverge	1,050	31	114.1%				74	16	105.7%	64.3	0.1	11.3	0.3	B
151	SR-65 SB - Ferrari Ranch Rd Off to On-ramp	Basic	975	33	114.7%							64.2	0.1	10.5	0.3	A
152	SR-65 SB - Ferrari Ranch Rd WB On-ramp	Merge	975	34	114.8%	899	18	108.3%				60.4	0.2	14.0	0.3	B
153	SR-65 SB - Ferrari Ranch Rd EB On-ramp	Merge	1,874	40	111.6%	708	24	93.1%				60.2	0.4	18.9	0.6	B
154	SR-65 SB - Ferrari Ranch Rd to Lane Drop	Basic	2,583	48	105.9%							62.5	0.6	26.7	0.5	D
155	SR-65 SB - Lane Drop to Lincoln Blvd	Basic	2,582	48	105.8%							62.9	0.3	26.7	0.5	D
156	SR-65 SB - Lincoln Blvd to Twelve Bridges Dr	Weave	2,582	51	105.8%	900	48	105.9%	326	36	108.6%	59.9	0.5	26.6	0.6	C
159	SR-65 SB - Twelve Bridges Dr Off to On-ramp	Basic	3,159	71	105.6%							61.7	0.5	30.2	0.8	D
160	SR-65 SB - Twelve Bridges Dr to Placer Pkwy	Weave	3,158	68	105.6%	859	30	113.1%	445	46	111.2%	61.1	0.2	27.8	0.6	C
163	SR-65 SB - Placer Pkwy Off to On-ramp	Basic	3,562	72	106.3%							62.0	0.3	31.7	0.7	D
164	SR-65 SB - Placer Pkwy WB On-ramp	Merge	3,560	70	106.3%	287	26	106.3%				58.2	5.3	33.5	3.6	D
165	SR-65 SB - Placer Pkwy to Sunset Blvd	Weave	3,849	71	106.3%	236	23	112.2%	479	38	104.1%	51.5	8.3	40.1	9.4	E
168	SR-65 SB - Sunset Blvd Off to On-ramp	Basic	3,610	64	107.1%							31.6	16.3	71.1	23.6	F
169	SR-65 SB - Sunset Blvd WB On-ramp	Merge	3,609	71	107.1%	612	29	111.2%				32.4	11.2	67.8	16.3	F
170	SR-65 SB - Sunset Blvd to Blue Oaks Blvd	Weave	4,220	64	107.6%	453	15	100.6%	904	49	106.3%	59.8	0.4	31.3	0.8	D
172	SR-65 SB - Blue Oaks Blvd Off to HOV Lane Start	Basic	3,764	87	106.9%							62.0	0.1	32.3	0.7	D
173	SR-65 SB - HOV Lane Start to Blue Oaks Blvd On	Basic	3,763	86	106.9%							61.9	0.4	31.7	0.7	D
174	SR-65 SB - Blue Oaks Blvd WB On-ramp	Merge	3,762	87	106.9%	555	31	106.7%				56.1	2.2	34.8	1.7	D
175	SR-65 SB - Blue Oaks Blvd WB to EB On-ramp	Basic	4,318	86	106.9%							61.7	1.0	34.2	1.1	D
176	SR-65 SB - Blue Oaks Blvd EB On-ramp	Merge	4,318	88	106.9%	1,157	50	101.5%				60.8	0.6	30.1	0.8	D
177	SR-65 SB - Pleasant Grove Blvd Off-ramp	Diverge	5,476	99	105.7%				705	58	106.8%	61.9	1.6	27.9	1.1	C
178	SR-65 SB - Pleasant Grove Blvd Off to On-ramp	Basic	4,770	87	105.5%							63.0	0.5	25.4	0.4	C
179	SR-65 SB - Pleasant Grove Blvd WB On-ramp	Merge	4,768	92	105.5%	441	35	102.5%				62.1	0.3	24.6	0.5	C
180	SR-65 SB - Pleasant Grove Blvd EB On-ramp	Merge	5,209	102	105.2%	615	44	102.4%				60.5	1.0	17.2	0.6	B
181	SR-65 SB - Pleasant Grove Blvd to Galleria Blvd	Basic	5,821	119	104.9%							58.6	1.7	29.5	1.0	D
182	SR-65 SB - Galleria Blvd Off-ramp	Diverge	5,822	119	104.9%				1,151	61	101.0%	62.0	0.9	24.9	0.6	C
183	SR-65 SB - Galleria Blvd Off-ramp to Lane Drop	Basic	4,674	133	106.0%							58.0	9.4	31.9	7.5	D
184	SR-65 SB - Lane Drop to Galleria Blvd On-ramp	Basic	4,680	132	106.1%							52.9	13.4	37.7	15.5	E
185	SR-65 SB - Galleria Blvd On-ramp	Merge	4,683	129	106.2%	773	33	101.7%				44.5	10.9	54.1	16.9	F
186	SR-65 SB - I-80 Off-ramp	Diverge	5,457	142	105.6%				3,902	106	104.6%	59.0	1.6	33.3	1.4	D
187	SR-65 SB - EB I-80 Connector (2 lanes)	Basic	1,558	84	108.2%							59.5	1.8	30.1	2.2	D
188	SR-65 SB - EB I-80 Connector (1 lane)	Basic	1,559	83	108.3%							61.4	0.5	29.3	1.7	D
189	SR-65 SB - WB I-80 Connector	Basic	3,905	102	104.7%							51.5	0.4	40.6	1.3	E

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VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Construction Year - HOV Lane Alternative
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
1	I-80 EB - Auburn Blvd On-ramp	Merge	7,162	306	96.7%	896	55	92.3%				23.4	0.6	126.1	6.3	F
2	I-80 EB - Auburn Blvd to Douglas Blvd	Basic	7,790	398	93.0%							23.2	1.5	108.0	5.1	F
3	I-80 EB - Douglas Blvd Slip Off	Diverge	7,695	511	91.8%				1,030	136	88.8%	25.9	2.2	91.8	10.1	F
4	I-80 EB - Douglas Blvd WB Off-ramp	Diverge	6,578	406	91.1%				602	86	86.0%	22.9	0.6	145.5	10.9	F
5	I-80 EB - Douglas Blvd Off to On-ramp	Basic	5,898	326	90.5%							22.1	1.5	133.3	6.4	F
6	I-80 EB - Douglas Blvd On-ramp	Merge	5,867	328	90.0%	1,121	106	84.3%				14.8	1.2	138.2	5.3	F
7	I-80 EB - Eureka Rd Off-ramp	Diverge	6,970	405	88.8%				860	96	81.9%	19.2	1.4	117.6	8.3	F
8	I-80 EB - Eureka Rd Off to On-ramp	Basic	6,102	318	89.7%							21.0	0.8	129.3	4.6	F
9	I-80 EB - Eureka Rd EB On-ramp	Merge	6,102	345	89.7%	329	21	102.8%				17.0	1.1	136.3	3.9	F
10	I-80 EB - Eureka Rd to Taylor Rd	Weave	6,435	392	90.4%	1,126	58	99.7%	489	61	85.8%	18.5	0.6	124.1	3.2	F
11	I-80 EB -Taylor Rd to SR 65	Basic	7,061	326	91.9%							19.7	1.2	112.4	4.8	F
17	I-80 EB - SR 65 Off-ramp	Diverge	7,051	323	91.8%				3,856	119	93.6%	24.2	2.0	91.4	6.7	F
18	I-80 EB - SR 65 Off to On-ramp	Basic	3,190	203	89.6%							63.2	0.4	17.7	1.6	B
19	I-80 EB - SR-65 On-ramp	Merge	3,193	204	89.7%	1,894	86	97.6%				62.6	0.2	22.5	0.9	C
21	I-80 EB - SR-65 to Rocklin Rd	Basic	5,086	222	92.5%							63.1	0.3	22.4	1.0	C
22	I-80 EB - Rocklin Rd Off-ramp	Diverge	5,080	229	92.4%				1,614	96	94.4%	62.0	4.2	23.3	4.1	C
23	I-80 EB - Rocklin Rd Off to On-ramp	Basic	3,463	179	91.4%							63.3	0.9	19.4	1.3	C
24	I-80 EB - Rocklin Rd On-ramp	Merge	3,464	182	91.4%	273	28	104.8%				60.8	0.5	19.5	0.9	B
25	I-80 EB - Rocklin Rd to Sierra College Blvd	Basic	3,735	173	92.2%							63.4	0.2	20.4	1.0	C
26	I-80 EB - Sierra College Blvd Off-ramp	Diverge	3,732	173	92.1%				271	27	84.8%	62.6	0.8	21.7	1.2	C
27	I-80 EB - Sierra College Blvd Off to On-ramp	Basic	3,457	145	92.7%							63.4	0.2	19.6	1.0	C
28	I-80 EB - Sierra College Blvd SB On-ramp	Merge	3,455	138	92.6%	236	3	94.4%				61.6	0.4	18.7	0.8	B
29	I-80 EB - Sierra College Blvd NB On-ramp	Merge	3,689	146	92.7%	608	13	101.4%				60.8	0.7	22.1	1.0	C
38	I-80 WB - Sierra College Blvd Off-ramp	Diverge	3,662	20	105.8%				583	40	104.1%	60.9	0.4	19.3	0.2	B
39	I-80 WB - Sierra College Blvd Off to On-ramp	Basic	3,078	50	106.1%							63.6	0.2	18.1	0.3	C
40	I-80 WB - Sierra College Blvd NB On-ramp	Merge	3,078	53	106.1%	170	3	100.1%				63.1	0.2	16.7	0.2	B
41	I-80 WB - Sierra College Blvd SB On-ramp	Merge	3,245	57	105.7%	229	5	91.7%				62.9	0.3	17.7	0.2	B
42	I-80 WB - Sierra College Blvd to Rocklin Rd	Basic	3,472	59	104.6%							63.3	0.2	20.0	0.3	C
43	I-80 WB - Rocklin Rd Off-ramp	Diverge	3,471	62	104.5%				284	39	105.0%	62.6	0.5	20.7	0.7	C
44	I-80 WB - Rocklin Rd Off to On-ramp	Basic	3,185	57	104.4%							63.6	0.1	18.5	0.4	C
45	I-80 WB - Rocklin Rd On-ramp	Merge	3,186	68	104.5%	1,269	67	90.6%				60.4	0.7	22.5	0.4	C
46	I-80 WB - Rocklin Rd to HOV Lane Start	Basic	4,448	99	99.9%							62.9	0.2	24.1	0.5	C
47	I-80 WB - HOV Lane Start to SR-65	Basic	4,451	102	100.0%							62.8	0.3	20.2	0.4	C
48	I-80 WB - SR-65 Off-ramp	Diverge	4,450	106	100.0%				1,763	70	98.5%	63.7	0.2	18.3	0.4	B
49	I-80 WB - SR-65 Off to On-ramp	Basic	2,683	73	100.9%							63.9	0.1	15.5	0.4	B
50	I-80 WB - SR-65 On-ramp	Merge	2,684	76	100.9%	3,304	103	100.7%				62.0	0.1	23.4	0.6	C
60	I-80 WB - Taylor Rd On-ramp	Merge	5,989	112	100.8%	541	36	100.1%				60.9	0.5	28.3	0.9	D
61	I-80 WB - Atlantic St WB Off-ramp	Diverge	6,528	119	100.7%				444	36	105.6%	62.4	1.0	27.8	1.1	C
62	I-80 WB - Atlantic St EB Off-ramp	Diverge	6,084	109	100.4%				978	57	99.8%	62.4	0.4	28.6	0.6	D
63	I-80 WB - Atlantic St EB Off to On-ramp	Basic	5,105	102	100.5%							63.5	0.2	20.6	0.4	C
64	I-80 WB - Atlantic St On-ramp	Merge	5,105	108	100.5%	1,410	67	102.9%				60.3	0.8	30.0	0.5	D
65	I-80 WB - Douglas Blvd Off-ramp	Diverge	6,515	116	101.0%				952	50	100.2%	62.0	0.2	27.4	0.7	C
66	I-80 WB - Douglas Blvd Off to On-ramp	Basic	5,571	106	101.3%							63.5	0.1	22.8	0.5	C
67	I-80 WB - Douglas Blvd WB On-ramp	Merge	5,571	107	101.3%	1,412	79	100.8%				60.0	0.5	26.7	0.5	C
68	I-80 WB - Douglas Blvd Slip On	Merge	6,980	108	101.2%	757	43	92.3%				58.3	3.3	32.6	2.1	D
69	I-80 WB - Douglas Blvd to Riverside Ave	Basic	7,745	140	100.3%							61.7	0.4	30.3	0.5	D
70	I-80 WB - Riverside Ave Off-ramp	Diverge	7,747	133	100.4%				1,183	52	101.9%	62.7	0.3	31.4	0.7	D
71	I-80 WB - Riverside Ave Off to On-ramp	Basic	6,566	141	100.1%							63.2	0.2	25.0	0.5	C
72	I-80 WB - Riverside Ave NB On-ramp	Merge	6,566	148	100.1%	206	1	98.0%				63.5	0.1	22.9	0.7	C
73	I-80 WB - Riverside Ave SB On-ramp	Merge	6,774	146	100.1%	521	5	96.5%				61.0	1.2	27.4	1.1	C
74	I-80 WB - Riverside Ave to Antelope Rd	Basic	7,296	136	99.8%							62.1	0.5	28.1	0.6	D
75	I-80 WB - Antelope Rd Off-ramp	Diverge	7,291	138	99.7%				956	67	99.6%	61.6	1.1	29.0	0.8	D
76	I-80 WB - Antelope Rd Off to On-ramp	Basic	6,333	121	99.7%							63.1	0.1	24.4	0.3	C
77	I-80 WB - Antelope Rd WB On-ramp	Merge	6,335	125	99.8%	371	8	97.5%				60.9	0.9	23.0	0.9	C
78	I-80 WB - Antelope Rd to Truck Scales	Weave	6,707	117	99.7%	367	15	99.2%	64	15	57.8%	62.4	0.4	25.1	0.5	C
79	I-80 WB - Truck Scales Off to On-ramp	Basic	7,016	119	100.4%							62.9	0.1	26.1	0.4	D
80	I-80 WB - Truck Scales On-ramp	Merge	7,017	129	100.4%	64	15	58.5%				62.6	0.1	26.3	0.4	C
81	I-80 WB - Truck Scales to Elkhorn Blvd	Basic	7,080	129	99.7%							61.8	0.3	27.6	0.5	D
82	I-80 WB - Elkhorn Blvd Off-ramp	Diverge	7,078	128	99.7%				1,075	58	97.7%	62.4	0.2	25.4	0.5	C
83	I-80 WB - Elkhorn Blvd Off to On-ramp	Basic	6,000	140	100.0%							63.1	0.4	23.2	0.6	C
84	I-80 WB - Elkhorn Blvd WB On-ramp	Merge	6,002	138	100.0%	899	3	99.9%				58.4	0.6	24.4	0.8	C
85	I-80 WB - Elkhorn Blvd EB On-ramp	Merge	6,902	149	100.0%	656	16	102.5%				61.7	0.8	28.1	1.1	D

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Construction Year - HOV Lane Alternative
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
100	SR-65 NB - EB I-80 Connector	Basic	3,856	107	93.6%							36.4	0.8	61.3	1.9	F
101	SR-65 NB - WB I-80 Connector	Basic	1,761	66	98.4%							50.2	0.6	28.0	0.7	D
103	SR-65 NB - I-80 WB On-ramp	Merge	3,857	103	93.6%	1,759	66	98.3%				60.4	0.6	32.4	0.5	D
104	SR-65 NB - I-80 to Stanford Ranch Rd	Basic	5,614	133	95.0%							62.9	0.2	30.8	0.3	D
105	SR-65 NB - Stanford Ranch Rd Off-ramp	Diverge	5,614	134	95.0%				1,101	52	93.3%	62.3	0.8	29.7	0.6	D
106	SR-65 NB - Stanford Ranch Rd Off to On-ramp	Basic	4,509	144	95.3%							63.0	0.3	25.3	0.5	C
107	SR-65 NB - Stanford Ranch Rd to Pleasant Grove Blvd	Weave	4,505	145	95.2%	1,397	54	101.3%	1,009	59	98.9%	61.7	0.5	26.1	0.6	C
110	SR-65 NB - Pleasant Grove Blvd Off to On-ramp	Basic	4,892	136	96.1%							58.4	13.6	33.2	20.3	D
111	SR-65 NB - Pleasant Grove Blvd On-ramp	Merge	4,889	134	96.0%	548	28	99.7%				53.7	10.8	38.6	12.6	E
112	SR-65 NB - Blue Oaks Blvd Off-ramp	Diverge	5,432	145	96.3%				1,857	95	94.3%	60.7	1.0	31.6	1.0	D
114	SR-65 NB - Blue Oaks Blvd Off to On-ramp	Basic	3,574	123	97.4%							62.6	0.3	28.8	1.2	D
115	SR-65 NB - Blue Oaks Blvd On-ramp	Merge	3,574	123	97.4%	836	53	104.5%				61.5	0.5	25.8	1.0	C
116	SR-65 NB - Blue Oaks Blvd to Sunset Blvd	Basic	4,410	142	98.7%							62.1	0.4	26.5	0.9	D
118	SR-65 NB - Sunset Blvd Off-ramp	Diverge	4,409	136	98.6%				999	47	98.9%	62.5	0.3	27.7	1.1	C
119	SR-65 NB - Sunset Blvd Off to On-ramp	Basic	3,412	124	98.6%							62.5	0.2	28.2	1.2	D
120	SR-65 NB - Sunset Blvd EB On-ramp	Merge	3,410	122	98.6%	80	14	99.8%				62.0	0.6	28.6	1.2	D
121	SR-65 NB - Sunset Blvd to Whitney Ranch Pkwy	Weave	3,488	128	98.5%	234	17	101.6%	549	35	96.2%	62.1	0.3	26.8	1.1	C
124	SR-65 NB - Whitney Ranch Pkwy Off to On-ramp	Basic	3,173	120	99.2%							62.6	0.2	26.6	1.2	D
125	SR-65 NB - Whitney Ranch Pkwy EB On-ramp	Merge	3,171	120	99.1%	266	10	95.1%				61.3	1.6	28.0	1.6	C
126	SR-65 NB - Whitney Ranch Pkwy to Twelve Bridges Dr	Weave	3,436	121	98.7%	271	14	100.3%	832	58	102.7%	62.6	0.3	23.3	0.9	C
129	SR-65 NB - Twelve Bridges Dr Off to On-ramp	Basic	2,864	84	97.4%							62.8	0.2	24.4	0.5	C
130	SR-65 NB - Twelve Bridges Dr to Lincoln Blvd	Weave	2,862	88	97.3%	276	32	91.9%	1,096	57	98.7%	63.1	0.2	20.3	0.5	C
133	SR-65 NB - Lincoln Blvd to Ferrari Ranch Rd	Basic	2,039	73	95.7%							63.4	0.2	19.3	0.8	C
134	SR-65 NB - Ferrari Ranch Rd Off-ramp	Diverge	2,038	73	95.7%				1,388	65	95.7%	64.0	0.2	15.0	0.5	B
135	SR-65 NB - Ferrari Ranch Rd Off to On-ramp	Basic	650	60	95.6%							64.6	0.1	5.4	0.4	A
136	SR-65 NB - Ferrari Ranch Rd On-ramp	Merge	650	59	95.6%	83	5	92.0%				63.2	0.2	5.7	0.4	A
150	SR-65 SB - Ferrari Ranch Rd Off-ramp	Diverge	981	33	101.1%				144	14	96.1%	64.5	0.3	8.4	0.3	A
151	SR-65 SB - Ferrari Ranch Rd Off to On-ramp	Basic	837	35	102.0%							64.5	0.2	7.0	0.2	A
152	SR-65 SB - Ferrari Ranch Rd WB On-ramp	Merge	837	37	102.0%	477	18	99.3%				61.8	0.2	7.9	0.2	A
153	SR-65 SB - Ferrari Ranch Rd EB On-ramp	Merge	1,313	48	101.0%	320	15	91.5%				62.0	0.1	11.3	0.5	B
154	SR-65 SB - Ferrari Ranch Rd to Lane Drop	Basic	1,632	49	98.9%							64.1	0.2	14.1	0.5	B
155	SR-65 SB - Lane Drop to Lincoln Blvd	Basic	1,632	49	98.9%							64.2	0.1	14.0	0.5	B
156	SR-65 SB - Lincoln Blvd to Twelve Bridges Dr	Weave	1,631	52	98.8%	733	44	99.0%	258	34	95.6%	62.5	0.5	14.7	0.4	B
159	SR-65 SB - Twelve Bridges Dr Off to On-ramp	Basic	2,102	55	99.2%							63.6	0.3	17.1	0.4	B
160	SR-65 SB - Twelve Bridges Dr to Placer Pkwy	Weave	2,102	55	99.2%	470	20	95.8%	458	38	97.4%	63.1	0.2	15.9	0.3	B
163	SR-65 SB - Placer Pkwy Off to On-ramp	Basic	2,110	64	98.6%							63.6	0.2	17.3	0.5	B
164	SR-65 SB - Placer Pkwy WB On-ramp	Merge	2,111	67	98.6%	260	22	100.0%				62.9	0.4	18.6	0.6	B
165	SR-65 SB - Placer Pkwy to Sunset Blvd	Weave	2,371	67	98.8%	363	24	98.2%	264	32	97.8%	62.8	0.2	19.3	0.6	B
168	SR-65 SB - Sunset Blvd Off to On-ramp	Basic	2,469	71	98.8%							63.1	0.2	20.2	0.5	C
169	SR-65 SB - Sunset Blvd WB On-ramp	Merge	2,469	69	98.8%	788	33	107.9%				58.5	1.9	25.2	0.9	C
170	SR-65 SB - Sunset Blvd to Blue Oaks Blvd	Weave	3,258	80	100.9%	750	34	101.3%	745	52	96.8%	62.0	0.3	24.6	0.6	C
173	SR-65 SB - HOV Lane Start to Blue Oaks Blvd WB On	Basic	3,260	82	101.9%							62.6	0.2	26.5	0.8	D
174	SR-65 SB - Blue Oaks Blvd WB On-ramp	Merge	3,260	82	101.9%	500	27	104.2%				59.7	0.6	27.8	0.7	C
175	SR-65 SB - Blue Oaks Blvd WB to EB On-ramp	Basic	3,761	82	102.2%							62.8	0.2	28.6	0.6	D
176	SR-65 SB - Blue Oaks Blvd EB On-ramp	Merge	3,761	84	102.2%	1,210	47	101.6%				61.7	0.2	26.3	0.4	C
177	SR-65 SB - Pleasant Grove Blvd Off-ramp	Diverge	4,972	101	102.1%				565	44	95.8%	63.0	0.5	24.9	0.4	C
178	SR-65 SB - Pleasant Grove Blvd Off to On-ramp	Basic	4,403	103	102.9%							63.3	0.3	22.7	0.4	C
179	SR-65 SB - Pleasant Grove Blvd WB On-ramp	Merge	4,402	103	102.8%	282	7	94.1%				62.8	0.1	21.0	0.5	C
180	SR-65 SB - Pleasant Grove Blvd EB On-ramp	Merge	4,683	104	102.3%	734	25	96.6%				61.9	0.5	15.3	0.4	B
181	SR-65 SB - Pleasant Grove Blvd to Galleria Blvd	Basic	5,419	120	101.5%							61.0	0.6	25.3	0.5	C
182	SR-65 SB - Galleria Blvd Off-ramp	Diverge	5,420	119	101.5%				1,178	64	104.2%	62.9	0.7	22.2	0.7	C
183	SR-65 SB - Galleria Blvd Off-ramp to Lane Drop	Basic	4,236	109	100.6%							62.1	1.2	26.9	0.6	D
184	SR-65 SB - Lane Drop to Galleria Blvd On-ramp	Basic	4,235	109	100.6%							62.4	0.3	25.2	0.6	C
185	SR-65 SB - Galleria Blvd On-ramp	Merge	4,233	110	100.6%	967	39	95.7%				57.1	3.3	33.9	2.5	D
186	SR-65 SB - I-80 Off-ramp	Diverge	5,200	104	99.6%				3,311	93	100.9%	61.2	0.5	29.1	0.7	D
187	SR-65 SB - EB I-80 Connector (2 lanes)	Basic	1,892	76	97.5%							56.4	3.0	34.6	2.2	D
188	SR-65 SB - EB I-80 Connector (1 lane)	Basic	1,894	80	97.6%							60.1	0.9	33.0	1.3	D
189	SR-65 SB - WB I-80 Connector	Basic	3,308	98	100.8%							52.5	0.2	32.4	1.0	D

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Construction Year - HOV Lane Alternative
AM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
1	Lincoln Blvd/Sterling Parkway	Signal	1,860	2,034	109.4%	11.1	0.7	B
2	SR-65 SB Ramps/Twelve Bridges Dr	Signal	1,285	1,436	111.8%	10.2	0.7	B
3	SR-65 NB Ramps/Twelve Bridges Dr	Signal	1,385	1,490	107.6%	8.9	1.4	A
4	SR-65 SB Ramps/Sunset Blvd	Signal	2,660	2,878	108.2%	11.4	1.1	B
5	SR-65 NB Ramps/Sunset Blvd	Signal	2,790	3,068	109.9%	12.9	0.8	B
6	SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd	Signal	4,535	4,723	104.1%	31.0	3.0	C
7	SR-65 NB Ramps/Blue Oaks Blvd	Signal	3,095	3,315	107.1%	12.2	1.3	B
8	SR-65 SB Ramps/Pleasant Grove Blvd	Signal	3,600	3,737	103.8%	7.1	1.0	A
9	SR-65 NB Ramps/Pleasant Grove Blvd	Signal	2,730	2,791	102.2%	14.2	0.6	B
10	Stanford Ranch Rd/Five Star Blvd	Signal	2,835	2,942	103.8%	26.7	1.2	C
11	SR-65 NB Ramps/Stanford Ranch Rd	Signal	3,485	3,656	104.9%	15.2	4.1	B
12	SR-65 SB Ramps/Galleria Blvd	Signal	3,815	3,995	104.7%	16.7	1.0	B
13	Galleria Blvd/Antelope Creek Dr	Signal	2,926	3,087	105.5%	13.8	2.1	B
14	Galleria Blvd/Roseville Pkwy	Signal	5,131	5,514	107.5%	41.2	4.2	D
15	Creekside Ridge Dr/Roseville Pkwy	Signal	3,520	3,724	105.8%	7.8	1.6	A
16	Taylor Rd/East Roseville Pkwy	Signal	4,500	4,768	105.9%	48.9	4.9	D
17	North Sunrise Ave/East Roseville Pkwy	Signal	4,295	4,579	106.6%	28.1	3.6	C
18	Wills Rd/Atlantic St	Signal	1,990	2,201	110.6%	24.2	2.6	C
19	I-80 WB Ramps/Atlantic St	Signal	3,425	3,658	106.8%	14.7	2.4	B
20	Taylor Rd-I-80 EB Ramps/Eureka Rd	Signal	4,340	4,549	104.8%	25.0	4.5	C
21	North Sunrise Ave/Eureka Rd	Signal	3,955	4,138	104.6%	32.1	4.0	C
22	Harding Blvd/Wills Rd	Signal	355	364	102.4%	23.3	2.8	C
23	Harding Blvd/Douglas Blvd	Signal	2,680	2,858	106.7%	50.5	31.3	D
24	I-80 WB Ramps/Douglas Blvd	Signal	3,670	3,894	106.1%	22.9	5.7	C

Network Summary	
Total Demand Volume (veh/hr)	74,862
Total Volume Served (veh/hr)	79,396
Percent Served	106.1%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Construction Year - HOV Lane Alternative
AM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
25	I-80 EB Ramps/Douglas Blvd	Signal	4,050	4,323	106.7%	20.0	9.5	B
26	North Sunrise Ave/Douglas Blvd	Signal	4,410	4,652	105.5%	33.4	2.5	C
27	Pacific St/Woodside Dr	Signal	1,700	1,872	110.1%	7.1	0.8	A
28	Pacific St/Sunset Blvd	Signal	2,485	2,739	110.2%	24.1	1.3	C
29	Granite Dr/Rocklin Rd	Signal	2,301	2,396	104.1%	16.8	1.3	B
30	I-80 WB Ramps/Rocklin Rd	Signal	2,555	2,672	104.6%	23.3	3.8	C
31	I-80 EB Ramps/Rocklin Rd	Signal	2,685	2,856	106.4%	41.6	11.0	D
32	Aguilar Rd/Rocklin Rd	Signal	1,925	2,062	107.1%	13.9	13.9	B
33	Lincoln Blvd/SR-65 NB Off-Ramp	Signal	1,805	1,970	109.2%	5.9	0.6	A
34	Lincoln Blvd/SR-65 SB On-Ramp	Signal	1,245	1,344	107.9%	21.1	1.7	C
35	SR-65 SB Ramps/Placer Pkwy	Signal	1,715	1,767	103.0%	8.6	0.7	A
36	SR-65 NB Ramps/Whitney Ranch Pkwy	Signal	1,625	1,738	107.0%	9.1	1.4	A
40	Galleria Blvd/Berry St	Signal	1,920	2,079	108.3%	10.7	1.7	B

Network Summary	
Total Demand Volume (veh/hr)	30,421
Total Volume Served (veh/hr)	32,469
Percent Served	106.7%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Construction Year - HOV Lane Alternative
PM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
1	Lincoln Blvd/Sterling Parkway	Signal	2,345	2,305	98.3%	9.4	0.7	A
2	SR-65 SB Ramps/Twelve Bridges Dr	Signal	1,100	1,063	96.7%	11.6	2.0	B
3	SR-65 NB Ramps/Twelve Bridges Dr	Signal	1,590	1,580	99.4%	10.8	0.9	B
4	SR-65 SB Ramps/Sunset Blvd	Signal	2,885	3,013	104.5%	5.9	0.5	A
5	SR-65 NB Ramps/Sunset Blvd	Signal	2,860	2,967	103.7%	12.8	2.8	B
6	SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd	Signal	5,505	5,718	103.9%	46.5	7.0	D
7	SR-65 NB Ramps/Blue Oaks Blvd	Signal	4,040	4,165	103.1%	14.9	1.3	B
8	SR-65 SB Ramps/Pleasant Grove Blvd	Signal	5,095	5,055	99.2%	31.4	16.6	C
9	SR-65 NB Ramps/Pleasant Grove Blvd	Signal	4,235	4,212	99.5%	23.8	19.2	C
10	Stanford Ranch Rd/Five Star Blvd	Signal	4,345	4,380	100.8%	92.2	10.9	F
11	SR-65 NB Ramps/Stanford Ranch Rd	Signal	5,620	5,687	101.2%	23.2	13.4	C
12	SR-65 SB Ramps/Galleria Blvd	Signal	5,645	5,726	101.4%	16.3	2.8	B
13	Galleria Blvd/Antelope Creek Dr	Signal	4,690	4,590	97.9%	23.1	4.3	C
14	Galleria Blvd/Roseville Pkwy	Signal	7,635	7,533	98.7%	60.6	6.0	E
15	Creekside Ridge Dr/Roseville Pkwy	Signal	4,695	4,647	99.0%	34.2	9.4	C
16	Taylor Rd/East Roseville Pkwy	Signal	5,895	5,869	99.6%	50.6	10.3	D
17	North Sunrise Ave/East Roseville Pkwy	Signal	5,415	5,516	101.9%	41.7	4.7	D
18	Wills Rd/Atlantic St	Signal	2,970	3,019	101.6%	39.0	6.2	D
19	I-80 WB Ramps/Atlantic St	Signal	4,505	4,587	101.8%	12.5	1.0	B
20	Taylor Rd-I-80 EB Ramps/Eureka Rd	Signal	5,660	5,707	100.8%	52.1	7.5	D
21	North Sunrise Ave/Eureka Rd	Signal	5,540	5,735	103.5%	43.8	3.6	D
22	Harding Blvd/Wills Rd	Signal	375	402	107.1%	26.4	3.6	C
23	Harding Blvd/Douglas Blvd	Signal	3,745	3,589	95.8%	77.0	38.3	E
24	I-80 WB Ramps/Douglas Blvd	Signal	4,500	4,458	99.1%	35.0	5.0	C

Network Summary	
Total Demand Volume (veh/hr)	100,890
Total Volume Served (veh/hr)	101,523
Percent Served	100.6%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Construction Year - HOV Lane Alternative
PM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
25	I-80 EB Ramps/Douglas Blvd	Signal	5,225	5,021	96.1%	40.5	14.4	D
26	North Sunrise Ave/Douglas Blvd	Signal	5,855	5,758	98.3%	53.9	16.1	D
27	Pacific St/Woodside Dr	Signal	2,235	2,174	97.2%	6.6	1.0	A
28	Pacific St/Sunset Blvd	Signal	3,460	3,413	98.6%	29.7	1.9	C
29	Granite Dr/Rocklin Rd	Signal	3,700	3,480	94.0%	129.6	5.9	F
30	I-80 WB Ramps/Rocklin Rd	Signal	3,785	3,677	97.2%	27.3	6.6	C
31	I-80 EB Ramps/Rocklin Rd	Signal	3,535	3,535	100.0%	56.5	27.4	E
32	Aguilar Rd/Rocklin Rd	Signal	2,400	2,417	100.7%	22.5	3.8	C
33	Lincoln Blvd/SR-65 NB Off-Ramp	Signal	2,205	2,167	98.3%	9.0	0.9	A
34	Lincoln Blvd/SR-65 SB On-Ramp	Signal	1,140	1,139	99.9%	23.0	5.4	C
35	SR-65 SB Ramps/Placer Pkwy	Signal	2,015	2,008	99.6%	8.9	0.5	A
36	SR-65 NB Ramps/Whitney Ranch Pkwy	Signal	2,025	2,024	99.9%	32.0	19.2	C
40	Galleria Blvd/Berry St	Signal	2,885	2,926	101.4%	9.9	1.5	A

Network Summary	
Total Demand Volume (veh/hr)	40,465
Total Volume Served (veh/hr)	39,736
Percent Served	98.2%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - HOV Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 2 **SR-65 SB Ramps/Twelve Bridges Dr** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	440	19	7	104	14	NO
	Through						
	Right Turn	1,500	12	7	101	14	NO

Intersection 3 **SR-65 NB Ramps/Twelve Bridges Dr** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	700	6	1	52	11	NO
	Through						
	Right Turn	1,500	6	1	52	11	NO

Intersection 4 **SR-65 SB Ramps/Sunset Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	360	46	7	174	31	NO
	Through						
	Right Turn	1,330	48	7	176	31	NO

Intersection 5 **SR-65 NB Ramps/Sunset Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,400	61	5	263	37	NO
	Through						
	Right Turn	1,400	9	2	90	25	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - HOV Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 6 **SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	200	23	4	109	27	NO
	Through	2,260	71	8	329	65	NO
	Right Turn	200	0	0	55	56	NO

Intersection 7 **SR-65 NB Ramps/Blue Oaks Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	400	42	27	596	333	MAX
	Through						
	Right Turn	1,100	43	27	597	333	NO

Intersection 8 **SR-65 SB Ramps/Pleasant Grove Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	430	25	6	154	31	NO
	Through						
	Right Turn	1,130	27	6	157	31	NO

Intersection 9 **SR-65 NB Ramps/Pleasant Grove Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,420	36	1	143	24	NO
	Through						
	Right Turn	1,420	35	1	142	24	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - HOV Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 11 **SR-65 NB Ramps/Stanford Ranch Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
EB	Left Turn						
	Through						
	Right Turn	1,800	0	0	20	21	NO
WB	Left Turn						
	Through						
	Right Turn	1,170	9	2	107	43	NO

Intersection 12 **SR-65 SB Ramps/Galleria Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
EB	Left Turn						
	Through						
	Right Turn	1,130	48	1	259	52	NO
WB	Left Turn						
	Through						
	Right Turn	1,780	1	0	46	35	NO

Intersection 19 **I-80 WB Ramps/Atlantic St** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	1,150	0	0	0	0	NO
SB	Left Turn						
	Through						
	Right Turn	1,430	0	0	2	6	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - HOV Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 20 **Taylor Rd-I-80 EB Ramps/Eureka Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	180	88	39	499	501	MAX
	Through	1,700	56	11	253	92	NO
	Right Turn	1,700	15	18	271	571	NO
SB	Left Turn	550	15	6	74	17	NO
	Through						
	Right Turn	550	70	6	309	51	NO
EB	Left Turn	1,120	29	4	106	16	NO
	Through	1,120	78	17	600	128	NO
	Right Turn	810	3	4	224	92	NO
WB	Left Turn						
	Through	1,370	36	3	286	53	NO
	Right Turn	280	0	0	0	0	NO

Intersection 24 **I-80 WB Ramps/Douglas Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	1,530	65	66	339	123	NO
	Through	1,530	65	66	339	123	NO
	Right Turn	730	65	66	339	123	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - HOV Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 25 **I-80 EB Ramps/Douglas Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	1,400	0	0	9	30	NO
SB	Left Turn						
	Through						
	Right Turn	1,250	14	2	109	35	NO

Intersection 30 **I-80 WB Ramps/Rocklin Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	700	9	2	96	30	NO
	Through						
	Right Turn	1,230	13	3	110	30	NO

Intersection 31 **I-80 EB Ramps/Rocklin Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,080	73	9	299	33	NO
	Through						
	Right Turn	1,080	71	9	296	33	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - HOV Lane Alternative**
Queue Length **AM Peak Hour**

Intersection 33 **Lincoln Blvd/SR-65 NB Off-Ramp** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
WB	Left Turn	1,940	0	0	0	0	NO
	Through						
	Right Turn	1,940	0	0	0	0	NO

Intersection 35 **SR-65 SB Ramps/Placer Pkwy** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	1,650	30	6	189	46	NO
	Through						
	Right Turn	1,650	30	6	189	46	NO

Intersection 36 **SR-65 NB Ramps/Whitney Ranch Pkwy** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,620	23	3	144	26	NO
	Through						
	Right Turn	1,620	23	3	144	26	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - HOV Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 2 **SR-65 SB Ramps/Twelve Bridges Dr** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	440	19	3	80	18	NO
	Through						
	Right Turn	1,500	12	3	77	18	NO

Intersection 3 **SR-65 NB Ramps/Twelve Bridges Dr** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	700	18	1	98	30	NO
	Through						
	Right Turn	1,500	18	1	98	30	NO

Intersection 4 **SR-65 SB Ramps/Sunset Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	360	30	2	123	32	NO
	Through						
	Right Turn	1,330	31	2	125	32	NO

Intersection 5 **SR-65 NB Ramps/Sunset Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,400	51	4	204	28	NO
	Through						
	Right Turn	1,400	9	1	74	18	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - HOV Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 6 **SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	200	50	6	186	56	NO
	Through	2,260	56	9	234	38	NO
	Right Turn	200	0	0	3	10	NO

Intersection 7 **SR-65 NB Ramps/Blue Oaks Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	400	47	15	515	196	MAX
	Through						
	Right Turn	1,100	48	15	516	196	NO

Intersection 8 **SR-65 SB Ramps/Pleasant Grove Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	430	25	3	125	29	NO
	Through						
	Right Turn	1,130	27	3	127	29	NO

Intersection 9 **SR-65 NB Ramps/Pleasant Grove Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,420	47	3	182	45	NO
	Through						
	Right Turn	1,420	46	3	181	45	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - HOV Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 11 **SR-65 NB Ramps/Stanford Ranch Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
EB	Left Turn						
	Through						
	Right Turn	1,800	0	0	18	23	NO
WB	Left Turn						
	Through						
	Right Turn	1,170	95	45	350	328	NO

Intersection 12 **SR-65 SB Ramps/Galleria Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
EB	Left Turn						
	Through						
	Right Turn	1,130	50	3	240	18	NO
WB	Left Turn						
	Through						
	Right Turn	1,780	7	2	142	35	NO

Intersection 19 **I-80 WB Ramps/Atlantic St** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	1,150	0	0	0	0	NO
SB	Left Turn						
	Through						
	Right Turn	1,430	0	0	34	42	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - HOV Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 20 **Taylor Rd-I-80 EB Ramps/Eureka Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	180	236	101	1,111	517	AVG
	Through	1,700	85	9	467	507	NO
	Right Turn	1,700	96	91	904	630	NO
SB	Left Turn	550	21	5	99	30	NO
	Through						
	Right Turn	550	210	105	748	78	MAX
EB	Left Turn	1,120	33	15	172	53	NO
	Through	1,120	121	8	586	123	NO
	Right Turn	810	7	2	209	88	NO
WB	Left Turn						
	Through	1,370	177	24	720	176	NO
	Right Turn	280	35	13	356	176	MAX

Intersection 24 **I-80 WB Ramps/Douglas Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	1,530	67	67	325	73	NO
	Through	1,530	67	67	325	73	NO
	Right Turn	730	67	67	325	73	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - HOV Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 25 **I-80 EB Ramps/Douglas Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	1,400	0	1	41	129	NO
SB	Left Turn						
	Through						
	Right Turn	1,250	199	157	1,087	580	NO

Intersection 30 **I-80 WB Ramps/Rocklin Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	700	25	3	179	44	NO
	Through						
	Right Turn	1,230	34	4	194	44	NO

Intersection 31 **I-80 EB Ramps/Rocklin Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,080	312	123	913	523	NO
	Through						
	Right Turn	1,080	309	122	910	523	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - HOV Lane Alternative**
Queue Length **PM Peak Hour**

Intersection 33 **Lincoln Blvd/SR-65 NB Off-Ramp** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
WB	Left Turn	1,940	0	0	0	0	NO
	Through						
	Right Turn	1,940	0	0	6	13	NO

Intersection 35 **SR-65 SB Ramps/Placer Pkwy** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	1,650	27	3	140	24	NO
	Through						
	Right Turn	1,650	27	3	140	24	NO

Intersection 36 **SR-65 NB Ramps/Whitney Ranch Pkwy** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,620	35	3	182	22	NO
	Through						
	Right Turn	1,620	35	3	182	22	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

SR 65 Capacity and Operational Improvements

Vissim Model Results – Construction Year
Alternative 2 (General Purpose Lane)

VISSIM Post-Processor **SR 65 Widening**
Average Values from 10 Runs **Construction Year - GP Alternative**
Network Statistics **AM Peak Period**

Network Performance	Vehicle Types	Average	Std. Dev.
Number of Vehicles Served	All Vehicles	167,506	48
Travel Distance [mi]	All Vehicles	797,356	1,082
Travel Time [h]	All Vehicles	18,004	145.9
Average Speed [mph]	All Vehicles	44.3	0.3
Total Delay [h]	All Vehicles	4,329	141.3
Average Delay per Vehicle [s]	All Vehicles	91	3.0
VHD/VMT [min/mile]	All Vehicles	0.33	0.01
Number of Vehicles Served	HOV	32,234	24
Travel Distance [mi]	HOV	163,532	503
Travel Time [h]	HOV	3,508	19
Average Speed [mph]	HOV	46.6	0.3
Total Delay [h]	HOV	730	21
Average Delay per Vehicle [s]	HOV	79	2
VHD/VMT [min/mile]	HOV	0.27	0.01
Number of Vehicles Served	Truck	7,509	9
Travel Distance [mi]	Truck	38,735	382
Travel Time [h]	Truck	900	12
Average Speed [mph]	Truck	43.0	0
Total Delay [h]	Truck	230	9
Average Delay per Vehicle [s]	Truck	108	4
VHD/VMT [min/mile]	Truck	0.36	0.01

	Vehicle Types		
Performance Measure	**HOV**	**Truck**	**All**
Vehicles Served	32,230	7,510	167,510
Demand Volume	33,370	8,090	169,340
Percent Demand Served	96.6%	92.8%	98.9%
Vehicle Miles of Travel	163,530	38,740	797,360
Person Miles of Travel	343,420	40,670	979,180
Vehicle Hours of Travel	3,510	900	18,000
Vehicle Hours of Delay	730	230	4,330
VHD % of VHT	20.8%	25.6%	24.1%
Average Delay per Vehicle (min)	1.36	1.84	1.55
Person Hours of Delay	1,530	240	5,140
Average Travel Speed	46.6	43.0	44.3

VISSIM Post-Processor
Average Values from 10 Runs
Peak Hour Travel Time

SR 65 Widening
Construction Year - GP Alternative
AM Peak Period

Mode	Description	Distance (ft)	Volume (vehicles)		Travel Time (min.:sec.)		Speed (mph)
			Average	Std. Dev.	Average	Std. Dev.	Average
SOV	SR-65 at Blue Oaks to I-80 at Antelope	43,101	843	12	08:50	00:22	22.2
	I-80 at Auburn to SR-65 at Blue Oaks	32,869	1,588	18	07:04	00:02	21.1
	I-80: Sierra College to Antelope	45,827	1,134	16	08:42	00:20	24.0
	I-80: Auburn to Sierra College	36,777	662	14	06:37	00:01	25.2
	SR-65: I-80 to Sunset	43,111	637	13	04:17	00:00	45.8
	SR-65: Sunset to Ferrari Ranch	45,816	169	6	03:31	00:01	59.3
	SR-65: Ferrari Ranch to Sunset	36,773	1,052	12	03:48	00:10	43.9
	SR-65: Sunset to I-80	32,869	1,269	14	04:21	00:05	34.3
HOV	SR-65 at Blue Oaks to I-80 at Antelope	43,101	364	8	08:33	00:12	45.8
	I-80 at Auburn to SR-65 at Blue Oaks	32,869	430	7	07:01	00:02	59.3
	I-80: Sierra College to Antelope	45,827	498	10	08:20	00:05	43.9
	I-80: Auburn to Sierra College	36,777	230	6	06:33	00:01	34.3
	SR-65: I-80 to Sunset	43,111	158	7	04:16	00:01	22.9
	SR-65: Sunset to Ferrari Ranch	45,816	32	3	03:28	00:18	21.3
	SR-65: Ferrari Ranch to Sunset	36,773	122	5	03:48	00:11	25.0
	SR-65: Sunset to I-80	32,869	407	10	04:21	00:06	25.5

VISSIM Post-Processor **SR 65 Widening**
Average Values from 10 Runs **Construction Year - GP Alternative**
Network Statistics **PM Peak Period**

Network Performance	Vehicle Types	Average	Std. Dev.
Number of Vehicles Served	All Vehicles	232,112	704
Travel Distance [mi]	All Vehicles	930,143	3,315
Travel Time [h]	All Vehicles	25,886	332.5
Average Speed [mph]	All Vehicles	35.9	0.4
Total Delay [h]	All Vehicles	9,523	313.0
Average Delay per Vehicle [s]	All Vehicles	145	4.6
VHD/VMT [min/mile]	All Vehicles	0.61	0.02
Number of Vehicles Served	HOV	45,803	178
Travel Distance [mi]	HOV	198,328	1,126
Travel Time [h]	HOV	4,985	36
Average Speed [mph]	HOV	39.8	0.3
Total Delay [h]	HOV	1,532	35
Average Delay per Vehicle [s]	HOV	118	3
VHD/VMT [min/mile]	HOV	0.46	0.01
Number of Vehicles Served	Truck	9,009	37
Travel Distance [mi]	Truck	37,964	214
Travel Time [h]	Truck	1,138	28
Average Speed [mph]	Truck	33.4	1
Total Delay [h]	Truck	465	29
Average Delay per Vehicle [s]	Truck	181	11
VHD/VMT [min/mile]	Truck	0.74	0.05

	Vehicle Types		
Performance Measure	**HOV**	**Truck**	**All**
Vehicles Served	45,800	9,010	232,110
Demand Volume	46,890	9,660	233,410
Percent Demand Served	97.7%	93.3%	99.4%
Vehicle Miles of Travel	198,330	37,960	930,140
Person Miles of Travel	416,490	39,860	1,150,200
Vehicle Hours of Travel	4,990	1,140	25,890
Vehicle Hours of Delay	1,530	470	9,520
VHD % of VHT	30.7%	41.2%	36.8%
Average Delay per Vehicle (min)	2.00	3.13	2.46
Person Hours of Delay	3,210	490	11,220
Average Travel Speed	39.8	33.4	35.9

VISSIM Post-Processor
Average Values from 10 Runs
Peak Hour Travel Time

SR 65 Widening
Construction Year - GP Alternative
PM Peak Period

Mode	Description	Distance (ft)	Volume (vehicles)		Travel Time (min.:sec.)		Speed (mph)
			Average	Std. Dev.	Average	Std. Dev.	Average
SOV	SR-65 at Blue Oaks to I-80 at Antelope	43,102	662	13	08:15	00:01	23.7
	I-80 at Auburn to SR-65 at Blue Oaks	32,867	1,276	15	14:05	01:29	10.6
	I-80: Sierra College to Antelope	45,827	506	8	08:15	00:01	25.2
	I-80: Auburn to Sierra College	36,777	714	13	12:52	01:29	13.0
	SR-65: I-80 to Sunset	43,111	1,267	16	04:25	00:07	44.4
	SR-65: Sunset to Ferrari Ranch	45,816	326	8	03:34	00:00	58.3
	SR-65: Ferrari Ranch to Sunset	36,773	684	11	03:31	00:00	47.6
	SR-65: Sunset to I-80	32,867	847	13	04:09	00:00	36.0
HOV	SR-65 at Blue Oaks to I-80 at Antelope	43,102	282	7	08:13	00:01	44.4
	I-80 at Auburn to SR-65 at Blue Oaks	32,867	644	8	09:09	00:26	58.3
	I-80: Sierra College to Antelope	45,827	199	6	08:09	00:02	47.6
	I-80: Auburn to Sierra College	36,777	285	6	07:36	00:21	36.0
	SR-65: I-80 to Sunset	43,111	409	10	04:25	00:07	23.9
	SR-65: Sunset to Ferrari Ranch	45,816	64	4	03:34	00:02	16.3
	SR-65: Ferrari Ranch to Sunset	36,773	104	4	03:31	00:01	25.6
	SR-65: Sunset to I-80	32,867	217	9	04:09	00:01	22.0

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Construction Year - GP Alternative
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
1	I-80 EB - Auburn Blvd On-ramp	Merge	7,228	34	110.3%	1,023	18	110.0%				62.1	0.4	28.4	0.6	D
2	I-80 EB - Auburn Blvd to Douglas Blvd	Basic	8,238	64	110.1%							58.3	1.4	35.2	1.0	E
3	I-80 EB - Douglas Blvd Slip Off	Diverge	8,227	80	110.0%				1,434	89	110.3%	60.5	1.1	29.5	0.7	D
4	I-80 EB - Douglas Blvd WB Off-ramp	Diverge	6,790	106	109.9%				514	49	109.4%	62.7	0.8	23.1	0.3	C
5	I-80 EB - Douglas Blvd Off to On-ramp	Basic	6,277	100	109.9%							63.2	0.1	25.2	0.3	C
6	I-80 EB - Douglas Blvd On-ramp	Merge	6,273	102	109.9%	866	31	95.2%				62.3	0.3	28.3	0.8	D
7	I-80 EB - Eureka Rd Off-ramp	Diverge	7,141	105	107.9%				1,353	75	106.5%	61.7	0.5	29.6	0.9	D
8	I-80 EB - Eureka Rd Off to On-ramp	Basic	5,783	107	108.1%							63.1	0.3	24.9	0.4	C
9	I-80 EB - Eureka Rd EB On-ramp	Merge	5,783	109	108.1%	184	4	96.6%				63.1	0.1	23.1	0.3	C
10	I-80 EB - Eureka Rd to Taylor Rd	Weave	5,969	107	107.7%	438	31	101.8%	368	40	105.1%	62.7	0.1	25.2	0.4	C
11	I-80 EB -Taylor Rd to SR 65	Basic	6,035	114	107.4%							59.7	1.2	31.6	0.8	D
17	I-80 EB - SR 65 Off-ramp	Diverge	6,035	110	107.4%				3,196	102	107.6%	60.6	1.0	32.1	0.9	D
18	I-80 EB - SR 65 Off to On-ramp	Basic	2,838	82	107.1%							63.9	0.1	15.8	0.5	B
19	I-80 EB - SR-65 On-ramp	Merge	2,839	88	107.1%	1,557	74	108.1%				62.4	0.8	23.3	0.7	C
21	I-80 EB - SR-65 to Rocklin Rd	Basic	4,403	132	107.7%							63.3	0.2	21.8	0.5	C
22	I-80 EB - Rocklin Rd Off-ramp	Diverge	4,405	124	107.7%				1,511	73	105.7%	63.5	0.2	21.2	0.5	C
23	I-80 EB - Rocklin Rd Off to On-ramp	Basic	2,901	101	109.0%							63.7	0.2	18.1	0.7	C
24	I-80 EB - Rocklin Rd On-ramp	Merge	2,902	99	109.1%	176	5	92.8%				61.6	0.4	18.2	0.7	B
25	I-80 EB - Rocklin Rd to Sierra College Blvd	Basic	3,084	106	108.2%							63.4	0.3	18.9	0.7	C
26	I-80 EB - Sierra College Blvd Off-ramp	Diverge	3,084	107	108.2%				418	43	107.1%	62.7	0.5	20.0	0.7	C
27	I-80 EB - Sierra College Blvd Off to On-ramp	Basic	2,670	95	108.5%							63.6	0.2	17.3	0.7	B
28	I-80 EB - Sierra College Blvd SB On-ramp	Merge	2,672	97	108.6%	132	6	101.4%				62.8	0.3	16.2	0.5	B
29	I-80 EB - Sierra College Blvd NB On-ramp	Merge	2,805	90	108.3%	417	14	109.8%				62.4	0.3	18.0	0.5	B
38	I-80 WB - Sierra College Blvd Off-ramp	Diverge	4,877	16	105.8%				856	55	107.0%	56.6	2.0	27.9	1.2	C
39	I-80 WB - Sierra College Blvd Off to On-ramp	Basic	4,018	71	105.5%							62.1	0.4	24.5	0.3	C
40	I-80 WB - Sierra College Blvd NB On-ramp	Merge	4,018	73	105.5%	58	4	96.7%				63.0	0.2	21.9	0.6	C
41	I-80 WB - Sierra College Blvd SB On-ramp	Merge	4,076	78	105.3%	309	10	103.0%				61.1	0.9	23.8	0.7	C
42	I-80 WB - Sierra College Blvd to Rocklin Rd	Basic	4,385	91	105.2%							62.3	0.5	26.4	0.6	D
43	I-80 WB - Rocklin Rd Off-ramp	Diverge	4,386	91	105.2%				225	27	102.1%	61.2	1.3	27.2	0.9	C
44	I-80 WB - Rocklin Rd Off to On-ramp	Basic	4,161	92	105.3%							62.9	0.5	24.6	0.4	C
45	I-80 WB - Rocklin Rd On-ramp	Merge	4,162	99	105.4%	904	45	101.6%				60.6	0.8	26.4	0.9	C
46	I-80 WB - Rocklin Rd to HOV Lane Start	Basic	5,067	115	104.7%							62.2	0.5	28.4	0.8	D
47	I-80 WB - HOV Lane Start to SR-65	Basic	5,059	116	104.5%							62.2	0.3	23.8	0.5	C
48	I-80 WB - SR-65 Off-ramp	Diverge	5,059	114	104.5%				1,461	68	105.1%	63.6	0.2	21.9	0.5	C
49	I-80 WB - SR-65 Off to On-ramp	Basic	3,588	91	104.0%							63.7	0.1	19.5	0.5	C
50	I-80 WB - SR-65 On-ramp	Merge	3,586	91	103.9%	3,874	116	105.6%				60.6	0.4	29.8	0.7	D
60	I-80 WB - Taylor Rd On-ramp	Merge	7,454	126	104.7%	618	43	108.5%				55.7	3.0	37.7	2.6	E
61	I-80 WB - Atlantic St WB Off-ramp	Diverge	8,071	115	105.0%				333	33	104.2%	58.5	2.3	37.0	1.9	E
62	I-80 WB - Atlantic St EB Off-ramp	Diverge	7,733	109	104.9%				1,003	56	102.3%	59.6	2.1	36.0	1.4	E
63	I-80 WB - Atlantic St EB Off to On-ramp	Basic	6,729	98	105.3%							62.7	0.3	27.2	0.3	D
64	I-80 WB - Atlantic St On-ramp	Merge	6,728	106	105.3%	1,151	68	105.6%				56.9	3.3	37.1	2.1	E
65	I-80 WB - Douglas Blvd Off-ramp	Diverge	7,872	129	105.2%				966	71	102.7%	59.6	0.5	33.2	0.8	D
66	I-80 WB - Douglas Blvd Off to On-ramp	Basic	6,914	116	105.7%							62.7	0.2	28.7	0.4	D
67	I-80 WB - Douglas Blvd WB On-ramp	Merge	6,914	119	105.7%	1,020	40	107.4%				57.7	4.8	32.0	4.5	D
68	I-80 WB - Douglas Blvd Slip On	Merge	7,939	104	106.0%	462	32	107.5%				56.4	6.3	36.9	5.9	E
69	I-80 WB - Douglas Blvd to Riverside Ave	Basic	8,404	130	106.1%							61.8	0.3	33.7	0.6	D
70	I-80 WB - Riverside Ave Off-ramp	Diverge	8,406	125	106.1%				913	65	99.2%	62.4	0.2	33.3	0.7	D
71	I-80 WB - Riverside Ave Off to On-ramp	Basic	7,499	131	107.1%							62.7	0.2	29.9	0.6	D
72	I-80 WB - Riverside Ave NB On-ramp	Merge	7,499	133	107.1%	286	7	84.1%				63.0	0.2	28.0	0.8	D
73	I-80 WB - Riverside Ave SB On-ramp	Merge	7,791	143	106.1%	814	13	99.3%				61.0	4.4	35.4	3.8	E
74	I-80 WB - Riverside Ave to Antelope Rd	Basic	8,605	164	105.4%							51.9	13.7	44.4	18.0	E
75	I-80 WB - Antelope Rd Off-ramp	Diverge	8,608	188	105.5%				340	28	89.4%	45.3	13.7	52.6	18.4	F
76	I-80 WB - Antelope Rd Off to On-ramp	Basic	8,274	240	106.3%							36.2	10.4	64.7	19.1	F
77	I-80 WB - Antelope Rd WB On-ramp	Merge	8,278	253	106.4%	565	12	97.4%				30.5	10.9	84.5	20.4	F
78	I-80 WB - Antelope Rd to Truck Scales	Weave	8,869	225	106.1%	445	12	96.7%	91	14	82.3%	31.3	3.4	73.3	7.1	F
79	I-80 WB - Truck Scales Off to On-ramp	Basic	9,323	270	107.0%							29.2	1.4	83.3	5.5	F
80	I-80 WB - Truck Scales On-ramp	Merge	9,368	244	107.6%	91	14	82.8%				28.8	0.5	94.0	2.6	F
81	I-80 WB - Truck Scales to Elkhorn Blvd	Basic	9,540	244	108.2%							33.3	1.9	70.6	4.2	F
82	I-80 WB - Elkhorn Blvd Off-ramp	Diverge	9,553	237	108.3%				817	58	110.4%	33.6	1.2	58.5	2.9	F
83	I-80 WB - Elkhorn Blvd Off to On-ramp	Basic	8,812	163	109.1%							26.3	0.3	92.7	1.7	F
84	I-80 WB - Elkhorn Blvd WB On-ramp	Merge	8,836	157	109.4%	801	11	95.4%				26.6	0.4	95.5	2.1	F
85	I-80 WB - Elkhorn Blvd EB On-ramp	Merge	9,660	148	108.3%	876	21	95.2%				32.6	0.5	76.6	1.5	F

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Construction Year - GP Alternative
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
100	SR-65 NB - EB I-80 Connector	Basic	3,198	101	107.7%							40.9	1.3	46.8	2.7	F
101	SR-65 NB - WB I-80 Connector	Basic	1,460	68	105.0%							51.2	0.4	23.5	1.3	C
103	SR-65 NB - I-80 WB On-ramp	Merge	3,199	98	107.7%	1,459	67	105.0%				61.0	0.5	28.7	0.7	D
104	SR-65 NB - I-80 to Stanford Ranch Rd	Basic	4,656	120	106.8%							63.1	0.3	27.4	0.8	D
105	SR-65 NB - Stanford Ranch Rd Off to On-ramp	Diverge	4,656	117	106.8%				711	44	106.0%	62.8	0.6	23.8	1.1	C
106	SR-65 NB - Stanford Ranch Rd Off-ramp	Basic	3,946	124	106.9%							63.1	0.4	23.5	0.7	C
107	SR-65 NB - Stanford Ranch Rd to Pleasant Grove Blvd	Weave	3,948	121	107.0%	904	40	108.9%	637	52	101.1%	62.6	0.2	23.9	0.6	C
110	SR-65 NB - Pleasant Grove Blvd Off to On-ramp	Basic	4,213	91	108.3%							62.9	0.1	25.1	0.5	C
111	SR-65 NB - Pleasant Grove Blvd On-ramp	Merge	4,213	92	108.3%	238	27	99.1%				60.4	0.9	33.2	0.8	D
112	SR-65 NB - Blue Oaks Blvd Off-ramp	Diverge	4,451	93	107.8%				1,960	77	108.3%	62.2	0.4	26.8	0.7	C
114	SR-65 NB - Blue Oaks Blvd Off to On-ramp	Basic	2,490	89	107.3%							63.3	0.2	21.7	0.7	C
115	SR-65 NB - Blue Oaks Blvd On-ramp	Merge	2,493	90	107.4%	516	40	99.2%				62.7	0.1	18.8	0.6	B
116	SR-65 NB - Blue Oaks Blvd to Sunset Blvd	Basic	3,008	89	105.9%							63.4	0.2	18.6	0.4	C
118	SR-65 NB - Sunset Blvd Off-ramp	Diverge	3,010	90	106.0%				1,299	59	106.4%	63.6	0.2	18.3	0.5	B
119	SR-65 NB - Sunset Blvd Off to On-ramp	Basic	1,709	89	105.5%							63.7	0.2	14.5	0.6	B
120	SR-65 NB - Sunset Blvd EB On-ramp	Merge	1,710	86	105.6%	51	11	101.8%				63.7	0.3	14.5	0.6	B
121	SR-65 NB - Sunset Blvd to Whitney Ranch Pkwy	Weave	1,763	88	105.5%	157	14	104.8%	355	41	98.6%	63.6	0.2	13.8	0.7	B
124	SR-65 NB - Whitney Ranch Pkwy Off to On-ramp	Basic	1,570	96	107.5%							63.7	0.2	13.4	0.8	B
125	SR-65 NB - Whitney Ranch Pkwy EB On-ramp	Merge	1,570	98	107.6%	188	12	98.9%				63.0	0.4	14.1	0.6	B
126	SR-65 NB - Whitney Ranch Pkwy to Twelve Bridges Dr	Weave	1,757	95	106.5%	206	17	108.4%	415	39	96.4%	63.8	0.2	12.7	0.5	B
129	SR-65 NB - Twelve Bridges Dr Off to On-ramp	Basic	1,554	81	110.2%							63.8	0.2	14.0	0.6	B
130	SR-65 NB - Twelve Bridges Dr to Lincoln Blvd	Weave	1,557	82	110.4%	262	29	104.6%	650	52	114.0%	63.8	0.3	12.6	0.7	B
133	SR-65 NB - Lincoln Blvd to Ferrari Ranch Rd	Basic	1,169	75	107.2%							64.1	0.1	12.6	0.8	B
134	SR-65 NB - Ferrari Ranch Rd Off-ramp	Diverge	1,169	76	107.3%				695	70	106.9%	64.4	0.1	10.5	0.5	B
135	SR-65 NB - Ferrari Ranch Rd Off to On-ramp	Basic	475	33	107.9%							64.6	0.3	4.6	0.2	A
136	SR-65 NB - Ferrari Ranch Rd On-ramp	Merge	476	34	108.2%	114	7	104.0%				62.5	0.4	5.1	0.2	A
150	SR-65 SB - Ferrari Ranch Rd Off-ramp	Diverge	1,039	40	112.9%				80	15	114.3%	64.3	0.2	11.5	0.4	B
151	SR-65 SB - Ferrari Ranch Rd Off to On-ramp	Basic	959	40	112.8%							64.3	0.2	10.5	0.4	A
152	SR-65 SB - Ferrari Ranch Rd WB On-ramp	Merge	959	40	112.8%	898	18	108.2%				60.3	0.2	14.2	0.3	B
153	SR-65 SB - Ferrari Ranch Rd EB On-ramp	Merge	1,859	47	110.6%	708	23	93.1%				60.1	0.5	19.0	0.4	B
154	SR-65 SB - Ferrari Ranch Rd to Lane Drop	Basic	2,568	54	105.2%							62.5	0.5	27.1	0.6	D
155	SR-65 SB - Lane Drop to Lincoln Blvd	Basic	2,568	55	105.2%							62.9	0.4	26.9	0.6	D
156	SR-65 SB - Lincoln Blvd to Twelve Bridges Dr	Weave	2,569	57	105.3%	898	46	106.9%	323	33	107.7%	59.4	1.8	27.2	1.1	C
159	SR-65 SB - Twelve Bridges Dr Off to On-ramp	Basic	3,146	79	105.6%							61.5	1.0	30.7	1.0	D
160	SR-65 SB - Twelve Bridges Dr to Placer Pkwy	Weave	3,146	77	105.6%	866	38	113.9%	441	38	110.2%	61.2	0.2	28.2	0.6	D
163	SR-65 SB - Placer Pkwy Off to On-ramp	Basic	3,568	81	106.8%							59.1	0.6	33.8	1.2	D
164	SR-65 SB - Placer Pkwy WB On-ramp	Merge	3,567	80	106.8%	291	27	107.6%				58.7	5.5	35.0	4.2	E
165	SR-65 SB - Placer Pkwy to Sunset Blvd	Weave	3,857	84	106.8%	230	20	109.5%	465	49	101.0%	48.0	10.5	44.7	14.1	E
168	SR-65 SB - Sunset Blvd Off to On-ramp	Basic	3,626	97	107.9%							26.1	5.8	76.1	17.5	F
169	SR-65 SB - Sunset Blvd WB On-ramp	Merge	3,627	96	107.9%	615	33	111.8%				27.3	1.7	74.5	5.8	F
170	SR-65 SB - Sunset Blvd to Blue Oaks Blvd	Weave	4,240	108	108.4%	457	13	101.6%	909	52	108.2%	59.7	0.6	31.2	0.4	D
172	SR-65 SB - Blue Oaks Blvd Off to Lane Add	Basic	3,777	105	107.3%							62.0	0.1	32.4	0.7	D
173	SR-65 SB - Lane Add to Blue Oaks Blvd WB On-ramp	Basic	3,775	101	107.3%							62.7	0.1	27.8	0.4	D
174	SR-65 SB - Blue Oaks Blvd WB On-ramp	Merge	3,330	91	94.6%	529	20	105.7%				59.2	0.4	27.0	0.3	C
175	SR-65 SB - Blue Oaks Blvd WB to EB On-ramp	Basic	4,305	105	107.1%							63.5	0.3	24.4	0.3	C
176	SR-65 SB - Blue Oaks Blvd EB On-ramp	Merge	4,306	105	107.1%	1,195	44	103.0%				61.1	0.6	26.3	0.6	C
177	SR-65 SB - Pleasant Grove Blvd Off-ramp	Diverge	5,501	121	106.2%				680	39	104.6%	62.2	1.0	25.3	0.6	C
178	SR-65 SB - Pleasant Grove Blvd Off to On-ramp	Basic	4,822	122	106.4%							63.1	0.4	21.5	0.4	C
179	SR-65 SB - Pleasant Grove Blvd WB On-ramp	Merge	4,822	124	106.5%	436	35	101.4%				61.2	0.4	28.5	0.6	D
180	SR-65 SB - Pleasant Grove Blvd EB On-ramp	Merge	5,256	137	106.0%	626	38	102.7%				61.1	0.6	25.3	0.6	C
181	SR-65 SB - Pleasant Grove Blvd to Galleria Blvd	Basic	5,882	139	105.6%							62.4	0.3	27.8	0.6	D
182	SR-65 SB - Galleria Blvd Off-ramp	Diverge	5,882	137	105.6%				1,191	65	102.7%	62.9	0.2	27.3	0.6	C
183	SR-65 SB - Galleria Blvd Off to On-ramp	Basic	4,693	114	106.4%							60.2	0.8	31.2	0.7	D
185	SR-65 SB - Galleria Blvd On-ramp	Merge	4,697	121	106.5%	723	28	103.3%				53.7	10.7	41.8	13.4	E
186	SR-65 SB - I-80 Off-ramp	Diverge	5,425	138	106.2%				3,876	121	105.6%	59.2	0.9	34.3	1.0	D
187	SR-65 SB - EB I-80 Connector (2 lanes)	Basic	1,555	71	108.0%							59.2	1.2	30.4	1.9	D
188	SR-65 SB - EB I-80 Connector (1 lane)	Basic	1,556	78	108.1%							61.2	0.6	29.7	1.6	D
189	SR-65 SB - WB I-80 Connector	Basic	3,877	119	105.6%							51.6	0.3	39.9	1.2	E

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Construction Year - GP Alternative
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
1	I-80 EB - Auburn Blvd On-ramp	Merge	7,687	36	101.9%	929	21	96.8%				62.0	0.8	27.0	0.6	C
2	I-80 EB - Auburn Blvd to Douglas Blvd	Basic	8,606	69	101.2%							59.4	1.1	33.6	0.7	D
3	I-80 EB - Douglas Blvd Slip Off	Diverge	8,594	93	101.1%				1,222	62	105.4%	54.3	10.6	35.7	11.0	E
4	I-80 EB - Douglas Blvd WB Off-ramp	Diverge	7,336	140	99.9%				761	56	110.3%	45.5	18.8	57.4	42.7	F
5	I-80 EB - Douglas Blvd Off to On-ramp	Basic	6,501	174	97.8%							31.5	13.3	80.4	40.2	F
6	I-80 EB - Douglas Blvd On-ramp	Merge	6,460	195	97.1%	961	260	72.8%				19.1	5.1	131.3	8.8	F
7	I-80 EB - Eureka Rd Off-ramp	Diverge	7,343	238	92.1%				1,044	88	94.9%	23.0	4.5	109.7	7.7	F
8	I-80 EB - Eureka Rd Off to On-ramp	Basic	6,270	242	78.7%							23.3	8.7	102.8	26.3	F
9	I-80 EB - Eureka Rd EB On-ramp	Merge	6,265	240	78.6%	327	22	102.0%				18.1	1.3	120.1	9.9	F
10	I-80 EB - Eureka Rd to Taylor Rd	Weave	6,599	208	79.6%	1,145	56	102.3%	521	54	91.4%	20.6	7.0	115.9	19.4	F
11	I-80 EB -Taylor Rd to SR 65	Basic	7,208	183	81.5%							19.5	1.6	109.5	4.8	F
17	I-80 EB - SR 65 Off-ramp	Diverge	7,206	202	81.5%				3,894	53	92.9%	24.4	2.0	95.0	1.9	F
18	I-80 EB - SR 65 Off to On-ramp	Basic	3,303	193	71.0%							62.9	0.4	18.2	1.1	C
19	I-80 EB - SR-65 On-ramp	Merge	3,305	188	71.1%	1,919	80	98.9%				62.3	0.9	23.2	1.1	C
21	I-80 EB - SR-65 to Rocklin Rd	Basic	5,225	206	79.3%							63.0	0.2	23.2	1.0	C
22	I-80 EB - Rocklin Rd Off-ramp	Diverge	5,223	195	79.3%				1,643	97	96.1%	61.4	6.0	24.8	6.4	C
23	I-80 EB - Rocklin Rd Off to On-ramp	Basic	3,576	149	73.3%							63.0	1.2	21.0	1.1	C
24	I-80 EB - Rocklin Rd On-ramp	Merge	3,577	146	73.3%	275	26	105.6%				60.4	1.0	21.0	1.1	C
25	I-80 EB - Rocklin Rd to Sierra College Blvd	Basic	3,849	145	74.9%							63.1	0.2	22.0	0.9	C
26	I-80 EB - Sierra College Blvd Off-ramp	Diverge	3,849	145	74.9%				291	26	91.0%	62.6	0.2	23.2	0.8	C
27	I-80 EB - Sierra College Blvd Off to On-ramp	Basic	3,555	139	73.8%							63.2	0.1	20.8	0.9	C
28	I-80 EB - Sierra College Blvd SB On-ramp	Merge	3,554	144	73.7%	236	3	94.6%				61.3	0.6	19.9	0.9	B
29	I-80 EB - Sierra College Blvd NB On-ramp	Merge	3,792	147	74.8%	609	13	101.4%				60.9	0.7	23.2	1.0	C
38	I-80 WB - Sierra College Blvd Off-ramp	Diverge	3,657	16	105.7%				581	46	105.6%	60.9	0.4	19.3	0.2	B
39	I-80 WB - Sierra College Blvd Off to On-ramp	Basic	3,073	54	105.6%							63.7	0.2	18.0	0.3	B
40	I-80 WB - Sierra College Blvd NB On-ramp	Merge	3,072	57	105.6%	170	4	99.7%				63.2	0.3	16.8	0.3	B
41	I-80 WB - Sierra College Blvd SB On-ramp	Merge	3,243	58	105.3%	229	5	91.5%				62.9	0.3	17.7	0.4	B
42	I-80 WB - Sierra College Blvd to Rocklin Rd	Basic	3,467	65	104.1%							63.3	0.2	19.8	0.5	C
43	I-80 WB - Rocklin Rd Off-ramp	Diverge	3,465	63	104.1%				284	40	105.2%	62.9	0.2	20.6	0.4	C
44	I-80 WB - Rocklin Rd Off to On-ramp	Basic	3,177	65	103.8%							63.6	0.1	18.5	0.4	C
45	I-80 WB - Rocklin Rd On-ramp	Merge	3,177	64	103.8%	1,268	62	90.6%				60.3	0.5	22.4	0.8	C
46	I-80 WB - Rocklin Rd to HOV Lane Start	Basic	4,440	104	99.5%							62.8	0.3	24.0	0.8	C
47	I-80 WB - HOV Lane Start to SR-65	Basic	4,437	100	99.5%							62.6	0.4	19.8	0.4	C
48	I-80 WB - SR-65 Off-ramp	Diverge	4,437	99	99.5%				1,786	72	100.9%	63.9	0.1	18.2	0.4	B
49	I-80 WB - SR-65 Off to On-ramp	Basic	2,652	87	98.6%							63.9	0.1	15.0	0.6	B
50	I-80 WB - SR-65 On-ramp	Merge	2,651	86	98.5%	3,291	105	100.3%				61.8	0.3	23.4	0.7	C
60	I-80 WB - Taylor Rd On-ramp	Merge	5,939	118	99.5%	542	35	100.4%				61.0	0.3	28.3	1.2	D
61	I-80 WB - Atlantic St WB Off-ramp	Diverge	6,481	130	99.6%				383	42	91.1%	62.7	0.5	28.0	0.9	C
62	I-80 WB - Atlantic St EB Off-ramp	Diverge	6,101	121	100.2%				985	66	100.5%	62.5	0.3	28.9	1.0	D
63	I-80 WB - Atlantic St EB Off to On-ramp	Basic	5,115	112	100.1%							63.5	0.1	20.6	0.3	C
64	I-80 WB - Atlantic St On-ramp	Merge	5,114	113	100.1%	1,380	76	101.5%				60.4	1.4	29.8	0.9	D
65	I-80 WB - Douglas Blvd Off-ramp	Diverge	6,491	141	100.3%				943	64	98.2%	62.1	0.3	27.6	0.7	C
66	I-80 WB - Douglas Blvd Off to On-ramp	Basic	5,550	142	100.7%							63.5	0.1	22.8	0.5	C
67	I-80 WB - Douglas Blvd WB On-ramp	Merge	5,549	146	100.7%	1,363	146	96.7%				57.8	1.1	26.7	0.7	C
68	I-80 WB - Douglas Blvd Slip On	Merge	6,911	215	99.9%	694	40	84.6%				61.3	0.8	30.2	0.5	D
69	I-80 WB - Douglas Blvd to Riverside Ave	Basic	7,606	207	98.3%							62.2	0.2	29.9	0.6	D
70	I-80 WB - Riverside Ave Off-ramp	Diverge	7,606	209	98.3%				1,173	69	101.1%	62.8	0.1	31.2	0.7	D
71	I-80 WB - Riverside Ave Off to On-ramp	Basic	6,433	195	97.8%							63.3	0.1	24.6	0.5	C
72	I-80 WB - Riverside Ave NB On-ramp	Merge	6,434	189	97.8%	206	1	98.1%				63.4	0.1	22.6	0.7	C
73	I-80 WB - Riverside Ave SB On-ramp	Merge	6,644	185	97.8%	532	9	98.5%				61.8	0.7	26.8	0.8	C
74	I-80 WB - Riverside Ave to Antelope Rd	Basic	7,178	184	97.9%							62.3	0.2	27.6	0.8	D
75	I-80 WB - Antelope Rd Off-ramp	Diverge	7,177	176	97.9%				929	62	97.8%	62.3	0.5	28.9	1.1	D
76	I-80 WB - Antelope Rd Off to On-ramp	Basic	6,238	157	97.8%							63.0	0.3	23.9	0.6	C
77	I-80 WB - Antelope Rd WB On-ramp	Merge	6,242	157	97.8%	372	8	98.0%				60.8	0.8	22.8	0.8	C
78	I-80 WB - Antelope Rd to Truck Scales	Weave	6,614	157	97.8%	368	14	99.4%	64	14	58.5%	62.5	0.4	25.0	0.5	C
79	I-80 WB - Truck Scales Off to On-ramp	Basic	6,923	152	98.6%							63.0	0.1	26.0	0.4	C
80	I-80 WB - Truck Scales On-ramp	Merge	6,924	159	98.6%	65	14	58.7%				62.8	0.1	26.3	0.4	C
81	I-80 WB - Truck Scales to Elkhorn Blvd	Basic	6,986	151	98.0%							61.9	0.4	27.4	0.4	D
82	I-80 WB - Elkhorn Blvd Off-ramp	Diverge	6,985	156	98.0%				1,041	56	94.6%	62.6	0.2	25.4	0.5	C
83	I-80 WB - Elkhorn Blvd Off to On-ramp	Basic	5,950	150	98.7%							63.1	0.3	23.0	0.4	C
84	I-80 WB - Elkhorn Blvd WB On-ramp	Merge	5,951	154	98.7%	899	2	99.9%				58.2	0.9	24.7	0.8	C
85	I-80 WB - Elkhorn Blvd EB On-ramp	Merge	6,852	157	98.9%	657	18	102.6%				62.0	0.9	28.2	0.7	D

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Construction Year - GP Alternative
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
100	SR-65 NB - EB I-80 Connector	Basic	3,895	50	93.0%							35.1	4.3	63.2	6.2	F
101	SR-65 NB - WB I-80 Connector	Basic	1,785	71	100.8%							46.6	9.1	31.3	7.7	D
103	SR-65 NB - I-80 WB On-ramp	Merge	3,895	56	92.9%	1,780	77	100.6%				56.5	11.4	36.3	12.2	E
104	SR-65 NB - I-80 to Stanford Ranch Rd	Basic	5,673	115	95.2%							58.5	13.2	35.7	15.8	E
105	SR-65 NB - Stanford Ranch Rd Off-ramp	Diverge	5,673	116	95.2%				1,044	52	90.8%	57.3	14.1	35.7	19.9	E
106	SR-65 NB - Stanford Ranch Rd Off to On-ramp	Basic	4,622	124	96.1%							62.7	0.4	25.2	0.6	C
107	SR-65 NB - Stanford Ranch Rd to Pleasant Grove Blvd	Weave	4,618	129	96.0%	1,365	52	100.4%	1,022	50	100.2%	62.0	0.3	26.0	0.4	C
110	SR-65 NB - Pleasant Grove Blvd Off to On-ramp	Basic	4,958	140	96.3%							60.4	5.9	28.3	5.5	D
111	SR-65 NB - Pleasant Grove Blvd On-ramp	Merge	4,959	144	96.3%	708	50	99.7%				50.7	10.3	39.7	10.9	E
112	SR-65 NB - Blue Oaks Blvd Off-ramp	Diverge	5,655	164	96.5%				1,974	120	95.3%	60.2	0.8	32.5	0.5	D
114	SR-65 NB - Blue Oaks Blvd Off to On-ramp	Basic	3,687	121	97.3%							62.4	0.3	30.2	0.5	D
115	SR-65 NB - Blue Oaks Blvd On-ramp	Merge	3,686	124	97.3%	756	49	103.6%				61.7	0.2	26.5	0.5	C
116	SR-65 NB - Blue Oaks Blvd to Sunset Blvd	Basic	4,439	124	98.2%							62.4	0.2	26.8	0.6	D
118	SR-65 NB - Sunset Blvd Off-ramp	Diverge	4,441	123	98.3%				972	58	99.2%	62.7	0.1	27.7	0.7	C
119	SR-65 NB - Sunset Blvd Off to On-ramp	Basic	3,466	107	97.9%							62.5	0.2	28.2	1.4	D
120	SR-65 NB - Sunset Blvd EB On-ramp	Merge	3,465	107	97.9%	76	17	108.7%				62.1	0.8	28.6	1.4	D
121	SR-65 NB - Sunset Blvd to Whitney Ranch Pkwy	Weave	3,536	113	97.9%	199	16	104.7%	550	50	94.8%	62.1	0.3	26.7	1.2	C
124	SR-65 NB - Whitney Ranch Pkwy Off to On-ramp	Basic	3,181	102	98.8%							62.5	0.2	26.4	1.2	D
125	SR-65 NB - Whitney Ranch Pkwy EB On-ramp	Merge	3,183	104	98.8%	263	14	94.1%				61.7	0.7	27.5	1.3	C
126	SR-65 NB - Whitney Ranch Pkwy to Twelve Bridges Dr	Weave	3,446	108	98.4%	271	12	100.3%	827	54	102.0%	62.6	0.1	23.1	0.9	C
129	SR-65 NB - Twelve Bridges Dr Off to On-ramp	Basic	2,885	78	97.5%							62.8	0.1	24.4	0.8	C
130	SR-65 NB - Twelve Bridges Dr to Lincoln Blvd	Weave	2,886	73	97.5%	274	26	91.4%	1,079	56	96.3%	63.2	0.1	20.3	0.6	C
133	SR-65 NB - Lincoln Blvd to Ferrari Ranch Rd	Basic	2,078	66	97.1%							63.5	0.1	19.1	0.7	C
134	SR-65 NB - Ferrari Ranch Rd Off-ramp	Diverge	2,079	65	97.1%				1,397	66	96.4%	64.1	0.1	14.7	0.5	B
135	SR-65 NB - Ferrari Ranch Rd Off to On-ramp	Basic	680	59	98.5%							64.6	0.3	5.5	0.6	A
136	SR-65 NB - Ferrari Ranch Rd On-ramp	Merge	678	61	98.3%	83	6	91.7%				63.2	0.2	5.7	0.4	A
150	SR-65 SB - Ferrari Ranch Rd Off-ramp	Diverge	992	33	103.3%				144	15	96.0%	64.4	0.3	8.4	0.2	A
151	SR-65 SB - Ferrari Ranch Rd Off to On-ramp	Basic	848	39	104.7%							64.5	0.2	7.1	0.2	A
152	SR-65 SB - Ferrari Ranch Rd WB On-ramp	Merge	848	40	104.7%	476	18	99.1%				61.8	0.2	8.0	0.2	A
153	SR-65 SB - Ferrari Ranch Rd EB On-ramp	Merge	1,324	51	102.7%	319	16	91.1%				62.5	0.2	10.7	0.3	B
154	SR-65 SB - Ferrari Ranch Rd to Lane Drop	Basic	1,642	53	100.1%							64.1	0.3	13.9	0.4	B
155	SR-65 SB - Lane Drop to Lincoln Blvd	Basic	1,642	54	100.1%							64.1	0.2	13.8	0.4	B
156	SR-65 SB - Lincoln Blvd to Twelve Bridges Dr	Weave	1,643	54	100.2%	722	40	98.9%	259	32	96.0%	62.5	0.4	14.6	0.3	B
159	SR-65 SB - Twelve Bridges Dr Off to On-ramp	Basic	2,104	64	100.2%							63.5	0.3	17.3	0.4	B
160	SR-65 SB - Twelve Bridges Dr to Placer Pkwy	Weave	2,105	66	100.2%	470	20	96.0%	463	45	98.5%	63.1	0.2	16.0	0.5	B
163	SR-65 SB - Placer Pkwy Off to On-ramp	Basic	2,112	65	99.6%							63.1	0.4	17.5	0.7	B
164	SR-65 SB - Placer Pkwy WB On-ramp	Merge	2,112	70	99.6%	258	24	99.2%				62.9	0.4	18.5	0.7	B
165	SR-65 SB - Placer Pkwy to Sunset Blvd	Weave	2,368	81	99.5%	369	23	97.1%	260	30	96.3%	62.8	0.2	19.3	0.9	B
168	SR-65 SB - Sunset Blvd Off to On-ramp	Basic	2,477	80	99.5%							63.1	0.1	20.1	0.6	C
169	SR-65 SB - Sunset Blvd WB On-ramp	Merge	2,478	82	99.5%	795	34	106.0%				59.6	1.2	24.6	0.9	C
170	SR-65 SB - Sunset Blvd to Blue Oaks Blvd	Weave	3,276	85	101.1%	745	25	100.7%	735	48	95.5%	62.2	0.2	24.7	0.7	C
172	SR-65 SB - Blue Oaks Blvd Off to Lane Add	Basic	3,284	82	102.3%							62.4	0.1	27.3	0.6	D
173	SR-65 SB - Lane Add to Blue Oaks Blvd WB On-ramp	Basic	3,284	84	102.3%							62.8	0.2	23.8	0.6	C
174	SR-65 SB - Blue Oaks Blvd WB On-ramp	Merge	3,285	84	102.3%	474	26	100.9%				61.4	0.3	23.4	0.5	C
175	SR-65 SB - Blue Oaks Blvd WB On to EB On-ramp	Basic	3,760	89	102.2%							63.9	0.1	21.0	0.5	C
176	SR-65 SB - Blue Oaks Blvd EB On-ramp	Merge	3,760	88	102.2%	1,239	58	102.4%				61.9	0.3	23.3	0.4	C
177	SR-65 SB - Pleasant Grove Blvd Off-ramp	Diverge	5,003	106	102.3%				559	48	96.3%	63.0	0.8	23.2	0.6	C
178	SR-65 SB - Pleasant Grove Blvd Off to On-ramp	Basic	4,445	109	103.1%							63.9	0.2	18.6	0.3	C
179	SR-65 SB - Pleasant Grove Blvd WB On-ramp	Merge	4,442	111	103.1%	287	10	95.7%				62.5	0.2	24.6	0.6	C
180	SR-65 SB - Pleasant Grove Blvd EB On-ramp	Merge	4,723	110	102.5%	734	25	96.6%				61.6	0.6	22.8	0.5	C
181	SR-65 SB - Pleasant Grove Blvd to Galleria Blvd	Basic	5,454	104	101.6%							63.0	0.4	23.8	0.5	C
182	SR-65 SB - Galleria Blvd Off-ramp	Diverge	5,454	103	101.6%				1,177	59	103.2%	63.3	0.2	23.9	0.5	C
183	SR-65 SB - Galleria Blvd Off to On-ramp	Basic	4,270	97	101.0%							62.2	0.4	26.1	0.4	D
185	SR-65 SB - Galleria Blvd On-ramp	Merge	4,267	96	100.9%	941	50	95.0%				57.6	2.9	33.3	1.3	D
186	SR-65 SB - I-80 Off-ramp	Diverge	5,209	115	99.8%				3,291	113	100.3%	60.9	0.7	29.0	0.6	D
187	SR-65 SB - EB I-80 Connector (2 lanes)	Basic	1,924	89	99.1%							54.0	6.9	37.3	6.1	E
188	SR-65 SB - EB I-80 Connector (1 lane)	Basic	1,922	84	99.1%							59.2	2.1	34.3	2.0	D
189	SR-65 SB - WB I-80 Connector	Basic	3,294	107	100.4%							52.6	0.2	32.1	0.9	D

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Construction Year - GP Alternative
AM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
1	Lincoln Blvd/Sterling Parkway	Signal	1,850	2,052	110.9%	10.7	0.4	B
2	SR-65 SB Ramps/Twelve Bridges Dr	Signal	1,285	1,436	111.8%	10.1	0.5	B
3	SR-65 NB Ramps/Twelve Bridges Dr	Signal	1,385	1,485	107.2%	9.0	1.2	A
4	SR-65 SB Ramps/Sunset Blvd	Signal	2,650	2,856	107.8%	12.0	2.5	B
5	SR-65 NB Ramps/Sunset Blvd	Signal	2,790	3,021	108.3%	13.3	0.4	B
6	SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd	Signal	4,530	4,721	104.2%	35.0	3.9	C
7	SR-65 NB Ramps/Blue Oaks Blvd	Signal	3,080	3,294	106.9%	14.9	3.2	B
8	SR-65 SB Ramps/Pleasant Grove Blvd	Signal	3,605	3,725	103.3%	6.8	0.5	A
9	SR-65 NB Ramps/Pleasant Grove Blvd	Signal	2,725	2,792	102.5%	13.8	0.8	B
10	Stanford Ranch Rd/Five Star Blvd	Signal	2,780	2,891	104.0%	26.7	1.5	C
11	SR-65 NB Ramps/Stanford Ranch Rd	Signal	3,440	3,622	105.3%	19.8	9.5	B
12	SR-65 SB Ramps/Galleria Blvd	Signal	3,785	3,986	105.3%	17.4	4.9	B
13	Galleria Blvd/Antelope Creek Dr	Signal	2,941	3,106	105.6%	13.2	1.4	B
14	Galleria Blvd/Roseville Pkwy	Signal	5,136	5,525	107.6%	41.8	9.0	D
15	Creekside Ridge Dr/Roseville Pkwy	Signal	3,515	3,709	105.5%	8.3	2.6	A
16	Taylor Rd/East Roseville Pkwy	Signal	4,500	4,729	105.1%	45.6	8.8	D
17	North Sunrise Ave/East Roseville Pkwy	Signal	4,285	4,570	106.6%	27.7	3.2	C
18	Wills Rd/Atlantic St	Signal	1,985	2,182	109.9%	24.1	3.8	C
19	I-80 WB Ramps/Atlantic St	Signal	3,400	3,638	107.0%	14.1	1.6	B
20	Taylor Rd-I-80 EB Ramps/Eureka Rd	Signal	4,345	4,546	104.6%	25.3	4.6	C
21	North Sunrise Ave/Eureka Rd	Signal	3,950	4,152	105.1%	32.9	3.0	C
22	Harding Blvd/Wills Rd	Signal	355	362	102.1%	24.5	3.3	C
23	Harding Blvd/Douglas Blvd	Signal	2,685	2,924	108.9%	29.8	22.9	C
24	I-80 WB Ramps/Douglas Blvd	Signal	3,675	3,957	107.7%	23.6	7.2	C

Network Summary	
Total Demand Volume (veh/hr)	74,677
Total Volume Served (veh/hr)	79,280
Percent Served	106.2%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Construction Year - GP Alternative
AM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
25	I-80 EB Ramps/Douglas Blvd	Signal	4,060	4,410	108.6%	9.7	3.5	A
26	North Sunrise Ave/Douglas Blvd	Signal	4,400	4,711	107.1%	33.3	2.1	C
27	Pacific St/Woodside Dr	Signal	1,705	1,868	109.6%	6.9	0.8	A
28	Pacific St/Sunset Blvd	Signal	2,465	2,718	110.3%	24.1	1.6	C
29	Granite Dr/Rocklin Rd	Signal	2,301	2,375	103.2%	17.7	1.4	B
30	I-80 WB Ramps/Rocklin Rd	Signal	2,550	2,651	103.9%	28.6	3.4	C
31	I-80 EB Ramps/Rocklin Rd	Signal	2,690	2,873	106.8%	49.1	12.6	D
32	Aguilar Rd/Rocklin Rd	Signal	1,940	2,099	108.2%	20.3	16.2	C
33	Lincoln Blvd/SR-65 NB Off-Ramp	Signal	1,795	1,982	110.4%	6.3	0.8	A
34	Lincoln Blvd/SR-65 SB On-Ramp	Signal	1,245	1,358	109.1%	21.9	0.9	C
35	SR-65 SB Ramps/Placer Pkwy	Signal	1,715	1,764	102.9%	8.4	0.6	A
36	SR-65 NB Ramps/Whitney Ranch Pkwy	Signal	1,625	1,736	106.8%	8.5	0.4	A
40	Galleria Blvd/Berry St	Signal	1,930	2,092	108.4%	10.8	1.9	B

Network Summary	
Total Demand Volume (veh/hr)	30,421
Total Volume Served (veh/hr)	32,636
Percent Served	107.3%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Construction Year - GP Alternative
PM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
1	Lincoln Blvd/Sterling Parkway	Signal	2,330	2,279	97.8%	9.5	0.5	A
2	SR-65 SB Ramps/Twelve Bridges Dr	Signal	1,100	1,067	97.0%	11.9	3.9	B
3	SR-65 NB Ramps/Twelve Bridges Dr	Signal	1,590	1,574	99.0%	11.4	1.0	B
4	SR-65 SB Ramps/Sunset Blvd	Signal	2,885	3,022	104.8%	6.2	0.3	A
5	SR-65 NB Ramps/Sunset Blvd	Signal	2,810	2,918	103.9%	13.6	0.9	B
6	SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd	Signal	5,450	5,643	103.5%	44.4	7.0	D
7	SR-65 NB Ramps/Blue Oaks Blvd	Signal	4,030	4,144	102.8%	18.3	2.3	B
8	SR-65 SB Ramps/Pleasant Grove Blvd	Signal	5,200	5,184	99.7%	29.3	15.6	C
9	SR-65 NB Ramps/Pleasant Grove Blvd	Signal	4,390	4,388	99.9%	32.5	34.8	C
10	Stanford Ranch Rd/Five Star Blvd	Signal	4,355	4,050	93.0%	75.9	16.7	E
11	SR-65 NB Ramps/Stanford Ranch Rd	Signal	5,615	5,675	101.1%	24.6	29.7	C
12	SR-65 SB Ramps/Galleria Blvd	Signal	5,665	5,794	102.3%	16.6	2.3	B
13	Galleria Blvd/Antelope Creek Dr	Signal	4,720	4,690	99.4%	24.5	3.1	C
14	Galleria Blvd/Roseville Pkwy	Signal	7,610	7,624	100.2%	61.5	8.1	E
15	Creekside Ridge Dr/Roseville Pkwy	Signal	4,700	4,771	101.5%	31.7	5.8	C
16	Taylor Rd/East Roseville Pkwy	Signal	5,890	5,941	100.9%	52.9	9.4	D
17	North Sunrise Ave/East Roseville Pkwy	Signal	5,420	5,536	102.1%	41.2	7.5	D
18	Wills Rd/Atlantic St	Signal	2,965	3,019	101.8%	35.8	4.7	D
19	I-80 WB Ramps/Atlantic St	Signal	4,500	4,573	101.6%	12.2	1.4	B
20	Taylor Rd-I-80 EB Ramps/Eureka Rd	Signal	5,730	5,908	103.1%	72.2	11.2	E
21	North Sunrise Ave/Eureka Rd	Signal	5,565	5,777	103.8%	44.1	3.7	D
22	Harding Blvd/Wills Rd	Signal	370	401	108.4%	26.1	3.5	C
23	Harding Blvd/Douglas Blvd	Signal	3,710	3,595	96.9%	128.2	20.6	F
24	I-80 WB Ramps/Douglas Blvd	Signal	4,505	4,512	100.2%	31.2	7.9	C

Network Summary	
Total Demand Volume (veh/hr)	101,105
Total Volume Served (veh/hr)	102,083
Percent Served	101.0%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Construction Year - GP Alternative
PM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
25	I-80 EB Ramps/Douglas Blvd	Signal	5,210	5,221	100.2%	35.1	19.3	D
26	North Sunrise Ave/Douglas Blvd	Signal	5,850	5,741	98.1%	85.6	59.1	F
27	Pacific St/Woodside Dr	Signal	2,235	2,214	99.1%	7.0	1.0	A
28	Pacific St/Sunset Blvd	Signal	3,455	3,432	99.3%	29.1	2.6	C
29	Granite Dr/Rocklin Rd	Signal	3,690	3,479	94.3%	129.7	4.3	F
30	I-80 WB Ramps/Rocklin Rd	Signal	3,785	3,685	97.4%	25.1	6.0	C
31	I-80 EB Ramps/Rocklin Rd	Signal	3,535	3,555	100.6%	45.7	33.2	D
32	Aguilar Rd/Rocklin Rd	Signal	2,395	2,435	101.7%	22.7	3.0	C
33	Lincoln Blvd/SR-65 NB Off-Ramp	Signal	2,185	2,139	97.9%	9.1	0.9	A
34	Lincoln Blvd/SR-65 SB On-Ramp	Signal	1,135	1,129	99.4%	21.6	2.7	C
35	SR-65 SB Ramps/Placer Pkwy	Signal	2,010	2,004	99.7%	8.9	0.8	A
36	SR-65 NB Ramps/Whitney Ranch Pkwy	Signal	2,035	2,030	99.8%	26.6	19.2	C
40	Galleria Blvd/Berry St	Signal	2,875	2,943	102.4%	10.0	1.3	A

Network Summary	
Total Demand Volume (veh/hr)	40,395
Total Volume Served (veh/hr)	40,007
Percent Served	99.0%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - GP Alternative**
Queue Length **AM Peak Hour**

Intersection 2 **SR-65 SB Ramps/Twelve Bridges Dr** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	440	19	5	105	16	NO
	Through						
	Right Turn	1,500	13	6	100	16	NO

Intersection 3 **SR-65 NB Ramps/Twelve Bridges Dr** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	700	6	1	51	11	NO
	Through						
	Right Turn	1,500	6	1	51	11	NO

Intersection 4 **SR-65 SB Ramps/Sunset Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	360	45	7	189	31	NO
	Through						
	Right Turn	1,330	47	7	191	31	NO

Intersection 5 **SR-65 NB Ramps/Sunset Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,400	62	6	265	34	NO
	Through						
	Right Turn	1,400	9	2	85	18	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - GP Alternative**
Queue Length **AM Peak Hour**

Intersection 6 **SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	200	21	3	116	37	NO
	Through	2,260	71	9	328	75	NO
	Right Turn	200	0	1	57	64	NO

Intersection 7 **SR-65 NB Ramps/Blue Oaks Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	400	59	42	645	420	MAX
	Through						
	Right Turn	1,100	60	42	646	420	NO

Intersection 8 **SR-65 SB Ramps/Pleasant Grove Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	430	25	4	132	23	NO
	Through						
	Right Turn	1,130	27	4	134	23	NO

Intersection 9 **SR-65 NB Ramps/Pleasant Grove Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,420	36	1	129	18	NO
	Through						
	Right Turn	1,420	34	2	129	18	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - GP Alternative**
Queue Length **AM Peak Hour**

Intersection 11 **SR-65 NB Ramps/Stanford Ranch Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
EB	Left Turn						
	Through						
	Right Turn	1,800	0	0	13	13	NO
WB	Left Turn						
	Through						
	Right Turn	1,170	9	2	100	24	NO

Intersection 12 **SR-65 SB Ramps/Galleria Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
EB	Left Turn						
	Through						
	Right Turn	1,130	50	2	270	41	NO
WB	Left Turn						
	Through						
	Right Turn	1,780	0	0	46	25	NO

Intersection 19 **I-80 WB Ramps/Atlantic St** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	1,150	0	0	0	0	NO
SB	Left Turn						
	Through						
	Right Turn	1,430	0	0	4	14	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - GP Alternative**
Queue Length **AM Peak Hour**

Intersection 20 **Taylor Rd-I-80 EB Ramps/Eureka Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	180	74	25	391	448	MAX
	Through	1,700	55	7	226	34	NO
	Right Turn	1,700	4	6	140	429	NO
SB	Left Turn	550	16	6	79	14	NO
	Through						
	Right Turn	550	61	8	284	51	NO
EB	Left Turn	1,120	31	4	117	13	NO
	Through	1,120	79	19	590	124	NO
	Right Turn	810	8	8	177	119	NO
WB	Left Turn						
	Through	1,370	34	8	293	42	NO
	Right Turn	280	0	0	2	7	NO

Intersection 24 **I-80 WB Ramps/Douglas Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	1,530	65	65	328	78	NO
	Through	1,530	65	65	328	78	NO
	Right Turn	730	65	65	328	78	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - GP Alternative**
Queue Length **AM Peak Hour**

Intersection 25 **I-80 EB Ramps/Douglas Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	1,400	0	0	3	10	NO
SB	Left Turn						
	Through						
	Right Turn	1,250	16	3	120	37	NO

Intersection 30 **I-80 WB Ramps/Rocklin Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	700	10	3	99	29	NO
	Through						
	Right Turn	1,230	14	4	114	29	NO

Intersection 31 **I-80 EB Ramps/Rocklin Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,080	76	16	340	82	NO
	Through						
	Right Turn	1,080	74	16	337	82	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - GP Alternative**
Queue Length **AM Peak Hour**

Intersection 33 **Lincoln Blvd/SR-65 NB Off-Ramp** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
WB	Left Turn	1,940	0	0	0	0	NO
	Through						
	Right Turn	1,940	0	0	5	15	NO

Intersection 35 **SR-65 SB Ramps/Placer Pkwy** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	1,650	29	5	190	37	NO
	Through						
	Right Turn	1,650	29	5	190	37	NO

Intersection 36 **SR-65 NB Ramps/Whitney Ranch Pkwy** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,620	23	4	149	28	NO
	Through						
	Right Turn	1,620	23	4	149	28	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - GP Alternative**
Queue Length **PM Peak Hour**

Intersection 2 **SR-65 SB Ramps/Twelve Bridges Dr** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	440	19	4	82	13	NO
	Through						
	Right Turn	1,500	12	4	78	13	NO

Intersection 3 **SR-65 NB Ramps/Twelve Bridges Dr** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	700	18	1	93	20	NO
	Through						
	Right Turn	1,500	18	1	93	20	NO

Intersection 4 **SR-65 SB Ramps/Sunset Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	360	30	3	127	19	NO
	Through						
	Right Turn	1,330	32	3	129	19	NO

Intersection 5 **SR-65 NB Ramps/Sunset Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,400	49	8	202	31	NO
	Through						
	Right Turn	1,400	8	1	85	22	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - GP Alternative**
Queue Length **PM Peak Hour**

Intersection 6 **SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	200	49	12	220	152	MAX
	Through	2,260	55	9	245	36	NO
	Right Turn	200	1	1	37	116	NO

Intersection 7 **SR-65 NB Ramps/Blue Oaks Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	400	79	50	907	509	MAX
	Through						
	Right Turn	1,100	80	50	908	509	NO

Intersection 8 **SR-65 SB Ramps/Pleasant Grove Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	430	24	3	115	19	NO
	Through						
	Right Turn	1,130	27	2	117	19	NO

Intersection 9 **SR-65 NB Ramps/Pleasant Grove Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,420	57	13	229	130	NO
	Through						
	Right Turn	1,420	56	13	229	130	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - GP Alternative**
Queue Length **PM Peak Hour**

Intersection 11 **SR-65 NB Ramps/Stanford Ranch Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
EB	Left Turn						
	Through						
	Right Turn	1,800	0	0	31	35	NO
WB	Left Turn						
	Through						
	Right Turn	1,170	108	73	373	453	NO

Intersection 12 **SR-65 SB Ramps/Galleria Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
EB	Left Turn						
	Through						
	Right Turn	1,130	50	3	267	38	NO
WB	Left Turn						
	Through						
	Right Turn	1,780	8	3	165	49	NO

Intersection 19 **I-80 WB Ramps/Atlantic St** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	1,150	0	0	0	0	NO
SB	Left Turn						
	Through						
	Right Turn	1,430	0	0	21	28	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - GP Alternative**
Queue Length **PM Peak Hour**

Intersection 20 **Taylor Rd-I-80 EB Ramps/Eureka Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	180	981	119	1,664	13	AVG
	Through	1,700	388	95	1,577	240	NO
	Right Turn	1,700	948	131	1,674	13	NO
SB	Left Turn	550	22	4	101	26	NO
	Through						
	Right Turn	550	206	98	718	154	MAX
EB	Left Turn	1,120	32	19	159	31	NO
	Through	1,120	136	7	626	65	NO
	Right Turn	810	11	2	234	73	NO
WB	Left Turn						
	Through	1,370	193	25	849	136	NO
	Right Turn	280	45	14	486	136	MAX

Intersection 24 **I-80 WB Ramps/Douglas Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	1,530	67	66	296	41	NO
	Through	1,530	67	66	296	41	NO
	Right Turn	730	67	67	296	41	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - GP Alternative**
Queue Length **PM Peak Hour**

Intersection 25 **I-80 EB Ramps/Douglas Blvd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	1,400	2	2	96	207	NO
SB	Left Turn						
	Through						
	Right Turn	1,250	320	202	1,009	640	NO

Intersection 30 **I-80 WB Ramps/Rocklin Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	700	24	6	187	90	NO
	Through						
	Right Turn	1,230	33	6	202	90	NO

Intersection 31 **I-80 EB Ramps/Rocklin Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,080	240	90	685	573	NO
	Through						
	Right Turn	1,080	237	90	683	574	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

VISSIM Post-Processor **SR 65 Widening**
Average Results from 10 Runs **Construction Year - GP Alternative**
Queue Length **PM Peak Hour**

Intersection 33 **Lincoln Blvd/SR-65 NB Off-Ramp** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
WB	Left Turn	1,940	0	0	0	0	NO
	Through						
	Right Turn	1,940	0	0	8	25	NO

Intersection 35 **SR-65 SB Ramps/Placer Pkwy** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
SB	Left Turn	1,650	28	2	150	20	NO
	Through						
	Right Turn	1,650	28	2	150	20	NO

Intersection 36 **SR-65 NB Ramps/Whitney Ranch Pkwy** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		Maximum Queue (ft)		Exceeds Storage?
			Average	Std. Dev.	Average	Std. Dev.	
NB	Left Turn	1,620	35	4	216	47	NO
	Through						
	Right Turn	1,620	35	4	216	47	NO

Note: The "Average Queue" is calaculated on a time-step basis so that queues when the approach is green (zero length) are included in the average.

SR 65 Capacity and Operational Improvements

Vissim Model Results – Construction Year
Alternative 3 (No Build)

VISSIM Post-Processor **SR 65 Widening**
Average Values from 10 Runs **Construction Year - No Build**
Network Statistics **AM Peak Period**

Network Performance	Vehicle Types	Average	Std. Dev.
Number of Vehicles Served	All Vehicles	168,625	81
Travel Distance [mi]	All Vehicles	788,490	1,746
Travel Time [h]	All Vehicles	18,266	205.6
Average Speed [mph]	All Vehicles	43.2	0.5
Total Delay [h]	All Vehicles	4,733	205.6
Average Delay per Vehicle [s]	All Vehicles	99	4.3
VHD/VMT [min/mile]	All Vehicles	0.36	0.02
Number of Vehicles Served	HOV	32,341	38
Travel Distance [mi]	HOV	159,472	498
Travel Time [h]	HOV	3,489	30
Average Speed [mph]	HOV	45.7	0.4
Total Delay [h]	HOV	776	30
Average Delay per Vehicle [s]	HOV	84	3
VHD/VMT [min/mile]	HOV	0.29	0.01
Number of Vehicles Served	Truck	7,552	15
Travel Distance [mi]	Truck	37,920	331
Travel Time [h]	Truck	905	15
Average Speed [mph]	Truck	41.9	1
Total Delay [h]	Truck	249	12
Average Delay per Vehicle [s]	Truck	116	6
VHD/VMT [min/mile]	Truck	0.39	0.02

	Vehicle Types		
Performance Measure	**HOV**	**Truck**	**All**
Vehicles Served	32,340	7,550	168,620
Demand Volume	33,520	8,150	170,610
Percent Demand Served	96.5%	92.6%	98.8%
Vehicle Miles of Travel	159,470	37,920	788,490
Person Miles of Travel	334,890	39,820	965,810
Vehicle Hours of Travel	3,490	910	18,270
Vehicle Hours of Delay	780	250	4,730
VHD % of VHT	22.3%	27.5%	25.9%
Average Delay per Vehicle (min)	1.45	1.99	1.68
Person Hours of Delay	1,640	260	5,600
Average Travel Speed	45.7	41.9	43.2

VISSIM Post-Processor
Average Values from 10 Runs
Peak Hour Travel Time

SR 65 Widening
Construction Year - No Build
AM Peak Period

Mode	Description	Distance (ft)	Volume (vehicles)		Travel Time (min.:sec.)		Speed (mph)
			Average	Std. Dev.	Average	Std. Dev.	Average
SOV	SR-65 at Blue Oaks to I-80 at Antelope	43,046	826	14	09:16	00:26	21.1
	I-80 at Auburn to SR-65 at Blue Oaks	32,883	1,489	18	07:06	00:02	21.0
	I-80: Sierra College to Antelope	45,827	1,128	14	08:51	00:22	23.6
	I-80: Auburn to Sierra College	36,777	682	12	06:38	00:02	25.2
	SR-65: I-80 to Sunset	43,055	661	16	04:19	00:01	45.3
	SR-65: Sunset to Ferrari Ranch	45,816	178	6	03:31	00:01	59.1
	SR-65: Ferrari Ranch to Sunset	36,773	948	9	03:35	00:01	46.6
	SR-65: Sunset to I-80	32,884	1,203	17	05:12	00:21	28.8
HOV	SR-65 at Blue Oaks to I-80 at Antelope	43,046	248	5	08:54	00:13	45.3
	I-80 at Auburn to SR-65 at Blue Oaks	32,883	378	10	07:03	00:02	59.1
	I-80: Sierra College to Antelope	45,827	500	7	08:23	00:06	46.6
	I-80: Auburn to Sierra College	36,777	233	5	06:33	00:01	28.8
	SR-65: I-80 to Sunset	43,055	157	5	04:19	00:02	22.0
	SR-65: Sunset to Ferrari Ranch	45,816	37	3	03:30	00:02	21.2
	SR-65: Ferrari Ranch to Sunset	36,773	109	4	03:35	00:00	24.9
	SR-65: Sunset to I-80	32,884	373	8	05:11	00:23	25.5

VISSIM Post-Processor **SR 65 Widening**
Average Values from 10 Runs **Construction Year - No Build Alternative**
Network Statistics **PM Peak Period**

Network Performance	Vehicle Types	Average	Std. Dev.
Number of Vehicles Served	All Vehicles	233,868	256
Travel Distance [mi]	All Vehicles	909,556	2,008
Travel Time [h]	All Vehicles	25,868	397.3
Average Speed [mph]	All Vehicles	35.2	0.6
Total Delay [h]	All Vehicles	9,844	425.5
Average Delay per Vehicle [s]	All Vehicles	149	6.4
VHD/VMT [min/mile]	All Vehicles	0.65	0.03
Number of Vehicles Served	HOV	46,090	82
Travel Distance [mi]	HOV	192,613	728
Travel Time [h]	HOV	4,875	37
Average Speed [mph]	HOV	39.5	0.3
Total Delay [h]	HOV	1,512	34
Average Delay per Vehicle [s]	HOV	116	3
VHD/VMT [min/mile]	HOV	0.47	0.01
Number of Vehicles Served	Truck	9,024	30
Travel Distance [mi]	Truck	36,753	284
Travel Time [h]	Truck	1,121	30
Average Speed [mph]	Truck	32.8	1
Total Delay [h]	Truck	468	32
Average Delay per Vehicle [s]	Truck	183	13
VHD/VMT [min/mile]	Truck	0.76	0.05

	Vehicle Types		
Performance Measure	**HOV**	**Truck**	**All**
Vehicles Served	46,090	9,020	233,870
Demand Volume	47,310	9,670	235,630
Percent Demand Served	97.4%	93.3%	99.3%
Vehicle Miles of Travel	192,610	36,750	909,560
Person Miles of Travel	404,490	38,590	1,123,280
Vehicle Hours of Travel	4,870	1,120	25,870
Vehicle Hours of Delay	1,510	470	9,840
VHD % of VHT	31.0%	42.0%	38.0%
Average Delay per Vehicle (min)	1.97	3.13	2.52
Person Hours of Delay	3,170	490	11,520
Average Travel Speed	39.5	32.8	35.2

VISSIM Post-Processor
Average Values from 10 Runs
Peak Hour Travel Time

SR 65 Widening
Construction Year - No Build Alternative
PM Peak Period

Mode	Description	Distance (ft)	Volume (vehicles)		Travel Time (min.:sec.)		Speed (mph)
			Average	Std. Dev.	Average	Std. Dev.	Average
SOV	SR-65 at Blue Oaks to I-80 at Antelope	43,046	657	10	08:17	00:01	23.6
	I-80 at Auburn to SR-65 at Blue Oaks	32,882	1,494	14	17:23	01:31	8.6
	I-80: Sierra College to Antelope	45,827	498	10	08:16	00:01	25.2
	I-80: Auburn to Sierra College	36,777	706	13	16:25	01:30	10.2
	SR-65: I-80 to Sunset	43,055	1,180	18	04:22	00:01	44.9
	SR-65: Sunset to Ferrari Ranch	45,816	249	7	03:34	00:00	58.4
	SR-65: Ferrari Ranch to Sunset	36,773	590	10	03:31	00:00	47.5
	SR-65: Sunset to I-80	32,883	782	13	04:11	00:01	35.8
HOV	SR-65 at Blue Oaks to I-80 at Antelope	43,046	119	6	08:15	00:03	44.9
	I-80 at Auburn to SR-65 at Blue Oaks	32,882	573	12	09:38	00:21	58.4
	I-80: Sierra College to Antelope	45,827	199	6	08:08	00:02	47.5
	I-80: Auburn to Sierra College	36,777	282	8	08:12	00:22	35.8
	SR-65: I-80 to Sunset	43,055	419	9	04:21	00:01	23.7
	SR-65: Sunset to Ferrari Ranch	45,816	52	3	03:34	00:01	15.5
	SR-65: Ferrari Ranch to Sunset	36,773	94	4	03:31	00:01	25.6
	SR-65: Sunset to I-80	32,883	200	7	04:11	00:01	20.4

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Construction Year - No Build
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
1	I-80 EB - Auburn Blvd On-ramp	Merge	7,239	35	110.0%	1,014	12	109.1%				62.1	0.3	28.7	0.3	D
2	I-80 EB - Auburn Blvd to Douglas Blvd	Basic	8,245	67	109.8%							53.7	3.7	38.8	3.1	E
3	I-80 EB - Douglas Blvd Slip Off	Diverge	8,241	90	109.7%				1,434	83	109.4%	60.3	1.3	29.4	1.1	D
4	I-80 EB - Douglas Blvd WB Off-ramp	Diverge	6,800	99	109.7%				575	47	108.5%	62.8	0.4	22.3	0.7	C
5	I-80 EB - Douglas Blvd Off to On-ramp	Basic	6,221	97	109.7%							63.2	0.1	24.6	0.3	C
6	I-80 EB - Douglas Blvd On-ramp	Merge	6,220	100	109.7%	822	23	91.3%				62.2	0.5	27.7	0.9	C
7	I-80 EB - Eureka Rd Off-ramp	Diverge	7,044	100	107.2%				1,375	79	107.4%	61.7	0.5	28.9	0.9	D
8	I-80 EB - Eureka Rd Off to On-ramp	Basic	5,667	83	107.1%							63.2	0.2	23.9	0.4	C
9	I-80 EB - Eureka Rd EB On-ramp	Merge	5,669	93	107.2%	174	6	96.8%				63.3	0.1	21.9	0.7	C
10	I-80 EB - Eureka Rd to Taylor Rd	Weave	5,847	93	106.9%	458	34	101.7%	359	33	105.5%	62.7	0.3	24.4	0.5	C
11	I-80 EB -Taylor Rd to SR 65	Basic	5,946	107	106.6%							60.8	0.5	30.4	0.5	D
17	I-80 EB - SR 65 Off-ramp	Diverge	5,945	104	106.5%				3,119	105	106.8%	61.1	0.4	31.0	0.7	D
18	I-80 EB - SR 65 Off to On-ramp	Basic	2,827	85	106.3%							64.0	0.1	15.4	0.5	B
19	I-80 EB - SR-65 On-ramp	Merge	2,826	83	106.2%	1,408	66	104.3%				63.0	0.2	21.6	0.5	C
21	I-80 EB - SR-65 to Rocklin Rd	Basic	4,241	103	105.8%							63.6	0.1	20.5	0.4	C
22	I-80 EB - Rocklin Rd Off-ramp	Diverge	4,250	111	106.0%				1,473	66	103.7%	63.6	0.3	20.2	0.4	C
23	I-80 EB - Rocklin Rd Off to On-ramp	Basic	2,779	95	107.3%							63.8	0.3	17.1	0.7	B
24	I-80 EB - Rocklin Rd On-ramp	Merge	2,781	97	107.4%	239	8	95.7%				61.2	0.5	17.5	0.6	B
25	I-80 EB - Rocklin Rd to Sierra College Blvd	Basic	3,021	104	106.4%							63.6	0.2	18.2	0.7	C
26	I-80 EB - Sierra College Blvd Off-ramp	Diverge	3,022	101	106.4%				399	49	105.0%	63.1	0.5	19.2	0.7	B
27	I-80 EB - Sierra College Blvd Off to On-ramp	Basic	2,628	96	106.8%							63.7	0.3	16.8	0.6	B
28	I-80 EB - Sierra College Blvd SB On-ramp	Merge	2,631	97	107.0%	131	4	100.8%				62.9	0.2	15.8	0.7	B
29	I-80 EB - Sierra College Blvd NB On-ramp	Merge	2,761	101	106.6%	356	15	93.7%				62.6	0.3	17.4	0.6	B
38	I-80 WB - Sierra College Blvd Off-ramp	Diverge	4,934	23	105.9%				846	49	105.7%	56.9	1.7	28.1	0.9	D
39	I-80 WB - Sierra College Blvd Off to On-ramp	Basic	4,087	69	105.9%							61.8	0.6	25.0	0.5	C
40	I-80 WB - Sierra College Blvd NB On-ramp	Merge	4,090	71	106.0%	51	4	84.8%				62.9	0.4	22.2	0.4	C
41	I-80 WB - Sierra College Blvd SB On-ramp	Merge	4,140	75	105.6%	308	7	102.5%				61.3	1.1	23.8	0.5	C
42	I-80 WB - Sierra College Blvd to Rocklin Rd	Basic	4,446	85	105.3%							62.3	0.2	26.9	0.4	D
43	I-80 WB - Rocklin Rd Off-ramp	Diverge	4,444	81	105.3%				248	33	107.7%	61.4	0.4	27.6	0.5	C
44	I-80 WB - Rocklin Rd Off to On-ramp	Basic	4,198	93	105.2%							63.0	0.1	25.2	0.4	C
45	I-80 WB - Rocklin Rd On-ramp	Merge	4,197	93	105.2%	905	50	99.4%				60.4	1.4	26.8	0.7	C
46	I-80 WB - Rocklin Rd to HOV Lane Start	Basic	5,087	127	103.8%							62.1	0.8	29.0	0.6	D
47	I-80 WB - HOV Lane Start to SR-65	Basic	5,082	136	103.7%							62.0	0.4	24.0	0.5	C
48	I-80 WB - SR-65 Off-ramp	Diverge	5,085	134	103.8%				1,452	73	105.2%	63.4	0.4	22.1	0.5	C
49	I-80 WB - SR-65 Off to On-ramp	Basic	3,630	102	103.1%							63.6	0.1	19.7	0.6	C
50	I-80 WB - SR-65 On-ramp	Merge	3,628	103	103.1%	3,836	112	104.5%				60.5	0.6	29.3	0.9	D
60	I-80 WB - Taylor Rd On-ramp	Merge	7,462	136	103.8%	618	39	108.5%				56.3	3.2	36.4	2.8	E
61	I-80 WB - Atlantic St WB Off-ramp	Diverge	8,076	131	104.1%				334	37	104.4%	59.5	2.1	35.8	1.4	E
62	I-80 WB - Atlantic St EB Off-ramp	Diverge	7,739	127	104.0%				993	51	102.3%	59.7	2.4	35.6	1.4	E
63	I-80 WB - Atlantic St EB Off to On-ramp	Basic	6,741	117	104.2%							62.8	0.1	27.1	0.5	D
64	I-80 WB - Atlantic St On-ramp	Merge	6,740	107	104.2%	1,169	66	107.2%				56.8	3.7	37.7	2.8	E
65	I-80 WB - Douglas Blvd Off-ramp	Diverge	7,904	113	104.5%				929	54	102.1%	59.8	0.7	33.2	0.7	D
66	I-80 WB - Douglas Blvd Off to On-ramp	Basic	6,974	122	104.9%							62.6	0.3	28.5	0.4	D
67	I-80 WB - Douglas Blvd WB On-ramp	Merge	6,974	124	104.9%	1,019	41	107.3%				57.0	2.2	32.1	1.8	D
68	I-80 WB - Douglas Blvd Slip On	Merge	7,993	134	105.2%	454	31	105.5%				53.5	7.2	39.3	6.6	E
69	I-80 WB - Douglas Blvd to Riverside Ave	Basic	8,440	138	105.1%							61.5	0.4	33.6	0.4	D
70	I-80 WB - Riverside Ave Off-ramp	Diverge	8,441	138	105.1%				925	52	100.6%	62.2	0.3	33.0	0.8	D
71	I-80 WB - Riverside Ave Off to On-ramp	Basic	7,517	129	105.7%							62.7	0.1	29.7	0.3	D
72	I-80 WB - Riverside Ave NB On-ramp	Merge	7,518	125	105.7%	283	6	83.3%				63.0	0.1	27.4	0.7	C
73	I-80 WB - Riverside Ave SB On-ramp	Merge	7,800	111	104.7%	857	16	102.0%				55.7	11.2	38.2	12.9	E
74	I-80 WB - Riverside Ave to Antelope Rd	Basic	8,659	131	104.5%							44.8	13.6	52.2	17.8	F
75	I-80 WB - Antelope Rd Off-ramp	Diverge	8,659	192	104.5%				349	29	91.9%	40.5	13.7	61.1	18.8	F
76	I-80 WB - Antelope Rd Off to On-ramp	Basic	8,306	232	105.0%							35.3	14.0	71.8	23.5	F
77	I-80 WB - Antelope Rd WB On-ramp	Merge	8,308	257	105.0%	566	13	97.6%				30.0	10.0	87.5	24.0	F
78	I-80 WB - Antelope Rd to Truck Scales	Weave	8,908	235	104.9%	445	11	96.6%	91	19	83.1%	30.7	4.2	75.4	8.3	F
79	I-80 WB - Truck Scales Off to On-ramp	Basic	9,396	213	106.3%							30.1	0.7	83.2	2.2	F
80	I-80 WB - Truck Scales On-ramp	Merge	9,439	215	106.8%	92	20	83.5%				28.7	0.9	94.9	2.5	F
81	I-80 WB - Truck Scales to Elkhorn Blvd	Basic	9,580	169	107.0%							31.9	1.1	73.5	2.2	F
82	I-80 WB - Elkhorn Blvd Off-ramp	Diverge	9,591	156	107.2%				809	52	109.4%	32.3	1.4	61.8	3.8	F
83	I-80 WB - Elkhorn Blvd Off to On-ramp	Basic	8,831	115	107.6%							26.5	0.4	92.7	2.0	F
84	I-80 WB - Elkhorn Blvd WB On-ramp	Merge	8,829	110	107.5%	802	10	95.5%				26.6	0.3	96.2	1.3	F
85	I-80 WB - Elkhorn Blvd EB On-ramp	Merge	9,647	105	106.6%	881	26	95.8%				32.7	0.3	77.0	0.8	F

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Construction Year - No Build
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
100	SR-65 NB - EB I-80 Connector	Basic	3,117	107	106.7%							41.6	1.3	44.2	2.4	E
101	SR-65 NB - WB I-80 Connector	Basic	1,451	72	105.2%							51.1	0.4	24.5	0.9	C
103	SR-65 NB - I-80 WB On-ramp	Merge	3,113	109	106.6%	1,451	72	105.2%				60.8	0.7	28.2	0.8	D
104	SR-65 NB - I-80 to Stanford Ranch Rd	Basic	4,568	131	106.2%							63.1	0.2	26.9	0.8	D
105	SR-65 NB - Stanford Ranch Rd Off-ramp	Diverge	4,568	132	106.2%				734	54	101.9%	62.8	0.3	23.9	1.0	C
106	SR-65 NB - Stanford Ranch Rd Off to On-ramp	Basic	3,838	119	107.2%							63.1	0.2	23.2	0.7	C
107	SR-65 NB - Stanford Ranch Rd On-ramp	Merge	3,839	117	107.2%	752	40	104.4%				57.7	2.0	31.3	1.6	D
109	SR-65 NB - Pleasant Grove Blvd Off-ramp	Diverge	4,591	141	106.8%				709	54	98.4%	58.3	1.2	35.6	1.9	E
110	SR-65 NB - Pleasant Grove Blvd Off to On-ramp	Basic	3,882	144	108.4%							61.6	0.5	35.8	1.5	E
111	SR-65 NB - Pleasant Grove Blvd to Blue Oaks Blvd	Weave	3,880	141	108.4%	234	25	101.7%	1,805	75	108.7%	62.8	0.1	26.9	0.9	C
114	SR-65 NB - Blue Oaks Blvd Off to On-ramp	Basic	2,310	88	107.4%							63.5	0.1	20.1	0.7	C
115	SR-65 NB - Blue Oaks Blvd On-ramp	Merge	2,310	87	107.4%	467	35	99.3%				60.7	0.5	22.2	1.1	C
116	SR-65 NB - Blue Oaks Blvd to Sunset Blvd	Basic	2,778	97	106.0%							62.1	0.3	25.2	1.3	C
118	SR-65 NB - Sunset Blvd Off-ramp	Diverge	2,776	100	105.9%				1,194	67	105.7%	63.6	0.2	19.4	1.1	B
119	SR-65 NB - Sunset Blvd Off to On-ramp	Basic	1,583	82	106.2%							63.9	0.2	13.9	0.9	B
120	SR-65 NB - Sunset Blvd EB On-ramp	Merge	1,582	78	106.1%	46	12	92.6%				63.8	0.2	13.8	0.8	B
121	SR-65 NB - Sunset Blvd to Whitney Ranch Pkwy	Weave	1,629	77	105.8%	242	11	105.3%	321	37	97.4%	63.5	0.1	13.4	0.5	B
124	SR-65 NB - Whitney Ranch Pkwy Off to On-ramp	Basic	1,552	69	107.7%							63.6	0.1	13.6	0.4	B
125	SR-65 NB - Whitney Ranch Pkwy EB On-ramp	Merge	1,553	69	107.8%	184	14	97.0%				63.2	0.2	14.0	0.4	B
126	SR-65 NB - Whitney Ranch Pkwy WB On-ramp	Merge	1,737	74	106.6%	211	14	105.5%				63.1	0.2	16.4	0.4	B
127	SR-65 NB - Whitney Ranch Pkwy to Twelve Bridges Dr	Basic	1,948	80	106.5%							63.3	0.2	16.8	0.5	B
128	SR-65 NB - Twelve Bridges Dr Off-ramp	Diverge	1,948	78	106.5%				409	38	95.0%	63.1	0.2	17.1	0.6	B
129	SR-65 NB - Twelve Bridges Dr Off to On-ramp	Basic	1,542	76	110.2%							63.6	0.2	14.0	0.6	B
130	SR-65 NB - Twelve Bridges Dr to Lincoln Blvd	Weave	1,546	68	110.4%	270	28	108.2%	641	46	112.5%	63.6	0.3	12.5	0.4	B
133	SR-65 NB - Lincoln Blvd to Ferrari Ranch Rd	Basic	945	56	87.5%							64.0	0.2	12.3	0.5	B
134	SR-65 NB - Ferrari Ranch Rd Off-ramp	Diverge	1,177	63	108.9%				667	53	104.3%	64.4	0.2	10.1	0.4	B
135	SR-65 NB - Ferrari Ranch Rd Off to On-ramp	Basic	512	42	116.4%							64.5	0.3	4.9	0.5	A
136	SR-65 NB - Ferrari Ranch Rd On-ramp	Merge	513	44	116.7%	114	6	103.5%				62.4	0.3	5.4	0.5	A
150	SR-65 SB - Ferrari Ranch Rd Off-ramp	Diverge	990	26	112.5%				71	16	101.7%	64.3	0.2	11.2	0.2	B
151	SR-65 SB - Ferrari Ranch Rd Off to On-ramp	Basic	919	27	113.5%							64.3	0.1	10.3	0.3	A
152	SR-65 SB - Ferrari Ranch Rd WB On-ramp	Merge	919	29	113.5%	886	18	108.1%				60.3	0.2	13.8	0.3	B
153	SR-65 SB - Ferrari Ranch Rd EB On-ramp	Merge	1,807	37	110.8%	697	22	92.9%				60.3	0.3	18.6	0.5	B
154	SR-65 SB - Ferrari Ranch Rd to Lane Drop	Basic	2,505	46	105.3%							62.5	0.6	26.4	0.6	D
155	SR-65 SB - Lane Drop to Lincoln Blvd	Basic	2,505	49	105.3%							63.0	0.4	26.2	0.6	D
156	SR-65 SB - Lincoln Blvd to Twelve Bridges Dr	Weave	2,507	48	105.3%	873	50	106.5%	349	34	108.9%	60.8	0.7	25.4	0.6	C
159	SR-65 SB - Twelve Bridges Dr Off to On-ramp	Basic	3,032	67	105.3%							62.2	0.3	28.5	0.5	D
160	SR-65 SB - Twelve Bridges Dr On-ramp	Merge	3,031	69	105.2%	598	25	112.8%				58.2	2.3	32.6	1.7	D
161	SR-65 SB - Twelve Bridges Dr to Placer Pkwy	Basic	3,628	80	106.4%							61.5	0.3	33.6	0.6	D
162	SR-65 SB - Placer Pkwy Off-ramp	Diverge	3,625	87	106.3%				393	37	109.0%	62.2	0.1	31.0	0.6	D
163	SR-65 SB - Placer Pkwy Off to On-ramp	Basic	3,228	90	105.8%							62.6	0.1	28.3	0.7	D
164	SR-65 SB - Placer Pkwy WB On-ramp	Merge	3,224	91	105.7%	255	30	106.0%				62.6	0.3	28.9	0.6	D
165	SR-65 SB - Placer Pkwy to Sunset Blvd	Weave	3,479	93	105.8%	216	14	113.5%	549	44	103.6%	61.6	0.3	27.5	0.5	C
168	SR-65 SB - Sunset Blvd Off to On-ramp	Basic	3,146	102	106.7%							62.4	0.2	27.6	0.8	D
169	SR-65 SB - Sunset Blvd WB On-ramp	Merge	3,146	102	106.6%	292	24	112.2%				60.0	5.0	28.7	3.1	D
170	SR-65 SB - Sunset Blvd EB On-ramp	Merge	3,438	101	107.1%	346	18	101.8%				50.8	13.2	41.6	14.0	E
171	SR-65 SB - Sunset Blvd to Blue Oaks Blvd	Basic	3,786	104	106.7%							47.0	15.0	48.4	20.1	F
172	SR-65 SB - Blue Oaks Blvd Off-ramp	Diverge	3,786	106	106.7%				637	46	106.1%	37.0	14.3	60.4	20.2	F
173	SR-65 SB - Blue Oaks Blvd Off to On-ramp	Basic	3,142	92	106.5%							17.6	3.0	96.2	11.5	F
174	SR-65 SB - Blue Oaks Blvd WB On-ramp	Merge	3,134	93	106.2%	456	4	99.0%				20.8	1.4	80.9	3.6	F
175	SR-65 SB - Blue Oaks Blvd to Pleasant Grove Blvd	Weave	3,573	98	104.8%	1,212	59	101.9%	640	51	104.8%	35.8	0.8	56.5	1.4	F
178	SR-65 SB - Pleasant Grove Blvd Off to On-ramp	Basic	4,139	84	103.7%							59.6	1.0	35.5	1.0	E
179	SR-65 SB - Pleasant Grove Blvd WB On-ramp	Merge	4,136	83	103.7%	745	42	102.1%				61.7	0.4	29.5	0.4	D
180	SR-65 SB - Pleasant Grove Blvd EB On-ramp	Merge	4,879	94	103.4%	655	38	102.3%				59.3	2.9	29.9	1.9	D
181	SR-65 SB - Pleasant Grove Blvd to Galleria Blvd	Basic	5,531	99	103.2%							61.3	0.6	31.3	0.6	D
182	SR-65 SB - Galleria Blvd Off-ramp	Diverge	5,531	101	103.2%				1,013	59	97.4%	62.1	0.5	31.7	0.6	D
183	SR-65 SB - Galleria Blvd Off to On-ramp	Basic	4,516	96	104.5%							61.5	1.2	29.1	0.8	D
185	SR-65 SB - Galleria Blvd On-ramp	Merge	4,517	99	104.6%	721	40	103.0%				53.6	5.9	39.4	4.8	E
186	SR-65 SB - I-80 Off-ramp	Diverge	5,238	126	104.4%				3,834	107	104.5%	60.0	0.7	32.0	0.8	D
187	SR-65 SB - EB I-80 Connector (2 lanes)	Basic	1,409	64	104.4%							60.7	0.4	26.4	0.8	D
188	SR-65 SB - EB I-80 Connector (1 lane)	Basic	1,407	64	104.3%							61.8	0.2	26.0	0.8	D
189	SR-65 SB - WB I-80 Connector	Basic	3,837	109	104.5%							51.8	0.3	38.5	1.2	E

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VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Construction Year - No Build Alternative
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
1	I-80 EB - Auburn Blvd On-ramp	Merge	7,543	182	100.4%	898	40	94.6%				36.9	16.6	72.4	36.2	F
2	I-80 EB - Auburn Blvd to Douglas Blvd	Basic	8,267	392	97.7%							31.1	10.7	80.7	26.3	F
3	I-80 EB - Douglas Blvd Slip Off	Diverge	8,210	427	97.0%				1,100	82	94.8%	29.3	3.8	75.8	11.7	F
4	I-80 EB - Douglas Blvd WB Off-ramp	Diverge	7,053	375	96.6%				677	82	95.4%	22.6	0.9	129.9	7.5	F
5	I-80 EB - Douglas Blvd Off to On-ramp	Basic	6,266	378	95.1%							22.8	0.8	126.2	5.2	F
6	I-80 EB - Douglas Blvd On-ramp	Merge	6,220	410	94.4%	1,129	65	86.1%				15.2	1.4	128.6	5.3	F
7	I-80 EB - Eureka Rd Off-ramp	Diverge	7,300	389	92.4%				1,024	97	93.1%	19.9	1.6	106.0	4.5	F
8	I-80 EB - Eureka Rd Off to On-ramp	Basic	6,286	298	92.4%							20.8	0.5	125.2	3.8	F
9	I-80 EB - Eureka Rd EB On-ramp	Merge	6,293	307	92.5%	320	22	103.1%				16.0	0.6	131.5	3.5	F
10	I-80 EB - Eureka Rd to Taylor Rd	Weave	6,629	300	93.2%	1,130	64	103.7%	519	57	89.5%	18.3	0.4	121.3	2.5	F
11	I-80 EB - Taylor Rd to SR-65	Basic	7,237	267	95.0%							19.1	1.6	109.0	5.0	F
17	I-80 EB - SR-65 Off-ramp	Diverge	7,239	271	95.0%				3,883	90	96.1%	24.8	2.2	92.0	5.5	F
18	I-80 EB - SR-65 Off to On-ramp	Basic	3,347	203	93.5%							62.7	0.4	17.0	1.0	B
19	I-80 EB - SR-65 On-ramp	Merge	3,343	204	93.4%	1,844	80	96.0%				62.3	0.9	23.1	0.9	C
21	I-80 EB - SR-65 to Rocklin Rd	Basic	5,183	194	94.2%							63.0	0.2	23.1	0.7	C
22	I-80 EB - Rocklin Rd Off-ramp	Diverge	5,182	189	94.2%				1,619	82	95.8%	63.3	0.2	21.0	0.7	C
23	I-80 EB - Rocklin Rd Off to On-ramp	Basic	3,554	155	93.3%							63.4	0.1	21.0	0.9	C
24	I-80 EB - Rocklin Rd On-ramp	Merge	3,554	152	93.3%	280	26	107.8%				60.4	0.6	21.1	0.7	C
25	I-80 EB - Rocklin Rd to Sierra College Blvd	Basic	3,825	150	94.0%							63.2	0.1	21.9	0.7	C
26	I-80 EB - Sierra College Blvd Off-ramp	Diverge	3,823	151	93.9%				286	40	89.5%	62.3	0.5	23.4	0.9	C
27	I-80 EB - Sierra College Blvd Off to On-ramp	Basic	3,534	156	94.2%							63.1	0.4	20.7	0.8	C
28	I-80 EB - Sierra College Blvd SB On-ramp	Merge	3,533	154	94.2%	236	3	94.4%				61.3	0.5	19.7	0.9	B
29	I-80 EB - Sierra College Blvd NB On-ramp	Merge	3,764	142	94.1%	579	24	96.5%				61.3	0.4	22.7	0.7	C
38	I-80 WB - Sierra College Blvd Off-ramp	Diverge	3,662	15	105.8%				584	42	106.2%	60.7	0.7	19.3	0.4	B
39	I-80 WB - Sierra College Blvd Off to On-ramp	Basic	3,077	53	105.7%							63.7	0.3	18.0	0.3	B
40	I-80 WB - Sierra College Blvd NB On-ramp	Merge	3,076	48	105.7%	151	5	100.6%				63.2	0.3	16.5	0.3	B
41	I-80 WB - Sierra College Blvd SB On-ramp	Merge	3,227	57	105.5%	223	5	92.9%				63.1	0.2	17.5	0.4	B
42	I-80 WB - Sierra College Blvd to Rocklin Rd	Basic	3,448	63	104.5%							63.4	0.1	19.7	0.2	C
43	I-80 WB - Rocklin Rd Off-ramp	Diverge	3,446	61	104.4%				283	39	104.7%	62.9	0.3	20.6	0.5	C
44	I-80 WB - Rocklin Rd Off to On-ramp	Basic	3,163	55	104.4%							63.6	0.1	18.5	0.3	C
45	I-80 WB - Rocklin Rd On-ramp	Merge	3,164	59	104.4%	1,323	50	97.3%				60.5	0.5	22.6	0.3	C
46	I-80 WB - Rocklin Rd to HOV Lane Start	Basic	4,478	85	102.0%							62.9	0.3	24.2	0.4	C
47	I-80 WB - HOV Lane Start to SR-65	Basic	4,476	91	102.0%							62.8	0.3	20.1	0.4	C
48	I-80 WB - SR-65 Off-ramp	Diverge	4,474	90	101.9%				1,724	72	102.0%	63.9	0.2	18.1	0.4	B
49	I-80 WB - SR-65 Off to On-ramp	Basic	2,743	78	101.6%							63.9	0.1	15.5	0.4	B
50	I-80 WB - SR-65 On-ramp	Merge	2,741	77	101.5%	3,213	108	100.1%				61.9	0.2	24.7	0.6	C
60	I-80 WB - Taylor Rd On-ramp	Merge	5,958	136	100.8%	425	43	78.8%				61.7	0.3	28.1	0.9	D
61	I-80 WB - Atlantic St WB Off-ramp	Diverge	6,388	152	99.0%				390	31	102.5%	62.9	0.6	27.1	0.7	C
62	I-80 WB - Atlantic St EB Off-ramp	Diverge	6,000	143	98.8%				956	62	100.6%	62.8	0.4	28.1	0.8	D
63	I-80 WB - Atlantic St Off to On-ramp	Basic	5,039	135	98.4%							63.5	0.1	20.4	0.5	C
64	I-80 WB - Atlantic St On-ramp	Merge	5,040	141	98.4%	1,394	70	102.5%				60.4	1.3	29.6	0.8	D
65	I-80 WB - Douglas Blvd Off-ramp	Diverge	6,438	153	99.3%				904	71	98.3%	61.9	0.9	27.3	0.7	C
66	I-80 WB - Douglas Blvd Off to On-ramp	Basic	5,528	134	99.4%							63.5	0.1	22.6	0.6	C
67	I-80 WB - Douglas Blvd WB On-ramp	Merge	5,526	136	99.4%	1,411	70	100.1%				57.9	1.3	26.9	0.9	C
68	I-80 WB - Douglas Blvd Slip On	Merge	6,929	171	99.4%	723	42	87.2%				60.2	1.6	30.7	1.3	D
69	I-80 WB - Douglas Blvd to Riverside Ave	Basic	7,662	162	98.2%							62.1	0.3	30.2	0.8	D
70	I-80 WB - Riverside Ave Off-ramp	Diverge	7,666	154	98.3%				1,167	62	100.6%	62.7	0.1	31.2	0.7	D
71	I-80 WB - Riverside Ave Off to On-ramp	Basic	6,494	175	97.8%							63.2	0.1	24.9	0.7	C
72	I-80 WB - Riverside Ave NB On-ramp	Merge	6,488	173	97.7%	206	1	98.0%				63.3	0.1	23.0	0.8	C
73	I-80 WB - Riverside Ave SB On-ramp	Merge	6,693	178	97.7%	578	7	99.7%				61.5	1.2	27.2	0.8	C
74	I-80 WB - Riverside Ave to Antelope Rd	Basic	7,267	178	97.8%							62.0	0.6	28.1	0.8	D
75	I-80 WB - Antelope Rd Off-ramp	Diverge	7,274	155	97.9%				942	59	98.2%	61.9	1.4	29.3	1.0	D
76	I-80 WB - Antelope Rd Off to On-ramp	Basic	6,334	149	97.9%							62.8	0.4	24.4	0.7	C
77	I-80 WB - Antelope Rd WB On-ramp	Merge	6,334	150	97.9%	373	8	98.2%				60.7	0.9	22.9	0.9	C
78	I-80 WB - Antelope Rd to Truck Scales	Weave	6,702	151	97.8%	368	15	99.5%	61	15	100.8%	62.7	0.3	23.9	0.6	C
79	I-80 WB - Truck Scales Off to On-ramp	Basic	7,011	154	97.9%							63.0	0.1	26.2	0.6	D
80	I-80 WB - Truck Scales On-ramp	Merge	7,015	152	98.0%	61	14	101.2%				62.7	0.1	26.7	0.4	C
81	I-80 WB - Truck Scales to Elkhorn Blvd	Basic	7,071	160	97.9%							62.0	0.3	27.5	0.7	D
82	I-80 WB - Elkhorn Blvd Off-ramp	Diverge	7,072	158	98.0%				1,047	65	95.1%	62.6	0.2	25.6	0.7	C
83	I-80 WB - Elkhorn Blvd Off to On-ramp	Basic	6,024	129	98.4%							63.3	0.2	23.1	0.5	C
84	I-80 WB - Elkhorn Blvd WB On-ramp	Merge	6,022	131	98.4%	898	3	99.8%				58.5	0.7	24.6	0.7	C
85	I-80 WB - Elkhorn Blvd EB On-ramp	Merge	6,925	133	98.6%	658	16	102.8%				61.8	0.6	28.3	0.7	D

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VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Construction Year - No Build Alternative
PM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
100	SR-65 NB - EB I-80 Connector	Basic	3,881	86	96.1%							36.1	0.7	61.5	1.7	F
101	SR-65 NB - WB I-80 Connector	Basic	1,724	72	102.0%							50.3	0.4	27.8	0.9	D
103	SR-65 NB - I-80 On-ramp	Merge	3,879	85	96.0%	1,723	69	102.0%				60.2	0.5	32.3	0.4	D
104	SR-65 NB - I-80 to Stanford Ranch Rd	Basic	5,605	114	97.8%							62.7	0.2	30.6	0.3	D
105	SR-65 NB - Stanford Ranch Rd Off-ramp	Diverge	5,604	115	97.8%				1,158	67	95.7%	62.1	0.5	29.5	0.2	D
106	SR-65 NB - Stanford Ranch Rd Off to On-ramp	Basic	4,441	117	98.2%							62.8	0.4	24.7	0.4	C
107	SR-65 NB - Stanford Ranch Rd On-ramp	Merge	4,441	117	98.2%	904	44	97.2%				56.9	3.2	32.5	1.7	D
109	SR-65 NB - Pleasant Grove Blvd Off-ramp	Diverge	5,338	110	98.0%				1,132	57	96.7%	58.3	1.0	35.8	1.1	E
110	SR-65 NB - Pleasant Grove Blvd Off to On-ramp	Basic	4,206	110	98.3%							61.8	0.4	35.8	0.7	E
111	SR-65 NB - Pleasant Grove Blvd to Blue Oaks Blvd	Weave	4,207	110	98.3%	596	30	99.3%	1,786	85	99.2%	62.2	0.3	28.7	0.5	D
114	SR-65 NB - Blue Oaks Blvd Off to On-ramp	Basic	3,019	92	98.0%							63.0	0.1	25.0	0.6	C
115	SR-65 NB - Blue Oaks Blvd On-ramp	Merge	3,016	96	97.9%	488	36	101.6%				60.9	0.5	27.5	0.8	C
116	SR-65 NB - Blue Oaks Blvd to Sunset Blvd	Basic	3,501	104	98.3%							62.2	0.2	29.4	0.8	D
118	SR-65 NB - Sunset Blvd Off-ramp	Diverge	3,501	101	98.3%				609	30	101.6%	62.7	0.2	26.7	0.8	C
119	SR-65 NB - Sunset Blvd Off to On-ramp	Basic	2,886	91	97.5%							62.7	0.2	25.0	0.8	C
120	SR-65 NB - Sunset Blvd EB On-ramp	Merge	2,887	91	97.5%	135	16	103.5%				62.3	0.3	25.5	0.9	C
121	SR-65 NB - Sunset Blvd to Whitney Ranch Pkwy	Weave	3,020	98	97.7%	396	16	98.9%	469	52	95.8%	62.2	0.3	25.0	0.7	C
124	SR-65 NB - Whitney Ranch Pkwy Off to On-ramp	Basic	2,940	84	98.0%							62.6	0.1	25.5	0.5	C
125	SR-65 NB - Whitney Ranch Pkwy EB On-ramp	Merge	2,941	85	98.0%	169	9	93.8%				62.3	0.2	26.0	0.5	C
126	SR-65 NB - Whitney Ranch Pkwy WB On-ramp	Merge	3,108	85	97.7%	267	15	102.7%				61.6	0.3	28.8	0.6	D
127	SR-65 NB - Whitney Ranch Pkwy to Twelve Bridges Dr	Basic	3,369	85	97.9%							62.2	0.1	29.1	0.5	D
128	SR-65 NB - Twelve Bridges Dr Off-ramp	Diverge	3,367	84	97.9%				719	54	104.2%	61.3	0.5	29.9	0.6	D
129	SR-65 NB - Twelve Bridges Dr Off to On-ramp	Basic	2,645	72	96.2%							62.9	0.2	23.3	0.5	C
130	SR-65 NB - Twelve Bridges Dr to Lincoln Blvd	Weave	2,640	78	96.0%	268	24	92.5%	984	52	96.4%	63.3	0.2	19.4	0.4	B
133	SR-65 NB - Lincoln Blvd to Ferrari Ranch Rd	Basic	1,922	67	95.1%							63.5	0.1	18.5	0.6	C
134	SR-65 NB - Ferrari Ranch Rd Off-ramp	Diverge	1,920	67	95.1%				1,331	64	95.1%	64.1	0.1	14.5	0.5	B
135	SR-65 NB - Ferrari Ranch Rd Off to On-ramp	Basic	588	41	94.8%							64.5	0.2	5.4	0.3	A
136	SR-65 NB - Ferrari Ranch Rd On-ramp	Merge	587	41	94.7%	83	5	92.0%				63.2	0.2	5.6	0.2	A
150	SR-65 SB - Ferrari Ranch Rd Off-ramp	Diverge	950	36	101.1%				144	16	96.3%	64.5	0.2	8.2	0.2	A
151	SR-65 SB - Ferrari Ranch Rd Off to On-ramp	Basic	806	35	102.1%							64.5	0.2	6.9	0.2	A
152	SR-65 SB - Ferrari Ranch Rd WB On-ramp	Merge	807	36	102.1%	475	17	101.1%				61.8	0.3	7.8	0.2	A
153	SR-65 SB - Ferrari Ranch Rd EB On-ramp	Merge	1,281	35	101.7%	326	16	93.0%				62.5	0.2	10.4	0.3	B
154	SR-65 SB - Ferrari Ranch Rd to Lane Drop	Basic	1,605	36	99.7%							64.1	0.2	13.6	0.3	B
155	SR-65 SB - Lane Drop to Lincoln Blvd	Basic	1,605	38	99.7%							64.2	0.2	13.6	0.3	B
156	SR-65 SB - Lincoln Blvd to Twelve Bridges Dr	Weave	1,604	46	99.6%	700	43	98.6%	262	30	97.0%	62.5	0.3	14.4	0.3	B
159	SR-65 SB - Twelve Bridges Dr Off to On-ramp	Basic	2,043	61	99.7%							63.6	0.2	16.9	0.4	B
160	SR-65 SB - Twelve Bridges Dr On-ramp	Merge	2,043	61	99.7%	391	17	97.7%				61.9	0.5	18.7	0.5	B
161	SR-65 SB - Twelve Bridges Dr to Placer Pkwy	Basic	2,434	63	99.3%							63.3	0.2	20.0	0.6	C
162	SR-65 SB - Placer Pkwy Off-ramp	Diverge	2,432	66	99.2%				446	37	99.1%	63.4	0.2	18.9	0.5	B
163	SR-65 SB - Placer Pkwy Off to On-ramp	Basic	1,992	62	99.6%							63.6	0.2	16.5	0.6	B
164	SR-65 SB - Placer Pkwy WB On-ramp	Merge	1,991	62	99.6%	301	27	96.9%				62.3	0.7	18.2	0.7	B
165	SR-65 SB - Placer Pkwy to Sunset Blvd	Weave	2,293	67	99.2%	284	27	94.6%	368	34	99.5%	62.8	0.2	17.9	0.4	B
168	SR-65 SB - Sunset Blvd Off to On-ramp	Basic	2,207	77	98.5%							63.3	0.1	18.2	0.6	C
169	SR-65 SB - Sunset Blvd WB On-ramp	Merge	2,206	78	98.5%	605	14	102.5%				61.3	0.3	21.1	0.5	C
170	SR-65 SB - Sunset Blvd EB On-ramp	Merge	2,808	79	99.2%	533	28	100.5%				60.9	0.7	28.3	0.7	D
171	SR-65 SB - Sunset Blvd to Blue Oaks Blvd	Basic	3,340	83	99.4%							62.0	0.4	28.6	0.7	D
172	SR-65 SB - Blue Oaks Blvd Off-ramp	Diverge	3,337	83	99.3%				620	49	93.9%	62.6	0.2	27.9	0.5	C
173	SR-65 SB - Blue Oaks Blvd Off to On-ramp	Basic	2,715	92	100.6%							63.2	0.2	22.6	0.8	C
174	SR-65 SB - Blue Oaks Blvd WB On-ramp	Merge	2,714	89	100.5%	343	1	90.4%				61.2	0.3	24.1	0.8	C
175	SR-65 SB - Blue Oaks Blvd to Pleasant Grove Blvd	Weave	3,058	87	99.3%	1,180	77	96.7%	524	46	91.9%	59.7	0.7	26.3	0.8	C
178	SR-65 SB - Pleasant Grove Blvd Off to On-ramp	Basic	3,718	116	99.7%							62.0	0.5	31.2	0.9	D
179	SR-65 SB - Pleasant Grove Blvd WB On-ramp	Merge	3,717	115	99.7%	525	36	101.0%				61.8	0.3	26.7	0.6	C
180	SR-65 SB - Pleasant Grove Blvd EB On-ramp	Merge	4,240	122	99.8%	799	44	97.4%				60.9	0.7	25.9	0.8	C
181	SR-65 SB - Pleasant Grove Blvd to Galleria Blvd	Basic	5,034	125	99.3%							63.9	0.2	26.8	0.7	D
182	SR-65 SB - Galleria Blvd Off-ramp	Diverge	5,034	124	99.3%				945	63	94.5%	64.9	0.1	27.6	0.6	C
183	SR-65 SB - Galleria Blvd Off to On-ramp	Basic	4,051	111	99.5%							62.4	0.3	24.7	0.5	C
185	SR-65 SB - Galleria Blvd On-ramp	Merge	4,049	108	99.5%	1,003	65	94.6%				55.9	3.7	33.2	2.4	D
186	SR-65 SB - I-80 Off-ramp	Diverge	5,050	131	98.4%				3,206	110	167.0%	60.8	0.8	28.3	0.6	D
187	SR-65 SB - EB I-80 Connector (2 lanes)	Basic	1,850	71	96.3%							55.6	2.6	34.9	2.3	D
188	SR-65 SB - EB I-80 Connector (1 lane)	Basic	1,847	76	96.2%							60.1	0.5	32.7	1.0	D
189	SR-65 SB - WB I-80 Connector	Basic	3,210	110	100.0%							52.6	0.3	31.6	0.8	D

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Construction Year - No Build
AM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
1	Lincoln Blvd/Sterling Parkway	Signal	1,890	2,073	109.7%	9.8	0.9	A
2	SR-65 SB Ramps/Twelve Bridges Dr	Signal	1,150	1,285	111.7%	8.6	0.6	A
3	SR-65 NB Ramps/Twelve Bridges Dr	Signal	1,285	1,372	106.7%	8.8	1.0	A
4	SR-65 SB Ramps/Sunset Blvd	Signal	2,300	2,448	106.4%	10.4	0.4	B
5	SR-65 NB Ramps/Sunset Blvd	Signal	2,585	2,790	107.9%	14.7	2.9	B
6	SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd	Signal	4,580	4,733	103.3%	51.8	17.7	D
7	SR-65 NB Ramps/Blue Oaks Blvd	Signal	3,040	3,270	107.6%	12.7	3.3	B
8	SR-65 SB Ramps/Pleasant Grove Blvd	Signal	3,900	4,022	103.1%	5.9	0.4	A
9	SR-65 NB Ramps/Pleasant Grove Blvd	Signal	2,985	3,028	101.4%	11.1	0.5	B
10	Stanford Ranch Rd/Five Star Blvd	Signal	2,885	2,990	103.6%	28.9	1.5	C
11	SR-65 NB Ramps/Stanford Ranch Rd	Signal	3,435	3,601	104.8%	17.5	16.8	B
12	SR-65 SB Ramps/Galleria Blvd	Signal	3,675	3,781	102.9%	17.2	1.2	B
13	Galleria Blvd/Antelope Creek Dr	Signal	2,855	2,925	102.5%	13.9	2.1	B
14	Galleria Blvd/Roseville Pkwy	Signal	5,195	5,528	106.4%	37.1	0.7	D
15	Creekside Ridge Dr/Roseville Pkwy	Signal	3,550	3,736	105.2%	10.6	7.5	B
16	Taylor Rd/East Roseville Pkwy	Signal	4,530	4,773	105.4%	132.5	18.6	F
17	North Sunrise Ave/East Roseville Pkwy	Signal	4,325	4,588	106.1%	23.3	1.0	C
18	Wills Rd/Atlantic St	Signal	1,955	2,170	111.0%	18.9	2.6	B
19	I-80 WB Ramps/Atlantic St	Signal	3,395	3,628	106.9%	11.0	1.0	B
20	Taylor Rd-I-80 EB Ramps/Eureka Rd	Signal	4,385	4,628	105.5%	22.4	1.4	C
21	North Sunrise Ave/Eureka Rd	Signal	3,995	4,203	105.2%	26.0	2.3	C
22	Harding Blvd/Wills Rd	Signal	2,125	2,262	106.4%	14.3	1.6	B
23	Harding Blvd/Douglas Blvd	Signal	2,735	2,956	108.1%	36.2	18.8	D
24	I-80 WB Ramps/Douglas Blvd	Signal	3,680	3,953	107.4%	19.7	3.6	B

Network Summary	
Total Demand Volume (veh/hr)	76,435
Total Volume Served (veh/hr)	80,742
Percent Served	105.6%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Construction Year - No Build
AM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
25	I-80 EB Ramps/Douglas Blvd	Signal	4,060	4,395	108.3%	11.5	8.6	B
26	North Sunrise Ave/Douglas Blvd	Signal	4,380	4,662	106.4%	28.3	1.3	C
27	Pacific St/Woodside Dr	Signal	1,700	1,869	109.9%	8.7	0.9	A
28	Pacific St/Sunset Blvd	Signal	2,600	2,863	110.1%	26.8	1.0	C
29	Granite Dr/Rocklin Rd	Signal	2,401	2,497	104.0%	19.3	1.9	B
30	I-80 WB Ramps/Rocklin Rd	Signal	2,655	2,771	104.4%	20.5	5.5	C
31	I-80 EB Ramps/Rocklin Rd	Signal	2,745	2,900	105.6%	36.5	21.4	D
32	Aguilar Rd/Rocklin Rd	Signal	1,930	2,050	106.2%	23.2	34.0	C
33	Lincoln Blvd/SR-65 NB Off-Ramp	Signal	1,835	2,011	109.6%	6.2	0.7	A
34	Lincoln Blvd/SR-65 SB On-Ramp	Signal	1,270	1,366	107.5%	20.4	2.4	C
35	SR-65 SB Ramps/Placer Pkwy	Signal	1,690	1,734	102.6%	8.8	0.6	A
36	SR-65 NB Ramps/Whitney Ranch Pkwy	Signal	1,625	1,729	106.4%	10.8	6.8	B
40	Galleria Blvd/Berry St	Signal	1,965	2,076	105.7%	10.6	2.1	B

Network Summary	
Total Demand Volume (veh/hr)	30,856
Total Volume Served (veh/hr)	32,922
Percent Served	106.7%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Construction Year - No Build Alternative
PM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
1	Lincoln Blvd/Sterling Parkway	Signal	2,455	2,413	98.3%	8.4	0.7	A
2	SR-65 SB Ramps/Twelve Bridges Dr	Signal	985	962	97.6%	6.8	0.9	A
3	SR-65 NB Ramps/Twelve Bridges Dr	Signal	1,430	1,433	100.2%	8.6	0.7	A
4	SR-65 SB Ramps/Sunset Blvd	Signal	2,725	2,832	103.9%	12.2	6.3	B
5	SR-65 NB Ramps/Sunset Blvd	Signal	2,725	2,832	103.9%	16.8	9.4	B
6	SR-65 SB Ramps-Washington Blvd/Blue Oaks Blvd	Signal	5,485	5,359	97.7%	125.7	14.8	F
7	SR-65 NB Ramps/Blue Oaks Blvd	Signal	3,725	3,791	101.8%	70.1	21.0	E
8	SR-65 SB Ramps/Pleasant Grove Blvd	Signal	5,230	5,189	99.2%	6.6	0.7	A
9	SR-65 NB Ramps/Pleasant Grove Blvd	Signal	4,500	4,493	99.8%	11.6	3.0	B
10	Stanford Ranch Rd/Five Star Blvd	Signal	4,575	4,556	99.6%	48.3	2.8	D
11	SR-65 NB Ramps/Stanford Ranch Rd	Signal	5,410	5,375	99.4%	12.3	1.0	B
12	SR-65 SB Ramps/Galleria Blvd	Signal	5,465	5,396	98.7%	15.9	0.9	B
13	Galleria Blvd/Antelope Creek Dr	Signal	4,545	4,308	94.8%	24.4	1.9	C
14	Galleria Blvd/Roseville Pkwy	Signal	7,650	7,502	98.1%	57.7	11.4	E
15	Creekside Ridge Dr/Roseville Pkwy	Signal	4,675	4,583	98.0%	25.7	5.1	C
16	Taylor Rd/East Roseville Pkwy	Signal	5,880	5,852	99.5%	42.4	3.2	D
17	North Sunrise Ave/East Roseville Pkwy	Signal	5,465	5,518	101.0%	30.0	2.4	C
18	Wills Rd/Atlantic St	Signal	2,945	3,047	103.5%	22.1	2.3	C
19	I-80 WB Ramps/Atlantic St	Signal	4,435	4,545	102.5%	11.8	1.2	B
20	Taylor Rd-I-80 EB Ramps/Eureka Rd	Signal	5,725	5,841	102.0%	40.9	6.5	D
21	North Sunrise Ave/Eureka Rd	Signal	5,595	5,832	104.2%	62.0	19.8	E
22	Harding Blvd/Wills Rd	Signal	2,990	3,069	102.6%	19.2	2.3	B
23	Harding Blvd/Douglas Blvd	Signal	3,785	3,616	95.5%	91.9	27.6	F
24	I-80 WB Ramps/Douglas Blvd	Signal	4,510	4,481	99.4%	30.8	5.1	C

Network Summary	
Total Demand Volume (veh/hr)	102,910
Total Volume Served (veh/hr)	102,822
Percent Served	99.9%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

VISSIM Post-Processor
Average Results from 10 Runs
Intersection Volume and Delay

SR 65 Widening
Construction Year - No Build Alternative
PM Peak Hour

	Intersection	Control	Volume (vph)		Percent Served	Delay (sec/veh)		Level of Service
			Demand	Served		Average	Std. Dev.	
25	I-80 EB Ramps/Douglas Blvd	Signal	5,245	5,188	98.9%	28.6	9.2	C
26	North Sunrise Ave/Douglas Blvd	Signal	5,870	5,874	100.1%	39.0	1.6	D
27	Pacific St/Woodside Dr	Signal	2,250	2,052	91.2%	8.5	1.2	A
28	Pacific St/Sunset Blvd	Signal	3,580	3,113	87.0%	85.7	1.6	F
29	Granite Dr/Rocklin Rd	Signal	3,740	3,655	97.7%	127.0	4.9	F
30	I-80 WB Ramps/Rocklin Rd	Signal	3,770	3,766	99.9%	38.2	13.5	D
31	I-80 EB Ramps/Rocklin Rd	Signal	3,545	3,576	100.9%	32.7	7.2	C
32	Aguilar Rd/Rocklin Rd	Signal	2,415	2,453	101.6%	30.2	8.8	C
33	Lincoln Blvd/SR-65 NB Off-Ramp	Signal	2,315	2,271	98.1%	7.8	0.8	A
34	Lincoln Blvd/SR-65 SB On-Ramp	Signal	1,300	1,292	99.4%	21.4	3.0	C
35	SR-65 SB Ramps/Placer Pkwy	Signal	1,950	1,958	100.4%	8.5	0.6	A
36	SR-65 NB Ramps/Whitney Ranch Pkwy	Signal	1,945	1,953	100.4%	22.5	17.4	C
40	Galleria Blvd/Berry St	Signal	2,855	2,890	101.2%	9.5	2.0	A

Network Summary	
Total Demand Volume (veh/hr)	40,780
Total Volume Served (veh/hr)	40,042
Percent Served	98.2%

Notes: 1. Volume is measured for the entire peak hour.
2. Delay is measured for the peak 15 minutes in the peak hour.

SR 65 Capacity and Operational Improvements

OD Adjustment Methodology Memorandum

MEMORANDUM

Date: May 27, 2014

To: Matt Brogan, Mark Thomas

From: Ronald T. Milam, Fehr & Peers

Subject: **SR 65 Capacity and Operational Improvements Project – OD Adjustment Methodology**

The purpose of this memorandum is to describe the methodology proposed to modify the preliminary traffic volume forecasts for the SR 65 Capacity and Operational Improvements Project (SR 65 COI). Preliminary forecasts were developed as part of the screening assessment for this project based on travel forecast modeling completed for the I-80/SR 65 Interchange project. The preliminary forecasts will be refined for the final alternatives that are carried forward from the screening assessment into final traffic operations analysis. Refinements are desired to better capture recent land use planning decisions that have occurred in the City of Lincoln.

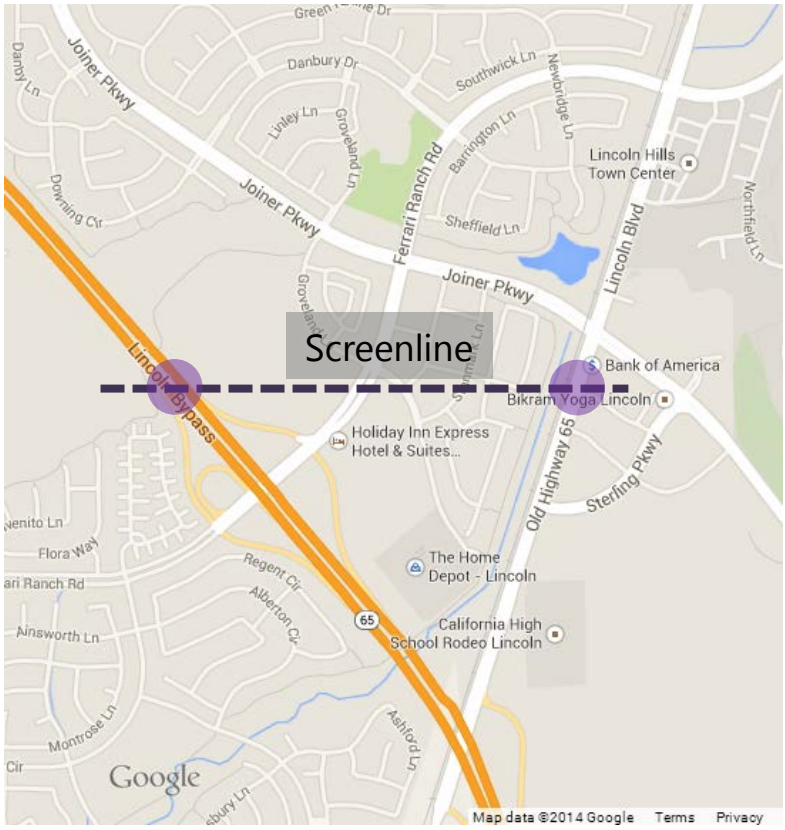
BACKGROUND

During the development of traffic forecasts for the I-80/SR 65 Interchange project, future development in the City of Lincoln was concentrated in the center and eastern portions of the City. Recent development plans show a shift in growth towards the western portion of the City along the new Lincoln Bypass. This change does not affect the I-80/SR 65 project because of the long distance between the development area and the interchange, but it does affect traffic volumes at the northern edge of the study area for the SR 65 COI project.

To confirm the level of change and how it could affect the SR 65 COI forecasts, we reviewed new land use and traffic volume forecasts being developed for the South Placer Regional Transportation Authority (SPRTA) fee study. While the overall land use growth projections were similar to those for the SR 65 COI project, the SPRTA growth allocations were higher near the Lincoln Bypass. A comparison of peak hour traffic volume assignments between the two projects revealed that the SPRTA fee program forecasts had more trips accessing SR 65 at interchanges north of Lincoln Boulevard. This results in more traffic on the SR 65 mainline entering the SR 65 COI study area instead of accessing the corridor at the Lincoln Boulevard interchange.

PROPOSED ADJUSTMENTS

In response the background findings above, Fehr & Peers developed an origin-destination (OD) adjustment methodology to refine the peak hour forecasts that will be used in the final traffic operations analysis. The methodology starts with identifying the traffic volume distribution on SR 65 versus Lincoln Boulevard at the screenline intersect locations shown on the map below.



AM and PM peak hour traffic volume forecasts for design year (2040) conditions at the screenline locations (denoted by in purple circles in the above map) were compared from the SPRTA impact fee study and SR 65 COI project. . The results are shown in Table 1.

TABLE 1
COMPARISON OF DESIGN YEAR (2040) PEAK HOUR TRAFFIC VOLUME FORECASTS

	AM		PM	
Travel Direction	**SPRTA Fee Study**	**SR 65 COI**	**SPRTA Fee Study**	**SR 65 COI**
Northbound				
• SR 65 (n/o Ferrari Ranch Rd)	58%	45%	72%	39%
• Lincoln Blvd (n/o Sterling Pkwy)	42%	55%	28%	61%
Total	100%	100%	100%	100%
Southbound				
• SR 65 (n/o Ferrari Ranch Rd)	63%	42%	61%	40%
• Lincoln Blvd (n/o Sterling Pkwy)	37%	58%	39%	60%
Total	100%	100%	100%	100%

In general, the traffic patterns are almost reversed between the two models due to the difference in land use growth allocations. For the SR 65 COI, these differences only affect the start or end of trips at the northern end of the study area. Therefore, the proposed adjustment is to modify the origin-destination (OD) trip tables in the SR 65 COI models such that the final traffic volume distribution matches the SPRTA impact fee study distribution shown in Table 1. The adjustment process may result in a volume that is lower than the traffic counts collected in 2013. In this unlikely event, the existing count volume will be used as the forecasted value.

This adjustment will not change the OD trips but will influence the paths used by the trips. For example, a portion of the northbound SR 65 PM peak hour trips that exit at Lincoln Boulevard will be adjusted such that their final destination is a zone connecting to the SR 65 mainline north of Ferrari Ranch Road. This adjustment has the effect of keeping these trips on the mainline through the Lincoln Boulevard and Ferrari Ranch Road interchanges instead of exiting at the Lincoln Boulevard northbound off-ramp. A similar adjustment will be applied to the southbound direction. The adjustments will be applied to design year volumes and, if necessary, to the construction year volumes. Construction year volume adjustments would be based on a linear interpolation between existing traffic volumes and the final adjusted design year traffic volumes.

SR 65 Capacity and Operational Improvements

Alternatives Screening Assessment Memorandum

MEMORANDUM

Date: May 28, 2014

To: Matt Brogan, Mark Thomas

From: Allen Wang, David Stanek, & Ronald T. Milam, Fehr & Peers

Subject: **SR 65 Capacity and Operational Improvements Project – Alternatives Screening Assessment**

This memorandum describes the results of the SR 65 Capacity and Operational Improvements (COI) project alternatives screening assessment. This assessment was performed using the VISUM meso-scale models originally developed for the I-80/SR 65 Interchange Improvements project and recently refined for the SR 65 COI project.

The key refinement was to include traffic counts collected at the Twelve Bridges Drive, Lincoln Boulevard, and Ferrari Ranch Road interchanges in Lincoln. Existing conditions for the I-80/SR 65 project was prior to the opening of the Lincoln Bypass. Compared to the I-80/SR 65 traffic forecasts, the traffic counts showed higher traffic volumes on the ramps to and from the north at Twelve Bridges Drive and Ferrari Ranch Road. As a result, the design year traffic forecasts were adjusted upward to account for the higher observed traffic volumes. Based on recent discussions with the City of Lincoln, the traffic forecasts will be adjusted further to account for a shift in planned development from northeast Lincoln to the west along the bypass. This adjustment process will be documented in a separate memorandum.

The following five alternatives were initially considered for the screening assessment.

- No Build
- GP - add a general purpose (GP) lane in each direction
- HOV - add a high-occupancy vehicle (HOV) lane in each direction
- Hybrid - add an HOV lane in the south that transitions to a GP lane north of Blue Oaks Boulevard
- Constrained - widening with fewer mainline or auxiliary lanes to minimize environmental or right-of-way impacts

A review of the proposed cross section and the existing right of way limits showed that the proposed improvements for the build alternatives are likely to be within the existing right of way. Additionally, no

significant environmental constraints are anticipated within the existing right of way. Therefore, the Constrained alternative was eliminated from further consideration.

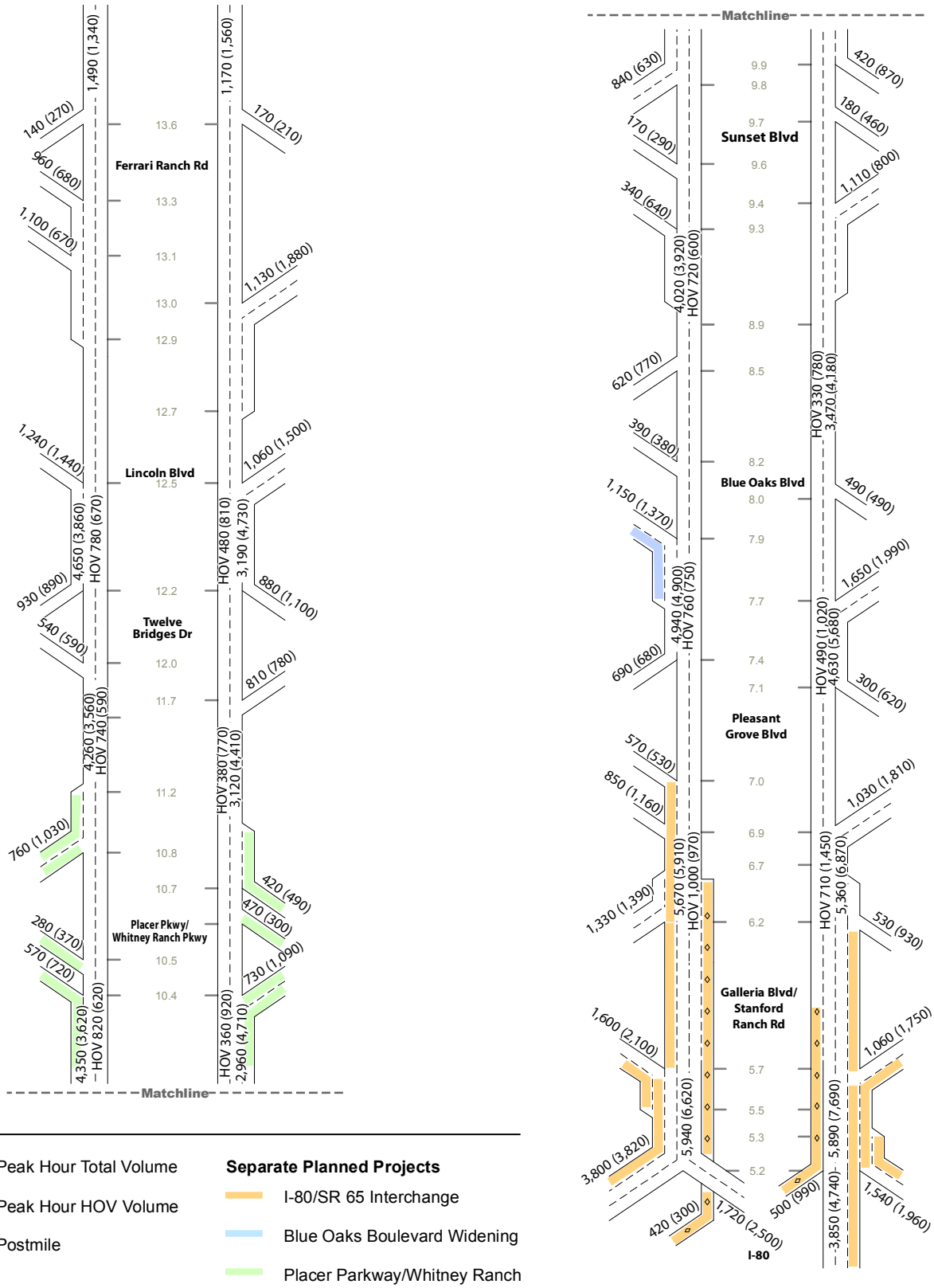
The alternatives assessment is based on 2040 design year conditions. Each of the four remaining alternatives is graphically represented in Figures 1 through 4. The diagrams show the mainline and auxiliary lanes added by the alternative and those assumed to be constructed by separate projects. These figures also show the AM and PM peak hour design year traffic volumes for the mainline and each ramp. The total HOV volume – in all lanes – is shown in the figures. Table 1 below reports the predicted volume in the HOV lane between interchanges (does not include entering or exiting HOV traffic).

TABLE 1: HOV LANE VOLUME

Location	No Build	GP	HOV	Hybrid
Northbound				
I-80 to Stanford Ranch Rd	500 (980)	730 (1,500)	750 (1,540)	780 (1,570)
Stanford Ranch Rd to Pleasant Grove Blvd	-	-	680 (1,520)	790 (1,710)
Pleasant Grove Blvd to Blue Oaks Blvd	-	-	440 (1,150)	510 (1,310)
Blue Oaks Blvd to Sunset Blvd	-	-	350 (980)	-
Southbound				
Sunset Blvd to Blue Oaks Blvd	-	-	890 (1,010)	-
Blue Oaks Blvd to Pleasant Grove Blvd	-	-	1,130 (1,140)	1,330 (1,330)
Pleasant Grove Blvd to Galleria Blvd	-	-	1,140 (1,060)	1,250 (1,120)
Galleria Blvd to I-80	420 (300)	720 (530)	750 (550)	790 (580)

Note: The AM and (PM) peak hour volumes are reported.
Source: Fehr & Peers, 2014

The build alternatives would increase the HOV volume in the HOV lane south of Galleria Boulevard/Stanford Ranch Road compared to the No Build alternative. The higher capacity in the build alternatives provide more opportunity for HOVs to utilize the direct HOV-only ramps that will be built at the I-80/SR 65 interchange.



LEGEND

AM (PM) Peak Hour Total Volume

HOV AM (PM) Peak Hour HOV Volume

10.1 Postmile

Separate Planned Projects

- I-80/SR 65 Interchange
- Blue Oaks Boulevard Widening
- Placer Parkway/Whitney Ranch Parkway Interchange

Figure 1

Design Year Peak Hour Traffic Volumes and Lane Configurations - No Build Alternative

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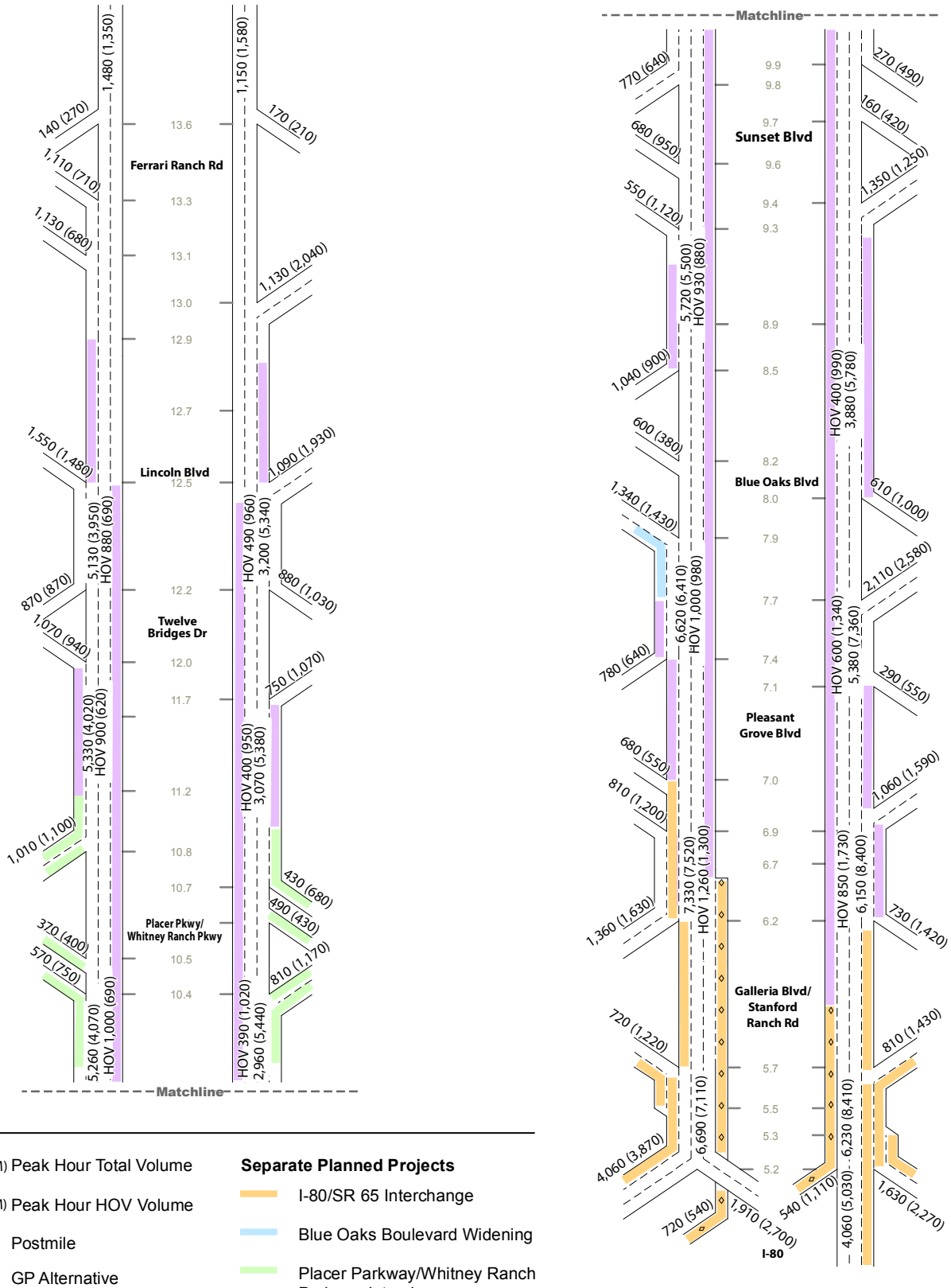

Figure 2

Design Year Peak Hour Traffic Volumes and Lane Configurations - GP Alternative

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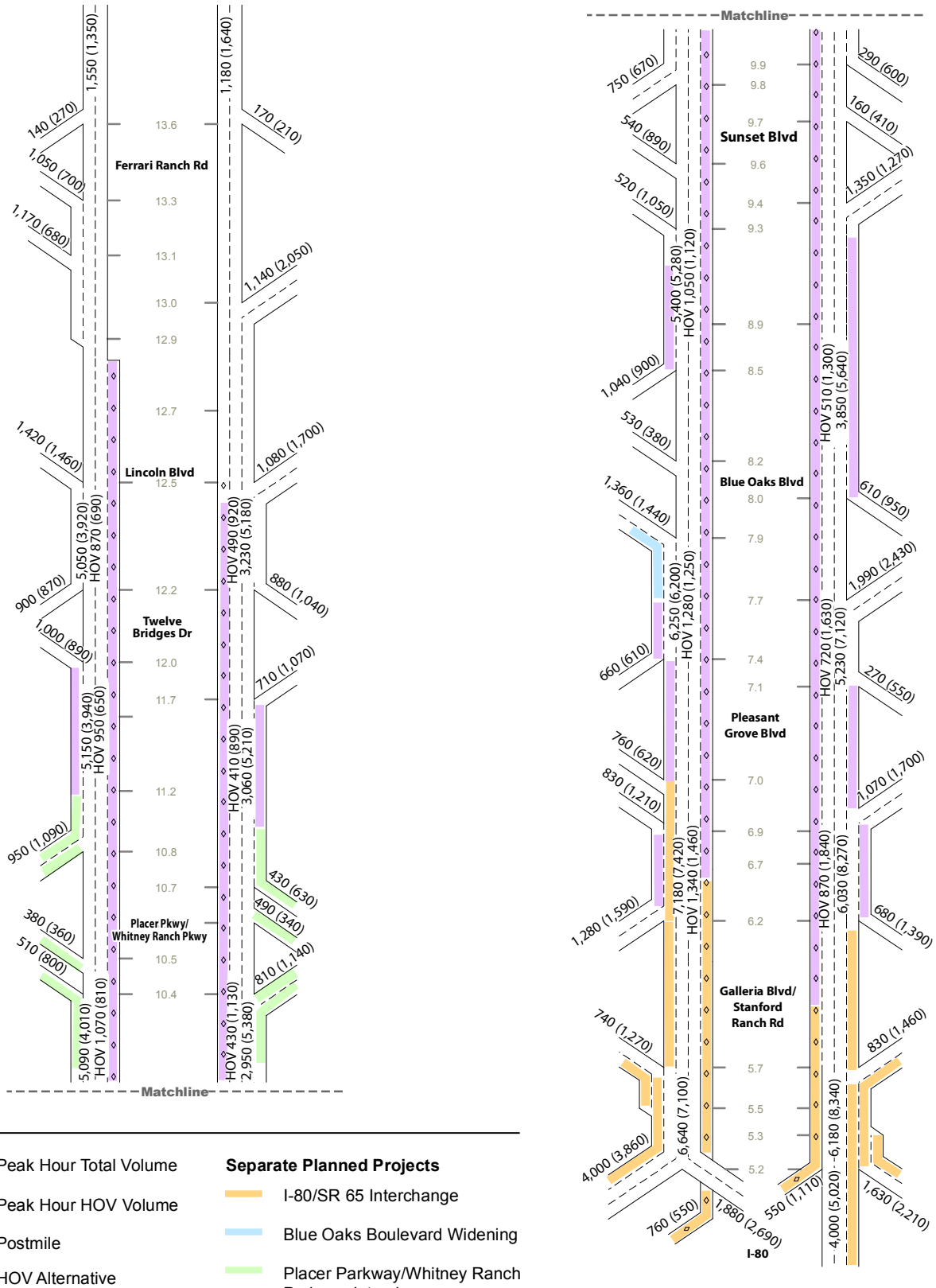

LEGEND

AM (PM) Peak Hour Total Volume

HOV AM (PM) Peak Hour HOV Volume

10.1 Postmile

HOV Alternative

Separate Planned Projects

I-80/SR 65 Interchange

Blue Oaks Boulevard Widening

Placer Parkway/Whitney Ranch Parkway Interchange

Figure 3

Design Year Peak Hour Traffic Volumes and Lane Configurations - HOV Alternative

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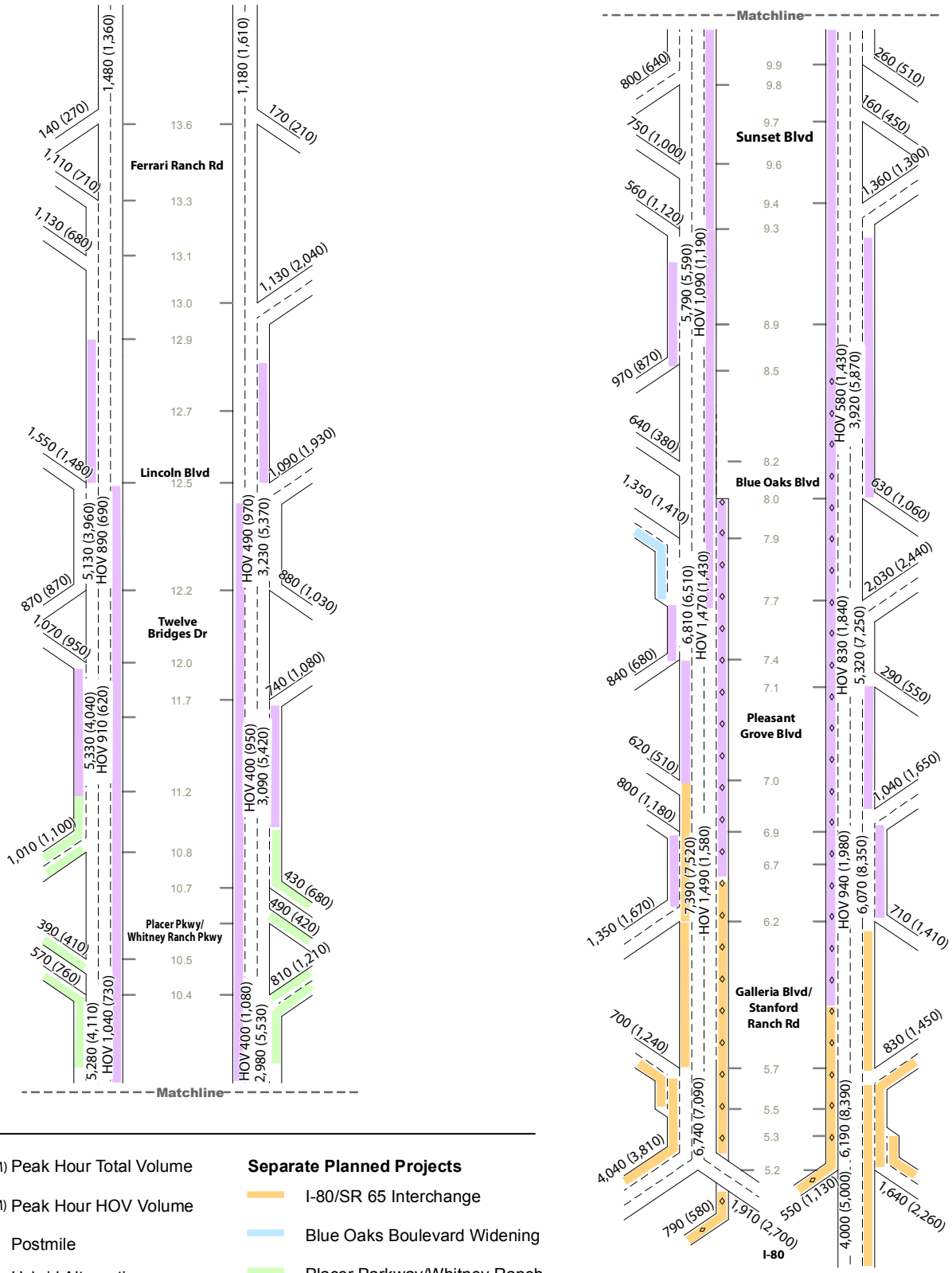

LEGEND

AM (PM) Peak Hour Total Volume

HOV AM (PM) Peak Hour HOV Volume

10.1 Postmile

Hybrid Alternative

Separate Planned Projects

I-80/SR 65 Interchange

Blue Oaks Boulevard Widening

Placer Parkway/Whitney Ranch Parkway Interchange

Figure 4

Design Year Peak Hour Traffic Volumes and Lane Configurations - Hybrid Alternative

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Of the build alternatives, the Hybrid alternative shows the highest peak hour HOV lane volume. While the GP lanes have higher overall capacity, the lack of an exclusive HOV lane along the corridor gives no travel time advantage to HOVs. So, they are not more likely to use the facility. Not surprisingly, the HOV alternative has a higher HOV lane volume due to the travel time advantage. The HOV lane volume is highest in the Hybrid alternative because (1) a travel time advantage exists and (2) additional GP lane capacity at bottlenecks allows for more demand volume to be served.

Based on these volumes, the following network-wide performance metrics were collected for the mesoscopic analysis area shown in Figure 5.

- Vehicle Miles Travelled (VMT)
- VMT by Speed Bin
- Vehicle Hours of Delay (VHD)
- Vehicle Hours Travelled (VHT)
- Freeway VHD
- Freeway Travel Time

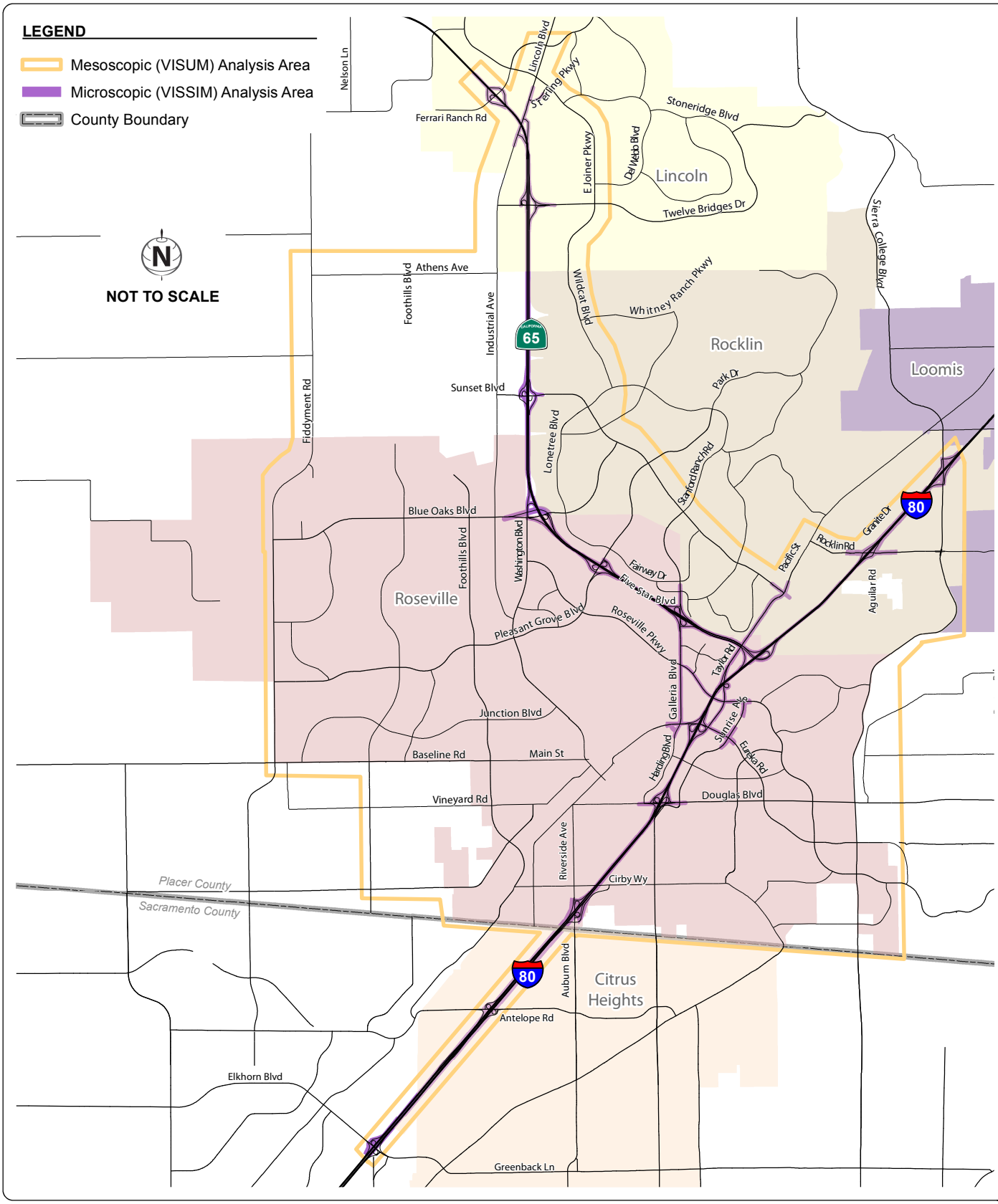
Table 2 contains a summary of the alternatives assessment results with the exception of VMT by speed bin, which is contained in the detailed results summary in Attachment A.

The following discussion highlights the key findings of the assessment.

- VMT **-** In all three build scenarios, VMT is increasing above the projected no build level. This is to be expected due to induced travel resulting from improvements to the system. The **Hybrid** alternative had the smallest increase from the No Build alternative with an increase of 16,040 VMT. The HOV alternative produced the second lowest increase in VMT. *This suggests that HOV lane effectiveness may decline in the northern portions of the corridor where peak hour demand and capacity utilization are lower.*

- VHD **-** As expected, the greatest VHD were associated with the No Build alternative. The **GP** alternative had the lowest levels of delay followed by the Hybrid alternative.

- VHT - The **Hybrid** alternative had the greatest change in VHT from the No Build alternative, followed by the GP alternative. While GP had the lowest levels of delay, this scenario also produced the highest VMT, thereby inflating VHT.



FEHR PEERS

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STUDY AREA

FIGURE 5

TABLE 2
ALTERNATIVES ASSESSMENT SUMMARY

Metric (1)	No Build	GP	HOV	Hybrid
VMT	4,440,670	4,469,450	4,451,490	4,468,570
Change from No Build	--	***+28,780***	*+10,820*	*+27,900*
VHD (2)	71,440	64,690	65,190	64,890
Change from No Build	--	***-6,750***	*-6,250*	*-6,550*
VHT	164,260	157,010	157,260	157,230
Change from No Build	--	***-7,250***	*-7,000*	*-7,030*
Total Freeway VHD (3)	10,240	7,350	7,590	7,440
Change from No Build	--	***-2,890***	*-2,650*	*-2,800*
SR 65 Freeway VHD (3)	3,430	420	680	720
Change from No Build	--	***-3,010***	*-2,750*	*-2,710*
SOV Freeway Travel Time (4)				
Northbound - PM	19.7	**12.4**	14.4	12.9
Southbound - AM	17.7	**10.9**	12.9	**10.9**
HOV Freeway Travel Time (4)				
Northbound - PM	19.2	11.6	**10.3**	10.9
Southbound - AM	17.0	10.6	**9.5**	10.5

Notes: Bold indicates largest change or difference from No Build.
(1) Results are based on the sum of the AM and PM peak periods values.
(2) For VHD, delay is the additional travel time that occurs when traveling on all roadways less than the free-flow speed.
(3) Freeway VHD is the additional travel time only on freeways when traveling less than 35 mph. Total Freeway VHD includes both I-80 an d SR 65, while SR 65 Freeway VHD only includes the latter route.
(4) Travel time in minutes is measured between I-80 and Ferrari Ranch Road. The free-flow travel time (at 65 mph) is 7.2 minutes.
Source: Fehr & Peers, 2014

- Freeway VHD - Freeway VHD was measured for freeway mainline links as the delay relative to a speed of 35 mph. Reductions in Freeway VHD from the No Build alternative produced the same results as VHD; the lowest levels of delay are associated with the **GP** alternative followed by the Hybrid alternative. The majority of Freeway VHD occurs on I-80. The build alternatives would reduce Freeway VHD on SR 65 by at least 79 percent.

- Freeway Travel Time - With the lowest VHD and greatest throughput by speed, the **GP** alternative had the lowest single occupancy vehicle (SOV) peak hour travel times in the peak direction. The Hybrid alternative was a very close runner up in the southbound direction during the AM peak hour. HOV travel times were consistently the lowest for the HOV alternative.

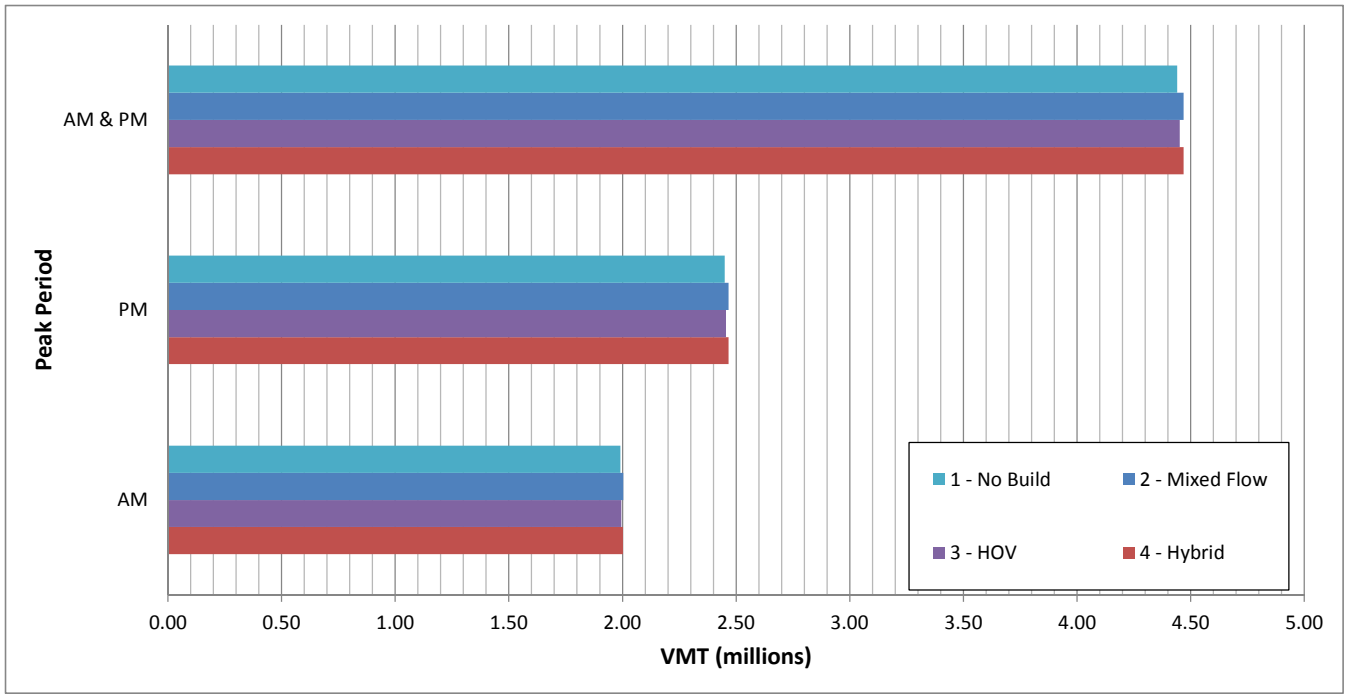
In addition to the metrics summarized above, VMT by speed bin was estimated for purposes of emissions analysis. Morning and evening peak period VMT by speed bin shows more VMT in the high speed bins (i.e., greater than 50 miles per hour) in the **GP** alternative. This is expected since this scenario had the lowest level of delay. The Hybrid alternative had the second highest VMT in high speed bins. Speed is important because air pollution and greenhouse gas (GHG) emission rates are lowest in the 45-55 miles per hour range. The GP alternative had more VMT in this range and a quick assessment of GHG emissions revealed that this also resulted in the lowest levels of emissions among the build alternatives. All the build alternatives had higher levels of GHG emissions than the No Build alternative due to higher total VMT.

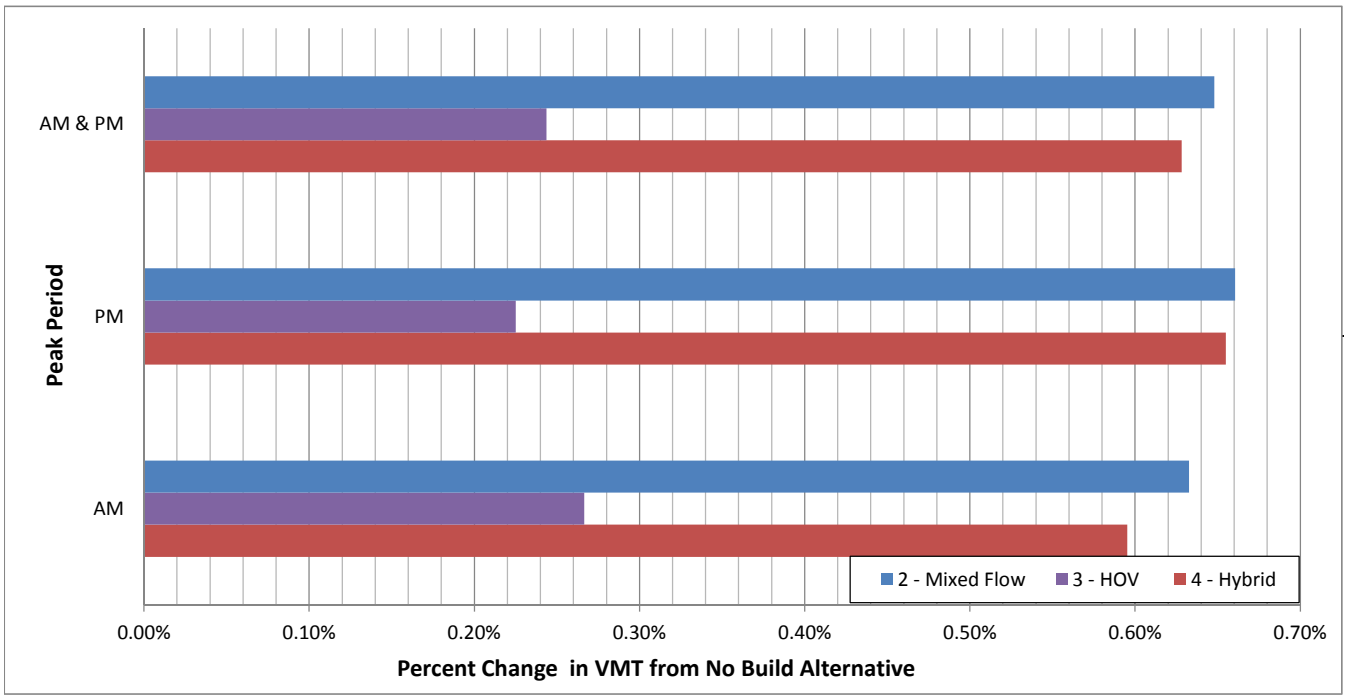
ATTACHMENT A

DETAILED ASSESSMENT RESULTS

SR-65 WIDENING ALTERNATIVES DESIGN YEAR MESO-SCALE VMT COMPARISON

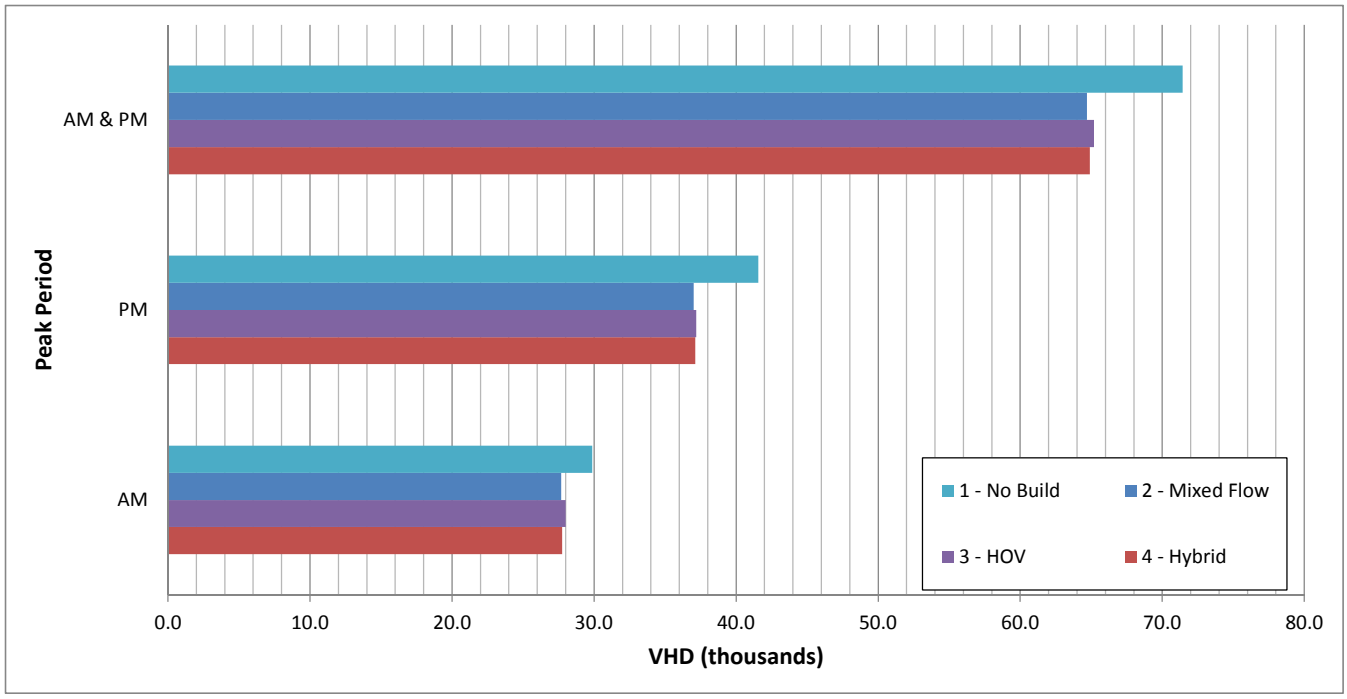
Alternative	Vehicle Miles of Travel (millions)			% Change from No Build		
	AM	PM	AM & PM	AM	PM	AM & PM
1 - No Build	1.99	2.45	4.44	-	-	-
2 - Mixed Flow	2.00	2.47	4.47	0.63%	0.66%	0.65%
3 - HOV	2.00	2.46	4.45	0.27%	0.22%	0.24%
4 - Hybrid	2.00	2.47	4.47	0.60%	0.66%	0.63%

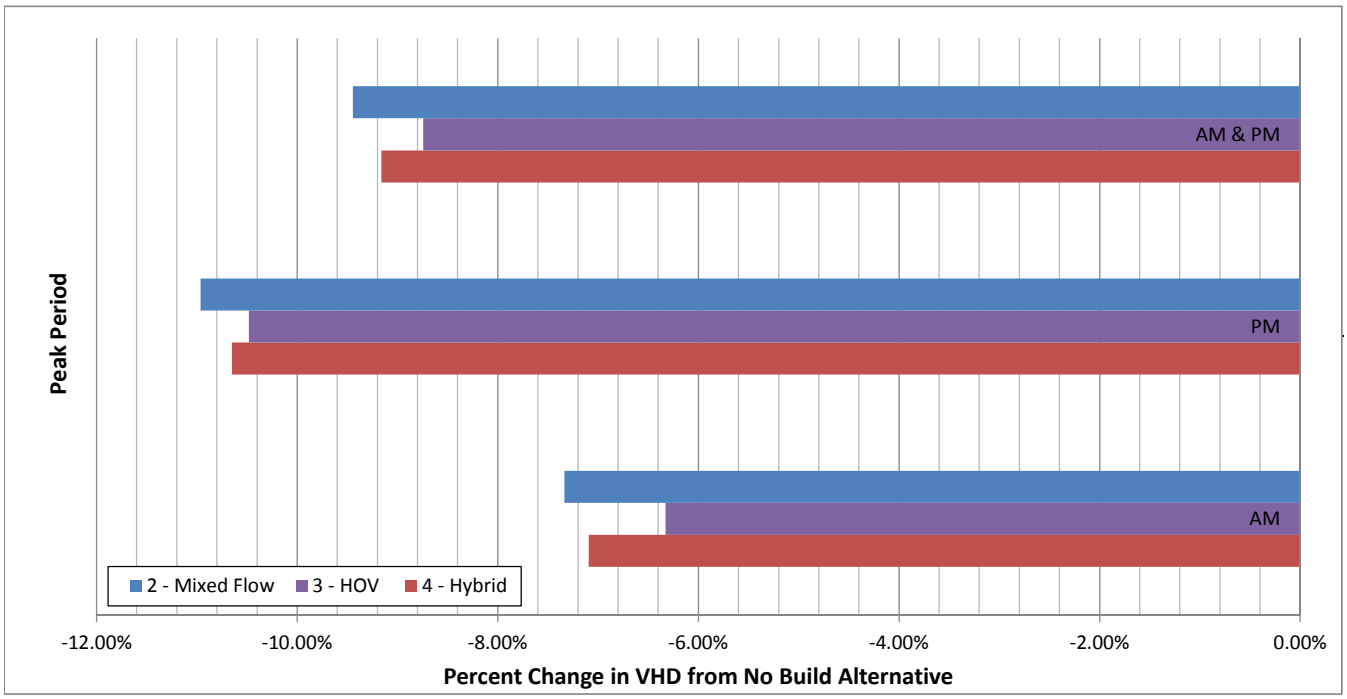




SR-65 WIDENING ALTERNATIVES DESIGN YEAR MESO-SCALE VHD COMPARISON

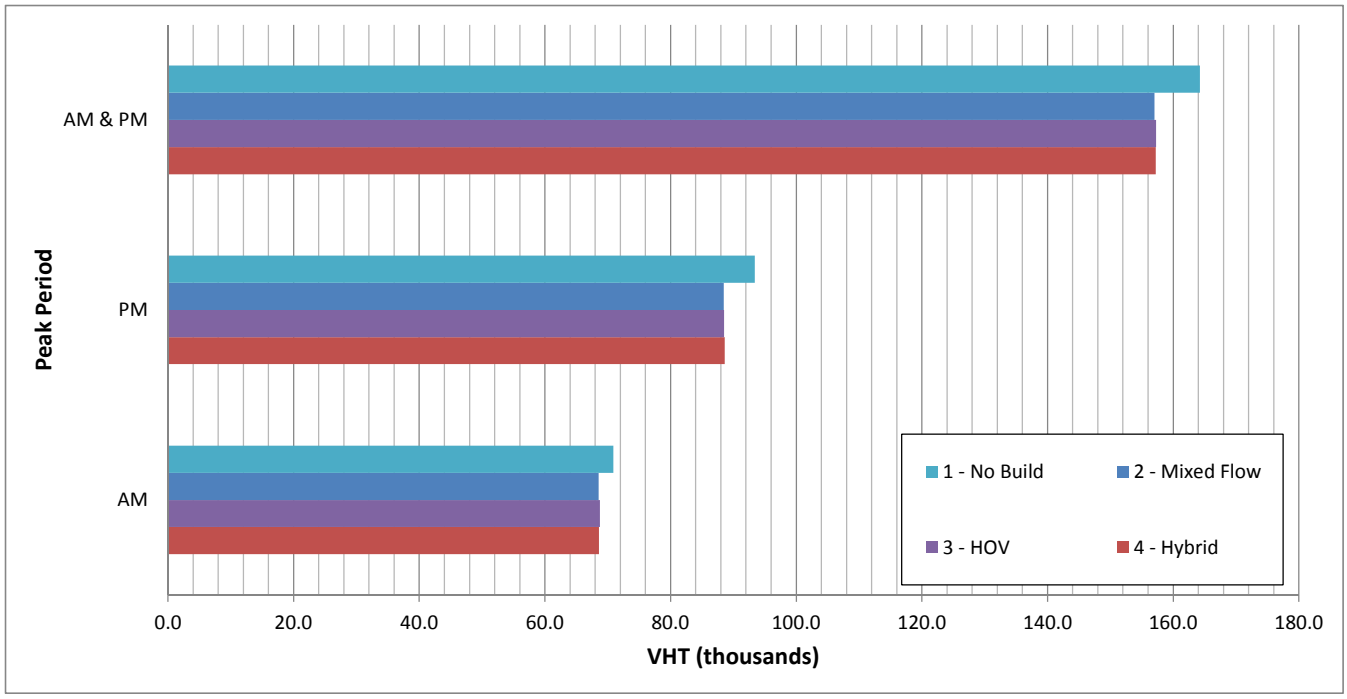
	Vehicle Hours of Delay (thousands)			% Change from No Build		
Alternative	**AM**	**PM**	**AM & PM**	**AM**	**PM**	**AM & PM**
1 - No Build	29.9	41.6	71.4	-	-	-
2 - Mixed Flow	27.7	37.0	64.7	-7.33%	-10.96%	-9.44%
3 - HOV	28.0	37.2	65.2	-6.33%	-10.48%	-8.74%
4 - Hybrid	27.8	37.1	64.9	-7.09%	-10.65%	-9.16%

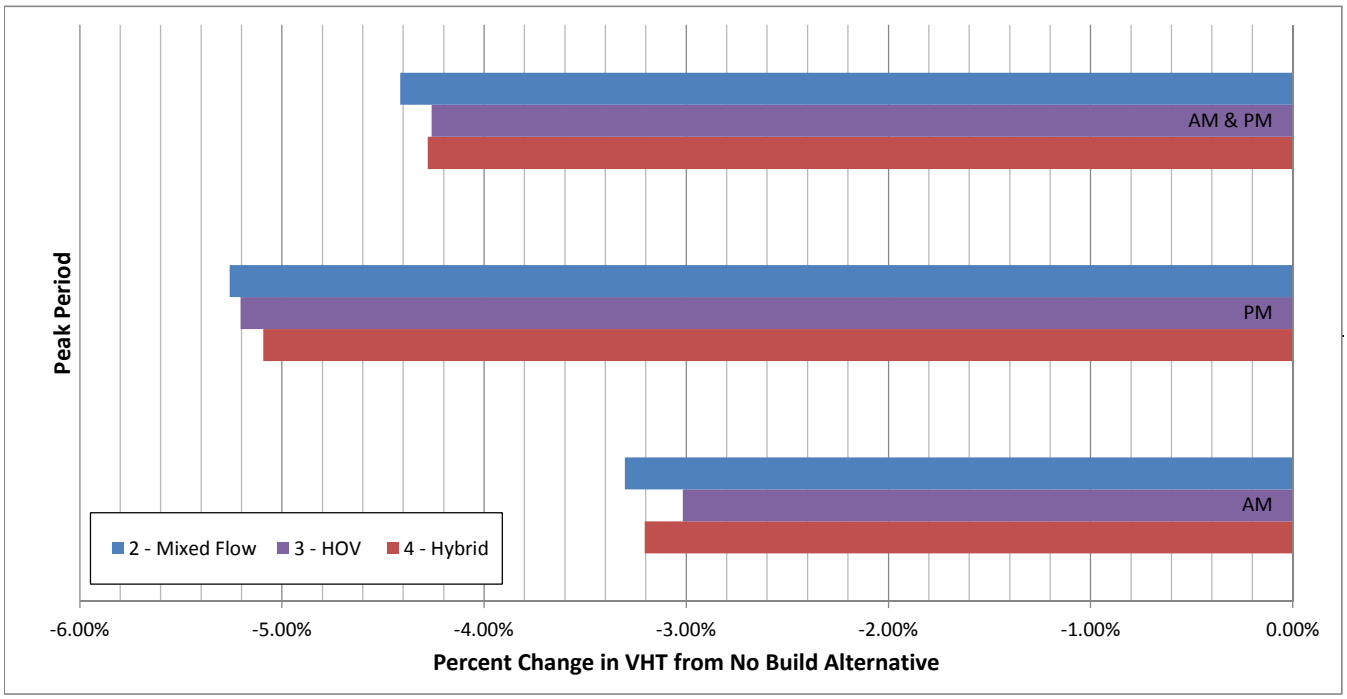




SR-65 WIDENING ALTERNATIVES DESIGN YEAR MESO-SCALE VHT COMPARISON

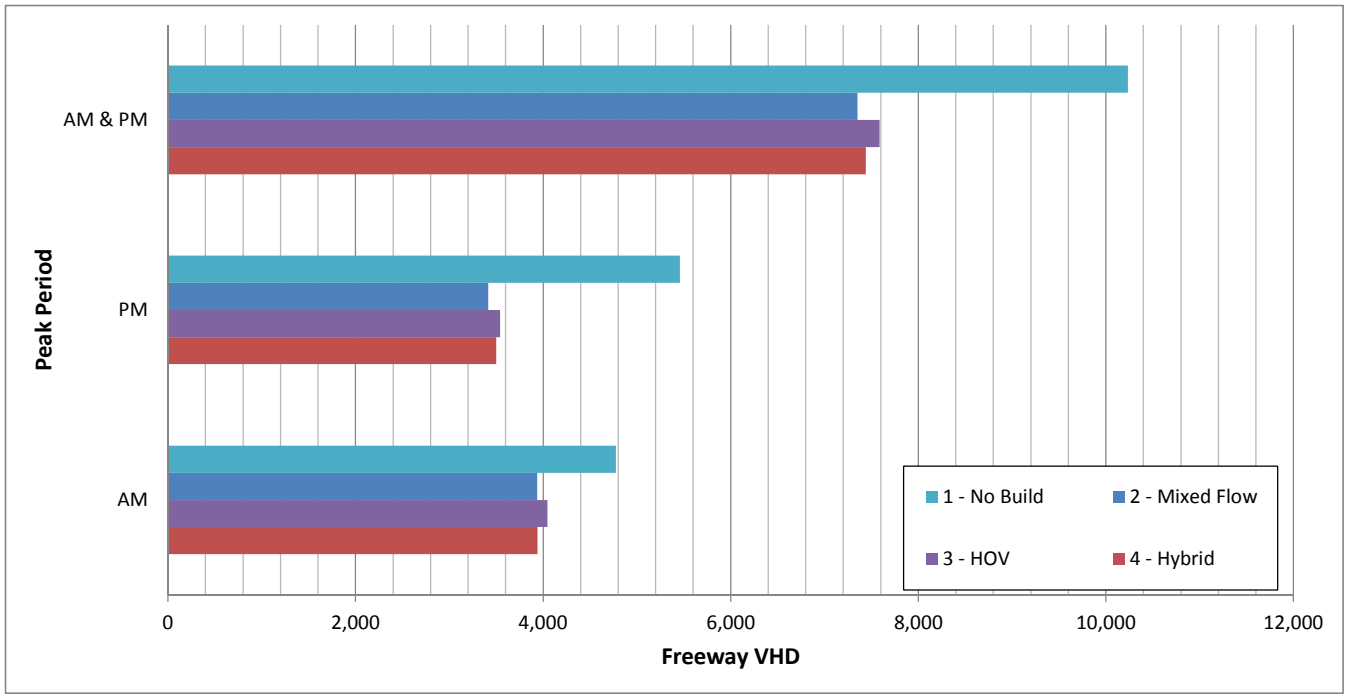
	Vehicle Hours of Travel (thousands)			% Change from No Build		
Alternative	**AM**	**PM**	**AM & PM**	**AM**	**PM**	**AM & PM**
1 - No Build	70.9	93.4	164.3	-	-	-
2 - Mixed Flow	68.5	88.5	157.0	-3.30%	-5.26%	-4.41%
3 - HOV	68.7	88.5	157.3	-3.02%	-5.20%	-4.26%
4 - Hybrid	68.6	88.6	157.2	-3.21%	-5.09%	-4.28%

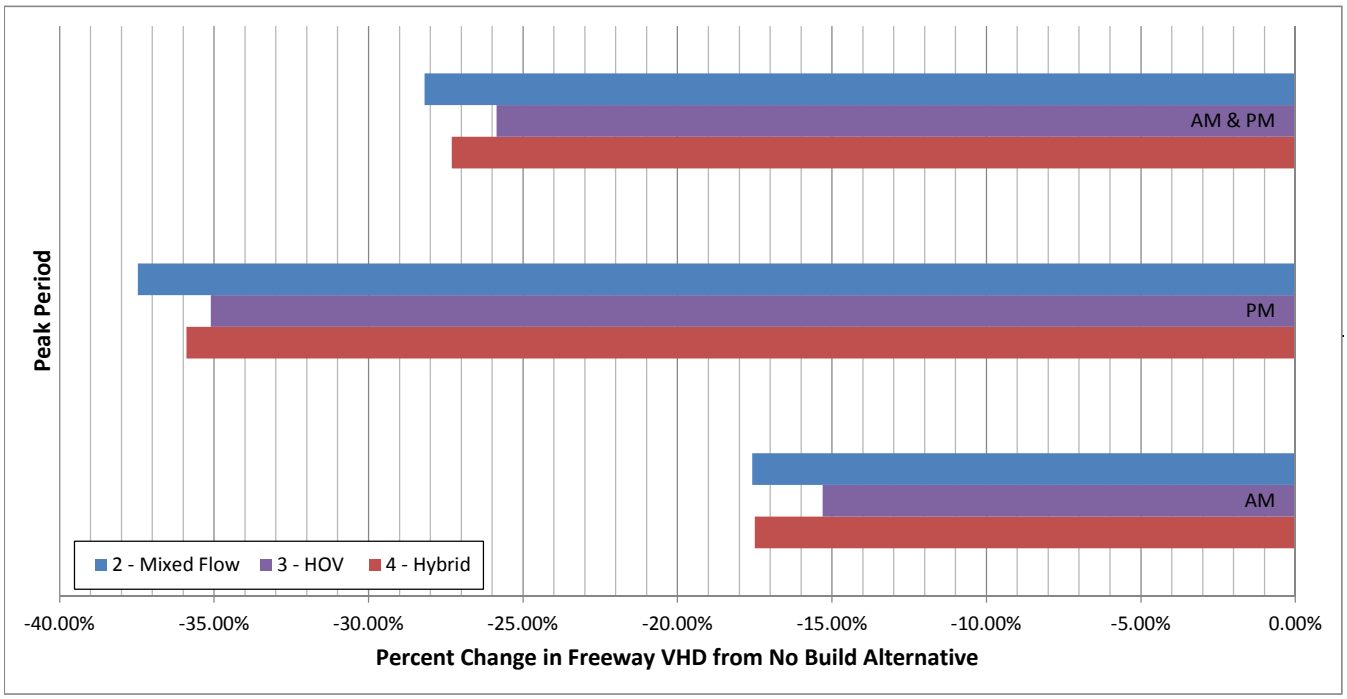




SR-65 WIDENING ALTERNATIVES DESIGN YEAR MESO-SCALE FREEWAY VHD COMPARISON

Alternative	Freeway Vehicle Hours of Delay*			% Change from No Build		
	AM	PM	AM & PM	AM	PM	AM & PM
1 - No Build	4,777	5,459	10,236	-	-	-
2 - Mixed Flow	3,937	3,414	7,351	-17.58%	-37.47%	-28.19%
3 - HOV	4,046	3,543	7,589	-15.30%	-35.10%	-25.86%
4 - Hybrid	3,941	3,500	7,440	-17.50%	-35.90%	-27.31%

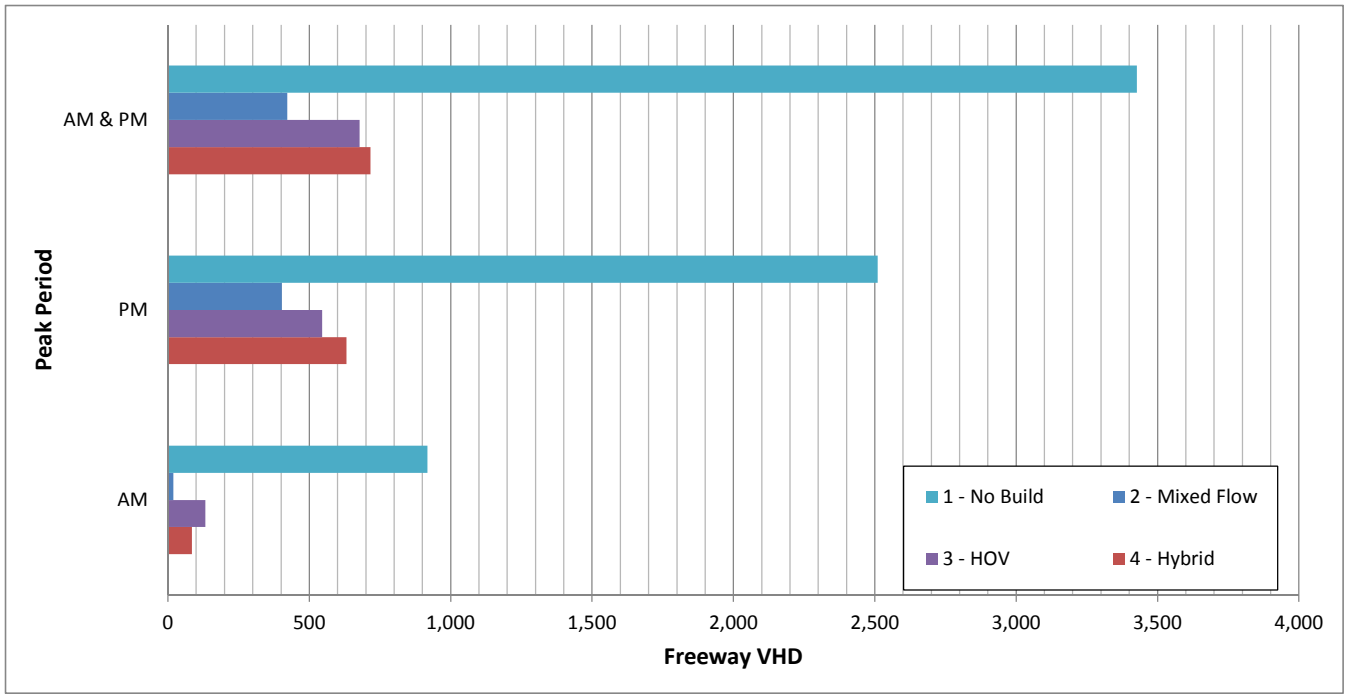


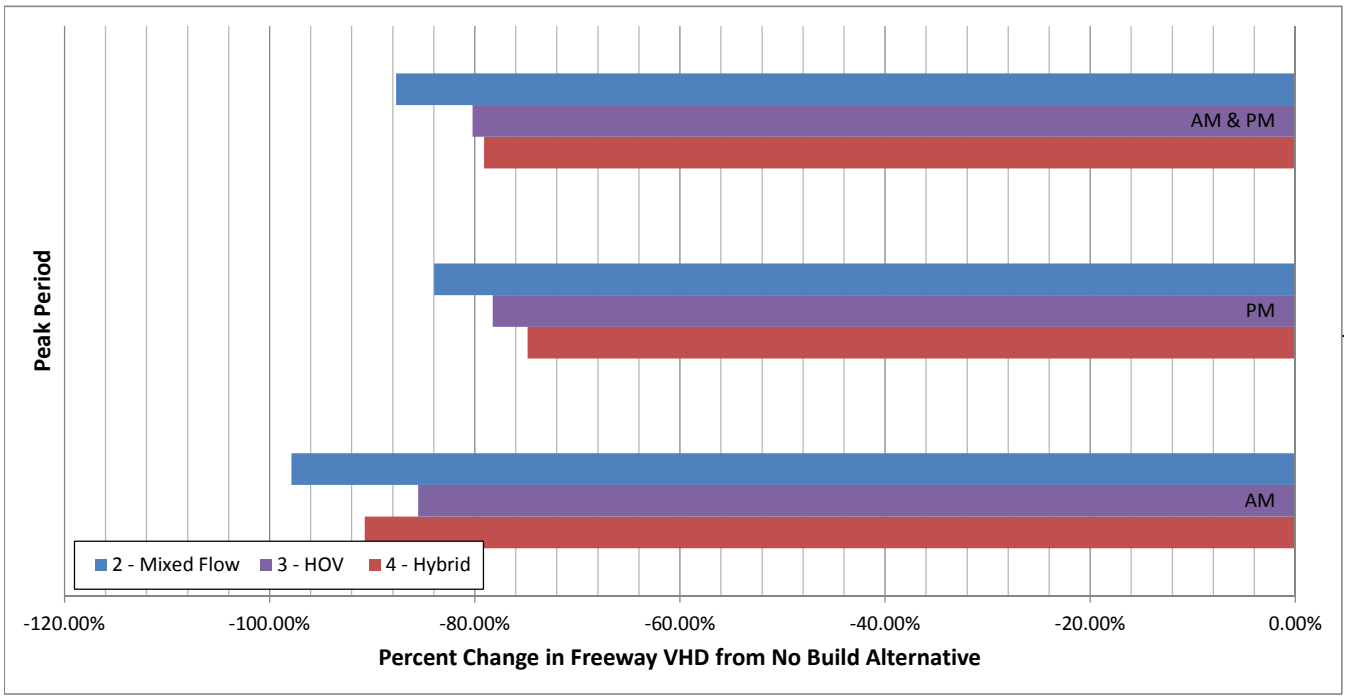


* Freeway VHD is measured only for freeway mainline links with an average speed less than 35 mph.

SR-65 WIDENING ALTERNATIVES DESIGN YEAR MESO-SCALE FREEWAY VHD COMPARISON

Alternative	Freeway Vehicle Hours of Delay*			% Change from No Build		
	AM	PM	AM & PM	AM	PM	AM & PM
1 - No Build	918	2,510	3,427	-	-	-
2 - Mixed Flow	20	402	422	-97.87%	-83.96%	-87.69%
3 - HOV	133	546	678	-85.53%	-78.26%	-80.21%
4 - Hybrid	85	631	716	-90.73%	-74.86%	-79.11%



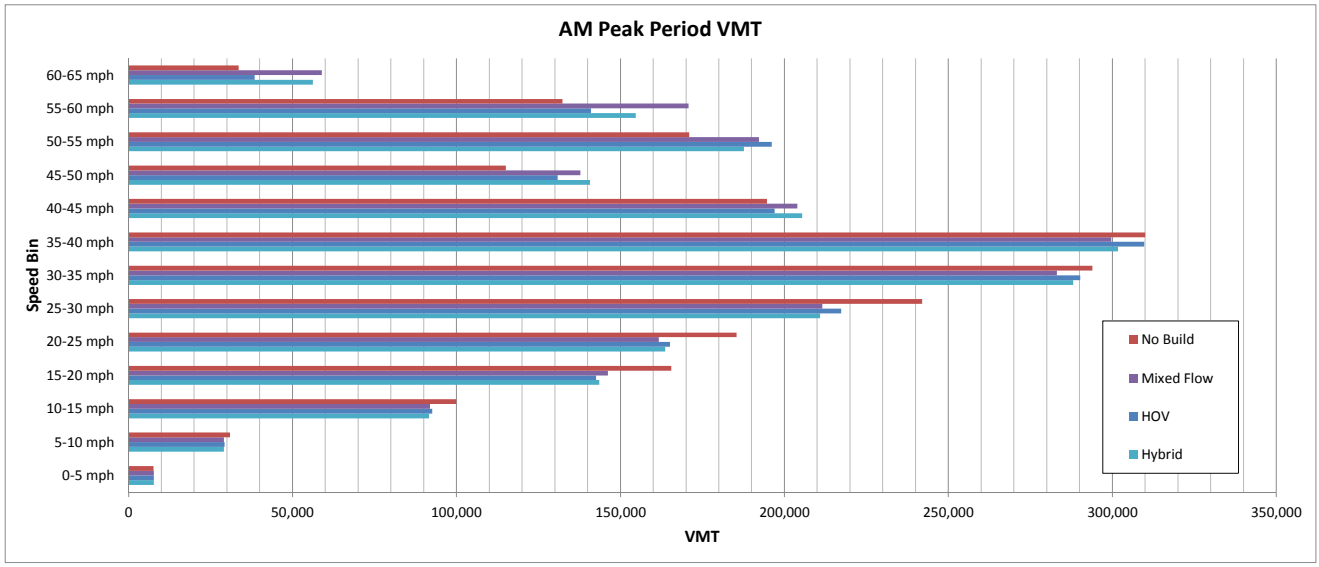


* Freeway VHD is measured only for freeway mainline links with an average speed less than 35 mph.

SR-65 Widening
Alternative Comparison
Design Year

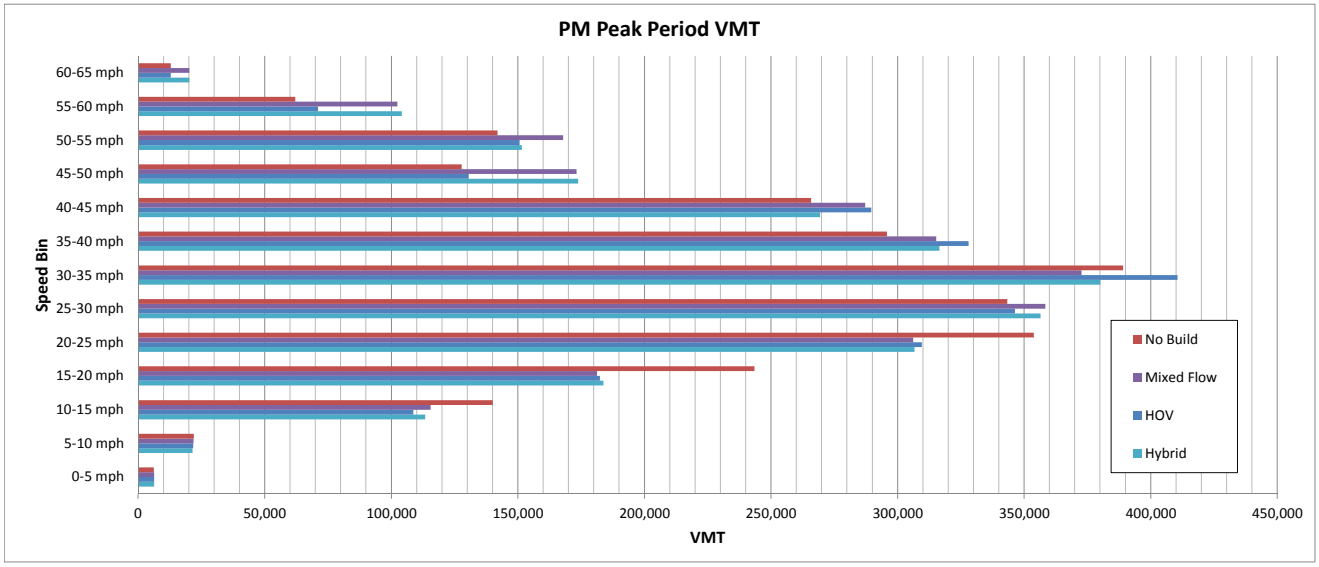
AM Peak Period

	VMT by Speed Bin											
Alt	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph
No Build	7,604	30,875	99,862	165,479	185,384	241,965	293,856	309,960	194,665	115,042	170,906	132,280	33,516
Mixed Flow	7,647	29,053	91,891	146,155	161,692	211,567	283,024	299,668	203,917	137,716	192,195	170,726	58,857
HOV	7,645	29,240	92,570	142,558	165,044	217,290	290,189	309,719	196,950	130,829	196,086	141,005	38,421
Hybrid	7,645	29,052	91,574	143,536	163,560	210,857	288,039	301,697	205,349	140,710	187,614	154,616	56,112



PM Peak Period

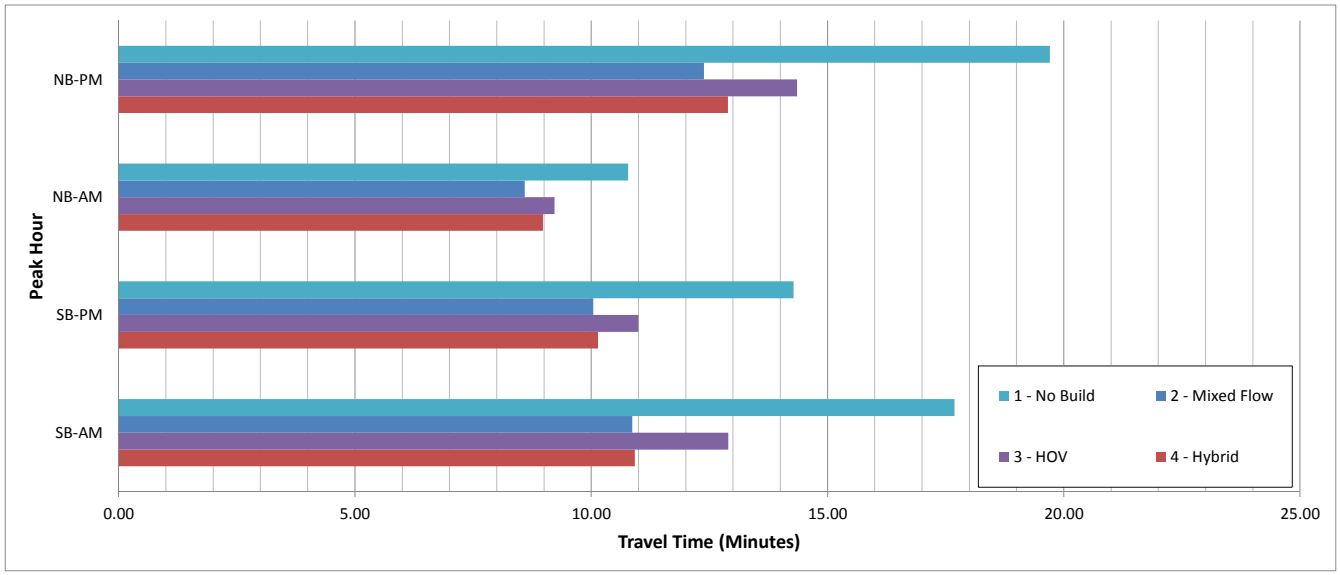
	VMT by Speed Bin											
Alt	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph
No Build	6,104	21,877	140,036	243,397	353,806	343,287	388,991	295,765	265,778	127,774	141,884	61,984	12,823
Mixed Flow	6,228	21,830	115,494	181,230	306,054	358,380	372,664	315,242	287,092	173,140	167,800	102,393	20,187
HOV	6,211	21,726	108,614	182,299	309,469	346,268	410,512	328,009	289,493	130,486	150,597	71,040	12,886
Hybrid	6,249	21,383	113,312	183,779	306,675	356,466	380,094	316,498	269,296	173,771	151,513	104,168	20,201

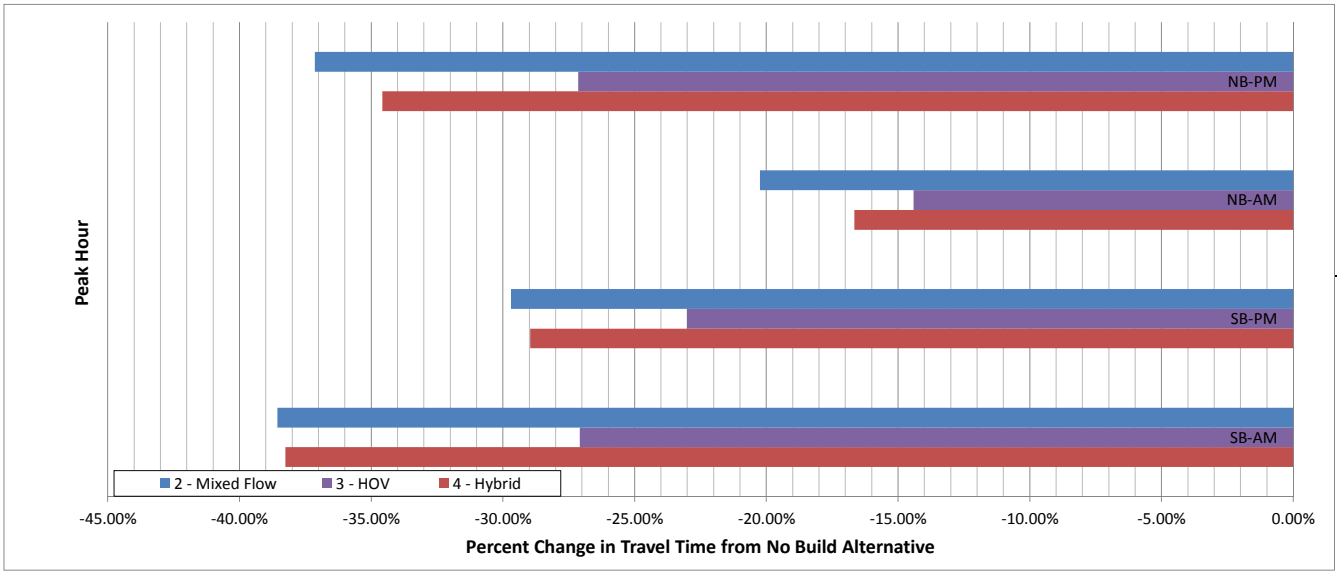


SR-65 WIDENING ALTERNATIVES DESIGN YEAR MESO-SCALE TRAVEL TIME COMPARISON - SOV

	Peak Hour Travel Time (min)				% Change from No Build			
Alternative	SB-AM	SB-PM	NB-AM	NB-PM	SB-AM	SB-PM	NB-AM	NB-PM
1 - No Build	17.69	14.28	10.78	19.70	-	-	-	-
2 - Mixed Flow	10.87	10.04	8.60	12.39	-38.56%	-29.70%	-20.24%	-37.14%
3 - HOV	12.90	11.00	9.22	14.35	-27.08%	-23.01%	-14.41%	-27.14%
4 - Hybrid	10.92	10.15	8.98	12.89	-38.26%	-28.97%	-16.66%	-34.58%

Note: Travel times are congested travel times in mixed flow lanes between Ferrari Ranch Rd and I-80 Ramps.

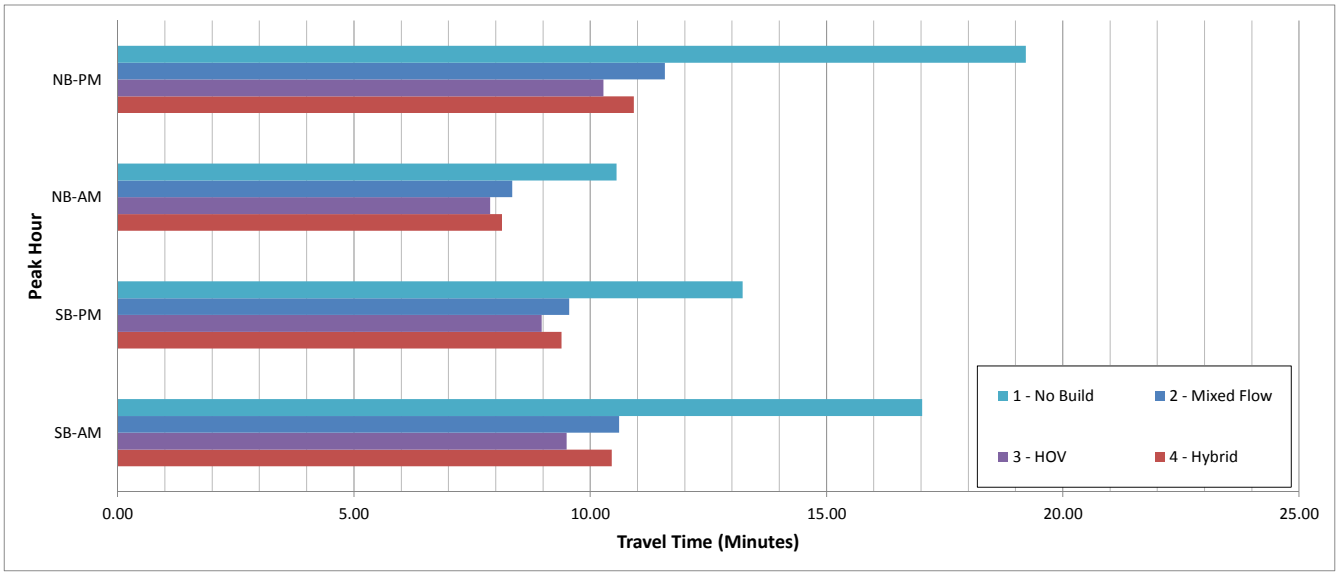


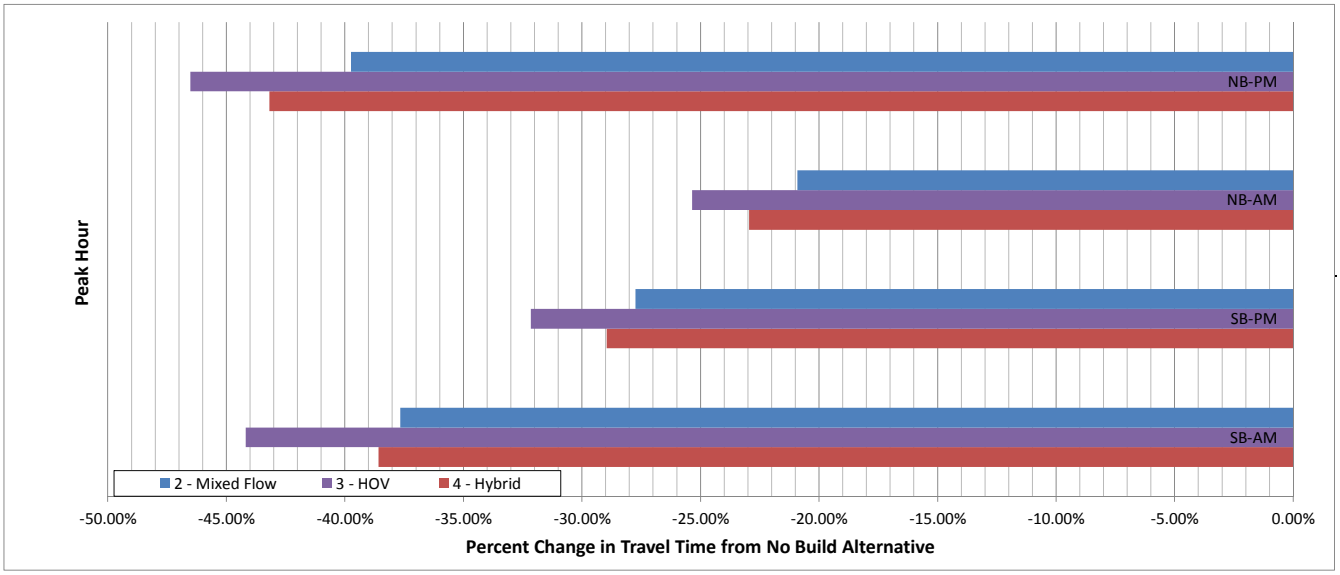


SR-65 WIDENING ALTERNATIVES DESIGN YEAR MESO-SCALE TRAVEL TIME COMPARISON - HOV

	Peak Hour Travel Time (min)				% Change from No Build			
Alternative	SB-AM	SB-PM	NB-AM	NB-PM	SB-AM	SB-PM	NB-AM	NB-PM
1 - No Build	17.02	13.22	10.56	19.22	-	-	-	-
2 - Mixed Flow	10.61	9.55	8.35	11.58	-37.66%	-27.74%	-20.91%	-39.74%
3 - HOV	9.50	8.97	7.88	10.28	-44.19%	-32.15%	-25.35%	-46.52%
4 - Hybrid	10.46	9.39	8.14	10.92	-38.58%	-28.96%	-22.95%	-43.18%

Note: Travel times are congested travel times for HOV vehicles that use HOV lanes between Ferrari Ranch Rd and I-80 Ramps.





Attachment C
Traffic Analysis Memorandum – Phase 1

FEHR PEERS

MEMORANDUM

Date: September 15, 2016

To: Andy Lee and Matt Brogan, Mark Thomas & Company

From: David Stanek, Fehr & Peers

Subject: **SR 65 Capacity and Operational Improvements Project – Phase 1 (Revised)**

RS14-3201

This memorandum describes the results of the State Route (SR) 65 Capacity and Operational Improvements (COI) project Phase 1 analysis. The separately-planned I-80/SR 65 Interchange Improvements Phase 1 project will reduce the majority of congestion that currently occurs on the SR 65 corridor in Roseville. This analysis looks at the additional benefit the SR 65 COI Phase 1 project would provide for SR 65 under construction year (2020) conditions.

Figure 1 shows the lane configuration for the SR 65 corridor between Roseville and Lincoln in Placer County. For information on the travel demand forecasts, please see the *State Route 65 Capacity and Operational Improvements Transportation Analysis Report* (Fehr & Peers, September 2015). The volumes used in this analysis are for the No Build Alternative. Under construction year conditions, the separate project for the Whitney Ranch Parkway/Placer Parkway interchange and I-80/SR 65 Interchange Improvements are assumed to have been constructed for the baseline conditions.

The SR 65 COI Phase 1 project would widen northbound SR 65 to provide an additional lane from the Pleasant Grove Boulevard off-ramp to the Pleasant Grove Boulevard on-ramp, resulting in three lanes from I-80 to Blue Oaks Boulevard. In the southbound direction, a lane would be added between the Pleasant Grove Boulevard off-ramp and the Pleasant Grove Boulevard loop on-ramp, resulting in three lanes from Blue Oaks Boulevard to I-80. In addition, the Galleria Boulevard/Stanford Ranch Road southbound off-ramp would be widened to two lanes, and auxiliary lanes would be constructed in both directions between Galleria Boulevard/Stanford Ranch Road and Pleasant Grove Boulevard.

The baseline conditions were analyzed as the Build Alternative for the *Stanford Ranch Road/Galleria Boulevard/State Route 65 Northbound Ramps Transportation Analysis Report* (Fehr & Peers, July 2015). This project was later incorporated into the I-80/SR 65 Interchange Improvements Phase 1 project. Under construction year (2020) conditions, the southbound direction during the AM peak period showed the most congestion. Minor congestion (about 40 mph for 15 minutes) occurred for the northbound direction during

the PM peak period, and no congestion occurred for the off-peak directions (southbound during the PM peak period and northbound during the AM peak period). For this analysis, the AM peak period was selected for analysis because it has the highest level of congestion.

The AM peak period construction year conditions were be analyzed to determine the additional benefits to freeway operations provided by the SR 65 COI Phase 1 project. Overall network performance statistics for the Baseline and Phase 1 Alternatives are summarized in Table 1.

TABLE 1: COMPARISON OF OVERALL NETWORK PERFORMANCE – CONSTRUCTION YEAR AM PEAK PERIOD

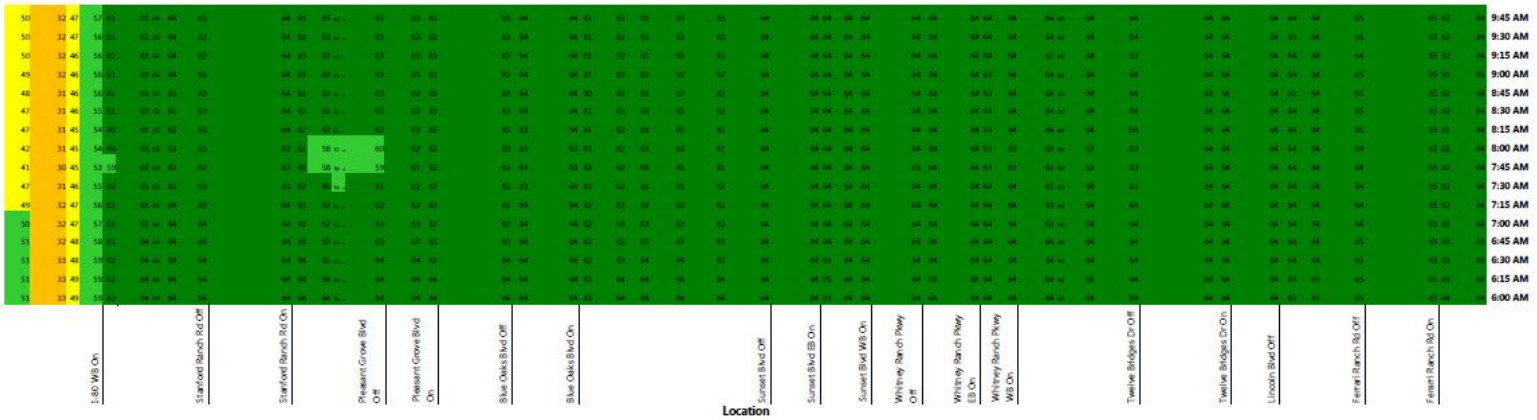
Performance Measure		Existing Conditions	Construction Year Conditions	
			Baseline Alternative	Phase 1 Alternative
Volume Served (% of total demand)		143,450 (100%)	168,820 (99%)	168,860 (99%)
Vehicle Miles of Travel (VMT)		645,270	790,260	790,020
Person Miles of Travel		786,260	967,870	967,450
Vehicle Hours of Travel (VHT)		13,760	18,100	18,040
Vehicle Hours of Delay (VHD) (% of VHT)		2,670 (19%)	4,550 (25%)	4,490 (25%)
Average Delay per Vehicle (min)		1.12	1.62	1.60
Person Hours of Delay		3,240	5,400	5,310
Average Speed		46.9	43.7	43.8
Average Speed for HOVs		47.0	46.0	46.2
Travel Time: Southbound SR 65 from Sunset Blvd to I-80	SOV	-	5:11	4:21
	HOV	-	5:11	4:21

Source: Fehr & Peers, 2016

The results presented in Table 1 are summarized below.

- The project alternatives would have similar network performance during the AM peak period.
- The Phase 1 Alternative would have a higher volume served and a lower overall delay although the difference would be small.
- The Baseline Alternative would have a higher average travel time for southbound SR 65. The average travel time savings under the Phase 1 Alternative would be about 50 seconds.

BASELINE ALTERNATIVE



PHASE 1 ALTERNATIVE

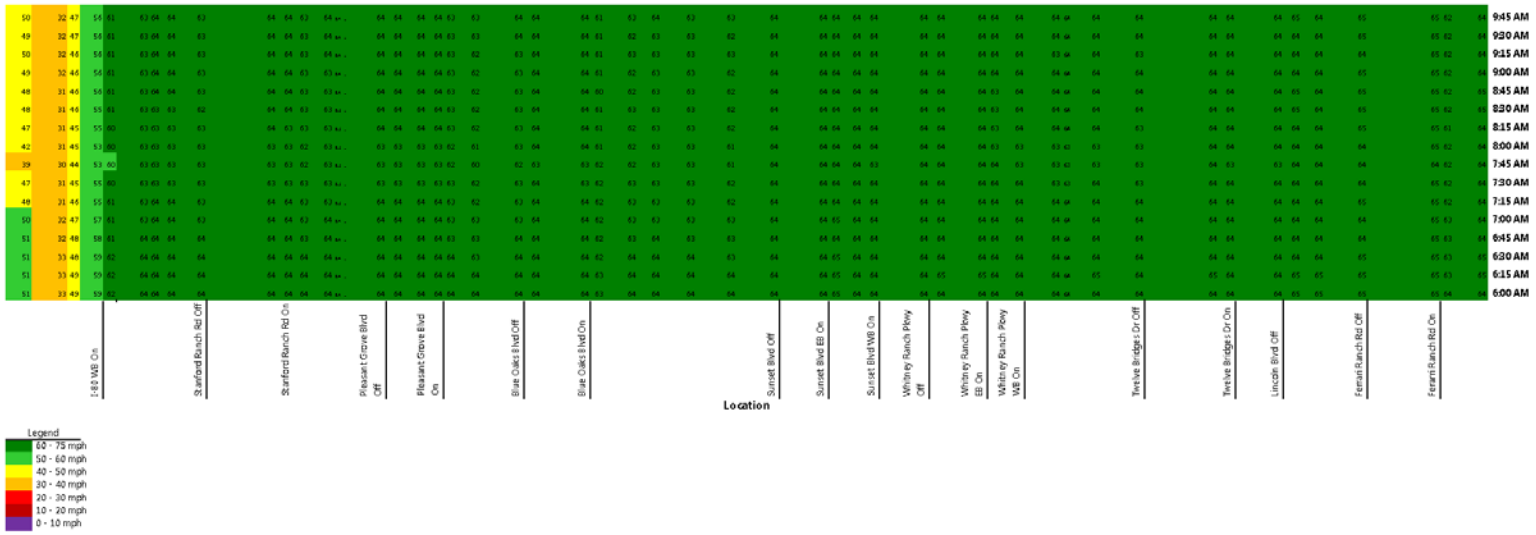
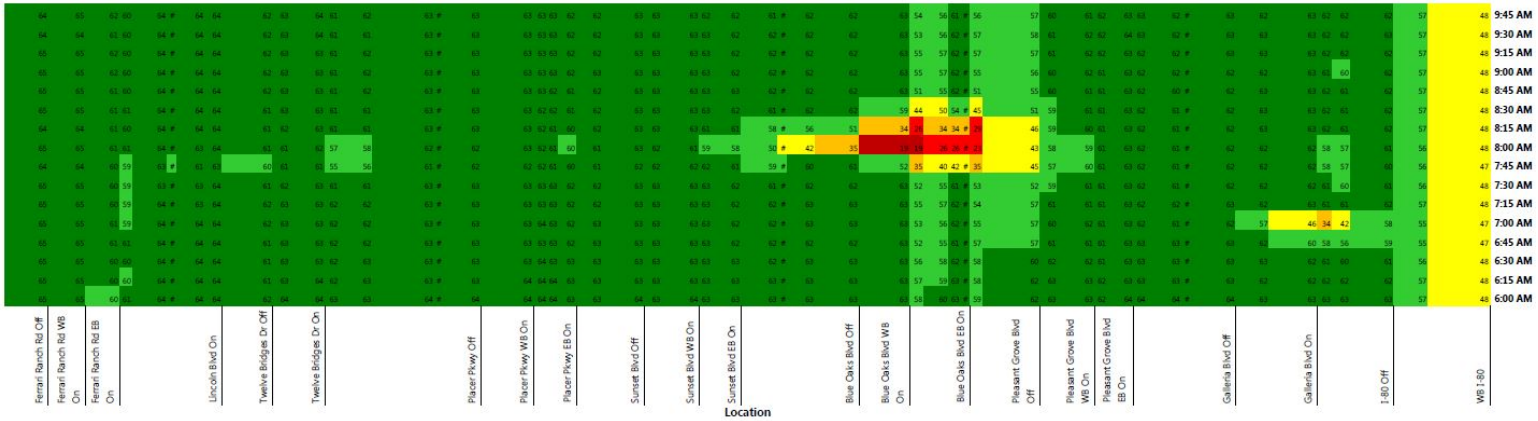


Figure 2 – Northbound SR 65 Construction Year AM Peak Period Speed Contour Map

BASELINE ALTERNATIVE



PHASE 1 ALTERNATIVE

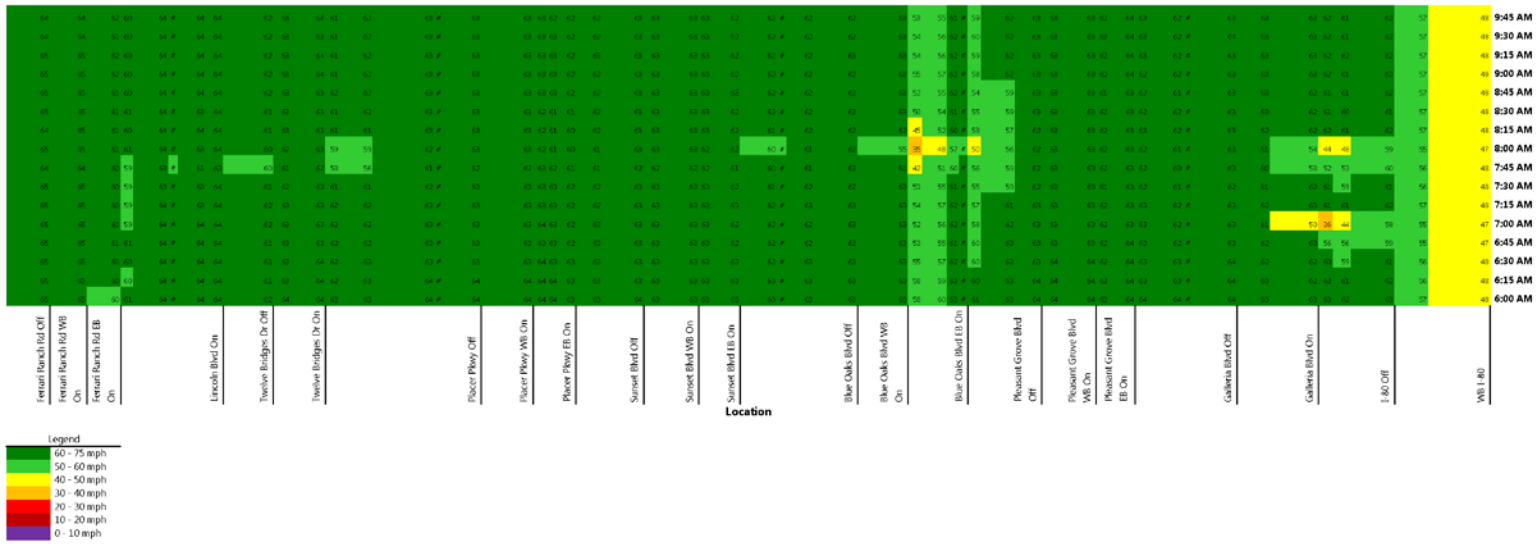


Figure 3 – Southbound SR 65 Construction Year AM Peak Period Speed Contour Map

TABLE 2: SELECTED FREEWAY OPERATIONS RESULTS – CONSTRUCTION YEAR AM PEAK HOUR					
		Baseline Alternative		Phase 1 Alternative	
Freeway	Location	Type	LOS / Density	Type	LOS / Density
NB SR 65	I-80 to Stanford Ranch Rd	Basic	D / 27	Basic	D / 26
	Stanford Ranch Rd Off-ramp	Diverge	C / 24	Diverge	C / 24
	Stanford Ranch Rd On-ramp	Merge	D / 31	-	-
	Pleasant Grove Blvd Off-ramp	Diverge	E / 36	-	-
	Stanford Ranch Rd to Pleasant Grove Blvd	-	-	Weave	C / 23
	Pleasant Grove Blvd Off to On-ramp	Basic	E / 36	Basic	C / 23
	Pleasant Grove Blvd to Blue Oaks Blvd	Weave	C / 27	-	-
	Pleasant Grove Blvd On-ramp	-	-	Merge	D / 31
	Blue Oaks Blvd Off-ramp	-	-	Diverge	C / 25
SB SR 65	Blue Oaks Blvd WB On-ramp	Merge	**F / 78**	Merge	E / 40
	Blue Oaks Blvd to Pleasant Grove Blvd	Weave	**F / 54**	-	-
	Blue Oaks Blvd EB On-ramp	-	-	Merge	D / 32
	Pleasant Grove Blvd Off-ramp	-	-	Diverge	C / 27
	Pleasant Grove Blvd Off to On-ramp	Basic	E / 36	Basic	C / 24
	Pleasant Grove Blvd WB On-ramp	Merge	D / 30	Merge	C / 22
	Pleasant Grove Blvd EB On-ramp	Merge	D / 29	Merge	C / 24
	Pleasant Grove Blvd to Galleria Blvd	Basic	D / 31	Basic	D / 28
	Galleria Blvd Off-ramp	Diverge	D / 32	Diverge	C / 27
	Galleria Blvd On-ramp	Merge	E / 37	Merge	**F / 46**
	I-80 Off-ramp	Diverge	D / 33	Diverge	D / 33

Notes: Bold and underline font indicate LOS F conditions. Shaded cells indicate a project impact. The level of service and average density for the study segment are reported.
The results for all locations are contained in the appendix.
Source: Fehr & Peers, 2016

Detailed freeway operations analysis was completed for the peak hour (7:30 to 8:30 AM) of the four-hour AM peak period. Figures 2 and 3 display the average speed in the mixed-flow lanes for SR 65 during the peak periods for each alternative. The AM peak hour level of service (LOS) results for selected locations are reported in Table 2.

Northbound SR 65

The northbound speed contour map (Figure 2) shows a half hour of slower speeds (50 to 60 mph) from 7:45 to 8:15 AM under the Baseline Alternative between Stanford Ranch Road and Pleasant Grove Boulevard. Under the Phase 1 Alternative, all segments of northbound SR 65 north of I-80 have speeds greater than 60

mph for the entire peak period. The freeway operations results in Table 2 show that the LOS E conditions at Pleasant Grove Boulevard under the Baseline Alternative would improve to LOS C conditions under the Phase 1 Alternative. While both alternatives would have uncongested conditions during the AM peak hour, the widening under the Phase 1 Alternative would provide additional capacity and result in better freeway operations.

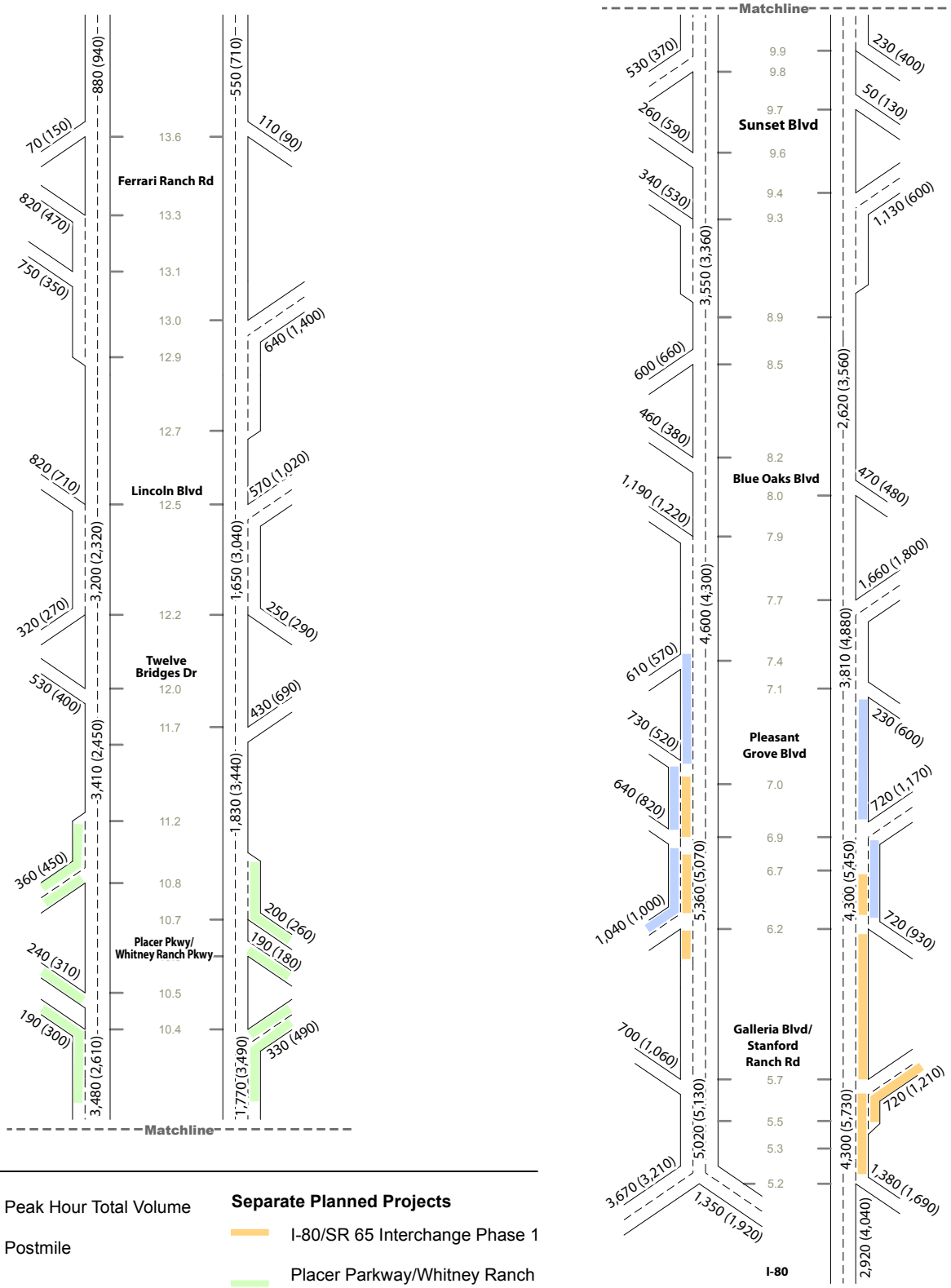
Southbound SR 65

The southbound speed contour map for the Baseline Alternative (Figure 3) shows congested conditions (speeds less than about 40 mph) for 45 minutes at the Blue Oaks Boulevard interchange that extend about half-way to the Sunset Boulevard interchange. With the Phase 1 Alternative, the congested conditions would be reduced to 15 minutes at the Blue Oaks Boulevard on-ramps. However, lower speeds (50 to 60 mph) would occur downstream at the Galleria Boulevard on-ramp during the peak interval from 8:00 to 8:15 AM. The freeway operations results (Table 2) show a similar pattern. The LOS F conditions at Blue Oaks Boulevard would improve to LOS E or better under the Phase 1 Alternative, but conditions at the Galleria Boulevard on-ramp would worsen from LOS E to F.

The widening under the Phase 1 Alternative would provide capacity at Pleasant Grove Boulevard interchange to relieve the bottleneck under the Baseline Alternative. However, the additional capacity would deliver more traffic volume to the Galleria Boulevard interchange causing a minor bottleneck to form. This bottleneck will be addressed by a future phase of the I-80/SR 65 Interchange Improvements project.

Summary

The Phase 1 Alternative would improve AM peak period operations by serving more volume with a lower vehicle delay. The improvement would primarily occur in the southbound direction, where the peak hour travel time would be reduced by 50 seconds and the LOS F conditions at Blue Oaks Blvd would be improved to LOS E or better. Although not analyzed here, PM peak period operations would likely improve in the northbound direction since the lane addition at the Pleasant Grove Boulevard interchange would increase capacity such that peak 15-minute average speed of 40 mph under the Baseline Alternative would increase.



LEGEND

AM (PM) Peak Hour Total Volume

10.1 Postmile

Separate Planned Projects

- I-80/SR 65 Interchange Phase 1
- Placer Parkway/Whitney Ranch Parkway Interchange
- SR 65 Capacity and Operational Improvements Phase 1

Figure 1

Freeway Peak Hour Traffic Volumes and Lane Configurations - Construction Year Conditions

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ATTACHMENT A

DETAILED ANALYSIS RESULTS

VISSIM Post-Processor **SR 65 Widening**
Average Values from 10 Runs **Construction Year - Baseline Conditions**
Network Statistics **AM Peak Period**

Network Performance	Vehicle Types	Average	Std. Dev.
Number of Vehicles Served	All Vehicles	168,819	78
Travel Distance [mi]	All Vehicles	790,257	1,123
Travel Time [h]	All Vehicles	18,104	67.4
Average Speed [mph]	All Vehicles	43.7	0.2
Total Delay [h]	All Vehicles	4,548	76.2
Average Delay per Vehicle [s]	All Vehicles	95	1.6
VHD/VMT [min/mile]	All Vehicles	0.35	0.01
Number of Vehicles Served	HOV	32,347	36
Travel Distance [mi]	HOV	159,735	454
Travel Time [h]	HOV	3,472	17
Average Speed [mph]	HOV	46.0	0.2
Total Delay [h]	HOV	756	14
Average Delay per Vehicle [s]	HOV	82	2
VHD/VMT [min/mile]	HOV	0.28	0.01
Number of Vehicles Served	Truck	7,562	17
Travel Distance [mi]	Truck	37,925	293
Travel Time [h]	Truck	897	3
Average Speed [mph]	Truck	42.3	0
Total Delay [h]	Truck	241	3
Average Delay per Vehicle [s]	Truck	112	1
VHD/VMT [min/mile]	Truck	0.38	0.01

	Vehicle Types		
Performance Measure	**HOV**	**Truck**	**All**
Vehicles Served	32,350	7,560	168,820
Demand Volume	33,520	8,150	170,610
Percent Demand Served	96.5%	92.8%	99.0%
Vehicle Miles of Travel	159,730	37,920	790,260
Person Miles of Travel	335,440	39,820	967,870
Vehicle Hours of Travel	3,470	900	18,100
Vehicle Hours of Delay	760	240	4,550
VHD % of VHT	21.9%	26.7%	25.1%
Average Delay per Vehicle (min)	1.41	1.90	1.62
Person Hours of Delay	1,600	250	5,400
Average Travel Speed	46.0	42.3	43.7

VISSIM Post-Processor **SR 65 Widening**
Average Values from 10 Runs **Construction Year - Baseline Conditions**
Peak Hour Travel Time **AM Peak Period**

Mode	Description	Distance (ft)	Volume (vehicles)		Travel Time (min.:sec.)		Speed (mph)
			Average	Std. Dev.	Average	Std. Dev.	Average
SOV	SR-65 at Blue Oaks to I-80 at Antelope	43,046	836	10	09:08	00:17	21.4
	I-80 at Auburn to SR-65 at Blue Oaks	32,881	1,494	18	07:06	00:02	21.0
	I-80: Sierra College to Antelope	45,827	1,127	16	08:43	00:15	23.9
	I-80: Auburn to Sierra College	36,777	685	12	06:38	00:02	25.2
	SR-65: I-80 to Sunset	43,055	646	15	04:19	00:01	45.4
	SR-65: Sunset to Ferrari Ranch	45,816	176	5	03:31	00:01	59.2
	SR-65: Ferrari Ranch to Sunset	36,773	954	9	03:36	00:01	46.4
	SR-65: Sunset to I-80	32,882	1,228	18	05:11	00:26	28.8
HOV	SR-65 at Blue Oaks to I-80 at Antelope	43,046	253	5	08:50	00:10	45.4
	I-80 at Auburn to SR-65 at Blue Oaks	32,881	370	9	07:03	00:02	59.2
	I-80: Sierra College to Antelope	45,827	499	8	08:21	00:04	46.4
	I-80: Auburn to Sierra College	36,777	233	6	06:34	00:01	28.8
	SR-65: I-80 to Sunset	43,055	159	5	04:19	00:01	22.1
	SR-65: Sunset to Ferrari Ranch	45,816	35	3	03:30	00:02	21.2
	SR-65: Ferrari Ranch to Sunset	36,773	107	4	03:36	00:02	25.0
	SR-65: Sunset to I-80	32,882	385	9	05:11	00:27	25.5

VISSIM Post-Processor **SR 65 Widening**
Average Values from 10 Runs **Construction Year - Phase 1 Alternative**
Network Statistics **AM Peak Period**

Network Performance	Vehicle Types	Average	Std. Dev.
Number of Vehicles Served	All Vehicles	168,857	77
Travel Distance [mi]	All Vehicles	790,017	1,095
Travel Time [h]	All Vehicles	18,037	202.5
Average Speed [mph]	All Vehicles	43.8	0.5
Total Delay [h]	All Vehicles	4,489	213.9
Average Delay per Vehicle [s]	All Vehicles	93	4.5
VHD/VMT [min/mile]	All Vehicles	0.34	0.02
Number of Vehicles Served	HOV	32,351	42
Travel Distance [mi]	HOV	159,569	475
Travel Time [h]	HOV	3,456	26
Average Speed [mph]	HOV	46.2	0.4
Total Delay [h]	HOV	744	30
Average Delay per Vehicle [s]	HOV	81	3
VHD/VMT [min/mile]	HOV	0.28	0.01
Number of Vehicles Served	Truck	7,561	8
Travel Distance [mi]	Truck	37,920	309
Travel Time [h]	Truck	893	12
Average Speed [mph]	Truck	42.5	1
Total Delay [h]	Truck	237	12
Average Delay per Vehicle [s]	Truck	110	6
VHD/VMT [min/mile]	Truck	0.38	0.02

	Vehicle Types		
Performance Measure	**HOV**	**Truck**	**All**
Vehicles Served	32,350	7,560	168,860
Demand Volume	33,520	8,150	170,610
Percent Demand Served	96.5%	92.8%	99.0%
Vehicle Miles of Travel	159,570	37,920	790,020
Person Miles of Travel	335,100	39,820	967,450
Vehicle Hours of Travel	3,460	890	18,040
Vehicle Hours of Delay	740	240	4,490
VHD % of VHT	21.4%	27.0%	24.9%
Average Delay per Vehicle (min)	1.37	1.90	1.60
Person Hours of Delay	1,550	250	5,310
Average Travel Speed	46.2	42.5	43.8

VISSIM Post-Processor
Average Values from 10 Runs
Peak Hour Travel Time

SR 65 Widening
Construction Year - Phase 1 Alternative
AM Peak Period

Mode	Description	Distance (ft)	Volume (vehicles)		Travel Time (min.:sec.)		Speed (mph)
			Average	Std. Dev.	Average	Std. Dev.	Average
SOV	SR-65 at Blue Oaks to I-80 at Antelope	43,046	840	13	08:54	00:20	22.0
	I-80 at Auburn to SR-65 at Blue Oaks	32,881	1,483	18	07:05	00:02	21.1
	I-80: Sierra College to Antelope	45,827	1,129	13	08:43	00:19	23.9
	I-80: Auburn to Sierra College	36,777	684	13	06:39	00:02	25.1
	SR-65: I-80 to Sunset	43,056	656	14	04:17	00:00	45.7
	SR-65: Sunset to Ferrari Ranch	45,816	177	6	03:31	00:01	59.1
	SR-65: Ferrari Ranch to Sunset	36,773	951	10	03:36	00:01	46.5
	SR-65: Sunset to I-80	32,882	1,231	19	04:21	00:05	34.3
HOV	SR-65 at Blue Oaks to I-80 at Antelope	43,046	252	6	08:37	00:11	45.7
	I-80 at Auburn to SR-65 at Blue Oaks	32,881	372	10	07:01	00:02	59.1
	I-80: Sierra College to Antelope	45,827	503	8	08:20	00:05	46.5
	I-80: Auburn to Sierra College	36,777	233	6	06:34	00:02	34.3
	SR-65: I-80 to Sunset	43,056	159	5	04:17	00:01	22.7
	SR-65: Sunset to Ferrari Ranch	45,816	36	3	03:31	00:02	21.3
	SR-65: Ferrari Ranch to Sunset	36,773	109	4	03:35	00:01	25.0
	SR-65: Sunset to I-80	32,882	377	8	04:21	00:05	25.5

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Construction Year - Baseline Conditions
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
100	SR-65 NB - EB I-80 Connector	Basic	3,105	98	106.3%							42.3	1.3	43.4	2.0	E
101	SR-65 NB - WB I-80 Connector	Basic	1,452	70	105.2%							51.4	0.4	23.8	1.1	C
103	SR-65 NB - I-80 WB On-ramp	Merge	3,104	100	106.3%	1,450	69	105.1%				60.9	0.7	28.0	0.9	D
104	SR-65 NB - I-80 to Stanford Ranch Rd	Basic	4,554	113	105.9%							63.1	0.2	26.6	0.7	D
105	SR-65 NB - Stanford Ranch Rd Off-ramp	Diverge	4,554	114	105.9%				748	51	103.9%	62.7	0.6	24.1	0.9	C
106	SR-65 NB - Stanford Ranch Rd Off to On-ramp	Basic	3,814	113	106.5%							63.2	0.2	22.9	0.6	C
107	SR-65 NB - Stanford Ranch Rd On-ramp	Merge	3,814	109	106.5%	770	51	106.9%				58.4	1.5	30.9	1.2	D
109	SR-65 NB - Pleasant Grove Blvd Off-ramp	Diverge	4,584	120	106.6%				718	51	99.7%	57.5	1.8	36.1	1.6	E
110	SR-65 NB - Pleasant Grove Blvd Off to On-ramp	Basic	3,871	123	108.1%							61.4	0.5	35.9	1.0	E
111	SR-65 NB - Pleasant Grove Blvd to Blue Oaks Blvd	Weave	3,868	122	108.1%	230	25	100.2%	1,794	78	108.1%	62.6	0.3	26.9	0.7	C
114	SR-65 NB - Blue Oaks Blvd Off to On-ramp	Basic	2,307	87	107.3%							63.5	0.2	20.2	0.7	C
115	SR-65 NB - Blue Oaks Blvd On-ramp	Merge	2,308	90	107.3%	459	37	97.7%				60.8	0.4	22.4	1.0	C
116	SR-65 NB - Blue Oaks Blvd to Sunset Blvd	Basic	2,767	96	105.6%							62.1	0.4	25.3	1.1	C
118	SR-65 NB - Sunset Blvd Off-ramp	Diverge	2,766	104	105.6%				1,195	59	105.8%	63.6	0.2	19.4	0.9	B
169	SR-65 SB - Sunset Blvd WB On-ramp	Merge	3,209	96	108.4%	297	22	114.3%				58.1	10.7	31.6	11.3	D
170	SR-65 SB - Sunset Blvd EB On-ramp	Merge	3,508	104	108.9%	343	16	100.9%				47.8	13.3	45.7	16.4	F
171	SR-65 SB - Sunset Blvd to Blue Oaks Blvd	Basic	3,850	117	108.1%							41.8	13.9	54.3	18.6	F
172	SR-65 SB - Blue Oaks Blvd Off-ramp	Diverge	3,849	120	108.1%				651	47	108.5%	35.0	13.3	64.4	20.2	F
173	SR-65 SB - Blue Oaks Blvd Off to On-ramp	Basic	3,198	114	108.0%							19.4	8.2	93.9	20.7	F
174	SR-65 SB - Blue Oaks Blvd WB On-ramp	Merge	3,188	108	107.7%	451	11	98.0%				22.3	2.0	77.8	4.8	F
175	SR-65 SB - Blue Oaks Blvd to Pleasant Grove Blvd	Weave	3,622	105	105.9%	1,212	57	101.9%	643	56	105.3%	35.7	1.5	53.6	2.4	F
178	SR-65 SB - Pleasant Grove Blvd Off to On-ramp	Basic	4,188	77	104.7%							59.4	1.2	36.2	0.9	E
179	SR-65 SB - Pleasant Grove Blvd WB On-ramp	Merge	4,186	75	104.6%	746	34	102.2%				61.8	0.4	29.8	0.3	D
180	SR-65 SB - Pleasant Grove Blvd EB On-ramp	Merge	4,927	87	104.2%	651	34	101.7%				60.8	0.7	29.2	0.5	D
181	SR-65 SB - Pleasant Grove Blvd to Galleria Blvd	Basic	5,575	93	103.8%							61.5	0.6	31.4	0.4	D
182	SR-65 SB - Galleria Blvd Off-ramp	Diverge	5,574	94	103.8%				1,028	57	98.9%	62.2	0.3	31.8	0.4	D
183	SR-65 SB - Galleria Blvd Off to On-ramp	Basic	4,543	85	104.9%							61.6	0.9	29.3	0.5	D
185	SR-65 SB - Galleria Blvd On-ramp	Merge	4,544	88	105.0%	728	38	104.0%				57.0	6.4	37.4	6.7	E
186	SR-65 SB - I-80 Off-ramp	Diverge	5,271	103	104.8%				3,865	93	105.3%	60.0	1.0	32.5	0.7	D
187	SR-65 SB - EB I-80 Connector (2 lanes)	Basic	1,413	70	104.7%							60.3	0.6	27.0	0.8	D
188	SR-65 SB - EB I-80 Connector (1 lane)	Basic	1,415	74	104.8%							61.8	0.2	26.3	0.9	D
189	SR-65 SB - WB I-80 Connector	Basic	3,869	96	105.4%							51.6	0.4	39.2	0.9	E

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

VISSIM Post-Processor
Average Results from 10 Runs
Freeway Operations Summary

SR 65 Widening
Construction Year - Phase 1 Alternative
AM Peak Hour

	Location	Facility Type	Mainline Volume (vph)			On-ramp Volume (vph)			Off-ramp Volume (vph)			Speed (mph)		Density (vplpm)		LOS
			Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	%	Avg.	St. Dev.	Avg.	St. Dev.	
100	SR-65 NB - EB I-80 Connector	Basic	3,107	102	106.4%							41.8	1.0	43.5	1.4	E
101	SR-65 NB - WB I-80 Connector	Basic	1,452	73	105.2%							51.5	0.4	23.7	0.9	C
103	SR-65 NB - I-80 WB On-ramp	Merge	3,107	102	106.4%	1,452	69	105.2%				61.3	0.4	27.7	0.7	C
104	SR-65 NB - I-80 to Stanford Ranch Rd	Basic	4,560	111	106.0%							63.1	0.2	26.4	0.7	D
105	SR-65 NB - Stanford Ranch Rd Off-ramp	Diverge	4,560	112	106.0%				740	53	102.8%	62.9	0.4	23.6	0.9	C
106	SR-65 NB - Stanford Ranch Rd Off to On-ramp	Basic	3,826	107	106.9%							63.3	0.2	22.6	0.6	C
107	SR-65 NB - Stanford Ranch Rd to Pleasant Grove Blvd	Weave	3,827	102	106.9%	769	53	106.7%	718	56	99.7%	62.9	0.2	22.6	0.6	C
110	SR-65 NB - Pleasant Grove Blvd Off to On-ramp	Basic	3,878	127	108.3%							63.0	0.1	23.2	0.7	C
111	SR-65 NB - Pleasant Grove Blvd on-ramp	Merge	3,878	122	108.3%	233	25	101.1%				61.0	0.8	31.4	1.0	D
112	SR-65 NB - Blue Oaks Blvd Off-ramp	Diverge	4,112	117	107.9%				1,800	73	108.4%	62.4	0.2	25.2	0.6	C
114	SR-65 NB - Blue Oaks Blvd Off to On-ramp	Basic	2,313	92	107.6%							63.4	0.2	20.2	0.8	C
115	SR-65 NB - Blue Oaks Blvd On-ramp	Merge	2,313	96	107.6%	463	36	98.5%				61.0	0.4	22.2	1.1	C
116	SR-65 NB - Blue Oaks Blvd to Sunset Blvd	Basic	2,778	101	106.0%							62.2	0.5	25.2	1.3	C
118	SR-65 NB - Sunset Blvd Off-ramp	Diverge	2,777	97	106.0%				1,200	63	106.2%	63.6	0.2	19.4	1.1	B
169	SR-65 SB - Sunset Blvd WB On-ramp	Merge	3,195	98	107.9%	293	24	112.5%				61.5	0.3	29.3	0.8	D
170	SR-65 SB - Sunset Blvd EB On-ramp	Merge	3,488	99	108.3%	345	17	101.3%				60.1	0.7	33.5	1.1	D
171	SR-65 SB - Sunset Blvd to Blue Oaks Blvd	Basic	3,834	104	107.7%							61.0	0.8	33.7	1.1	D
172	SR-65 SB - Blue Oaks Blvd Off-ramp	Diverge	3,834	104	107.7%				650	43	108.3%	61.8	0.3	32.9	1.0	D
173	SR-65 SB - Blue Oaks Blvd Off to On-ramp	Basic	3,180	88	107.4%							55.3	5.6	30.7	3.5	D
174	SR-65 SB - Blue Oaks Blvd WB On-ramp	Merge	3,178	85	107.4%	451	12	98.1%				46.0	3.7	39.6	4.2	E
175	SR-65 SB - Blue Oaks Blvd WB to EB On-ramp	Basic	3,632	89	106.2%							57.4	6.0	34.0	5.3	D
176	SR-65 SB - Blue Oaks Blvd EB On-ramp	Merge	3,632	88	106.2%	1,218	55	26.5%				52.4	2.9	32.1	2.3	D
177	SR-65 SB - Pleasant Grove Blvd Off-ramp	Diverge	4,846	113	60.4%				648	54	88.7%	62.0	0.4	26.8	0.6	C
178	SR-65 SB - Pleasant Grove Blvd Off to On-ramp	Basic	4,203	108	57.7%							62.9	0.2	24.3	0.6	C
179	SR-65 SB - Pleasant Grove Blvd WB On-ramp	Merge	4,205	100	57.7%	744	43	102.0%				62.4	0.2	21.5	0.5	C
180	SR-65 SB - Pleasant Grove Blvd EB On-ramp	Merge	4,946	105	61.7%	653	37	102.0%				60.7	0.6	24.3	0.7	C
181	SR-65 SB - Pleasant Grove Blvd to Galleria Blvd	Basic	5,595	98	64.6%							61.9	0.5	27.8	0.4	D
182	SR-65 SB - Galleria Blvd Off-ramp	Diverge	5,595	98	64.6%				1,030	53	99.0%	62.6	0.8	27.2	0.5	C
183	SR-65 SB - Galleria Blvd Off to On-ramp	Basic	4,559	118	59.8%							58.9	4.2	31.3	2.8	D
185	SR-65 SB - Galleria Blvd On-ramp	Merge	4,560	122	59.8%	724	37	103.4%				45.9	9.8	49.0	13.6	F
186	SR-65 SB - I-80 Off-ramp	Diverge	5,284	136	63.5%				3,873	115	105.5%	59.6	1.0	33.1	0.8	D
187	SR-65 SB - EB I-80 Connector (2 lanes)	Basic	1,419	73	105.1%							60.6	1.0	27.1	1.3	D
188	SR-65 SB - EB I-80 Connector (1 lane)	Basic	1,422	70	105.3%							61.7	0.6	26.7	1.1	D
189	SR-65 SB - WB I-80 Connector	Basic	3,878	114	105.7%							51.4	0.4	39.8	1.7	E

Notes: Average density reported for the analysis area only: for example, within the ramp influence area and not including the HOV lane.
Mainline volume is the upstream served volume for all lanes.

SR65 C&O IMPROVEMENT PROJECT
PHASE 1 LANE CONFIGURATION
EXHIBIT

03-PLA-65 PM 6.5/12.8

MARK THOMAS & COMPANY
7300 FOLSOM BOULEVARD, SUITE 203
SACRAMENTO, CALIFORNIA 95826
(916) 381-9100 FAX:(916)381-9180

DRAWN BY AMM	APPROVED ON	JOB NO. SA-13143	SHEET NO. 1 OF 2
CKD. BY AL	BY	FILE NO.	
DATE 6/9/2016	RCE NO.		
SCALE 1"=200'			

Attachment D
Advanced Planning Studies

Advance Planning Study

For

SR-65 Capacity and Operational Improvements Project

Prepared for:

Placer County
Tranportation
Planning Agency

Submitted by:

ch2m SM
2485 Natomas Park Drive, Suite 600
Sacramento, CA 95833

REGISTERED PROFESSIONAL ENGINEER
JENNIFER L. ELWOOD
NO. C64034
EXP. 9/30/18
CIVIL
STATE OF CALIFORNIA

March, 2017

SR-65 Capacity and Operational Improvements Project

Rocklin, California

Contents

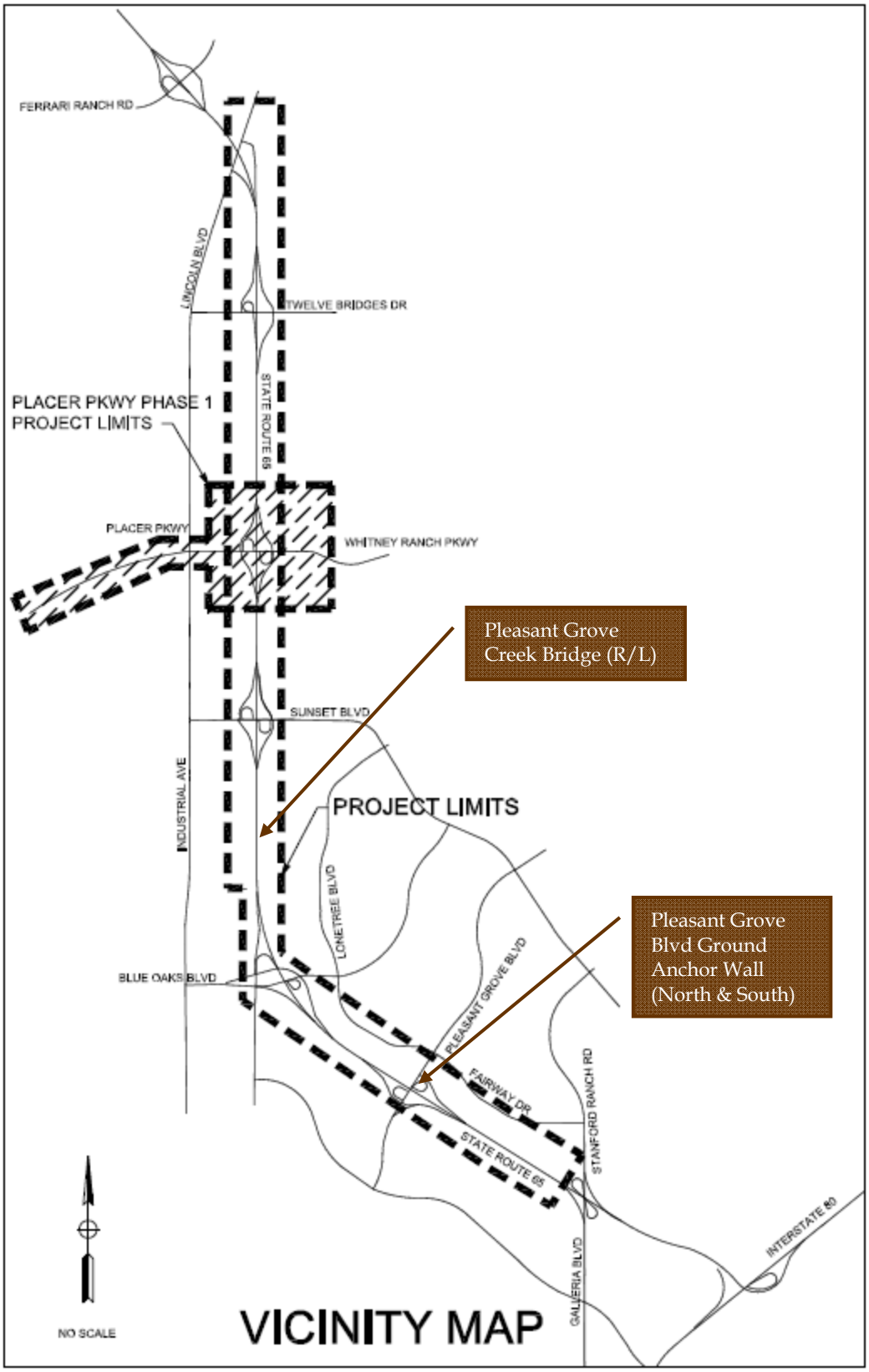
Attachments

Introduction

The California Department of Transportation (Caltrans), in cooperation with the Placer County Transportation Planning Agency (PCTPA), Placer County, and the Cities of Roseville, Rocklin, and Lincoln, proposes to widen State Route 65 (SR-65) from north of Galleria Boulevard/Stanford Ranch Road to Lincoln Boulevard. This project has been assigned the Project Development Processing Category 4A for widening the existing freeway without requiring a revised freeway agreement. The project is subject to federal as well as state environmental review requirements. Caltrans is the lead agency under the National Environmental Policy Act and the California Environmental Quality Act. The project is listed in the Sacramento Area Council of Governments (SACOG) Draft 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) and Draft EIR released for public on September 2015. The project is programmed in the SACOG 2015/2018 Metropolitan Transportation Improvement Program (MTIP) for preliminary engineering.

Widening of SR-65 requires additional structure width at the Pleasant Grove Creek Bridge (Br. No. 19-0136R/L). The parallel structures were constructed in 1971 (Left) and 2001 (Right). The five-span bridges have similar span lengths, but the bents are not coincident.

Similarly, the widening of SR-65 requires additional roadway width under the existing Pleasant Grove Boulevard Overcrossing (Br. No. 19-0178). Ground anchor walls in front of both abutments are proposed. The ground anchored walls will retain the existing abutment embankment fills.



Location of Structures

Proposed Structure Types

Two bridge structures and two ground anchored walls are proposed. Details of the structures are outlined below. Bridge superstructures are proposed to match the existing with cast-in-place, reinforced concrete slabs, and will be tied into the existing bridge with drill and bond dowels (per Memo to Designers 9-3). Abutments will be diaphragm type abutments supported with pile foundations. Piers will be supported on pile foundations.

Structure Descriptions

Pleasant Grove Creek Bridge (Widen)(Br. No. 19-0136L)

The existing bridge is a five-span cast-in-place reinforced concrete slab bridge constructed in 1971. The bridge crosses over Pleasant Grove Creek at an approximately 33 degree skew. The deck thickness is 1.29 feet. The total length of the bridge is 128.19 feet, with a maximum span length of 28 feet. The existing bridge is 42 feet wide which accommodates two 12-foot lanes, two 8-foot shoulders and two 1-foot Type 9 bridge railings.

The existing bridge has four bents, each bent consists of five 16-inch diameter cast-in-drilled-hole (CIDH) concrete pile extensions. The bridge has pile supported end diaphragm abutments.

The project proposes to widen the existing bridge to the left by 12.48 feet, and in the median by 16.48 ft. In the Project Configuration, the bridge will accommodate three 12-foot lanes, a 6-foot inside shoulder and a 10-foot outside shoulder. In the Ultimate Configuration, the bridge can accommodate four 12-foot lanes, a 10-foot inside shoulder and a 10-foot outside shoulder. Type 736 barriers will be used at each edge of deck. The median bridge widening is in advance of the median roadway widening, so a Concrete Barrier (Type K) will be used in the Project Configuration to avoid traffic moving onto the portion of median bridge that does not continue onto roadway.

The proposed widening will be a cast-in-place reinforced concrete slab. The slab thickness will match the existing slab thickness of 1.29 feet. The widening will match the existing bridge span configuration and each bent will be supported by two 24-inch CIDH concrete pile extension. The existing abutments will be widened with similar pile supported end diaphragm abutments.

The existing bridge does not have approach slabs, the widening will match this condition.

Pleasant Grove Creek Bridge (Widen)(Br. No. 19-0136R)

The existing bridge is a five-span cast-in-place reinforced concrete slab bridge constructed in 2001. The bridge crosses over Pleasant Grove Creek at approximately a 33 degree skew. The deck thickness is 1.33 feet. The total length of the bridge is 140 feet, with a maximum span length of 29 feet. The bridge is 42.50 feet wide which accommodates two 12-foot lanes, a 5-foot inside shoulder, a 10-foot outside shoulder and two Type 25 bridge railings.

The existing bridge has four bents, each bent consists of five 15-inch diameter precast, prestressed concrete pile extensions. The bridge has pile supported end diaphragm abutments.

The project proposes to widen the existing bridge to the right by 11.73 feet, and in the median by 16.73 ft. In the Project Configuration, the bridge will accommodate three 12-foot lanes, a 5-foot inside shoulder and a 10-foot outside shoulder. In the Ultimate Configuration, the bridge can accommodate four 12-foot lanes, a 10-foot inside shoulder and a 10-foot outside shoulder. Type 736 barriers will be used at each edge of deck. The median bridge widening is in advance of the median roadway widening, so a Concrete Barrier (Type K) will be used in the Project Configuration to avoid traffic moving onto the portion of median bridge that does not continue onto roadway.

The proposed widening will be a cast-in-place reinforced concrete slab. The slab thickness will match the existing slab thickness of 1.33 feet. The widening will match the existing bridge span configuration and each bent will be supported by two 24-inch CIDH concrete pile extensions. The existing abutments will be widened with similar pile supported end diaphragm abutments.

The existing bridge has approach slabs. The widening will have approach slabs and will match the existing paving notch.

Pleasant Grove Boulevard (North) Ground Anchor Wall

The proposed wall will retain the abutment embankment in front of Abutment 3 of the existing bridge. This wall will allow for construction of the mainline outside lane and shoulder. The wall is approximately 200 feet in length. The existing abutment is founded on a spread footing, so will pose no conflict for proposed ground anchors. It is assumed that the ground anchors will be installed at an inclination of 20 degrees below horizontal. The maximum wall height is approximately 9 feet, this will allow adequate space for the stressing of the ground anchors without conflict with the existing bridge soffit above.

Pleasant Grove Boulevard (South) Ground Anchor Wall

The proposed wall will retain the abutment embankment in front of Abutment 1 of the existing bridge. This wall will allow for construction of the mainline outside lane and shoulder. The wall is approximately 190 feet in length. The existing abutment is founded on a spread footing, so will pose no conflict for proposed ground anchors. It is assumed that the ground anchors will be installed at an inclination of 20 degrees below horizontal. The maximum wall height is approximately 9 feet, this will allow adequate space for the stressing of the ground anchors without conflict with the existing bridge soffit above.

Corridor Aesthetics

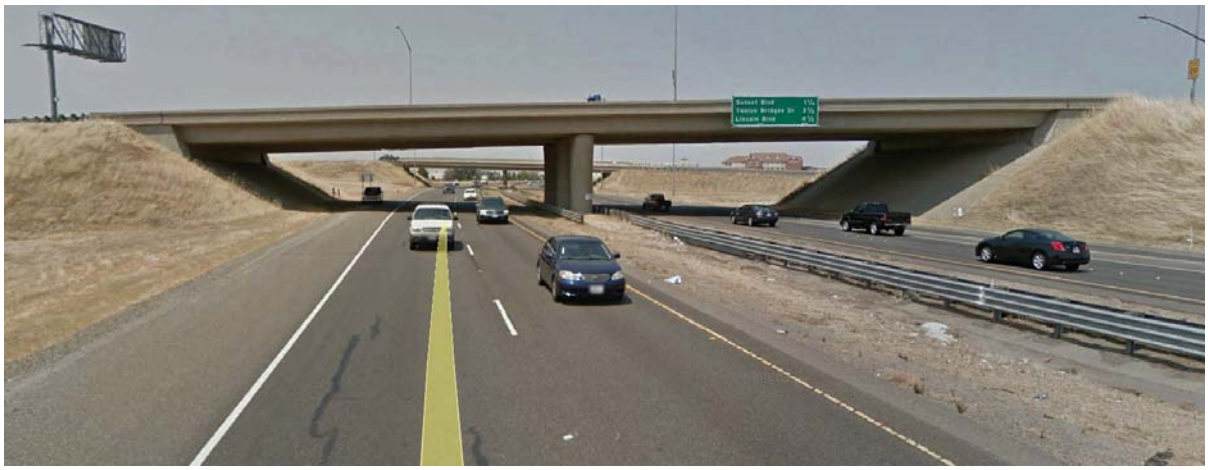
SR-65 Corridor

Adjacent structures to the proposed Pleasant Grove Creek Bridge (Widen) and the Pleasant Grove Boulevard Overcrossing Ground Anchor Walls are the Galleria Boulevard OC to the south, the Blue Oaks Boulevard Overcrossing between the proposed structures, and Sunset Boulevard Overcrossing to the north.

The superstructure of these structures all are prestressed, cast-in-place post-tensioned concrete box girders. They typically have rib texture inset into the barrier reveal and barrier mounted chain link fence. The structures have a forward sloping abutment faces, slope paving and round prismatic columns at the median bent.

Along the SR-65 Corridor there are currently no ground anchor walls. It is assumed that Caltrans will require some form of texture/architectural treatment to the wall faces. This has been shown on the planning study sheets, but the details of the treatment will be determined at a later date. An image of a nearby ground anchored retaining wall is provided as reference.

Galeria Boulevard OC looking north



Blue Oaks Boulevard Overcrossing, looking North

Pleasant Grove Boulevard Overcrossing, looking North

Sunset Boulevard Overcrossing, Looking South

Ground Anchor Texture on Taylor Road Overcrossing on I-80

Design Assumptions

The following design assumptions were used in the development of the Advanced Planning Studies:

- Design of the bridge widenings will follow current Caltrans standard and design guidelines including Load and Resistance Factor Design (LRFD) Specifications, without re-analyzing the existing structure for LRFD loads (Memo to Designers 9-3).
- Per Memo to Designers 20-12, "Seismic Design Criteria for Bridge Widenings," widening of Pleasant Grove Creek Bridge is classified as a major modification project because the deck area is increased by more than 20% and pier columns are being added. Seismic retrofit requirements will be considered during the design phase for the structures being widened. The design will comply with Memo to Designers 20-7, "Seismic Design for Slab Bridges."
- There are no existing utilities carried on Pleasant Grove Creek Bridge.
- There is currently no lighting on the Pleasant Grove Creek Bridge. Widening of the bridge may accommodate electroliers if they are needed as determined in the design phase.

Preliminary Structure Foundations

The Pleasant Grove Creek Bridge (Left) structure is supported on 16-inch Cast-In-Drilled-Hole (CIDH) concrete piles at the abutments and bent pile extensions. The piles are Class 45 (45 ton). The Pleasant Grove Creek Bridge (Right) structure is supported on driven 15-inch octagonal precast, prestressed concrete piles at the abutments and pier pile extensions. The abutment piles are Class 45 and pier pile extensions are Class 70. Although not indicated on the as-built plans, it is likely that undersize drilling to assist driving was necessary since it was recommended in the foundation report.

The subsurface conditions encountered in the existing borings indicate that the site is conducive for either driven or CIDH piles. Caltrans Memo to Designers 20-7 requires precast piles to have a minimum diameter of 18 inches when they are used as pile extensions for slab bridges. The larger diameter pile may be difficult to drive considering the blow counts shown on the existing borings. Therefore, 24-inch CIDH concrete pile extensions are recommended at each bent. It is noted that CIDH pile installation will require the "wet" method due to high groundwater and surface water intrusion.

The following table summarizes the suitable foundation types anticipated for each planned structure location.

PRELIMINARY STRUCTURE FOUNDATION TYPES		
Structure	**Proposed Abutment Type**	**Proposed Bent Type**
Pleasant Grove Creek Bridge (Left)	Driven precast, prestressed concrete piles	24" CIDH concrete pile extensions
Pleasant Grove Creek Bridge (Right)	Driven precast, prestressed concrete piles	24" CIDH concrete pile extensions

Construction Cost Summary

A summary of relative construction costs is provided below. Structure costs listed below are based on 2015 Caltrans Statistics (current at the time of estimate). See Attachment B for additional details.

Structure	Area (Sq. Ft.)	Cost / Sq. Ft.	Demolition Cost	Total Cost
Pleasant Grove Creek Bridge (Widen) Br. No. 19-0136L - Left	1,600	$ 237	(barrier removal included)	$ 380,000
Pleasant Grove Creek Bridge (Widen) Br. No. 19-0136L - Right	2,112	$ 262	(barrier removal included)	$ 553,000
Pleasant Grove Creek Bridge (Widen) Br. No. 19-0136R - Left	2,342	$ 287	(barrier removal included)	$ 672,000
Pleasant Grove Creek Bridge (Widen) Br. No. 19-0136R - Right	1,642	$ 279	(barrier removal included)	$ 458,000
Pleasant Grove Blvd (North) Ground Anchor Wall	1,502	$ 205	$ -	$ 308,000
Pleasant Grove Blvd (South) Ground Anchor Wall	1,382	$ 224	$ -	$ 310,000

Attachment A

Consultant Prepared Advance Planning Study (APS) Checklist

Consultant Prepared Advance Planning Study (APS) Checklist

Date:	Consultant Firm (for structures):		Phone No:
12/15/15	CH2M HILL		916-920-0300
Designed by:			Phone No:
Jennifer Elwood			916-286-0267
EA:	County:	Rte:	PM
03-1F1700	Pla	65	6.5/12.8
Project Description:			
SR-65 Capacity and Operational Improvements Project			

Bridge No(s):	Bridge Name(s):
19-0136L	Pleasant Groove Creek Bridge (Widen)
19-0136R	Pleasant Groove Creek Bridge (Widen)
19-XXXX	Pleasant Grove Blvd (North) Ground Anchor Wall
19-XXXX	Pleasant Grove Blvd (South) Ground Anchor Wall

Total number of bridges in project: 2	APS Alternative Letter or Number (if more than one):

Purpose of this APS: Initial APS Cost & Feasibility ☒ Revised scope ☐ Update cost ☐

Part A Items to collect and considerations prior to beginning the APS

All items listed in Part A are to be made available and submitted if requested by the Liaison Engineer. (Mark **N/A** if not applicable)

☒ Preliminary profile grade of proposed structure.

☒ Typical section of the proposed structure. (Including barrier type, sidewalks, cross slope %, etc.)

N/A Grades or spot elevations of roadway below the structure.

N/A Typical section of roadway below the structure. (Including shoulders, gutters, embankment slope.)

☒ Site map: including horizontal alignment of new structure and the roadway below, topo, contours, etc.

☒ Stage construction or detour plan for traffic <u>on the structure.</u>
(number of lanes to remain open, Temp Railing, etc.)

N/A Stage construction or detour plan for the roadway <u>below the structure</u>.
(falsework openings for each stage and any restrictions.)

☒ "As Built" plans for existing structures.

☒ Future widening plans of upper and lower roadway (verify with Route Concept Report).

☒ Site aerial photograph (at the proposed structure).

☒ Environmental and/or permit requirements (areas of potential impact, construction windows, etc.)

☒ Overhead and underground utility plans

N/A Any other information that you feel is necessary to complete the study. (Other concerns that may affect the APS: local agency requirements such as aesthetics, improvements in vicinity of structure, airspace usage, other obstructions, etc.)

Consultant Prepared Advance Planning Study (APS) Checklist

Part B Considerations during the APS design and cost estimate preparation

1.	Has this project been discussed with:	the OSFP Liaison Engineer?	Yes ☒ No ☐
		the Caltrans District Project Manager?	Yes ☒ No ☐
		the roadway consultant?	Yes ☒ No ☐
2.	Have the Caltrans Structures Maintenance records been reviewed?		Yes ☒ No ☐
	If the records recommend any work for the structure, is it included in the APS?		Yes ☐ No ☒
3.	Are there special aesthetic considerations?		
	Route aesthetics to be determined during design phase.		Yes ☒ No ☐
4.	(Widenings and Modifications)		
	Has this project been reviewed for seismic retrofit requirements?		Yes ☒ No ☐
	Are seismic retrofit requirements included in the APS?		Yes ☐ No ☒
5.	Any special Railroad requirements?		Yes ☐ No ☒
	Shoofly required?		Yes ☐ No ☒
	Cost of shoofly included as a separate item in the project cost estimate?		Yes ☐ No ☒
6.	Any special foundation requirements, including scour critical work, special excavation such as Type A, Type D, and/or hazardous or contaminated material?		Yes ☐ No ☒
7.	Any special construction requirements, including limited site accessibility or seasonal work?		
	Seasonal Work in Pleasant Grove Creek		Yes ☒ No ☐
8.	Other items to be included in the cost such as slope paving, approach slabs, and/or adjacent retaining walls?		
	Approach Slabs are included in the cost of Br. No. 19-0136R.		Yes ☒ No ☐
9.	Remove existing bridge?		
	Total Deck Area:		Yes ☐ No ☒
10.	Any other unusual or special requirements?		Yes ☐ No ☒
11.	Provide and attach a consultant prepared Design Memo to summarize and document any important assumptions, discussions, decisions, unusual items, local agency requirements such as aesthetics, improvements in vicinity of the structure, airspace usage, other obstructions, or any items noted above.	Summary attached?	Yes ☒ No ☐

Designer: (Printed Name)	Designer's Signature:	Date:
Jennifer Elwood	Jennifer Elwood	12/15/15

Attachment B

Advance Planning Study Cost Estimates

	GENERAL PLAN ESTIMATE	x	ADVANCE PLANNING ESTIMATE

Revised - December 3, 2007

RCVD BY: **IN EST:** **OUT EST:**

BRIDGE:	Pleasant Grove Creek Bridge (Left) (Widen) - Left	**BR. No.:**	19-0136L	**DISTRICT:**	03
TYPE:	CIP Slab			**RTE:**	65
CU:				**CO:**	PLA
EA:				**PM:**	

LENGTH: 128.2 **WIDTH:** 12.5 **AREA (SF)=** 1,600

DESIGN SECTION: ch2m

 # OF STRUCTURES IN PROJECT : **EST. NO.**

PRICES BY : J. Elwood **COST INDEX:** 2015

PRICES CHECKED BY : M. Brady **DATE:** Mar-17

QUANTITIES BY: J. Elwood **DATE:** Mar-17

	CONTRACT ITEMS	TYPE	UNIT	QUANTITY	PRICE	AMOUNT
1	REFINISH BRIDGE DECK		SQFT	193	$ 20.00	$ 3,860.00
2	STRUCTURE EXCAVATION (BRIDGE)		CY	16	$ 100.00	$ 1,600.00
3	STRUCTURE BACKFILL (BRIDGE)		CY	24	$ 80.00	$ 1,920.00
4	FURNISH PILING (CLASS 90)		LF	66	$ 30.00	$ 1,980.00
5	DRIVE PILE (CLASS 90)		EA	4	$ 2,275.00	$ 9,100.00
6	24" CAST-IN-DRILLED-HOLE CONCRETE PILING		LF	266	$ 180.00	$ 47,880.00
7	STRUCTURAL CONCRETE, BRIDGE		CY	100	$ 800.00	$ 80,000.00
8	DRILL AND BOND DOWEL		LF	780	$ 35.00	$ 27,300.00
9	JOINT SEAL (MR = $^{1}/_{2}$")		LF	30	$ 30.00	$ 900.00
10	BAR REINFORCING STEEL (BRIDGE)		LBS	26,076	$ 1.25	$ 32,595.00
11	BRIDGE REMOVAL (PORTION)		LS	1	$ 6,409.38	$ 6,409.38
12	CONCRETE BARRIER	TYPE 736	LF	163	$ 100.00	$ 16,300.00
13	CONCRETE BARRIER	TYPE K	LF		$ 100.00	$ -
14	ROCK SLOPE PROTECTION		CY	93	$ 200.00	$ 18,580.72
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

SUBTOTAL		$ 248,425
TIME RELATED OVERHEAD		$ 24,843
MOBILIZATION (@ 10 %)		$ 30,363
SUBTOTAL BRIDGE ITEMS		$ 303,631
CONTINGENCIES	(@ 25%)	$ 75,908
BRIDGE TOTAL COST		$ 379,538
COST PER SQ. FOOT		$ 237.26
BRIDGE REMOVAL (CONTINGENCIES INCL.)		
WORK BY RAILROAD OR UTILITY FORCES		
GRAND TOTAL		$ 379,538
BUDGET ESTIMATE AS OF		**$ 380,000**

ROUTING

1. DES SECTION
2. OFFICE OF BRIDGE DESIGN - NORTH
3. OFFICE OF BRIDGE DESIGN - CENTRAL
4. OFFICE OF BRIDGE DESIGN - SOUTH
5. OFFICE OF BRIDGE DESIGN - WEST
6. OFFICE OF BRIDGE DESIGN SOUTHERN CALIFORNIA

COMMENTS:

	GENERAL PLAN ESTIMATE	x	ADVANCE PLANNING ESTIMATE

Revised - December 3, 2007

RCVD BY: **IN EST:** **OUT EST:**

BRIDGE:	Pleasant Grove Creek Bridge (Left) (Widen) - Right	**BR. No.:**	19-0136L	**DISTRICT:**	03
TYPE:	CIP Slab			**RTE:**	65
CU:				**CO:**	PLA
EA:				**PM:**	

LENGTH: 128.2 **WIDTH:** 16.5 **AREA (SF)=** 2,112

DESIGN SECTION: ch2m

 # OF STRUCTURES IN PROJECT : **EST. NO.**

PRICES BY : J. Elwood **COST INDEX:** 2015

PRICES CHECKED BY : M. Brady **DATE:** Mar-17

QUANTITIES BY: J. Elwood **DATE:** Mar-17

	CONTRACT ITEMS	TYPE	UNIT	QUANTITY	PRICE	AMOUNT
1	REFINISH BRIDGE DECK		SQFT	193	$ 20.00	$ 3,860.00
2	STRUCTURE EXCAVATION (BRIDGE)		CY	18	$ 100.00	$ 1,832.46
3	STRUCTURE BACKFILL (BRIDGE)		CY	27	$ 80.00	$ 2,160.00
4	FURNISH PILING (CLASS 90)		LF	132	$ 30.00	$ 3,960.00
5	DRIVE PILE (CLASS 90)		EA	8	$ 2,275.00	$ 18,200.00
6	24" CAST-IN-DRILLED-HOLE CONCRETE PILING		LF	532	$ 180.00	$ 95,760.00
7	STRUCTURAL CONCRETE, BRIDGE		CY	130	$ 800.00	$ 104,000.00
8	DRILL AND BOND DOWEL		LF	780	$ 35.00	$ 27,300.00
9	JOINT SEAL (MR = $^{1}/_{2}$")		LF	30	$ 30.00	$ 900.00
10	BAR REINFORCING STEEL (BRIDGE)		LBS	34,167	$ 1.25	$ 42,708.75
11	BRIDGE REMOVAL (PORTION)		LS	1	$ 6,409.38	$ 6,409.38
12	CONCRETE BARRIER	TYPE 736	LF	129	$ 100.00	$ 12,900.00
13	CONCRETE BARRIER	TYPE K	LF	140	$ 100.00	$ 14,000.00
14	ROCK SLOPE PROTECTION		CY	139	$ 200.00	$ 27,887.74
15						
16						
17						
18						
19						
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SUBTOTAL		$ 361,878
TIME RELATED OVERHEAD		$ 36,188
MOBILIZATION (@ 10 %)		$ 44,230
SUBTOTAL BRIDGE ITEMS		$ 442,296
CONTINGENCIES	(@ 25%)	$ 110,574
BRIDGE TOTAL COST		$ 552,870
COST PER SQ. FOOT		$ 261.72
BRIDGE REMOVAL (CONTINGENCIES INCL.)		
WORK BY RAILROAD OR UTILITY FORCES		
GRAND TOTAL		$ 552,870
BUDGET ESTIMATE AS OF		**$ 553,000**

ROUTING

1. DES SECTION
2. OFFICE OF BRIDGE DESIGN - NORTH
3. OFFICE OF BRIDGE DESIGN - CENTRAL
4. OFFICE OF BRIDGE DESIGN - SOUTH
5. OFFICE OF BRIDGE DESIGN - WEST
6. OFFICE OF BRIDGE DESIGN SOUTHERN CALIFORNIA

COMMENTS:

	GENERAL PLAN ESTIMATE	x	ADVANCE PLANNING ESTIMATE

Revised - December 3, 2007

RCVD BY: **IN EST:** **OUT EST:**

BRIDGE:	Pleasant Grove Creek Bridge (Right) (Widen) - Left	**BR. No.:**	19-0136R	**DISTRICT:**	03
TYPE:	CIP Slab			**RTE:**	65
CU:				**CO:**	PLA
EA:				**PM:**	

LENGTH: 140.0 **WIDTH:** 16.7 **AREA (SF)=** 2,342

DESIGN SECTION: ch2m

 # OF STRUCTURES IN PROJECT : **EST. NO.**

PRICES BY : J. Elwood **COST INDEX:** 2015

PRICES CHECKED BY : M. Brady **DATE:** Mar-17

QUANTITIES BY: J. Elwood **DATE:** Mar-17

	CONTRACT ITEMS	TYPE	UNIT	QUANTITY	PRICE	AMOUNT
1	REFINISH BRIDGE DECK		SQFT	315	$ 20.00	$ 6,300.00
2	STRUCTURE EXCAVATION (BRIDGE)		CY	26	$ 100.00	$ 2,600.00
3	STRUCTURE BACKFILL (BRIDGE)		CY	37	$ 80.00	$ 2,960.00
4	FURNISH PILING (CLASS 90)		LF	120	$ 30.00	$ 3,600.00
5	DRIVE PILE (CLASS 90)		EA	8	$ 2,275.00	$ 18,200.00
6	24" CAST-IN-DRILLED-HOLE CONCRETE PILING		LF	560	$ 180.00	$ 100,800.00
7	STRUCTURAL CONCRETE, BRIDGE		CY	160	$ 800.00	$ 128,000.00
8	STRUCTURE CONCRETE, APPROACH SLAB	TYPE N	CY	39	$ 750.00	$ 29,250.00
9	DRILL AND BOND DOWEL		LF	846	$ 35.00	$ 29,610.00
10	JOINT SEAL (MR = $^1/_2$")		LF	40	$ 30.00	$ 1,200.00
11	BAR REINFORCING STEEL (BRIDGE)		LBS	38,972	$ 1.25	$ 48,715.00
12	BRIDGE REMOVAL (PORTION)		LS	1	$ 7,000.00	$ 7,000.00
13	CONCRETE BARRIER	TYPE 736	LF	172	$ 100.00	$ 17,200.00
14	CONCRETE BARRIER	TYPE K	LF	240	$ 35.00	$ 8,400.00
15	ROCK SLOPE PROTECTION		CY	180	$ 200.00	$ 36,048.91
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SUBTOTAL	$ 439,884
TIME RELATED OVERHEAD	$ 43,988
MOBILIZATION (@ 10 %)	$ 53,764
SUBTOTAL BRIDGE ITEMS	$ 537,636
CONTINGENCIES (@ 25%)	$ 134,409
BRIDGE TOTAL COST	$ 672,045
COST PER SQ. FOOT	$ 286.94
BRIDGE REMOVAL (CONTINGENCIES INCL.)	
WORK BY RAILROAD OR UTILITY FORCES	
GRAND TOTAL	$ 672,045
BUDGET ESTIMATE AS OF	**$ 672,000**

ROUTING

1. DES SECTION
2. OFFICE OF BRIDGE DESIGN - NORTH
3. OFFICE OF BRIDGE DESIGN - CENTRAL
4. OFFICE OF BRIDGE DESIGN - SOUTH
5. OFFICE OF BRIDGE DESIGN - WEST
6. OFFICE OF BRIDGE DESIGN SOUTHERN CALIFORNIA

COMMENTS:

	GENERAL PLAN ESTIMATE	x	ADVANCE PLANNING ESTIMATE

Revised - December 3, 2007

RCVD BY:

IN EST:

OUT EST:

BRIDGE: Pleasant Grove Creek Bridge (Right) (Widen) - Right **BR. No.:** 19-0136R **DISTRICT:** 03

TYPE: CIP Slab **RTE:** 65

CU: **CO:** PLA

EA: **PM:**

LENGTH: 140.0 **WIDTH:** 11.7 **AREA (SF)=** 1,642

DESIGN SECTION: ch2m

 # OF STRUCTURES IN PROJECT : **EST. NO.**

PRICES BY : J. Elwood **COST INDEX:** 2015

PRICES CHECKED BY : M. Brady **DATE:** Mar-17

QUANTITIES BY: J. Elwood **DATE:** Mar-17

	CONTRACT ITEMS	TYPE	UNIT	QUANTITY	PRICE	AMOUNT
1	REFINISH BRIDGE DECK		SQFT	315	$ 20.00	$ 6,300.00
2	STRUCTURE EXCAVATION (BRIDGE)		CY	21	$ 100.00	$ 2,100.00
3	STRUCTURE BACKFILL (BRIDGE)		CY	32	$ 80.00	$ 2,560.00
4	FURNISH PILING (CLASS 90)		LF	60	$ 30.00	$ 1,800.00
5	DRIVE PILE (CLASS 90)		EA	4	$ 2,275.00	$ 9,100.00
6	24" CAST-IN-DRILLED-HOLE CONCRETE PILING		LF	280	$ 180.00	$ 50,400.00
7	STRUCTURAL CONCRETE, BRIDGE		CY	115	$ 800.00	$ 92,000.00
8	STRUCTURE CONCRETE, APPROACH SLAB	TYPE N	CY	28	$ 750.00	$ 21,000.00
9	DRILL AND BOND DOWEL		LF	846	$ 35.00	$ 29,610.00
10	JOINT SEAL (MR = $^1/_2$")		LF	28	$ 30.00	$ 840.00
11	BAR REINFORCING STEEL (BRIDGE)		LBS	27,592	$ 1.25	$ 34,490.00
12	BRIDGE REMOVAL (PORTION)		LS	1	$ 7,000.00	$ 7,000.00
13	CONCRETE BARRIER	TYPE 736	LF	172	$ 100.00	$ 17,200.00
14	CONCRETE BARRIER	TYPE K	LF		$ 35.00	$ -
15	ROCK SLOPE PROTECTION		CY	128	$ 200.00	$ 25,601.96
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SUBTOTAL	$ 300,002
TIME RELATED OVERHEAD	$ 30,000
MOBILIZATION (@ 10 %)	$ 36,667
SUBTOTAL BRIDGE ITEMS	$ 366,669
CONTINGENCIES (@ 25%)	$ 91,667
BRIDGE TOTAL COST	$ 458,336
COST PER SQ. FOOT	$ 279.12
BRIDGE REMOVAL (CONTINGENCIES INCL.)	
WORK BY RAILROAD OR UTILITY FORCES	
GRAND TOTAL	$ 458,336
BUDGET ESTIMATE AS OF	**$ 458,000**

ROUTING

1. DES SECTION
2. OFFICE OF BRIDGE DESIGN - NORTH
3. OFFICE OF BRIDGE DESIGN - CENTRAL
4. OFFICE OF BRIDGE DESIGN - SOUTH
5. OFFICE OF BRIDGE DESIGN - WEST
6. OFFICE OF BRIDGE DESIGN SOUTHERN CALIFORNIA

COMMENTS:

	GENERAL PLAN ESTIMATE	X	ADVANCE PLANNING ESTIMATE

Revised - December 3, 2007

RCVD BY: **IN EST:** **OUT EST:**

BRIDGE: Pleasant Grove Blvd (North) Ground Anchor Wall **BR. No.:** **DISTRICT:** 03
TYPE: Tie Back Wall **RTE:** 65
CU: **CO:** PLA
EA: **PM:**
LENGTH: 200.00 **WIDTH:** **AREA (SF)=** 1,502

DESIGN SECTION: CH2M HILL
 # OF STRUCTURES IN PROJECT : **EST. NO.**
PRICES BY : J. Loomis **COST INDEX:** 2013
PRICES CHECKED BY : J. Elwood **DATE:** Nov-15
QUANTITIES BY: J. Loomis **DATE:** Nov-15

	CONTRACT ITEMS	TYPE	UNIT	QUANTITY	PRICE	AMOUNT
1	STRUCTURE EXCAVATION (GROUND ANCHOR WALL)		CY	113	$50.00	$5,650.00
2	GROUND ANCHOR (SUBHORIZONTAL)		EA	42	$2,500.00	$105,000.00
3	STRUCTURAL CONCRETE, RETAINING WALL		CY	27	$500.00	$13,500.00
4	ARCHITECTURAL TREATMENT		SF	1,502	$15.00	$22,530.00
5	BAR REINFORCING STEEL (RETAINING WALL)		LB	8,520	$1.25	$10,650.00
6	STRUCTURAL SHOTCRETE		CY	44	$550.00	$24,200.00
7	CABLE RAILING		LF	200	$30.00	$6,000.00
8	CONCRETE BARRIER	TYPE 60D	LF	175	$80.00	$14,000.00
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SUBTOTAL	$201,530
TIME RELATED OVERHEAD	$20,153
MOBILIZATION (@ 10 %)	$24,631
SUBTOTAL BRIDGE ITEMS	$246,314
CONTINGENCIES (@ 25%)	$61,579
BRIDGE TOTAL COST	$307,893
COST PER SQ. FOOT	$204.99
BRIDGE REMOVAL (CONTINGENCIES INCL.)	
WORK BY RAILROAD OR UTILITY FORCES	
GRAND TOTAL	$307,893
BUDGET ESTIMATE AS OF	**$308,000**

ROUTING

1. DES SECTION
2. OFFICE OF BRIDGE DESIGN - NORTH
3. OFFICE OF BRIDGE DESIGN - CENTRAL
4. OFFICE OF BRIDGE DESIGN - SOUTH
5. OFFICE OF BRIDGE DESIGN - WEST
6. OFFICE OF BRIDGE DESIGN SOUTHERN CALIFORNIA

COMMENTS:

	GENERAL PLAN ESTIMATE	X	ADVANCE PLANNING ESTIMATE

Revised - December 3, 2007

RCVD BY: **IN EST:** **OUT EST:**

BRIDGE: Pleasant Grove Blvd (South) Ground Anchor Wall **BR. No.:** **DISTRICT:** 03
TYPE: Tie Back Wall **RTE:** 65
CU: **CO:** PLA
EA: **PM:**
LENGTH: 190.00 **WIDTH:** **AREA (SF)=** 1,382

DESIGN SECTION: CH2M HILL
 # OF STRUCTURES IN PROJECT : **EST. NO.**
PRICES BY : J. Loomis **COST INDEX:** 2013
PRICES CHECKED BY : J. Elwood **DATE:** Nov-15
QUANTITIES BY: J. Loomis **DATE:** Nov-15

	CONTRACT ITEMS	TYPE	UNIT	QUANTITY	PRICE	AMOUNT
1	STRUCTURE EXCAVATION (GROUND ANCHOR WALL)		CY	107	$50.00	$5,350.00
2	GROUND ANCHOR (SUBHORIZONTAL)		EA	38	$2,500.00	$95,000.00
3	STRUCTURAL CONCRETE, RETAINING WALL		CY	35	$500.00	$17,500.00
4	ARCHITECTURAL TREATMENT		SF	1,382	$15.00	$20,730.00
5	BAR REINFORCING STEEL (RETAINING WALL)		LB	11,040	$1.25	$13,800.00
6	STRUCTURAL SHOTCRETE		CY	57	$550.00	$31,350.00
7	CABLE RAILING		LF	190	$30.00	$5,700.00
8	CONCRETE BARRIER	TYPE 60D	LF	170	$80.00	$13,600.00
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SUBTOTAL	$203,030
TIME RELATED OVERHEAD	$20,303
MOBILIZATION (@ 10 %)	$24,815
SUBTOTAL BRIDGE ITEMS	$248,148
CONTINGENCIES (@ 25%)	$62,037
BRIDGE TOTAL COST	$310,185
COST PER SQ. FOOT	$224.45
BRIDGE REMOVAL (CONTINGENCIES INCL.)	
WORK BY RAILROAD OR UTILITY FORCES	
GRAND TOTAL	$310,185
BUDGET ESTIMATE AS OF	**$310,000**

ROUTING

1. DES SECTION
2. OFFICE OF BRIDGE DESIGN - NORTH
3. OFFICE OF BRIDGE DESIGN - CENTRAL
4. OFFICE OF BRIDGE DESIGN - SOUTH
5. OFFICE OF BRIDGE DESIGN - WEST
6. OFFICE OF BRIDGE DESIGN SOUTHERN CALIFORNIA

COMMENTS:

Attachment C

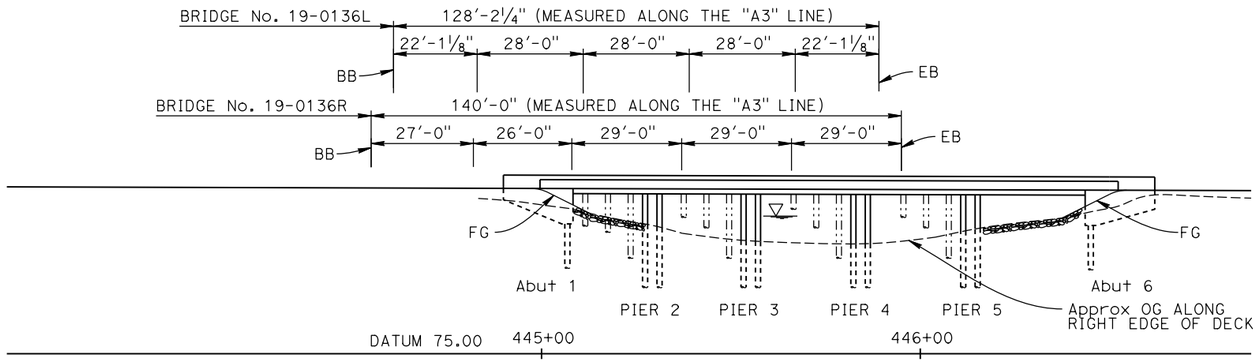
Advance Planning Study Plans

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
03	Pla	65	

PCTPA
299 NEVADA ST.
AUBURN, CA 95603

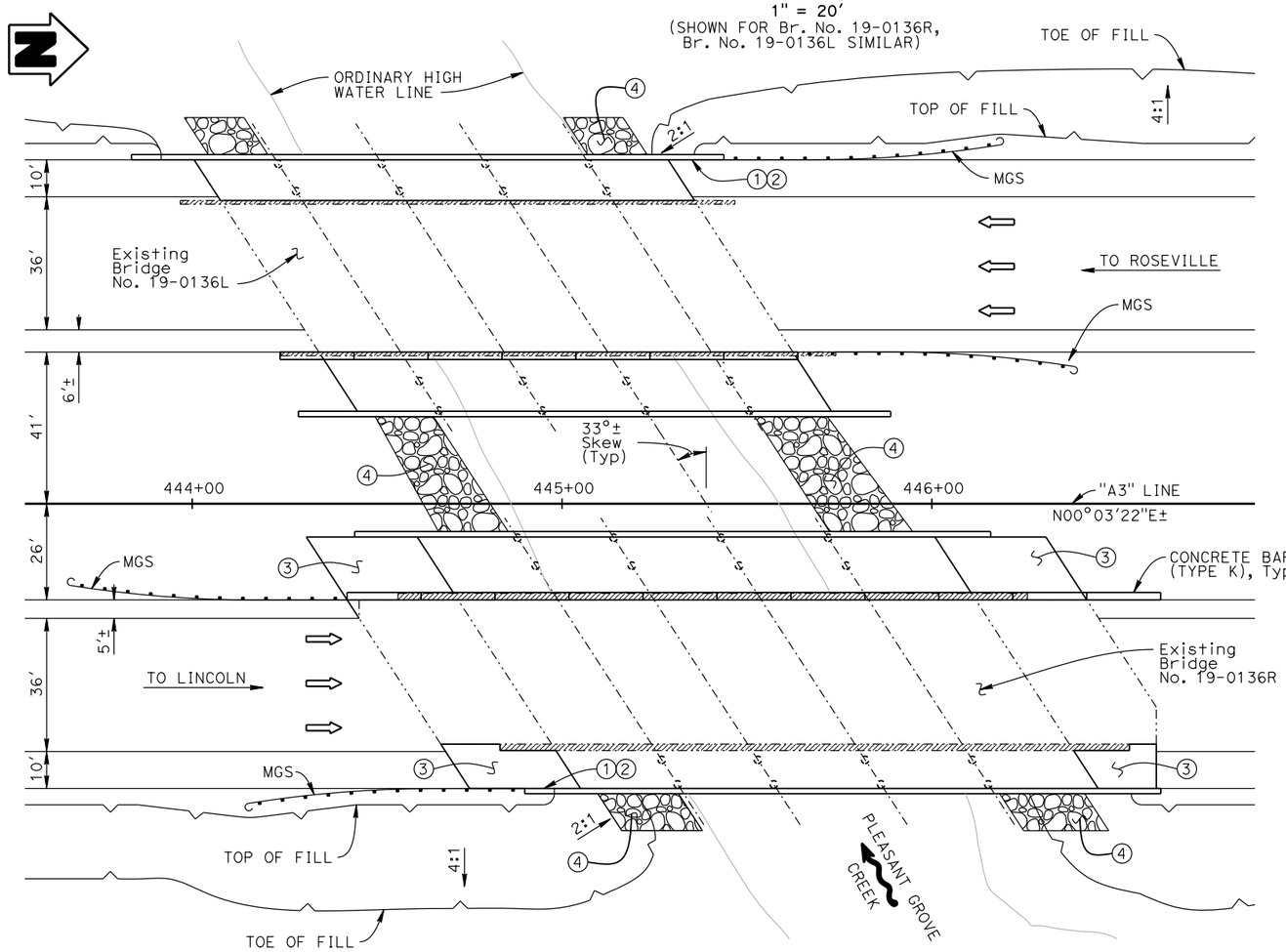
CH2M HILL
2485 NATOMAS PARK DR. STE 600
SACRAMENTO, CA 95833



ELEVATION

1" = 20'

(SHOWN FOR Br. No. 19-0136R, Br. No. 19-0136L SIMILAR)



PLAN

1" = 20'

Vehicular Traffic

1. ___ New alignment. No traffic at the site.
2. ___ Traffic will be detoured away from the site.
3. X Traffic will be carried on the structure. Stage construction will not be required.
4. ___ Traffic will pass under the structure on _____

	BRIDGE No. 19-0136L (LEFT WIDENING)	BRIDGE No. 19-0136L (RIGHT WIDENING)
DATE OF ESTIMATE	3/1/17	3/1/17
STRUCTURE DEPTH	= 1'-3½"±	1'-3½"±
LENGTH	= 128'-2¼"±	128'-2¼"±
WIDTH	= 12'-5¾"	16'-5¾"
AREA	= 1,600 SQFT	2,112 SQFT
COST/ □FT INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	= $237	$262
TOTAL COST	= $380,000	$553,000

	BRIDGE No. 19-0136R (LEFT WIDENING)	BRIDGE No. 19-0136R (RIGHT WIDENING)
DATE OF ESTIMATE	3/1/17	3/1/17
STRUCTURE DEPTH	= 1'-4"±	1'-4"±
LENGTH	= 140'±	140'±
WIDTH	= 16'-8¾"	11'-8¾"
AREA	= 2,342 SQFT	1,642 SQFT
COST/ □FT INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	= $287	$279
TOTAL COST	= $672,000	$458,000

LEGEND

- Indicates Existing Structure
- Indicates New Construction
- Indicates Bridge Removal (Portion)
- Indicates Ordinary High Water

NOTES:

1. Paint bridge name & number
2. Paint year constructed
3. Structure Approach Type N (30D)
4. Rock Slope Protection

PRELIMINARY

PLANNING STUDY

X
DESIGN OVERSIGHT

X
SIGN OFF DATE

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGNED BY	JENNIFER ELWOOD	DATE	3/1/17
DRAWN BY	ED MAECHLER	DATE	3/1/17
CHECKED BY	MARK BRADY	DATE	3/1/17
APPROVED	X	DATE	X

MARK BRADY
PROJECT ENGINEER

GENERAL PLAN

PLEASANT GROVE CREEK BRIDGE (WIDEN)

BRIDGE NO. 19-0136L/R	DIST/EA 03-1F1700
SCALE: AS SHOWN	PIN: 03 0000 1103

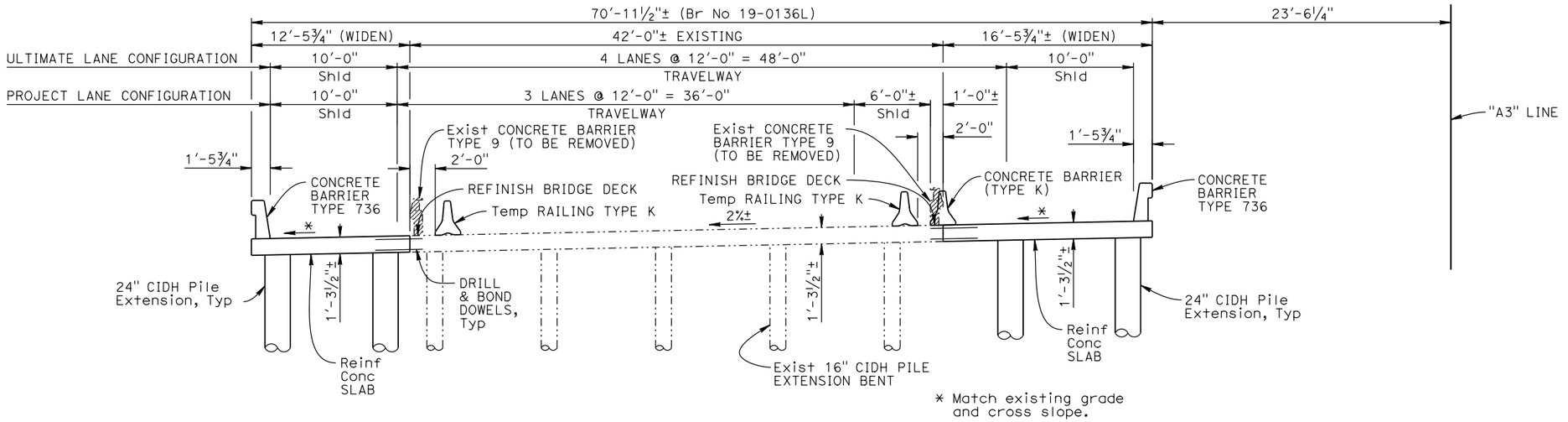
USERNAME => emaechle DATE PLOTTED => 08-MAR-2017 TIME PLOTTED => 16:04

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
03	Pla	65	

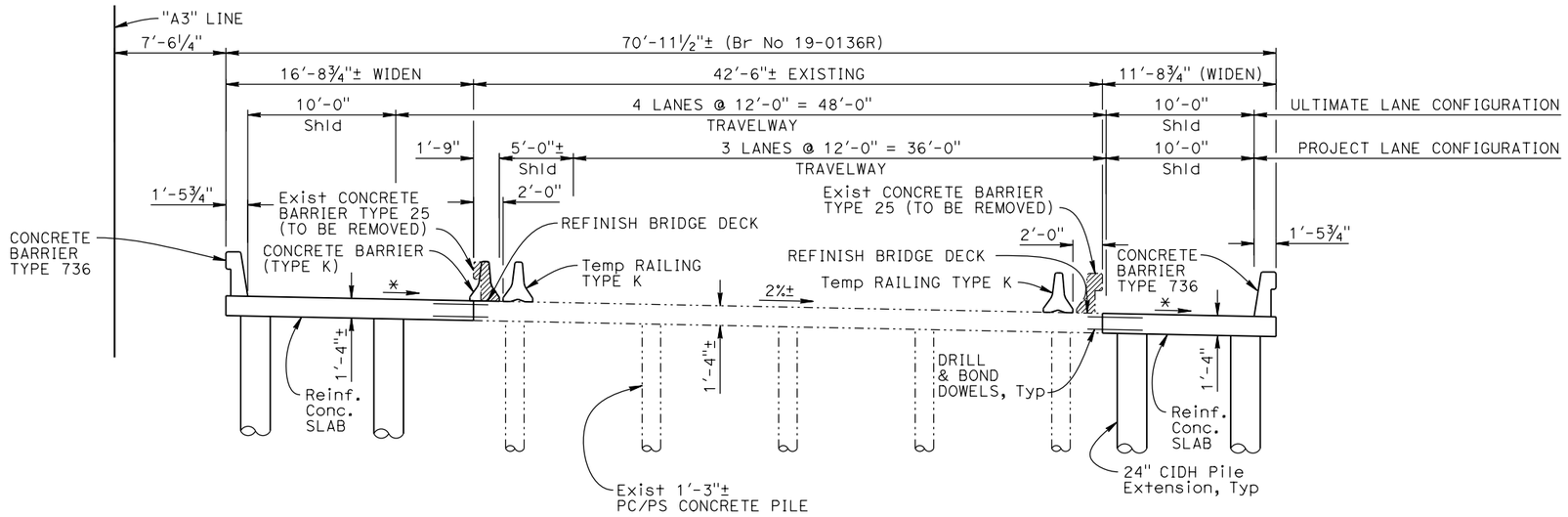
PCTPA
299 NEVADA ST.
AUBURN, CA 95603

CH2M HILL
2485 NATOMAS PARK DR. STE 600
SACRAMENTO, CA 95833



* Match existing grade and cross slope.

TYPICAL SECTION
Br No 19-0136L
1" = 5'



TYPICAL SECTION
Br No 19-0136R
1" = 5'

LEGEND

Indicates Existing Structure

Indicates New Construction

Bridge Removal (Portion)

PRELIMINARY

PLANNING STUDY

X
DESIGN OVERSIGHT

X
SIGN OFF DATE

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGNED BY	JENNIFER ELWOOD	DATE	3/1/17
DRAWN BY	ED MAECHLER	DATE	3/1/17
CHECKED BY	MARK BRADY	DATE	3/1/17
APPROVED	X	DATE	X

MARK BRADY
PROJECT ENGINEER

TYPICAL SECTION

PLEASANT GROVE CREEK BRIDGE (WIDEN)

BRIDGE NO. 19-0136L/R	DIST/EA 03-1F1700
SCALE: AS SHOWN	PIN: 03 0000 1103

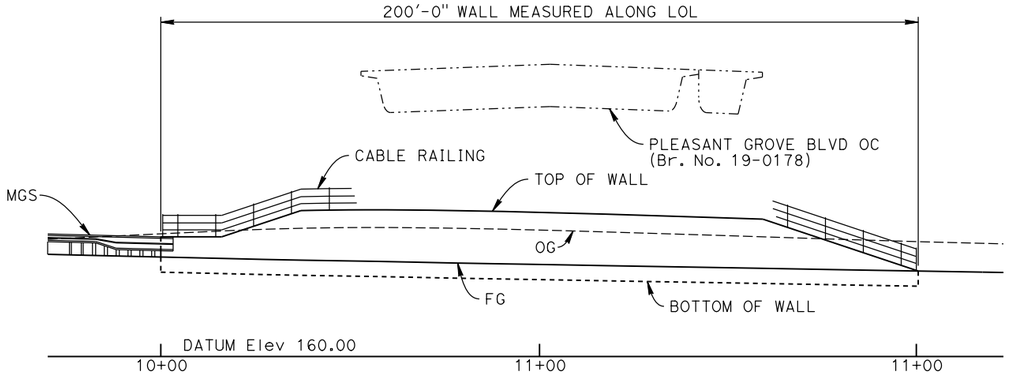
USERNAME => emaechle DATE PLOTTED => 08-MAR-2017 TIME PLOTTED => 15:57

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
03	Pla	65	

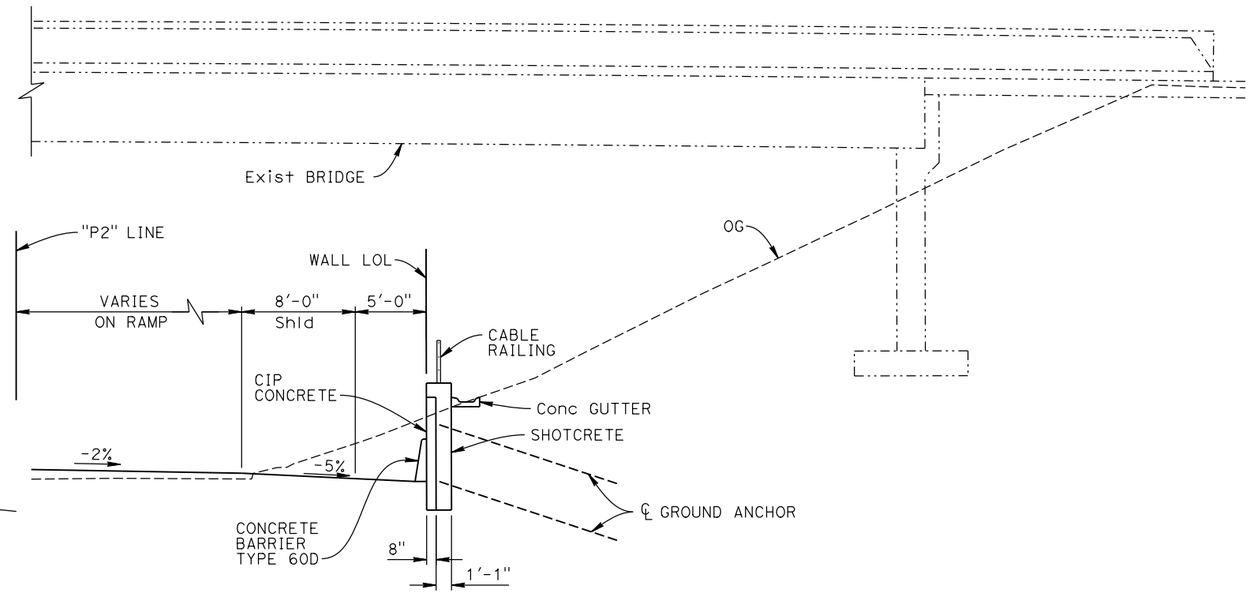
PCTPA
299 NEVADA ST.
AUBURN, CA 95603

CH2M HILL
2485 NATOMAS PARK DR. STE 600
SACRAMENTO, CA 95833



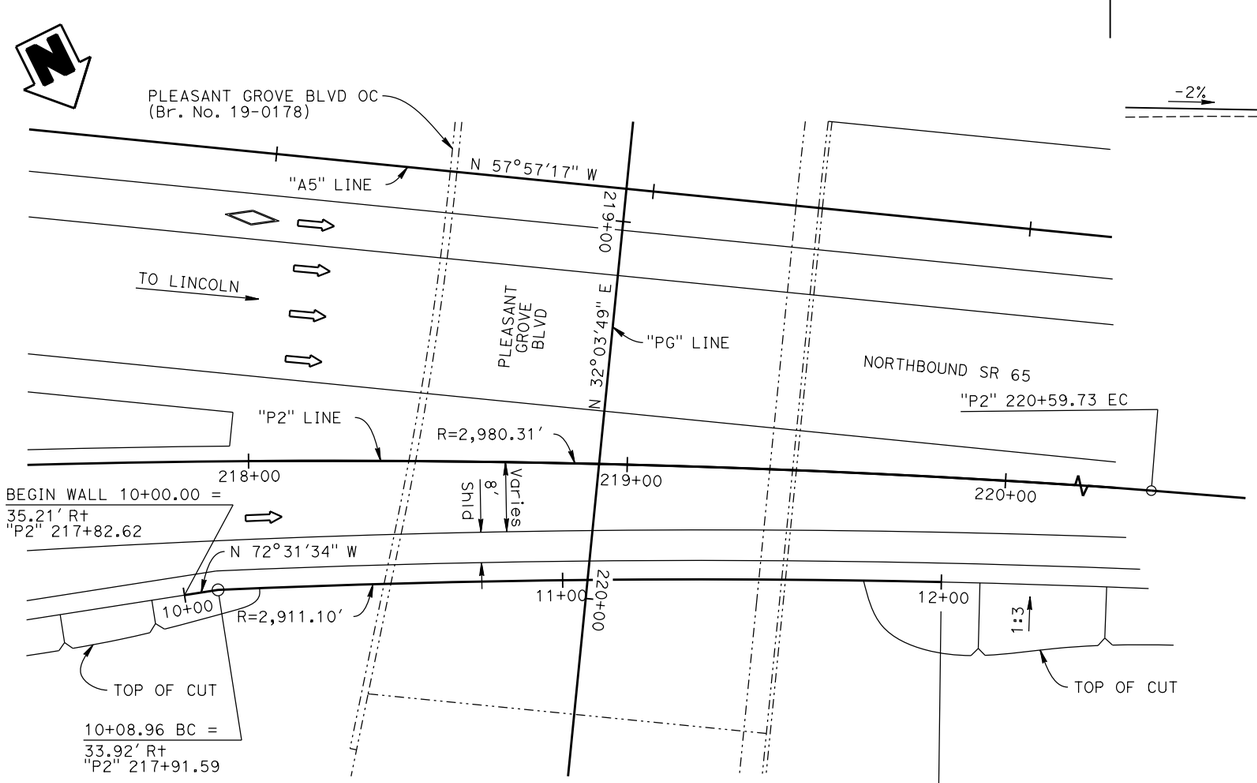
MIRRORED ELEVATION

Horiz: 1" = 20'
Vert: 1" = 10'



TYPICAL SECTION

3/16" = 1'-0"



PLAN

1" = 20'

DATE OF ESTIMATE	12/15/15
STRUCTURAL LENGTH	= 200'-0"
HEIGHT	= 2'-0" TO 8'-10"
AREA	= 1,502 SQFT
COST/□ FT INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	= $205
TOTAL COST	= $308,000

PRELIMINARY

X
DESIGN OVERSIGHT

X
SIGN OFF DATE

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGNED BY	JENNIFER ELWOOD	DATE	12/15/15
DRAWN BY	ED MAECHLER	DATE	12/15/15
CHECKED BY	MARK BRADY	DATE	12/15/15
APPROVED	X	DATE	X

MARK BRADY
PROJECT ENGINEER

PLANNING STUDY

PLEASANT GROVE BLVD (NORTH) GROUND ANCHOR WALL

BRIDGE NO. 19-XXXX	DIST/EA 03-1F1700
SCALE: AS SHOWN	PIN: 03 0000 1103

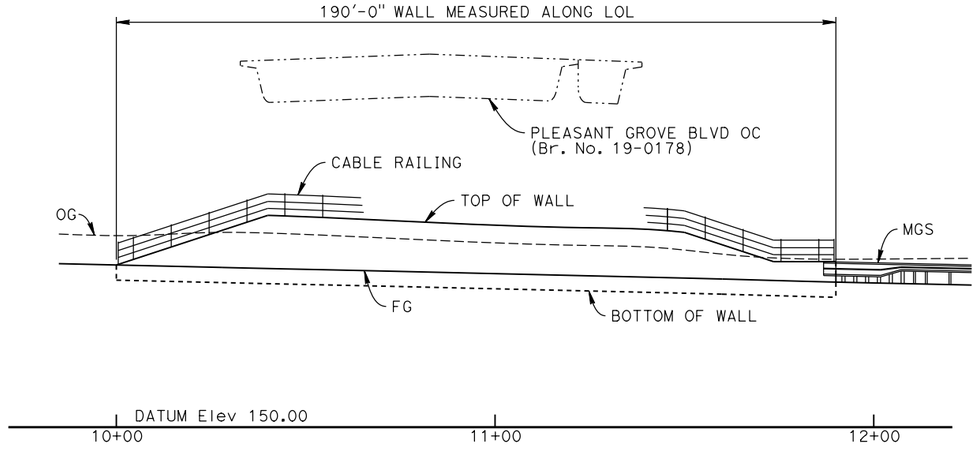
USERNAME => emaechle DATE PLOTTED => 15-FEB-2016 TIME PLOTTED => 08:47

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
03	Pla	65	

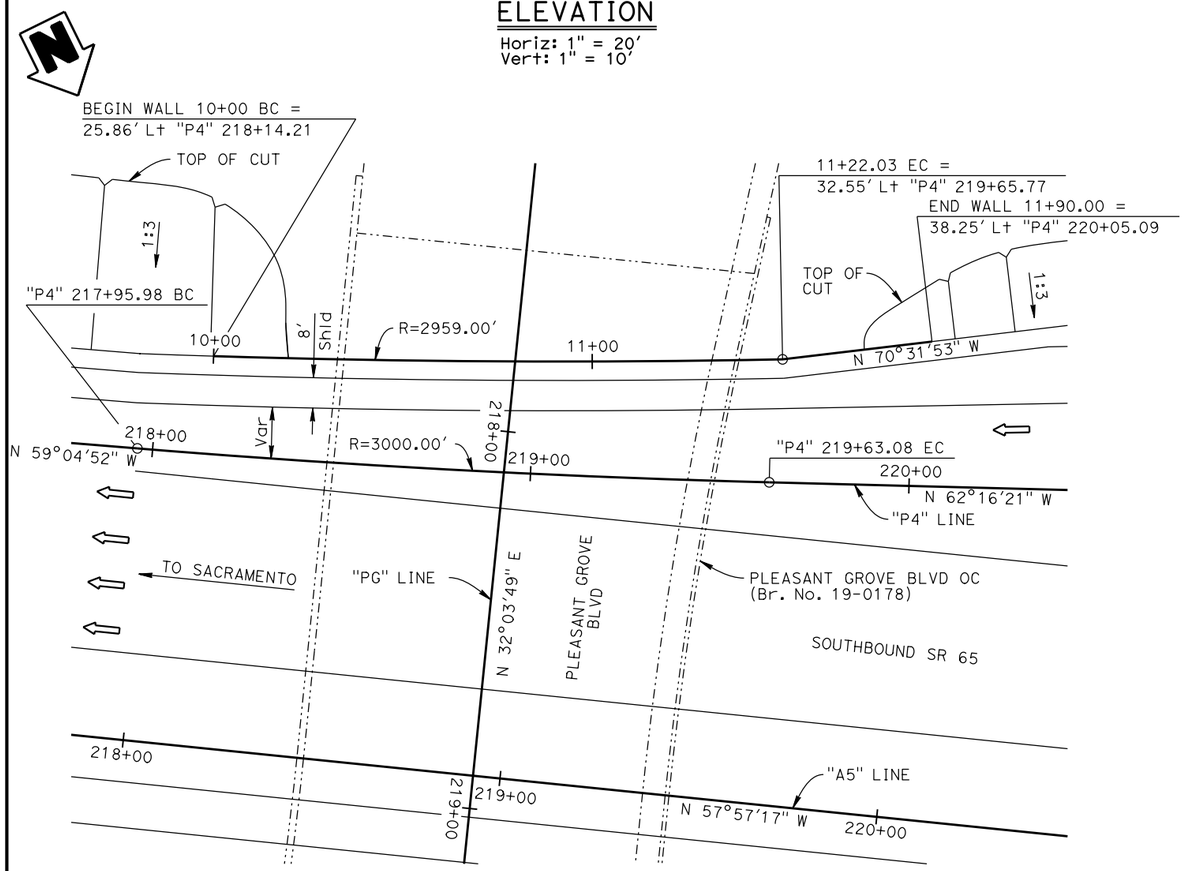
PCTPA
299 NEVADA ST.
AUBURN, CA 95603

CH2M HILL
2485 NATOMAS PARK DR. STE 600
SACRAMENTO, CA 95833



ELEVATION

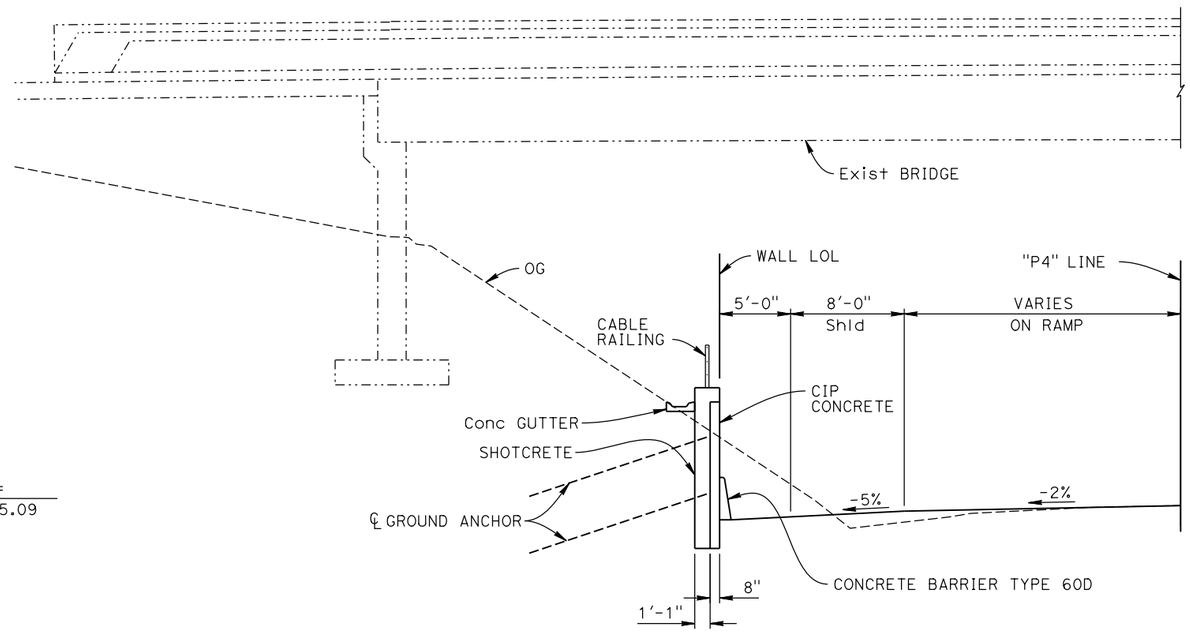
Horiz: 1" = 20'
Vert: 1" = 10'



PLAN

1" = 20'

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



TYPICAL SECTION

3/16" = 1'-0"

DATE OF ESTIMATE	12/15/15
STRUCTURAL LENGTH	= 190'-0"
HEIGHT	= 2'-0" TO 9'-0"
AREA	= 1,382 SQFT
COST/□FT INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	= $224
TOTAL COST	= $310,000

PRELIMINARY

X	
DESIGN OVERSIGHT	
X	
SIGN OFF DATE	

DESIGNED BY	JENNIFER ELWOOD	DATE	12/15/15
DRAWN BY	ED MAECHLER	DATE	12/15/15
CHECKED BY	MARK BRADY	DATE	12/15/15
APPROVED	X	DATE	X

MARK BRADY
PROJECT ENGINEER

PLANNING STUDY

PLEASANT GROVE BLVD (SOUTH) GROUND ANCHOR WALL

BRIDGE NO. 19-XXXX	DIST/EA 03-1F1700
SCALE: AS SHOWN	PIN: 03 0000 1103

USERNAME => emaechle DATE PLOTTED => 15-FEB-2016 TIME PLOTTED => 08:52

Attachment E
Right-of Way Data Sheets (DRAFT)

To: District Division Chief
Division of Right of Way and Land Surveys

Date: 11/03/16

Co. PLA Rte. 65

Attention: District Branch Chief
R/W Local Programs

Expense Authorization 03-1F1700

Subject: **RIGHT OF WAY DATA SHEET - LOCAL PUBLIC AGENCIES**

Project Description:

Alternative 1: Carpool Lane

Right of way necessary for the subject project will be the responsibility of the Placer County Transportation Planning Agency (PCTPA).
The information in this data sheet was developed by Andy Lee, Mark Thomas & Company.

I. ***Right of Way Engineering***

Will Right of Way Engineering be required for this project?

- No X
- Yes ____

  - Hard copy (base map) ____
  - Appraisal map ____
  - Acquisition Documents ____
  - Property Transfer Documents ____
  - R/W Record Map ____
  - Record of Survey ____

II. ***Engineering Surveys***

1. Is any surveying or photogrammetric mapping required?

   No X Yes ___ (Complete the following.)

2. Datum Requirements

   Yes X Project will adhere to the following criteria:
   - Horizontal - datum policy is NAD 83, CA-HPGN, EPOCH 1991.35 and English system of units and measures.
   - Vertical - datum policy is NAVD 88.
   - Units - metric is not required.

   No ____ Provide an explanation on additional page.

3. Will land survey monument perpetuation be scoped into the project, if required?

   Yes X , However, it is not anticipated that this will be needed.

   No ____ Provide explanation on additional page.

III. ***Parcel Information (Land and Improvements)***

Are there any property rights required within the proposed project limits?

No __X__ Yes ____ (Complete the following.)

	Part Take	Full Take	Estimate $
A. Number of Vacant Land Parcels			$
B. Number of Single Family Residential Units			$
C. Number of Multifamily Residential Units			$
D. Number of Commercial/Industrial Parcels			$
E. Number of Farm/Agricultural Parcels			$
F. Permanent and/or Temporary Easements			$
G. Other Parcels (define in "Remarks" section)			$
Totals			$

Some of the parcels being acquired are currently of properties that are located within the "sphere of influence" of the City of Roseville. They are urban reserve and have potential for mixed use development. Other parcels include vacant and improved industrial parks, UPRR, baseball field, and a biomass facility. Significant curable and non-curable severance damages will be associated with the biomass facility; Fixtures & Equipment appraisal will be needed.

IV. ***Dedications***

Are there any property rights which have been acquired, or anticipate will be acquired, through the "dedication" process for the Project?

No __X__ Yes ____ (Complete the following.)

Number of dedicated parcels _____

Have the dedication parcel(s) been accepted by the municipality involved?

V. ***Excess Lands / Relinquishments***

Are there Caltrans property rights which may become excess lands or potential relinquishment areas?

No __X__ Yes ____ (Provide an explanation on additional page.)

VI. ***Relocation Information***

Are relocation displacements anticipated?

No __X__ Yes _____ (Complete the following.)

A. Number of Single Family Residential Units _____
Estimated RAP Payments $ _____

B. Number of Multifamily Residential Units _____
Estimated RAP Payments $ _____

C. Number of Business/Nonprofit _____
Estimated RAP Payments $ _____

D. Number of Farms _____
Estimated RAP Payments $ _____

E. Other (define in the "Remarks" section) _____
Estimated RAP Payments $ _____

Totals _____ $ _____

* Possible Relocation Assistance Payment claim for re-establishment estimated for biomass facility.

VII. ***Utility Relocation Information***

Do you anticipate any utility facilities or utility rights of way to be affected?

No _____ Yes __X__ (Complete the following.)

		Estimated Relocation Expense		
Facility	Owner	State Obligation	Local Obligation	Utility Owner Obligation
A. Electric OH	PG&E	$	$50,000*	$50,000*
B.		$	$	$
C.		$	$	$
D.		$	$	$
E.		$	$	$
F.		$	$	$
Totals		$	$50,000	$50,000
Number of facilities		1		

*This amount is based on 50-50 liability per the Master Agreement between State and PG&E.

VIII. ***Rail Information***

Are railroad facilities or railroad rights of way affected?

No __X__ Yes ____ (Complete the following.)

Describe railroad facilities or railroad rights of way affected.

Owner's Name	Transverse Crossing	Longitudinal Encroachment
A.		
B.		

At grade crossing will require a service contract.

IX. ***Clearance Information***

Are there improvements that require clearance?

No __X__ Yes ____ (Complete the following.)

A. Number of Structures to be Demolished _____
Estimated Cost of Demolition $ _____

X. ***Hazardous Materials/Waste***

Are there any site(s) and/or improvements(s) in the Project Limits that are known to contain *hazardous materials*? None __X__ Yes ____ (Explain in the "Remarks" section.)

Are there any site(s) and/or improvement(s) in the Project Limits that are suspected to contain *hazardous waste*? None __X__ Yes ____ (Explain in the "Remarks" section.)

XI. ***Project Scheduling***

	Proposed lead time	Completion date
* Preliminary Engineering, Surveys	_____ (months)	
* R/W Engineering Submittals	_____ (months)	
* R/W Appraisals/Acquisition	_____ (months)	
Proposed Environmental Clearance		TBD
Proposed R/W Certification		TBD

XII. ***Proposed Funding***

	Local	State	Federal	Other
Acquisition				
Utilities	$50,000			
Relocation Assistance Program				
R/W Support				
Cost (Eng. Appraisals, etc.)				

XIII. ***Remarks***

_____

_____

_____

_____

Project Sponsor Consultant
Prepared by:

Andy Lee, Mark Thomas & Company

Date

Project Sponsor
Reviewed and Approved by:

Date

Caltrans
Reviewed and approved based on information provided to date:

Caltrans District Branch Chief
Local Programs
Division of Right of Way

Date

To: District Division Chief
Division of Right of Way and Land Surveys

Date: 11/03/16

Co. PLA Rte. 65

Attention: District Branch Chief
R/W Local Programs

Expense Authorization 03-1F1700

Subject: **RIGHT OF WAY DATA SHEET - LOCAL PUBLIC AGENCIES**

Project Description:

Alternative 2: General Purpose Lane

Right of way necessary for the subject project will be the responsibility of the Placer County Transportation Planning Agency (PCTPA).
The information in this data sheet was developed by Andy Lee, Mark Thomas & Company.

I. ***Right of Way Engineering***

Will Right of Way Engineering be required for this project?

- No X
- Yes ____

  - Hard copy (base map) ____
  - Appraisal map ____
  - Acquisition Documents ____
  - Property Transfer Documents ____
  - R/W Record Map ____
  - Record of Survey ____

II. ***Engineering Surveys***

1. Is any surveying or photogrammetric mapping required?

   No X Yes ___ (Complete the following.)

2. Datum Requirements

   Yes X Project will adhere to the following criteria:
   - Horizontal - datum policy is NAD 83, CA-HPGN, EPOCH 1991.35 and English system of units and measures.
   - Vertical - datum policy is NAVD 88.
   - Units - metric is not required.

   No ____ Provide an explanation on additional page.

3. Will land survey monument perpetuation be scoped into the project, if required?

   Yes X , However, it is not anticipated that this will be needed.

   No ____ Provide explanation on additional page.

III. ***Parcel Information (Land and Improvements)***

Are there any property rights required within the proposed project limits?

No __X__ Yes ____ (Complete the following.)

	Part Take	Full Take	Estimate $
A. Number of Vacant Land Parcels			$
B. Number of Single Family Residential Units			$
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D. Number of Commercial/Industrial Parcels			$
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G. Other Parcels (define in "Remarks" section)			$
Totals			$

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Are relocation displacements anticipated?

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B. Number of Multifamily Residential Units _____
Estimated RAP Payments $ _____

C. Number of Business/Nonprofit _____
Estimated RAP Payments $ _____

D. Number of Farms _____
Estimated RAP Payments $ _____

E. Other (define in the "Remarks" section) _____
Estimated RAP Payments $ _____

Totals _____ $ _____

* Possible Relocation Assistance Payment claim for re-establishment estimated for biomass facility.

VII. ***Utility Relocation Information***

Do you anticipate any utility facilities or utility rights of way to be affected?

No _____ Yes __X__ (Complete the following.)

		Estimated Relocation Expense		
Facility	Owner	State Obligation	Local Obligation	Utility Owner Obligation
A. Electric	PG&E	$	$50,000*	$50,000*
B.		$	$	$
C.		$	$	$
D.		$	$	$
E.		$	$	$
F.		$	$	$
Totals		$	$50,000	$50,000
Number of facilities		1		

*This amount is based on 50-50 liability per the Master Agreement between State and PG&E.

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Are railroad facilities or railroad rights of way affected?

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Describe railroad facilities or railroad rights of way affected.

Owner's Name	Transverse Crossing	Longitudinal Encroachment
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B.		

At grade crossing will require a service contract.

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Are there improvements that require clearance?

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A. Number of Structures to be Demolished _____
Estimated Cost of Demolition $ _____

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Are there any site(s) and/or improvements(s) in the Project Limits that are known to contain *hazardous materials*? None __X__ Yes ____ (Explain in the "Remarks" section.)

Are there any site(s) and/or improvement(s) in the Project Limits that are suspected to contain *hazardous waste*? None __X__ Yes ____ (Explain in the "Remarks" section.)

XI. ***Project Scheduling***

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* R/W Appraisals/Acquisition	_____ (months)	
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Proposed R/W Certification		TBD

XII. ***Proposed Funding***

	Local	State	Federal	Other
Acquisition				
Utilities	$50,000			
Relocation Assistance Program				
R/W Support				
Cost (Eng. Appraisals, etc.)				

XIII. ***Remarks***

_____

_____

_____

_____

Project Sponsor Consultant
Prepared by:

Andy Lee, Mark Thomas & Company

Date

Project Sponsor
Reviewed and Approved by:

Date

Caltrans
Reviewed and approved based on information provided to date:

Caltrans District Branch Chief
Local Programs
Division of Right of Way

Date

Attachment F
Storm Water Data Report (DRAFT)

Dist-County-Route: 03-PLA-65
Post Mile Limits: PM 6.5/12.8
Project Type: Widening Freeway
Project ID (or EA): 03-1F170K
Program Identification: _____
Phase: ☐ PID ☒ PA/ED ☐ PS&E

Regional Water Quality Control Board(s): Central Valley Regional Water Control Board

Is the Project required to consider Treatment BMPs? Yes ☒ No ☐
If yes, can Treatment BMPs be incorporated into the project? Yes ☒ No ☐
If No, a Technical Data Report must be submitted to the RWQCB at least 30 days prior to the projects RTL date. List RTL Date: _____

Total Disturbed Soil Area: 55.05 acres (GP) Risk Level: 2
Estimated: Construction Start Date: 2020 Construction Completion Date: 2025
Notification of Construction (NOC) Date to be submitted: TBD

Erosivity Waiver	Yes ☐	Date: _____	No ☒
Notification of ADL reuse (if Yes, provide date)	Yes ☒	Date: TBD in PS&E	No ☐
Separate Dewatering Permit (if yes, permit number)	Yes ☐	Permit # _____	No ☒

This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the date upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E.

Andy Lee, Registered Project Engineer — Date

I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:

[Name),, Project Manager — *Date*

[Name), Designated Maintenance Representative — *Date*

James Williamson, Designated Landscape Architect Representative — *Date*

[Stamp Required for PS&E only)

Wes Faubel, District/Regional Design SW Coordinator or Designee — *Date*

STORM WATER DATA INFORMATION

1. Project Description

Caltrans in cooperation with Placer County Transportation Planning Agency (PCTPA), Placer County, and the Cities of Roseville, Rocklin, and Lincoln proposes to widen State Route (SR) 65 north of Galleria Blvd/Stanford Ranch Rd to Lincoln Blvd. In addition to the No Build Alternative, the project will consider two build alternatives, Carpool Lane and General Purpose Lane Alternatives. Both build alternatives would meet the project need and purpose and the preferred alternative has not been officially identified. For the purposes of the SWDR, the analysis will be based on the General Purpose Lane Alternative, whose project footprint yields slightly more area of disturbance.

The Carpool Lane Alternative propose to add a 12-foot carpool/high occupancy vehicle (HOV) lane in the southbound direction of SR 65 in the median from north of Galleria Boulevard/Stanford Ranch Road interchange to Blue Oaks Boulevard interchange. A new carpool lane in the northbound direction of SR 65 from Galleria Boulevard/Stanford Ranch Road interchange to Blue Oaks Boulevard interchange will not be included in this project and is deferred to the future project when it will be included in the next MTP update. The carpool/HOV lanes would connect to the carpool/HOV lanes proposed from the I-80/SR 65 interchange project.

Other capacity improvements on SR 65 include adding one 12-foot general purpose lane in each direction of SR 65 from Galleria Boulevard interchange to Pleasant Grove Boulevard interchange and adding auxiliary lane in each direction of SR 65 from Galleria Boulevard interchange to Pleasant Grove Boulevard interchange, from Blue Oaks Boulevard interchange to Sunset Boulevard interchange, and from Placer Pkwy interchange to Twelve Bridges Drive.

Per recommendation from the VA study, this alternative will also include ramp metering modifications for the slip on-ramps to a 2+1 configuration (2 metered lanes plus 1 carpool preferential lane) and a 1+1 (1 metered lane plus 1 carpool preferential lane) for the loop on-ramps along SR 65 from Galleria Boulevard interchange to Lincoln Boulevard. Ramps to be modified include southbound Pleasant Grove Boulevard slip and loop on-ramps, Blue Oaks Boulevard slip and loop on-ramps, and Lincoln Boulevard slip on-ramp

The General Purpose Lane Alternative proposes to add a 12-foot general purpose lane in southbound direction of SR 65 from north of Galleria Boulevard/Stanford Ranch Road interchange to Blue Oaks Boulevard interchange, and in northbound direction from Galleria Boulevard interchange to Pleasant Grove Boulevard interchange. For added capacity on southbound SR 65 as recommended by the VA study, this alternative also includes additional general purpose lane from Galleria Boulevard interchange to Pleasant Grove Boulevard interchange.

The alternative also include extending/adding auxiliary lanes and modifying slip and loop on-ramps for ramp metering as described in the Carpool Lane Alternative.

Both build alternatives will allow inside widening as future projects along SR 65 from north of Blue Oaks Boulevard interchange to Lincoln Blvd and will accommodate the I-80/SR 65 project and will take into consideration the carpool/HOV lane restrictions and weaving volumes from the carpool/HOV lanes proposed by the I-80/SR 65 project.

The amount of impervious area and the total disturbed soil area is summarized in the table below. The Disturbed Soil Area (DSA) includes all grading area, surface area of cut and fill, all clearing and grubbing area, and anticipated Contractor's staging area and area for equipment storage. The impervious area was calculated based on existing and proposed pavement areas affected by project improvements.

Table 1. Impervious Area and Disturbed Soil Totals

Description	General Purpose Alternative
	Area (Acres)
Impervious Area – Existing Condition	80.29
New Impervious Area – with Project	16.93
Total Impervious Area – with Project	97.22
Disturbed Soil Area	55.05

The project is located within the cities of Rocklin, Roseville, and Lincoln and Placer County Urban MS4 areas.

2. Site Data and Storm Water Quality Design Issues (refer to Checklists SW-1, SW-2, and SW-3)

- **Hydrologic Units**

According to the Water Quality Planning Tool the project limits extends through Hydrological Sub Area 519.22, Pleasant Grove, of the Coon-American Hydrologic Area and the Valley-American Hydrologic Unit.

- **Receiving Water Bodies**

There are two major waterbodies that cross SR 65 within the project limits. Orchard Creek is the receiving water body that contributes from watershed areas in the northern portion project limits (0.5 mile south of Placer Parkway to Lincoln Blvd). The other waterbody, Pleasant Grove Creek, is the receiving water body for the watershed areas in the southern portion of the project limits (Galleria Blvd to 0.5 mile south of Placer Pkwy). Orchard Creek is a tributary to Auburn Ravine which ultimately discharges to the Sacramento River via the Natomas North Canal, and the Natomas Cross Canal. Pleasant Grove Creek discharges to the Sacramento River via the Pleasant Grove Canal and the Natomas Cross Canal.

- Land Use

General plan for the Cities of Roseville, Rocklin and Lincoln and Placer County were reviewed. Currently, the existing land use adjacent to the project site is a mixture of industrial and commercial parks, community commercial, business professional and agricultural open space.

- 2010 Clean Water Act 303(d) List

Pleasant Grove Creek is listed as a 303(d) listed impaired water body. Pollutants of concern are Oxygen, dissolved, Pyrethroids, and Sediment toxicity.

- Climatic Summary

The project site is located within the Cities of Roseville, Rocklin, Lincoln and Placer County. The climate is characterized by mild fall and spring temperatures in the 70's and warm summers. The Water Planning Tool averages the rainfall to be 21 inches. According to Caltrans Stormwater Quality Handbooks, rainy season is estimated from October 15 to April 15.

- Topographic Summary

The terrain is rolling hills ranging from 135 feet to 220 feet above sea level within the project area. Extensive urban development exists on the southern end of the project site within the Cities of Roseville and Rocklin. The topography of the northern side of the project can be characterized as flat, gently sloping down to Orchard Creek.

- Soil Characteristics

Soils information for this project has been obtained from the US Department of Agriculture, National Resource Conservation Service. The soils within the project limits are described in Table 2 below.

Hydrological Group A soils have the lowest runoff potential and high infiltration rates when thoroughly wetted. Hydrological Group B soils have moderate infiltration rates when thoroughly wetted. Hydrological Group C have low infiltration rates when thoroughly wetted. Hydrological Group D soils have the highest runoff potential, very low infiltration rates when thoroughly wetted, and may be subject to erosion by water.

Table 2. Soil Group Characteristics

Map Unit Name	Map Unit Symbol	Hydrological Soil Group
Alamo – Fiddyment complex, 0 – 5% slope	104	C/D
Alamo variant clay, 2 – 15% slopes	105	D
Cometa sandy loam, 1 – 5% slopes	140	D
Cometa – Fiddyment complex, 1 – 5% slopes	141	D
Exchequer very stony loam, 2 – 15% slopes	144	D
Exchequer – Rock Outcrop complex, 2 – 30% slopes	145	D
Fiddyment – Kaseberg loams, 2 – 9% slopes	147	C/D
Inks – Exchequer complex, 2 – 25% slopes	154	D
Xerofluvents, occasionally flooded	193	A
Xerofluvents, frequently flooded	194	B
Water	198	-

The soils within the project limits can be generalized as being in hydrological soil group D.

- Risk Assessment

Pleasant Grove Creek

The R factor was determined from the EPA's "Rainfall Erosivity Factor Calculator for Small Construction Sites to be 249.76 based on approximate construction duration of five years. The K factor yielded an average of 0.27. The LS factor was determined using cross section information considering the length and slope of the slopes being disturbed and yielded an average of 1.05.

The product of these values (R, K, and LS) is 70.81 tons/acre. Because this value is between 15 tons/acre and 75 tons/acre, the project site is classified as having medium sediment risk.

The receiving water risk is classified as high because portion of the disturbed area discharges directly to the Pleasant Grove Creek, which is a 303(d) Listed waterbody impaired by sediment.

The combined medium sediment risk and high receiving water risk results in the project being classified as Risk Level 2.

Orchard Creek

The R factor was determined from the EPA's "Rainfall Erosivity Factor Calculator for Small Construction Sites to be 249.76 based on approximate construction duration of five years. The K factor yielded an average of 0.38. The LS factor was determined using cross section information considering the length and slope of the slopes being disturbed and yielded an average of 0.51.

The product of these values (R, K, and LS) is 48.40 tons/acre. Because this value is between 15 tons/acres and 75 tons/acres, the project site is classified as having a medium sediment risk.

Orchard Creek is not on the 303(d) List for impaired water body and has no beneficial uses of spawn & cold migratory. However, this water body is high risk based on the Water Board Prescriptive mapping.

The combined medium sediment risk and low receiving water risk results in the project being classified as Risk Level 2.

- Right-of-way Requirements

The project is primarily within the Caltrans R/W; no R/W acquisition is expected. It is anticipated that treatment BMPs will be installed at location where there is adequate room within the R/W.

- 401 Certification

A 401 certification is needed for the work within Pleasant Grove Creek when Pleasant Grove Creek Bridges (Br. No. 19-0136 L/R) is widened as well as other water bodies' locations where existing culverts will be extended.

3. Regional Water Quality Control Board Agreements

There are no known RWQCB special requirements. There are no negotiated understandings or agreements with Central Valley RWQCB that are expected pertaining to this project at this time.

4. Proposed Design Pollution Prevention BMPs to be used on the Project.

The Low Impact Development/Design (LID) will be incorporated into the development of permanent best management practices during the design phase to maximum extent practicable. Incorporating LID in the design includes minimizing the new impervious areas by maximizing the use of existing pavement for the widening, reducing amount of inlets and pipes, and increasing the areas for biostrips and bioretention swales to promote hydrologic functions similar to the existing hydrology.

Downstream Effects Related to Potentially Increased Flow, Checklist DPP-1, Parts 1 and 2

The proposed project will create additional 17 acres of impervious area and therefore there will be an increase of storm water runoff. The increase of runoff will be directed into drainage toe ditches connected to the proposed bioswales. Both diches and bioswales will be long and flat in longitudinal slope to increase the contact time, to promote infiltration, and to reduce the runoff velocity and minimize impacts downstream. The existing drainage pattern will be kept after construction. Flared end sections, rock lined channel and paved channel will be used at culvert and channel outlets to minimize the increase of velocity.

There is potential for increased sediment loading. All graded slopes, either cut or fill, will be constructed with proper erosion control and permanent plantings. Hydroseeding with California native seed mix including California Brome, California Poppy, Creeping Wildrye, and Small Fescue that have been used successfully in the adjacent highway projects will be considered as the erosion control measure for this project. Ditches will be vegetated but if erosive velocities are anticipated, ditches will be constructed with rock lining to prevent scour. Storm water runoff conveyed through drainage culverts will outfall into a flared end section and a Rock Slope Protection (RSP) pad before continuing flowing downstream. This slows the flow and reduces the potential to erode the ditch and convey sediment downstream.

Slope/Surface Protection Systems, Checklist DPP-1, Parts 1 and 3

Proposed fill slopes will be kept between 3:0 and 4:1 (H:V) or flatter and cut slopes will be limited at a maximum of 2:1 (H:V). To minimize erosion from any of the new slopes mitigating design features have been considered. All graded slopes, either cut or fill, will be vegetated. The slope and surface protection systems selected for use include slope rounding, seeding and planting, and erosion control. During construction, embankment slopes will be roughened by either track-walking or rolling with a sheepsfoot roller to receive erosion control (hydroseeding). Excavation Slopes will be roughened by scarifying to a depth of 6 inches. Sequencing steps after hydroseeding will include applying compost and hydromulch and installing rolled erosion control netting to complete the erosion control. Quantity of erosion control will be calculated and paid by the square feet of areas receiving the hydrossed, compost, hydromulch, and netting.

Areas of the project that will be hardscaped as required for safety (ramp gores) and maintenance (pullout areas) include the SR65/Pleasant Grove Boulevard Interchange and SR65/Blue Oaks Boulevard Interchange. To maintain consistency with the hardscape along the SR65 corridor, ramp gores will be constructed with minor concrete (textured paving) that matches color and pattern of adjacent interchanges along the corridor. Riprap under the Pleasant Grove Creek Bridges for scour and slope stability will be included in the project design.

Concentrated Flow Conveyance Systems, Checklist DPP-1, Parts 1 and 4

There are a variety of concentrated flow conveyance devices along the length of the project. The concentrated flow conveyance devices include unlined ditches, drainage inlets, culverts, asphalt concrete dikes and overside drains, flared end sections and RSP pads which are stabilized to carry runoff without causing erosion.

For this project, the planned drainage pattern will replicate as much as possible the existing runoff pattern that convey storm runoff into Orchard Creek and Pleasant Grove Creek.

Preservation of Existing Vegetation, Checklist DPP-1, Parts 1 and 5

Construction of the project will remove some amount of existing vegetation within the project right-of-way. Clearing and grubbing is primarily limited to areas within existing median area and outside pavement where the widening will occur. Vegetation clearing and construction operations will be limited to the direct conflict with the improvements and to the minimum necessary in areas of temporary construction access and staging areas. The exclusion fencing consisting of orange construction barrier and erosion control fencing or combination fencing will be installed along the edge of the construction limits. Vegetation to be protected will be surveyed before the construction by the project biologist who will direct the Contractor install orange fencing for protection. The fencing will be buried a minimum of 6 inches to prevent sediment runoff into adjacent wetlands.

The vegetation composition adjacent to the disturbed areas typically consists of nonnative species, particularly annual grasses and weedy forbs, with scattered trees and shrubs. Where existing vegetation is impacted by the construction activities, proper vegetation will be placed, monitored, and maintained to establish permanent cover at direction of the project biologist. The Contractor will be prohibited from clearing and grubbing outside the slope catch point.

Some cross drainage including reinforced box culverts and large diameter culverts will be extended from roadway widening. Therefore the work zone within the tributary riparian zone will be limited to what is necessary to perform the work and provide a temporary bypass. Additional Environmentally Sensitive Areas (ESA) exist within the project limits that are potentially impacted by the project. ESA protection measures (i.e. ESA fencing) are included in the project plans. Areas outside of the active work area are excluded from construction access.

5. Proposed Permanent Treatment BMPs to be used on the Project

Treatment BMP Strategy, Checklist T-1

The project is required to consider treatment BMPs because it involves new construction and the creation of more than one acre of impervious area. The total impervious area created by the proposed project is about 17 acres and the goal is to treat 100% of new

impervious area. To consider appropriate types of treatment BMPs for this project, the T-1 Part 1 checklist is used for each drainage sheds within the project.

After eliminating dry weather flow diversion, gross solids removal, infiltration, detention, traction sand traps, multi-chambered treatment train devices, and wet basins, the biofiltration swales and media filters are the preferred permanent treatment BMPs for this project.

Biofiltration Swales/Strips, Checklist T-1, Parts 1 and 2

A total of six (6) biofiltration swales are proposed using the design criteria specified in the Caltrans Biofiltration Swale Design Guidance. The parameter for each bioswale including the bottom width, side slope, longitudinal slope, hydraulic residence time at WQF, length of flow path, flow depth during WQF, and velocity is documented and included in the attachment.

To quantify percentage of WQV that can be infiltrated, Caltrans T-1 Infiltration Tool and Basin Sizer are used. Because of the soil characteristics at the bioswale site, the infiltration is proved to be unfeasible (0 percent of WQV will be infiltrated). The infiltration rate is increased with soil amendments and the rate ranges from 10 to 28 percent. The results of infiltration percentage for each bioswale is documented and included in the attachment.

Dry Weather Diversion, Checklist T-1, Parts 1 and 3

Dry weather flow is not persistent or anticipated; therefore, dry weather diversion will not be used on the project.

Infiltration Devices – Checklist T-1, Parts 1 and 4

Infiltration devices are not feasible due to the soil type which is classified as NRCS Hydrologic Soil Group D with poor infiltration rate.

Detention Devices, Checklist T-1, Parts 1 and 5

Detention basins are feasible based on the fact that the volume of the detention devices is at least equal to the WQV and the basin invert is greater than the 10 feet above seasonally high groundwater. However, no adequate area exists within the existing right of way for placement without encroaching into environmentally sensitive wetlands, vernal pools, or preserved jurisdictional areas. The installation of detention devices will not be cost effective and will not be considered for this project.

Gross Solids Removal Devices (GSRDs), Checklist T-1, Parts 1 and 6

GSRDs have not been incorporated into the project because Pleasant Grove Creek and Orchard Creek are not on 303(d) list as impaired water receiving body nor has a TMDL for trash or litter.

Traction Sand Traps, Checklist T-1, Parts 1 and 7

Traction Sand Traps are not incorporated into the project because Traction Sand or other abrasives are not applied to the roadway more than twice per year.

Media Filters, Checklist T-1, Parts 1 and 8

Austin Sand Filter is feasible due to its Water Quality Volume capacity and sufficient hydraulic head. However, no adequate area exists within the existing right of way for placement without encroaching into environmentally sensitive wetlands, vernal pools, or preserved jurisdictional areas. The installation of media filter will not be cost effective and will not be considered for this project.

Multi-Chambered Treatment Trains (MCTTs), Checklist T-1, Parts 1 and 9

There are no critical source areas within the project limits. MCTT are not feasible.

Wet Basins, Checklist T-1, Parts 1 and 10

Wet Basins are not incorporated into the project because there is not a permanent water source available in sufficient quantities to maintain the permanent pool.

6. Proposed Temporary Construction Site BMPs to be used on Project

As presented in Section 2 of the report, this project is classified as Risk Level 2. This section presents the proposed temporary construction BMP strategy to be implemented for this project to meet Caltrans criteria.

- **Storm Water Pollution Prevention Plan**

The project has a DSA of 55.05 acres. Because this project disturbs more than one acre of soil, a Storm Water Pollution Prevention Plan (SWPPP) must be submitted for this project by the Contractor prior to the start of construction. The SWPPP must be prepared by a qualified SWPPP Developer (QSD), submitted to the CVRWQCB and monitored by a qualified SWPPP practioner (QSP) prior to construction. Also, the SWPPP will need to comply with all requirements of the Caltrans Storm Water Quality Handbook – Storm Water Pollution Prevention Plan Preparation Manual.

- **Rain Event Action Plan**

Risk Level 2 projects are required to prepare a Rain Event Action Plan (REAP). The number of REAPs anticipated for this project is shown in Table 3. The quantities for REAPs are based on precipitation data from the National Oceanic and Atmospheric Administration website.

- Construction Site BMP Strategy

The construction work for this project is scheduled to cover five construction seasons. To mitigate any potential run-off or run-on within the project area, construction site BMPs will be installed prior to the start of construction or as early as feasibly possible during construction.

Since construction is scheduled for five years, there is potential for erosion to occur on existing and newly formed slopes. Multiple mobilization Move-In/Move-Out locations are proposed for the project to implement temporary erosion control and construction site measures throughout the project.

Temporary Hydraulic Mulch will be placed on any exposed disturbed soil, stockpile of soil and unprotected slopes that may be susceptible to erosion from either runoff or wind.

Temporary fiber rolls and temporary silt fence will be utilized as a sediment control measure to minimize both sediment laden sheet flows and concentrated flows from discharging offsite.

Temporary drainage inlet protection prevents sediment from entering current or proposed storm drains.

Offsite tracking of sediment is limited by placing stabilized construction entrances in combination with regular street sweeping. Stabilized construction roadways are used to provide access for construction activities. Street sweeping is also utilized to remove tracked sediment.

Concrete wastes are managed through the use of both portable and non-portable concrete washout facilities.

The design of all Construction BMPs complies with the design requirements found in the Caltrans Storm Water Quality Handbook - Construction Site Best Management Practices Manual.

- Storm Water Sampling and Analysis

The project is required to perform stormwater sampling at all discharge locations. Storm water sampling and analysis requirements will be specified in the project Special Provisions during PS&E Phase. The estimated costs for sampling related items were estimated using the Caltrans "Estimating Guidance for GCP."

- Dewatering and Temporary Stream Diversion

It is uncertain if dewatering will be necessary for construction of the project improvements. It is anticipated that a stream flow diversion will be constructed to perform the culvert extension in case there is any stream flow.

- **Construction Site BMP Quantity Estimate**

The construction site BMPs used in the strategy described above were applied to the project and the quantities listed in Table 3 were estimated for the project.

Table 3: Quantities for Construction Site BMPs

BEES	Temporary BMPs - PPDG Appendix C	Unit	Quantity
130505	Move-In/Move-Out (Temporary Erosion Control)	EA	6
130520	Temporary Hydraulic Mulch	SQYD	99800

BEES	Temporary Sediment Control	Unit	Quantity
130640	Temporary Fiber Roll	LF	56010
130680	Temporary Silt Fence	LF	9800
130730	Street Sweeping	LS	1

BEES	Temporary Tracking Control	Unit	Quantity
130710	Temporary Construction Entrance	EA	10

BEES	Temporary Waste Management Control	Unit	Quantity
130900	Temporary Concrete Washout	LS	1

BEES	Miscellaneous Items	Unit	Quantity
130300	Prepare Storm Water Pollution Prevention Plan	LS	1
130310	Rain Event Action Plan	EA	252
130320	Storm Water Sampling and Analysis Day	EA	124
130330	Storm Water Annual Report	EA	3

7. Maintenance BMPs (Drain Inlet Stenciling)

All work will be done along SR 65 and there will be no pedestrian access; therefore, no drain inlet stenciling will be required.

Required Attachments

- Project Vicinity Map
- Evaluation Documentation Form (EDF)
- Risk Level Determination Documentation

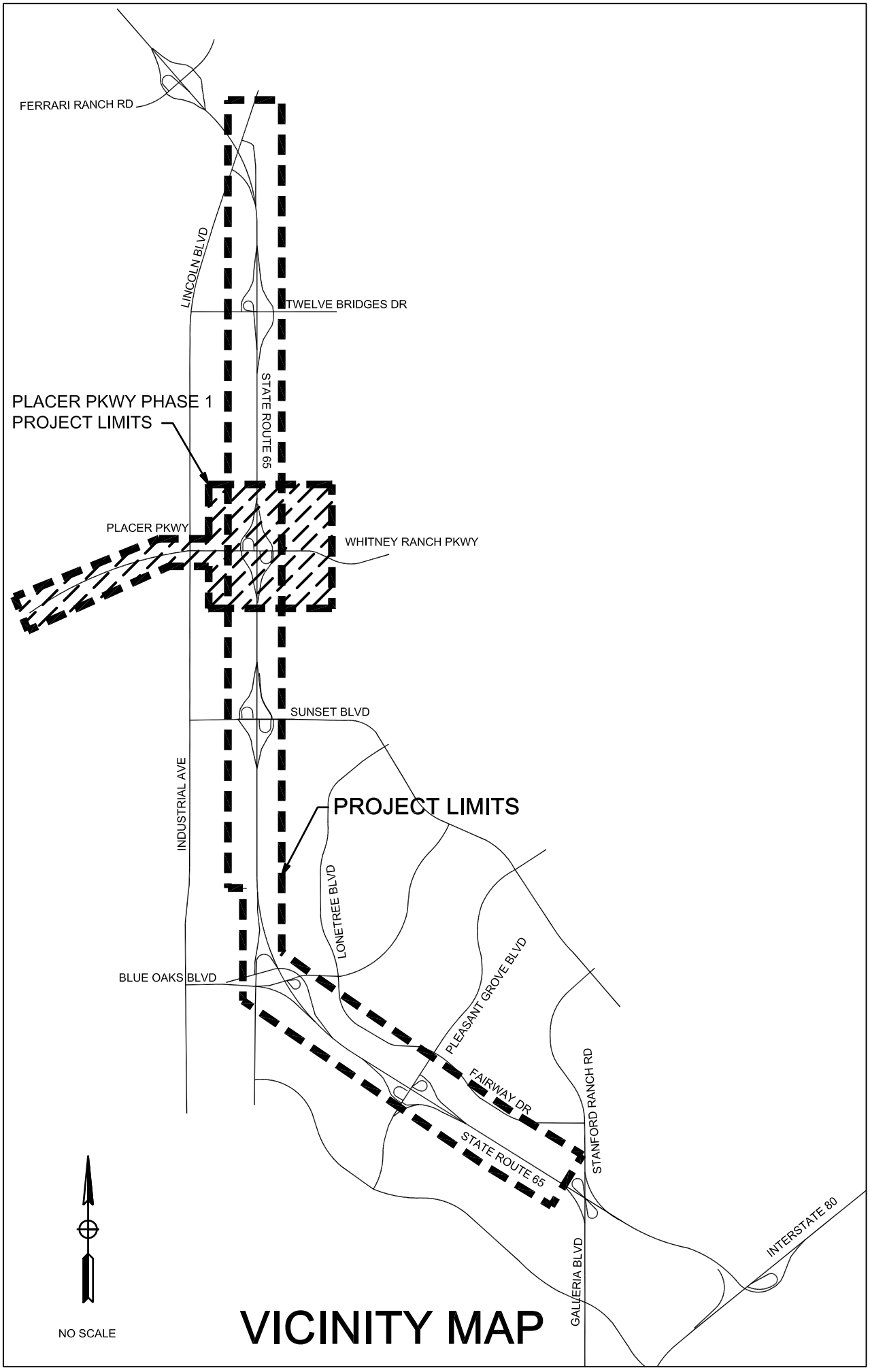
Supplemental Attachments

- Checklist SW-1, Site Data Sources
- Checklist SW-2, Storm Water Quality Issues Summary

- Checklist SW-3, Measures for Avoiding or Reducing Potential Storm Water BMPs
- Checklists DPP-1, Parts 1–5 (Design Pollution Prevention BMPs) [only those parts that are applicable]
- Checklists T-1, Parts 1 and 2 (Treatment BMPs)
- Biofiltration Swale Calculations
- Checklists T-1, Part 5 (Treatment BMPs)
- Checklists T-1, Part 8 (Treatment BMPs)

Attachments

Project Vicinity Map



VICINITY MAP

Evaluation Documentation Form

DATE: 09/15/16

Project ID (or EA): 03-1F170K

NO.	CRITERIA	YES ✓	NO ✓	SUPPLEMENTAL INFORMATION FOR EVALUATION
1.	Begin Project Evaluation regarding requirement for consideration of Treatment BMPs	✓		See Figure 4-1, Project Evaluation Process for Consideration of Permanent Treatment BMPs. Go to 2
2.	Is this an emergency project?		✓	If **Yes**, go to 10. If **No**, continue to 3.
3.	Have TMDLs or other Pollution Control Requirements been established for surface waters within the project limits? Information provided in the water quality assessment or equivalent document.	✓		If **Yes**, contact the District/Regional NPDES Coordinator to discuss the Department's obligations under the TMDL (if Applicable) or Pollution Control Requirements, go to 9 or 4. _____ *(Dist./Reg. SW Coordinator initials)* If **No**, continue to 4.
4.	Is the project located within an area of a local MS4 Permittee?	✓		If **Yes**. *(Cities of Roseville, Rocklin, Lincoln & Placer County)*, go to 5. If **No**, document in SWDR go to 5.
5.	Is the project directly or indirectly discharging to surface waters?	✓		If **Yes**, continue to 6. If **No**, go to 10.
6.	Is it a new facility or major reconstruction?	✓		If **Yes**, continue to 8. If **No**, go to 7.
7.	Will there be a change in line/grade or hydraulic capacity?			If **Yes**, continue to 8. If **No**, go to 10.
8.	Does the project result in a net increase of one acre or more of new impervious surface?	✓		If **Yes**, continue to 9. If **No**, go to 10. *(16.93) Net Increase New Impervious Surface in General Purpose Alternative)*
9.	Project is required to consider approved Treatment BMPs.	✓	See Sections 2.4 and either Section 5.5or 6.5 for BMP Evaluation and Selection Process. Complete Checklist T-1 in this Appendix E.	
10.	Project is not required to consider Treatment BMPs. _____*(Dist./Reg. Design SW Coord. Initials)* _____*(Project Engineer Initials)* _____ *(Date)*		Document for Project Files by completing this form, and attaching it to the SWDR.	

See Figure 4-1, Project Evaluation Process for Consideration of Permanent Treatment BMPs

Risk Level Determination Documentation

	A	B	C
1	**Sediment Risk Factor Worksheet (Pleaseant Grove Creek)**		**Entry**
2	**A) R Factor**		
3	Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site.		
4	http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm		
5	**R Factor Value**		249.76
6	**B) K Factor (weighted average, by area, for all site soils)**		
7	The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted.		
8	Site-specific K factor guidance		
9	**K Factor Value**		0.27
10	**C) LS Factor (weighted average, by area, for all slopes)**		
11	The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction.		
12	LS Table		
13	**LS Factor Value**		1.05
14			
15	**Watershed Erosion Estimate (=RxKxLS) in tons/acre**		70.80696
16	**Site Sediment Risk Factor**		**Medium**
17	Low Sediment Risk: < 15 tons/acre		
18	Medium Sediment Risk: >=15 and <75 tons/acre		
19	High Sediment Risk: >= 75 tons/acre		
20			

Receiving Water (RW) Risk Factor Worksheet (Pleasant Grove Creek)	Entry	Score
A. Watershed Characteristics	**yes/no**	
A.1. Does the disturbed area discharge (either directly or indirectly) to a **303(d)-listed waterbody impaired by sediment** (For help with impaired waterbodies please visit the link below) or has a **USEPA approved TMDL implementation plan for sediment**?:	**yes**	**High**
http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml		
OR		
A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? (For help please review the appropriate Regional Board Basin Plan)		
http://www.waterboards.ca.gov/waterboards_map.shtml		
Region 1 Basin Plan		
Region 2 Basin Plan		
Region 3 Basin Plan		
Region 4 Basin Plan		
Region 5 Basin Plan		
Region 6 Basin Plan		
Region 7 Basin Plan		
Region 8 Basin Plan		
Region 9 Basin Plan		

Combined Risk Level Matrix

Pleasant Grove Creek

Receiving Water Risk	Sediment Risk: Low	Sediment Risk: Medium	Sediment Risk: High
Low	Level 1	Level 2	
High	Level 2		Level 3

Project Sediment Risk: **Medium**

Project RW Risk: **High**

Project Combined Risk: **Level 2**

Sediment Risk Factor Worksheet (Orchard Creek)	Entry

A) R Factor

Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site.

http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm

R Factor Value	249.76

B) K Factor (weighted average, by area, for all site soils)

The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted.

Site-specific K factor guidance

K Factor Value	0.38

C) LS Factor (weighted average, by area, for all slopes)

The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction.

LS Table

LS Factor Value	0.51
Watershed Erosion Estimate (=RxKxLS) in tons/acre	48.403488
Site Sediment Risk Factor Low Sediment Risk: < 15 tons/acre Medium Sediment Risk: >=15 and <75 tons/acre High Sediment Risk: >= 75 tons/acre	**Medium**

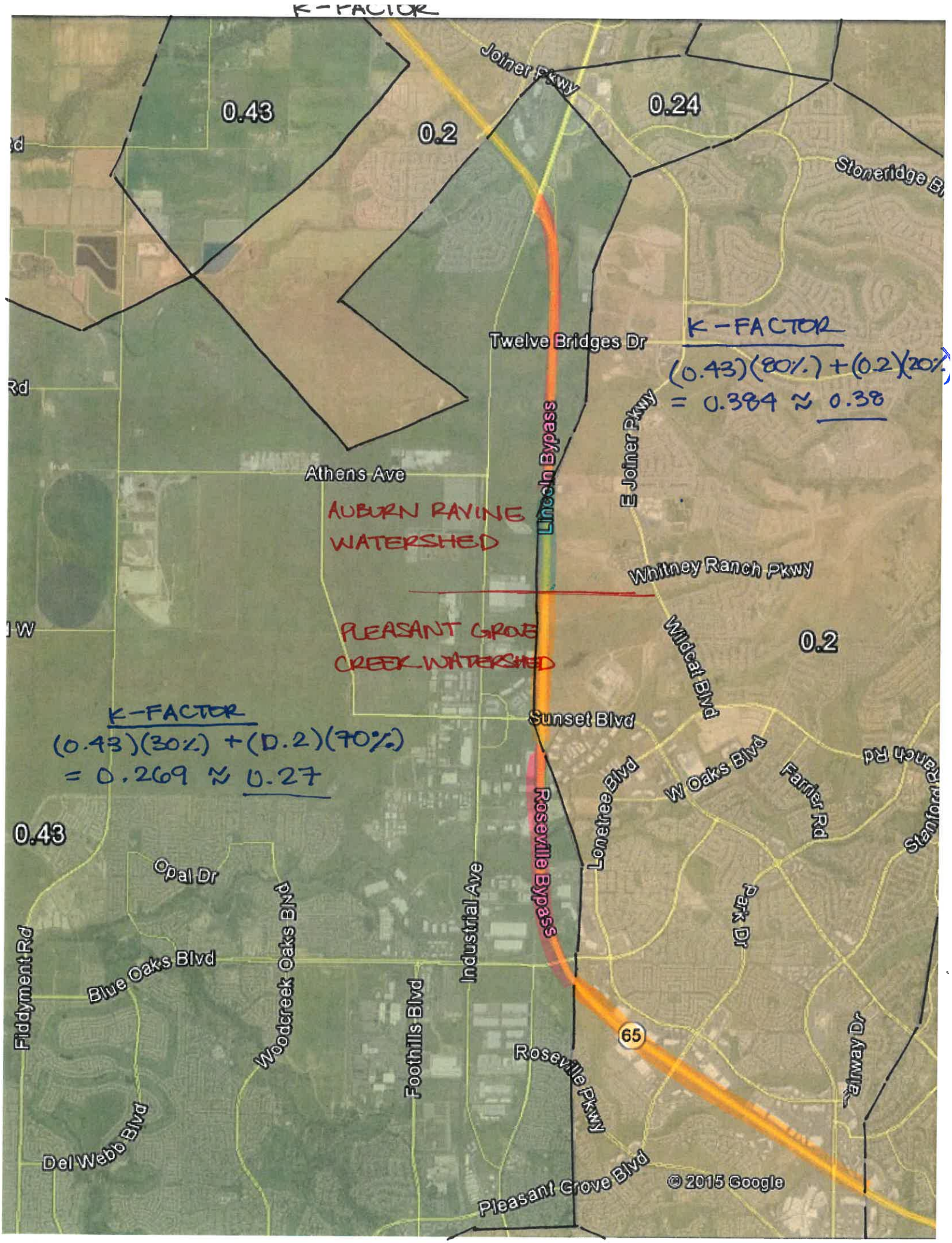
Receiving Water (RW) Risk Factor Worksheet (Orchard Creek)	Entry	Score
A. Watershed Characteristics	**yes/no**	
A.1. Does the disturbed area discharge (either directly or indirectly) to a **303(d)-listed waterbody impaired by sediment** (For help with impaired waterbodies please visit the link below) or has a **USEPA approved TMDL implementation plan for sediment**?:	**yes**	**High**
http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml		
OR		
A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? (For help please review the appropriate Regional Board Basin Plan)		
http://www.waterboards.ca.gov/waterboards_map.shtml		
Region 1 Basin Plan		
Region 2 Basin Plan		
Region 3 Basin Plan		
Region 4 Basin Plan		
Region 5 Basin Plan		
Region 6 Basin Plan		
Region 7 Basin Plan		
Region 8 Basin Plan		
Region 9 Basin Plan		

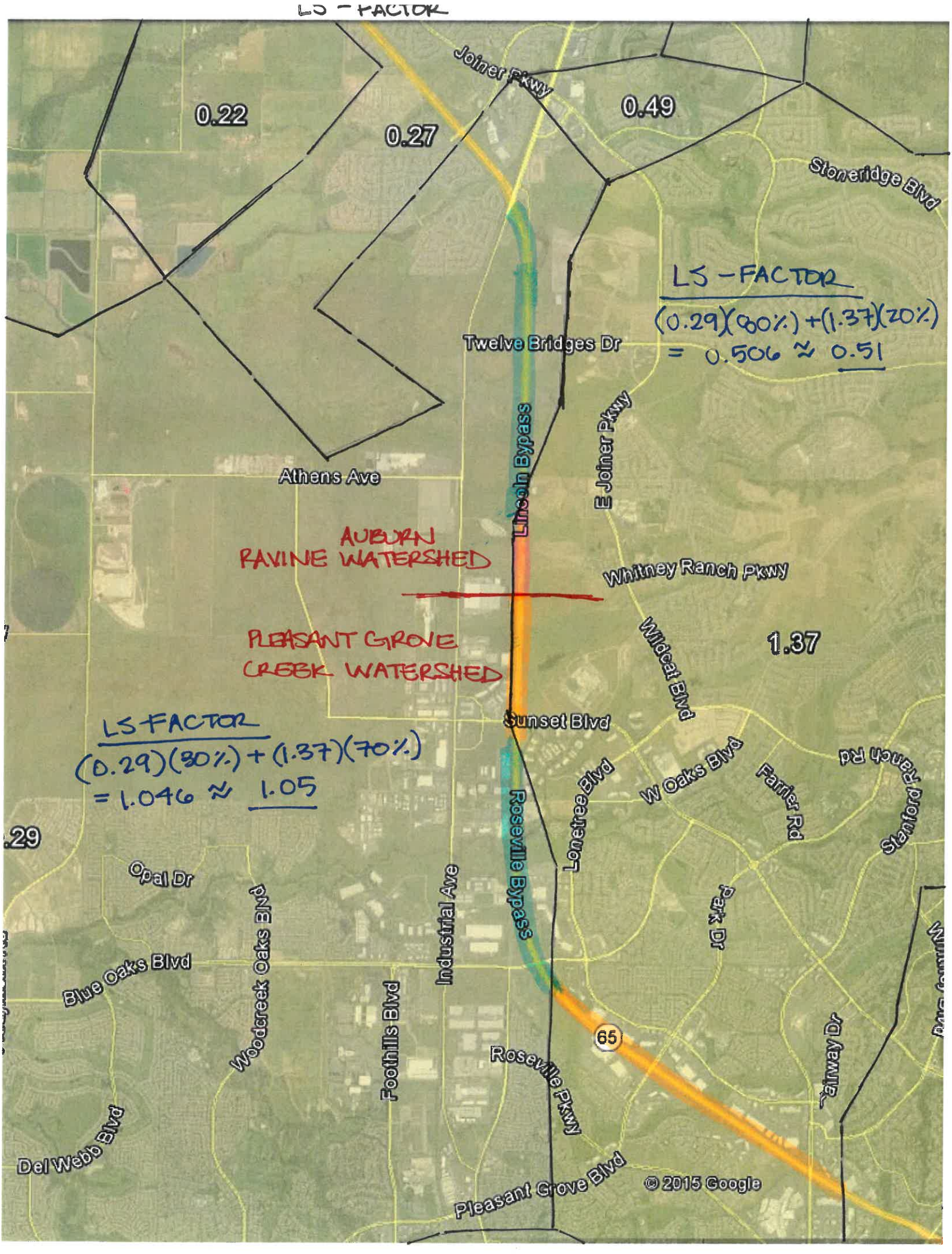
Combined Risk Level Matrix

Orchard Creek

Receiving Water Risk	Sediment Risk: Low	Sediment Risk: Medium	Sediment Risk: High
Low	Level 1	Level 2	
High	Level 2		Level 3

Project Sediment Risk:	**Medium**
Project RW Risk:	**High**
Project Combined Risk:	**Level 2**


K-FACTOR
0.43
0.2
0.24
Joiner Pkwy
Stoneridge Br
Twelve Bridges Dr
K-FACTOR
(0.43)(80%) + (0.2)(20%)
= 0.384 ≈ 0.38
E Joiner Pkwy
Lincoln Bypass
Athens Ave
AUBURN RAVINE WATERSHED
Whitney Ranch Pkwy
PLEASANT GROVE CREEK WATERSHED
Wildcat Blvd
0.2
Sunset Blvd
K-FACTOR
(0.43)(30%) + (0.2)(70%)
= 0.269 ≈ 0.27
Lonetree Blvd
W Oaks Blvd
Farrier Rd
Roseville Bypass
0.43
Opal Dr
Fiddyment Rd
Blue Oaks Blvd
Woodcreek Oaks Blvd
Industrial Ave
Foothills Blvd
Roseville Pkwy
65
Del Webb Blvd
Pleasant Grove Blvd
© 2015 Google


LS - FACTOR
0.22
0.27
0.49
Joiner Pkwy
Stoneridge Blvd
LS - FACTOR
(0.29)(80%) + (1.37)(20%)
= 0.506 ≈ 0.51
Twelve Bridges Dr
Athens Ave
Lincoln Bypass
E Joiner Pkwy
AUBURN RAVINE WATERSHED
Whitney Ranch Pkwy
PLEASANT GROVE CREEK WATERSHED
1.37
Wildcat Blvd
Sunset Blvd
LS FACTOR
(0.29)(30%) + (1.37)(70%)
= 1.046 ≈ 1.05
.29
Opal Dr
Roseville Bypass
Lonetree Blvd
W Oaks Blvd
Farrier Rd
Stanford Ranch Rd
Blue Oaks Blvd
Woodcreek Oaks Blvd
Industrial Ave
Foothills Blvd
Roseville Pkwy
65
Del Webb Blvd
Pleasant Grove Blvd
© 2015 Google

LEW Results

Rainfall Erosivity Factor Calculator for Small Construction Sites

Facility Information

Start Date:	06/11/2020
End Date:	06/11/2025
Latitude:	38.8056
Longitude:	-121.3001

Erosivity Index Calculator Results

AN EROSIVITY INDEX VALUE OF **249.76** HAS BEEN DETERMINED FOR THE CONSTRUCTION PERIOD OF **06/11/2020 – 06/11/2025.**

A rainfall erosivity factor of 5.0 or greater has been calculated for your site and period of construction. **You do NOT qualify for a waiver from NPDES permitting requirements.**

Start Over

You are here: Water » Pollution Prevention & Control » Permitting (NPDES) » Stormwater » LEW Results

Water Home
Drinking Water
Education & Training
Grants & Funding
Laws & Regulations
Our Waters
Pollution Prevention & Control
Applications & Databases
Low Impact Development
Impaired Waters & TMDLs
Permitting (NPDES)
Polluted Runoff
Sediments
Source Water Protection
Stormwater
Vessel Discharge
Wastewater Programs
Watershed Management
Resources & Performance
Science & Technology
Water Infrastructure
What You Can Do

LEW Results

Rainfall Erosivity Factor Calculator for Small Construction Sites

Facility Information

Start Date:	06/11/2020
End Date:	06/11/2025
Latitude:	38.8472
Longitude:	-121.2996

Erosivity Index Calculator Results

AN EROSIVITY INDEX VALUE OF **249.76** HAS BEEN DETERMINED FOR THE CONSTRUCTION PERIOD OF **06/11/2020 - 06/11/2025.**

A rainfall erosivity factor of 5.0 or greater has been calculated for your site and period of construction. **You do NOT qualify for a waiver from NPDES permitting requirements.**

Start Over

Layers

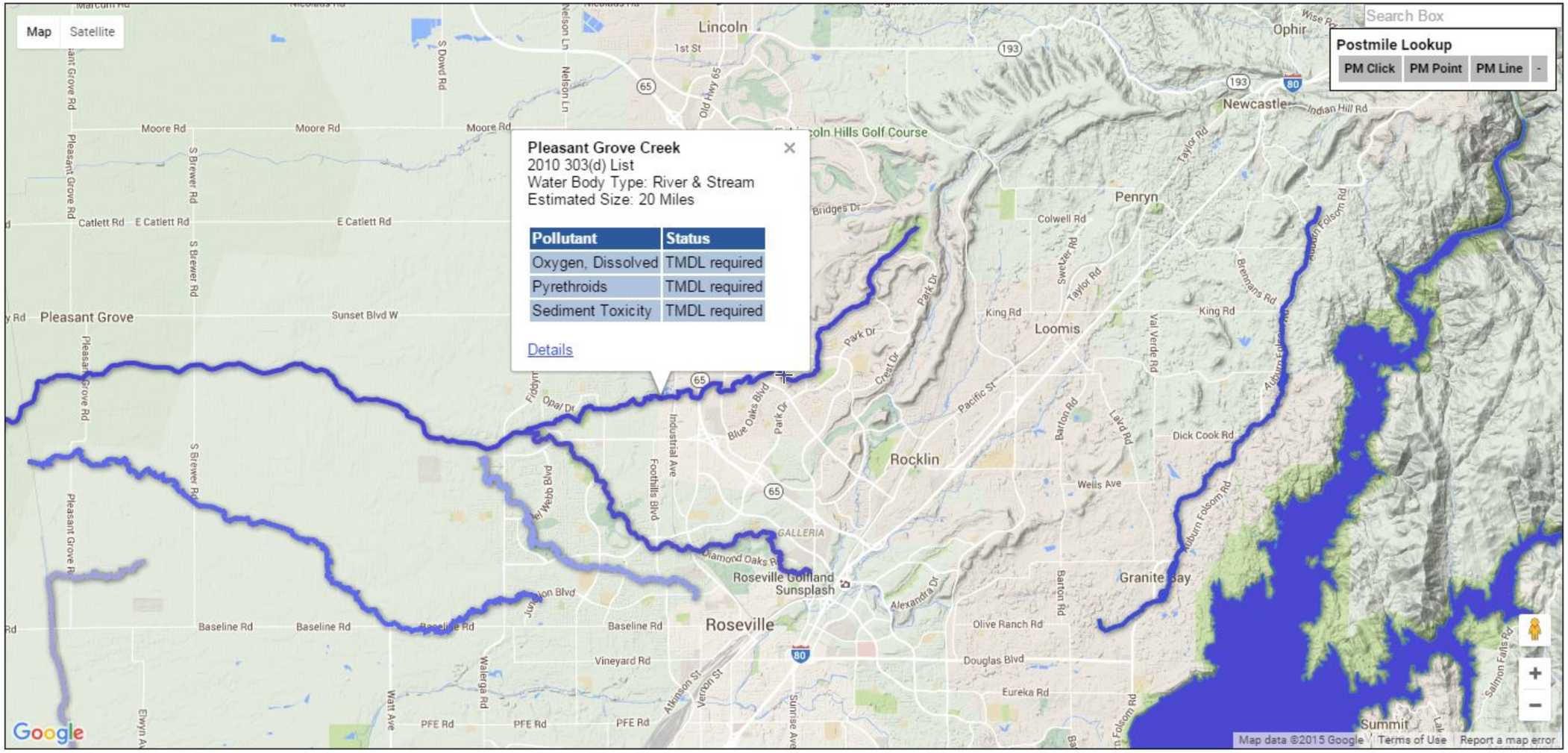
- [x] 303(d) List and TMDLs (Legend)
- [ ] Areas of Special Biological Significance
- [ ] Caltrans Districts
- [ ] Caltrans Facilities (Legend)
- [ ] Caltrans Tier 1 Monitoring Sites
- [ ] Calwater Watersheds
- [ ] Coastal Zone
- [ ] Counties
- ( ) Geologic Map (Legend)
- [ ] High Risk Receiving Watersheds
- [ ] Monthly Precipitation
- [ ] MS4 Areas
- [ ] Post Miles
- [ ] RWQCB Boundaries
- ( ) USGS Topo Maps
- [ ] Watershed Boundary Dataset
- [ ] Zip Codes

Soil Loss Factors

- [ ] Erosivity Index
- [ ] Soils (K Factors)
- [ ] R Factor (calculations)
- ( ) LS Factor

Compliance Storm Events

Information
Hover over a layer name for a description.
Additional information, tables, coordinates, and links are below the map.
Help



Watershed Information

Storm Water Checklist SW – 1

Checklist SW-1, Site Data Sources

Prepared by: MTCo Date: 12/11/14 District-Co-Route: 03-PLA-65

PM : 6.5/12.8 Project ID (or EA): 03-1F170K RWQCB: Central Valley

Information for the following data categories should be obtained, reviewed and referenced as necessary throughout the project planning phase. Collect any available documents pertaining to the category and list them and reference your data source. For specific examples of documents within these categories, refer to Section 5.5 of this document. Example categories have been listed below; add additional categories, as needed. Summarize pertinent information in Section 2 of the SWDR.

DATA CATEGORY/SOURCES	Date
Topographic	
• Site Survey	
• Aerial Topography for plans background	
• USGS Topographic Map – Cities of Roseville, Rocklin, Lincoln and Placer County	
Hydraulic	
• Preliminary Drainage Evaluation for the Widening SR 65 Project	
• Water Planning Tool http://svctenvims.dot.ca.gov/wqpt/wqpt.aspx	
Soils	
• Natural Resources Conservation Service, United States Department of Agriculture, Web Soil Survey; from http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx	
Climatic	
• NOAA IDF Information: from http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=ca	
• Raining season designation can be found at http://www.dot.ca.gov/hq/construc/stormwater/Rainy_Season_Graphic_Figure_1-1_Designation_of_Rainy_Season_Corrected.pdf	
• NOAA, Monthly Station Climate Summaries, 1971-2000 http://cdo.ncdc.noaa.gov/climatenormals/clim20/state-pdf/ca.pdf	
Water Quality	
• Water Planning Tool http://svctenvims.dot.ca.gov/wqpt/wqpt.aspx	
Other Data Categories	
•	
•	

Storm Water Checklist SW – 2

Checklist SW-2, Storm Water Quality Issues Summary

Prepared by: MTCo Date: _____ District-Co-Route: 03-PLA-65

PM : 6.5/12.8 Project ID (or EA): 03-1F170K RWQCB: Central Valley

The following questions provide a guide to collecting critical information relevant to project stormwater quality issues. Complete responses to applicable questions, consulting other Caltrans functional units (Environmental, Landscape Architecture, Maintenance, etc.) and the District/Regional Storm Water Coordinator as necessary. Summarize pertinent responses in Section 2 of the SWDR.

1.	Determine the receiving waters that may be affected by the project throughout the project life cycle (i.e., construction, maintenance and operation).	☒ Complete	☐ NA
2.	For the project limits, list the 303(d) impaired receiving water bodies and their constituents of concern.	☒ Complete	☐ NA
3.	Determine if there are any municipal or domestic water supply reservoirs or groundwater percolation facilities within the project limits. Consider appropriate spill contamination and spill prevention control measures for these new areas.	☐ Complete	☒ NA
4.	Determine the RWQCB special requirements, including TMDLs, effluent limits, etc.	☐ Complete	☒ NA
5.	Determine regulatory agencies seasonal construction and construction exclusion dates or restrictions required by federal, state, or local agencies.	☒ Complete	☐ NA
6.	Determine if a 401 certification will be required.	☒ Complete	☐ NA
7.	List rainy season dates.	☒ Complete	☐ NA
8.	Determine the general climate of the project area. Identify annual rainfall and rainfall intensity curves.	☒ Complete	☐ NA
9.	If considering Treatment BMPs, determine the soil classification, permeability, erodibility, and depth to groundwater.	☒ Complete	☐ NA
10.	Determine contaminated soils within the project area.	☒ Complete	☐ NA
11.	Determine the total disturbed soil area of the project.	☒ Complete	☐ NA
12.	Describe the topography of the project site.	☒ Complete	☐ NA
13.	List any areas outside of the Caltrans right-of-way that will be included in the project (e.g. contractor's staging yard, work from barges, easements for staging, etc.).	☐ Complete	☒ NA
14.	Determine if additional right-of-way acquisition or easements and right-of-entry will be required for design, construction and maintenance of BMPs. If so, how much?	☐ Complete	☒ NA
15.	Determine if a right-of-way certification is required.	☐ Complete	☒ NA
16.	Determine the estimated unit costs for right-of-way should it be needed for Treatment BMPs, stabilized conveyance systems, lay-back slopes, or interception ditches.	☐ Complete	☒ NA
17.	Determine if project area has any slope stabilization concerns.	☒ Complete	☐ NA
18.	Describe the local land use within the project area and adjacent areas.	☒ Complete	☐ NA
19.	Evaluate the presence of dry weather flow.	☐ Complete	☒ NA

Storm Water Checklist SW –3

Checklist SW-3, Measures for Avoiding or Reducing Potential Storm Water Impacts

Prepared by: MTCo Date: District-Co-Route: 03-PLA-65

PM : 6.5/12.8 Project ID (or EA): 03-1F170K RWQCB: Central Valley

The PE must confer with other functional units, such as Landscape Architecture, Hydraulics, Environmental, Materials, Construction and Maintenance, as needed to assess these issues. Summarize pertinent responses in Section 2 of the SWDR.

Options for avoiding or reducing potential impacts during project planning include the following:

1.	Can the project be relocated or realigned to avoid/reduce impacts to receiving waters or to increase the preservation of critical (or problematic) areas such as floodplains, steep slopes, wetlands, and areas with erosive or unstable soil conditions?	☐Yes	☒No	☐NA
2.	Can structures and bridges be designed or located to reduce work in live streams and minimize construction impacts?	☒Yes	☐No	☐NA
3.	Can any of the following methods be utilized to minimize erosion from slopes:			
	a. Disturbing existing slopes only when necessary?	☒Yes	☐No	☐NA
	b. Minimizing cut and fill areas to reduce slope lengths?	☒Yes	☐No	☐NA
	c. Incorporating retaining walls to reduce steepness of slopes or to shorten slopes?	☒Yes	☐No	☐NA
	d. Acquiring right-of-way easements (such as grading easements) to reduce steepness of slopes?	☐Yes	☐No	☒NA
	e. Avoiding soils or formations that will be particularly difficult to re-stabilize?	☐Yes	☐No	☒NA
	f. Providing cut and fill slopes flat enough to allow re-vegetation and limit erosion to pre-construction rates?	☒Yes	☐No	☐NA
	g. Providing benches or terraces on high cut and fill slopes to reduce concentration of flows?	☐Yes	☐No	☒NA
	h. Rounding and shaping slopes to reduce concentrated flow?	☒Yes	☐No	☐NA
	i. Collecting concentrated flows in stabilized drains and channels?	☒Yes	☐No	☐NA
4.	Does the project design allow for the ease of maintaining all BMPs?	☒Yes	☐No	
5.	Can the project be scheduled or phased to minimize soil-disturbing work during the rainy season?	☒Yes	☐No	
6.	Can permanent storm water pollution controls such as paved slopes, vegetated slopes, basins, and conveyance systems be installed early in the construction process to provide additional protection and to possibly utilize them in addressing construction storm water impacts?	☒Yes	☐No	☐NA

Checklist DPP – 1, Part 4

Design Pollution Prevention BMPs

Checklist DPP-1, Part 4

Prepared by: MTCo Date: District-Co-Route: 03-PLA-65

PM : 6.5/12.8 Project ID (or EA): 03-1F170K RWQCB: Central Valley

Concentrated Flow Conveyance Systems

Ditches, Berms, Dikes and Swales

1. Consider Ditches, Berms, Dikes, and Swales as per Topics 813, 834.3, and 835, and Chapter 860 of the HDM. ☒Complete
2. Evaluate risks due to erosion, overtopping, flow backups or washout. ☒Complete
3. Consider outlet protection where localized scour is anticipated. ☒Complete
4. Examine the site for run-on from off-site sources. ☒Complete
5. Consider channel lining when velocities exceed scour velocity for soil. ☒Complete

Overside Drains

1. Consider downdrains, as per Index 834.4 of the HDM. ☒Complete
2. Consider paved spillways for side slopes flatter than 4:1 h:v. ☒Complete

Flared Culvert End Sections

1. Consider flared end sections on culvert inlets and outlets as per Chapter 827 of the HDM. ☒Complete

Outlet Protection/Velocity Dissipation Devices

1. Consider outlet protection/velocity dissipation devices at outlets, including cross drains, as per Chapters 827 and 870 of the HDM. ☒Complete

Review appropriate SSPs for Concentrated Flow Conveyance Systems. ☒Complete

Checklist DPP – 1, Part 5

Design Pollution Prevention BMPs

Checklist DPP-1, Part 5

Prepared by: MTCo Date: District-Co-Route: 03-PLA-65

PM : 6.5/12.8 Project ID (or EA): 03-1F170K RWQCB: Central Valley

Preservation of Existing Vegetation

1. Review Preservation of Property, (Clearing and Grubbing) to reduce clearing and grubbing and maximize preservation of existing vegetation. ☒Complete
2. Has all vegetation to be retained been coordinated with Environmental, and identified and defined in the contract plans? ☒Yes ☐No
3. Have steps been taken to minimize disturbed areas, such as locating temporary roadways to avoid stands of trees and shrubs and to follow existing contours to reduce cutting and filling? ☒Complete
4. Have impacts to preserved vegetation been considered while work is occurring in disturbed areas? ☒Yes ☐No
5. Are all areas to be preserved delineated on the plans? ☒Yes ☐No

Checklist T – 1 , Part 1

Treatment BMPs

Checklist T-1, Part 1

Prepared by: MTCo Date: District-Co-Route: 03-PLA-65

PM : 6.5/12.8 Project ID (or EA): 03-1F170K RWQCB: Central Valley

Consideration of Treatment BMPs

This checklist is used for projects that require the consideration of Approved Treatment BMPs, as determined from the process described in Section 4 (Project Treatment Consideration) and the Evaluation Documentation Form (EDF). This checklist will be used to determine which Treatment BMPs should be considered for each watershed and sub-watershed within the project. Supplemental data will be needed to verify siting and design applicability for final incorporation into a project.

Complete this checklist for each phase of the project, when considering Treatment BMPs. Use the responses to the questions as the basis when developing the narrative in Section 5 of the Storm Water Data Report to document that Treatment BMPs have been appropriately considered.

Answer all questions, unless otherwise directed. Questions 14 through 16 should be answered after all subwatershed (drainages) are considered using this checklist.

1. Is the project in a watershed with prescriptive TMDL treatment BMP requirements in an adopted TMDL implementation plan or does the project have a dual purpose facility requirement (e.g. flood control and water quality treatment or Design Pollution Prevention BMPs that provide infiltration and treatment)? ☐Yes ☒No

   If Yes, consult the District/Regional Storm Water Coordinator to determine whether the T-1 checklist should be used to propose alternative BMPs because the prescribed BMPs may not be feasible or other BMPs may be more cost-effective. Special documentation and regulatory response may be necessary.

2. Dry Weather Flow Diversion

   (a) Are dry weather flows generated by Caltrans anticipated to be persistent? ☐Yes ☒No

   (b) Is a sanitary sewer located on or near the site? ☐Yes ☒No

   If Yes to both 2 (a) and (b), continue to (c). If No to either, skip to question 3.

   (c) Is connection to the sanitary sewer possible without extraordinary plumbing, features or construction practices? ☐Yes ☐No

   (d) Is the domestic wastewater treatment authority willing to accept flow? ☐Yes ☐No

   If Yes was answered to all of these questions consider ***Dry Weather Flow Diversion***, complete and attach **Part 3** of this checklist.

3. Is the receiving water on the 303(d) list for litter/trash or has a TMDL been issued for litter/trash? ☐Yes ☒No

If Yes, consider ***Gross Solids Removal Devices (GSRDs)***. Complete and attach **Part 6** of this checklist. Note: Infiltration Devices, Detention Devices, Media Filters, MCTTs, and Wet Basins also can capture litter. Before considering GSRDs for stand-alone installation or in sequence with other BMPs, consult with District/Regional NPDES Storm Water Coordinator to determine whether Infiltration Devices, Detention Devices, Media Filters, MCTTs, and Wet Basins should be considered instead of GSRDs to meet litter/trash TMDL.

4. Is the project located in an area (e.g., mountain regions) where traction sand is applied more than twice a year? ☐Yes ☒No

   If Yes, consider ***Traction Sand Traps*** Complete and attach **Part 7** of this checklist.

5. Maximizing Biofiltration Strips and Swales

   Objectives:

   1) Quantify infiltration from biofiltration alone
   2) Identify highly infiltrating biofiltration (i.e. > 90%) and skip further BMP consideration.
   3) Identify whether amendments can substantially improve infiltration.

   (a) Have biofiltration strips and swales been designed for runoff from all project areas, including sheet flow and concentrated flow conveyance? If no, document justification in Section 5 of the SWDR. ☒Yes ☐No

   (b) Based on existing site conditions, estimate what percentage of the WQV[1] can be infiltrated. When calculating the WQV, use a drawdown time appropriate for the site conditions..

   _X__ < 20%
   ___ 20 % - 50%
   ___ 50% - 90%
   ___ > 90%

   ☒Complete

   (c) Is infiltration greater than 90 percent? If Yes, skip to question 13. ☐Yes ☒No

   If No, Continue to 5 (d).

[1] A complete methodology for determining WQV infiltration is available at: http://www.dot.ca.gov/hq/oppd/stormwtr/index.htm

(d) Can the infiltration ranking in question 5(b) above be increased by using soil amendments?. ☒Yes ☐No

If Yes, consider including soil amendments (increasing the infiltration ranking of strips and swales shows performance comparable to other BMPs). Record the new infiltration estimate below. If No, continue to 5 (e).

____ < 20% (skip to 6)
__x_ 20 % - 50% (skip to 6)
___ 50% - 90% (skip to 6)
___ >90%

☒Complete

(e) Is infiltration greater than 90 percent? If Yes, skip to question 13. If No, continue to 5 (f). ☐Yes ☒No

(f) Is infiltration greater than 50 percent and is biofiltration preferred? If yes to both, skip to question 13. ☐Yes ☒No

6. Biofiltration in Rural Areas

Is the project in a rural area (outside of urban areas that is covered under an NPDES Municipal Stormwater Permit[2])? If Yes, proceed to question 13. ☒Yes ☐No

7. Estimating Infiltration for BMP Combinations

Objectives:

1) Identify high-infiltration biofiltration or biofiltration and infiltration BMP combinations and skip further BMP consideration.

2) If high infiltration is infeasible, then identify the infiltration level of all feasible BMP combinations for use in the subsequent BMP selection matrices.

(a) Has concentrated infiltration (i.e., via earthen basins) been prohibited? Consult your District/Regional Storm Water Coordinator and/or environmental documents. ☐Yes ☐No

If No, continue to 7 (b); if Yes, skip to question 8 and do not consider earthen basin-type BMPs

[2] See pages 39 and 40 of the Fact Sheets for the CGP.
http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo_2009_0009_factsheet.pdf

(b) Can the infiltration ranking be increased by infiltrating the un-infiltrated remaining WQV from question 5, with an infiltration BMP[1]? If yes, record the new infiltration estimate below. If no, proceed to 7(c). ☐Yes ☐No

____ < 20% (do not consider this BMP combination)
___ 20% - 50%
___ 50% - 90%
___ >90%

Is at least 90 percent infiltration estimated? If Yes, proceed to 13. If No, proceed to 7(c). ☐Yes ☐No

(c) Assess infiltration of biofiltration combined with an approved earthen BMP. This assessment will be used in subsequent BMP selection matrices.

Earthen Detention Basin

___ < 20%
___ 20% - 50%
___ > 50% ☐Complete

Continue to Question 8

8. Identifying BMPs based on the Target Design Constituents

(a) Does the project discharge to a 303(d) impaired water body or a water body that has a TMDL adopted? If "No," use Matrix A to select BMPs, consider designing to treat 100% of the WQV, then skip to question 12. ☐Yes ☐No

If Yes, is the identified pollutant(s) considered a Targeted Design Constituent (TDC) (check all that apply below)?

☐ sediments
☐ phosphorus
☐ nitrogen
☐ copper (dissolved or total)
☐ lead (dissolved or total)
☐ zinc (dissolved or total)
☐ general metals (dissolved or total)[2]

(b) Treating Sediment. Is sediment a TDC? If Yes, use Matrix A to select BMPs, then skip to question 12. Otherwise, proceed to question 9. ☐Yes ☐No

[1] Assess the combined infiltration of the WQV by both biofiltration and infiltration BMPs. As site constraints allow, size the infiltration BMP up to the un-infiltrated WQV remaining after the biofiltration BMP.

[2] General metals is a designation used by Regional Water Boards when specific metals have not yet been identified as causing the impairment.

BMP Selection Matrix A: General Purpose Pollutant Removal			
Consider approaches to treat the remaining WQV with combinations of the BMPs in this table. The PE should select at least one BMP for the project; preference is for Tier 1 BMPs, followed by Tier 2 BMPs when Tier 1 BMPs are not feasible. Within each Tier, BMP selection will be determined by the site-specific determination of feasibility (Section 2.4.2.1). BMPs are chosen based on the infiltration category determined in question 7. BMPs in other categories should be ignored.			
	BMP ranking for infiltration category:		
	Infiltration < 20%	Infiltration 20% - 50%	Infiltration > 50%
Tier 1	Strip: HRT > 5 Austin filter (concrete) Austin filter (earthen) Delaware filter MCTT Wet basin	Austin filter (earthen) Detention (unlined) Infiltration basins* Infiltration trenches* Biofiltration Strip	Austin filter (earthen) Detention (unlined) Infiltration basins* Infiltration trenches* Biofiltration Strip Biofiltration Swale
Tier 2	Strip: HRT < 5 Biofiltration Swale Detention (unlined)	Austin filter (concrete) Delaware filter Biofiltration Swale MCTT Wet basin	Austin filter (concrete) Delaware filter MCTT Wet basin
HRT = hydraulic residence time (min) *Infiltration BMPs that infiltrate the water quality volume were considered previously, so only undersized infiltration BMPs or hybrid designs are considered where infiltration is less than 90% of the water quality volume.			

9. Treating both Metals and Nutrients.

   Is copper, lead, zinc, or general metals *AND* nitrogen or phosphorous a TDC? If Yes, use Matrix D to select BMPs, then skip to question 12. Otherwise, proceed to question 10. ☐Yes ☐No

10. Treating Only Metals.

    Are copper, lead, zinc, or general metals listed TDCs? If Yes, use Matrix B below to select BMPs, and skip to question 12. Otherwise, proceed to question 11. ☐Yes ☐No

BMP Selection Matrix B: Any metal is the TDC, but not nitrogen or phosphorous			
Consider approaches to treat the remaining WQV with combinations of the BMPs in this table. The PE should select at least one BMP for the project; preference is for Tier 1 BMPs, followed by Tier 2 BMPs when Tier 1 BMPs are not feasible. Within each Tier, BMP selection will be determined by the site-specific determination of feasibility (Section 2.4.2.1). BMPs are chosen based on the infiltration category determined in question 7. BMPs in other categories should be ignored.			
	BMP ranking for infiltration category:		
	Infiltration < 20%	Infiltration 20% - 50%	Infiltration > 50%
Tier 1	MCTT Wet basin Austin filter (earthen) Austin filter (concrete) Delaware filter	Austin filter (earthen) Detention (unlined) Infiltration basins* Infiltration trenches* MCTT Wet basin	Austin filter (earthen) Detention (unlined) Infiltration basins* Infiltration trenches* MCTT Biofiltration Strip Biofiltration Swale Wet basin
Tier 2	Strip: HRT > 5 Strip: HRT < 5 Biofiltration Swale Detention (unlined)	Austin filter (concrete) Delaware filter Biofiltration Strip Biofiltration Swale	Austin filter (concrete) Delaware filter
HRT = hydraulic residence time (min) *Infiltration BMPs that infiltrate the water quality volume were considered previously, so only undersized infiltration BMPs or hybrid designs are considered where infiltration is less than 90% of the water quality volume.			

11. Treating Only Nutrients.

Are nitrogen and/or phosphorus listed TDCs? If "Yes," use Matrix C to select BMPs. If "No", please check your answer to 8(a). At this point one of the matrices should have been used for BMP selection for the TDC in question, unless no BMPs are feasible. ☐Yes ☐No

BMP Selection Matrix C: Phosphorous and / or nitrogen is the TDC, but no metals are the TDC			
Consider approaches to treat the remaining WQV with combinations of the BMPs in this table. The PE should select at least one BMP for the project; preference is for Tier 1 BMPs, followed by Tier 2 BMPs when Tier 1 BMPs are not feasible. Within each Tier, BMP selection will be determined by the site-specific determination of feasibility (Section 2.4.2.1). BMPs are chosen based on the infiltration category determined in question 7. BMPs in other categories should be ignored.			
	BMP ranking for infiltration category:		
	Infiltration < 20%	Infiltration 20% - 50%	Infiltration > 50%
Tier 1	Austin filter (earthen) Austin filter (concrete) Delaware filter**	Austin filter (earthen) Detention (unlined) Infiltration basins* Infiltration trenches*	Austin filter (earthen) Detention (unlined) Infiltration basins* Infiltration trenches* Biofiltration Strip Biofiltration Swale
Tier 2	Wet basin Biofiltration Strip Biofiltration Swale Detention (unlined)	Austin filter (concrete) Delaware filter Biofiltration Strip Biofiltration Swale Wet basin	Austin filter (concrete) Delaware filter Wet basin
* Infiltration BMPs that infiltrate the water quality volume were considered previously, so only undersized infiltration BMPs or hybrid designs are considered where infiltration is less than 90% of the water quality volume.			
** Delaware filters would be ranked in Tier 2 if the TDC is nitrogen only, as opposed to phosphorous only or both nitrogen and phosphorous.			

BMP Selection Matrix D: Any metal, plus phosphorous and / or nitrogen are the TDCs			
Consider approaches to treat the remaining WQV with combinations of the BMPs in this table. The PE should select at least one BMP for the project; preference is for Tier 1 BMPs, followed by Tier 2 BMPs when Tier 1 BMPs are not feasible. Within each Tier, BMP selection will be determined by the site-specific determination of feasibility (Section 2.4.2.1). BMPs are chosen based on the infiltration category determined in question 7. BMPs in other categories should be ignored.			
	BMP ranking for infiltration category:		
	Infiltration < 20%	Infiltration 20% - 50%	Infiltration > 50%
Tier 1	Wet basin* Austin filter (earthen) Austin filter (concrete) Delaware filter**	Wet basin* Austin filter (earthen) Detention (unlined) Infiltration basins*** Infiltration trenches***	Wet basin* Austin filter (earthen) Detention (unlined) Infiltration basins*** Infiltration trenches*** Biofiltration Strip Biofiltration Swale
Tier 2	Biofiltration Strip Biofiltration Swale Detention (unlined)	Austin filter (concrete) Delaware filter Biofiltration Strip Biofiltration Swale	Austin filter (concrete) Delaware filter
* The wet basin should only be considered for phosphorus			
** In cases where earthen BMPs can infiltrate, Delaware filters are ranked in Tier 2 if the TDC is nitrogen only, but they are Tier 1 for phosphorous only or both nitrogen and phosphorous.			
*** Infiltration BMPs that infiltrate the water quality volume were considered previously, so only undersized infiltration BMPs or hybrid designs are considered where infiltration is less than 90% of the water quality volume.			

12. Does the project discharge to a 303(d) waterbody that is listed for mercury or low dissolved oxygen? ☐Yes ☐No

    If Yes, contact the District/Regional NPDES Storm Water Coordinator to determine if standing water in a Delaware filter, wet basin, or MCTT would be a risk to downstream water quality.

13. After completing the above, identify and attach the checklists shown below for every Treatment BMP under consideration. (use one checklist every time the BMP is considered for a different drainage within the project) ☒Complete

    __X_ Biofiltration Strips and Biofiltration Swales: Checklist T-1, Part 2
    ____ Dry Weather Diversion: Checklist T-1, Part 3
    ____ Infiltration Devices: Checklist T-1, Part 4
    ____ Detention Devices: Checklist T-1, Part 5
    ____ GSRDs: Checklist T-1, Part 6
    ____ Traction Sand Traps: Checklist T-1, Part 7
    _X_ Media Filter [Austin Sand Filter and Delaware Filter]: Checklist T-1, Part 8
    ____ Multi-Chambered Treatment Train: Checklist T-1, Part 9
    ____ Wet Basins: Checklist T-1, Part 10

14. Estimate what percentage of the net WQV (for all new impervious surfaces within the project) or WQF (depending upon the Treatment BMP selected) will be treated by the preferred Treatment BMP(s): ____<20_____%* ☒Complete

15. Estimate what percentage of the net WQV (for all new impervious surfaces within the project) that will be infiltrated by the preferred treatment BMP(s): _____<20_____%** ☒Complete

16. Prepare cost estimate, including right-of-way, and site specific determination of feasibility (Section 2.4.2.1) for selected Treatment BMPs and include as supplemental information for SWDR approval. ☒Complete

*Note: The amount of treatment should be calculated for each BMP and each subwatershed, unless all BMPs within a project are the same. Document in SWDR.

**Note: The Water Quality Volume infiltrated should be documented for the entire project and also for each subwatershed. Document in SWDR.

Checklist T – 1, Part 2

Treatment BMPs

Checklist T-1, Part 2

Prepared by: MTCo Date: District-Co-Route: 03-PLA-65

PM : 6.5/12.8 Project ID (or EA): 03-1F170K RWQCB:Central Valley

Biofiltration Swales / Biofiltration Strips

Feasibility

1. Do the climate and site conditions allow vegetation to be established? ☒Yes ☐No

2. Are flow velocities from a peak drainage facility design event < 4 fps (i.e. low enough to prevent scour of the vegetated biofiltration swale as per HDM Table 873.3E)? ☒Yes ☐No

   If "No" to either question above, Biofiltration Swales and Biofiltration Strips are not feasible.

   3. Are Biofiltration Swales proposed at sites where known contaminated soils or groundwater plumes exist? ☐Yes ☒No
   If "Yes", consult with District/Regional NPDES Coordinator about how to proceed.

4. Does adequate area exist within the right-of-way to place Biofiltration device(s)? ☒Yes ☐No
   If "Yes", continue to Design Elements section. If "No", continue to Question 5.

5. If adequate area does not exist within right-of-way, can suitable, additional right-of-way be acquired to site Biofiltration devices and how much right-of-way would be needed to treat WQF? _____ acres ☐Yes ☒No
   If "Yes", continue to Design Elements section. If "No", continue to Question 6.

6. If adequate area cannot be obtained, document in Section 5 of the SWDR that the inability to obtain adequate area prevents the incorporation of these Treatment BMPs into the project. ☒Complete

Design Elements

* **Required** Design Element – A "Yes" response to these questions is required to further the consideration of this BMP into the project design. Document a "No" response in Section 5 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

** **Recommended** Design Element – A "Yes" response is preferred for these questions, but not required for incorporation into a project design.

1. Has the District Landscape Architect provided vegetation mixes appropriate for climate and location? * ☐Yes ☒No

2. Can the biofiltration swale be designed as a conveyance system under any expected flows > the WQF event, as per HDM Chapter 800? * (e.g. freeboard, minimum slope, etc.) ☒Yes ☐No

3.	Can the biofiltration swale be designed as a water quality treatment device under the WQF while meeting the required HRT, depth, and velocity criteria? (Reference Appendix B, Section B.2.3.1)*	☒Yes	☐No
4.	Is the maximum length of a biofiltration strip ≤ 100 ft? Strips > 100 ft. may still be considered as long as potential erosion issues have been addressed.**	☒Yes	☐No
5.	Has the minimum width (perpendicular to flow) of the invert of the biofiltration swale received the concurrence of Maintenance? *	☐Yes	☒No
6.	Can biofiltration swales be located in natural or low cut sections to reduce maintenance problems caused by animals burrowing through the berm of the swale? **	☒Yes	☐No
7.	Has the infiltration rate of the bio-filtration device been calculated and maximized through amendments where appropriate. **	☒Yes	☐No
8.	Have Biofiltration Systems been considered for locations upstream of other Treatment BMPs, as part of a treatment train? **	☒Yes	☐No

BIOSWALE (Bioswale Design Program)

Calculated by: Mark Thomas & Company
Date: 6/17/2016

BIOSWALE 1

Paved area contributing to bioswale:	A_p =	**4.1902**	ac
Unpaved area contributing to bioswale *(total area typically < 10 acres)* :	A_u =	**4.3819**	ac
Runoff coefficient for pavement *(0.90 to 0.95):*	C_p =	**0.95**	
Runoff coefficient *for unpaved areas (HDM Figure 819.2A):*	C_u =	**0.38**	

Comments: Line "A5" 191+00-199+00 SB

Rainfall Intensity for Q_{25} (from IDF curves):	I_{25} =	**2.86**	in/hr

Comments: I = 2.86 in/hr per NOAA Atlas 14

Rainfall Intensity for **Water Quality Flow (WQF)**:	I_{WQF} =	**0.16**	in/hr

(Lake: 0.16 in/hr, Mendocino: 0.27 in/hr, Del Norte & Humboldt: 0.36 in/hr, PPDG Section 2.4.2)

Open channel calculation for Q_{25}:

Manning's n (0.05 by HDM table 864.3A):	n =	**0.050**	
Swale longitudinal slope *(between 0.25% and 6%, but 1% - 2% is preferred):*	S_L =	**1.06%**	
Side slopes *(**z : 1** , where z = 4 or flatter, R or L looking downstream:*	z_L =	**4**	
	z_R =	**4**	
Width at invert *(0 ft for ditches, and between 2 and 10 ft for trapezoidal channels):*	b =	**4.00 ft**	must be equal (after goal-seek)
Resulting **Q_{25}** *(HDM-819 requires a multiplier for Q_{25} equal to 1.1):*	**Q_{25} =**	**17.76 cfs**	= 1.1 · I_{25} · (A_p · C_p + A_u · C_u)
Q for internal calcs *(use goal-seek to make it equal to Q_{25} by varying D_{25}):*	Q =	17.76 cfs	
Depth of flow for Q_{25}:	D_{25} =	**0.98 ft**	
Velocity for Q_{25} *(maximum is 4 ft/s if not bypassed):*	V_{25} =	2.28 ft/s	**OK, <= 4 ft/s**
Water top width for Q_{25}:	T_{25} =	11.86 ft	

Open channel calculation for Q_{WQF} (flow that must be treated by the bioswale):

Manning's n *(0.20 for routinely mowed swales, 0.24 for infrequently mowed ones):*	n =	**0.24**	
Q_{WQF} *("Water Quality Flow" in the swale)* = I_{WQF} · (Ap · Cp + Au · Cu)	**Q_{WQF} =**	**0.90 cfs**	must be equal
Q for internal calcs *(use goal-seek to make it equal to Q_{WQF} by varying D_{WQF}):*	Q =	0.90 cfs	
Depth of flow for WQF *(maximum is 0.5 ft):*	D_{WQF} =	**0.48 ft**	**OK, <= 0.5 ft**
Velocity for WQF *(maximum is 1 ft/s):*	V_{WQF} =	0.32 ft/s	**OK, <= 1 ft/s**
Water top width for Q_{WQF}:	T_{WQF} =	7.81 ft	

Hydraulic Residence Time Check (HRT):

Length of bioswale:	L =	**810.00 ft**	

Comments:

Hydraulic Residence Time (minimum is 5 min): *HRT = (L / V_{WQF}) / 60*	HRT =	42.23 min	**OK, >= 5 min**
Must satisfy: HRT / (D_{WQF} · V_{WQF}) >= 1300 sec^2/ft^2 :		16622	**OK, >= 1300**

DESIGN IS OK

Prepared by: Fernando Manzanera, Caltrans District 1 Hydraulics, January 2012

Sources: - Caltrans Biofiltration Swale Design Guidance, CTSW-TM-07-172-05, August 2009
- Storm Water Quality Handbooks Project Planning and Design Guide (PPDG), CTSW-RT-10-254.03

BIOSWALE (Bioswale Design Program)

Calculated by: Mark Thomas & Company
Date: 6/17/2016

BIOSWALE 2

Paved area contributing to bioswale:	A_p =	**2.9744**	ac
Unpaved area contributing to bioswale *(total area typically < 10 acres)* :	A_u =	**3.9500**	ac
Runoff coefficient for pavement *(0.90 to 0.95):*	C_p =	**0.95**	
Runoff coefficient *for unpaved areas (HDM Figure 819.2A):*	C_u =	**0.38**	

Comments: Line "A5" 200+00 - 208+00, "P5" 207+00 - 219+00 SB

Rainfall Intensity for Q_{25} (from IDF curves):	I_{25} =	**2.86**	in/hr

Comments: I = 2.86 in/hr per NOAA Atlas 14

Rainfall Intensity for **Water Quality Flow (WQF)**:	I_{WQF} =	**0.16**	in/hr

(Lake: 0.16 in/hr, Mendocino: 0.27 in/hr, Del Norte & Humboldt: 0.36 in/hr, PPDG Section 2.4.2)

Open channel calculation for Q_{25}:

Manning's n (0.05 by HDM table 864.3A):	n =	**0.050**	
Swale longitudinal slope *(between 0.25% and 6%, but 1% - 2% is preferred):*	S_L =	**1.06%**	
Side slopes *(**z : 1** , where z = 4 or flatter, R or L looking downstream:*	z_L =	**4**	
	z_R =	**4**	
Width at invert *(0 ft for ditches, and between 2 and 10 ft for trapezoidal channels):*	b =	**4.00 ft**	must be equal (after goal-seek)
Resulting **Q_{25}** *(HDM-819 requires a multiplier for Q_{25} equal to 1.1):*	**Q_{25} =**	**13.61 cfs**	= 1.1 · I_{25} · (A_p · C_p + A_u · C_u)
Q for internal calcs *(use goal-seek to make it equal to Q_{25} by varying D_{25}):*	Q =	13.61 cfs	
Depth of flow for Q_{25}:	D_{25} =	**0.86 ft**	
Velocity for Q_{25} *(maximum is 4 ft/s if not bypassed):*	V_{25} =	2.12 ft/s	**OK, <= 4 ft/s**
Water top width for Q_{25}:	T_{25} =	10.89 ft	

Open channel calculation for Q_{WQF} (flow that must be treated by the bioswale):

Manning's n *(0.20 for routinely mowed swales, 0.24 for infrequently mowed ones):*	n =	**0.24**	
Q_{WQF} *("Water Quality Flow" in the swale)* = I_{WQF} · (Ap · Cp + Au · Cu)	**Q_{WQF} =**	**0.69 cfs**	must be equal
Q for internal calcs *(use goal-seek to make it equal to Q_{WQF} by varying D_{WQF}):*	Q =	0.69 cfs	
Depth of flow for WQF *(maximum is 0.5 ft):*	D_{WQF} =	**0.41 ft**	**OK, <= 0.5 ft**
Velocity for WQF *(maximum is 1 ft/s):*	V_{WQF} =	0.30 ft/s	**OK, <= 1 ft/s**
Water top width for Q_{WQF}:	T_{WQF} =	7.31 ft	

Hydraulic Residence Time Check (HRT):

Length of bioswale:	L =	**880.00 ft**	

Comments:

Hydraulic Residence Time (minimum is 5 min): *HRT = (L / V_{WQF}) / 60*	HRT =	49.66 min	**OK, >= 5 min**
Must satisfy: HRT / (D_{WQF} · V_{WQF}) >= 1300 sec^2/ft^2 :		24405	**OK, >= 1300**

DESIGN IS OK

Prepared by: Fernando Manzanera, Caltrans District 1 Hydraulics, January 2012

Sources: - Caltrans Biofiltration Swale Design Guidance, CTSW-TM-07-172-05, August 2009
- Storm Water Quality Handbooks Project Planning and Design Guide (PPDG), CTSW-RT-10-254.03

BIOSWALE (Bioswale Design Program)

Calculated by: Mark Thomas & Company
Date: 6/17/2016

BIOSWALE 3

Paved area contributing to bioswale:	A_p =	**4.1394**	ac
Unpaved area contributing to bioswale *(total area typically < 10 acres)* :	A_u =	**4.4106**	ac
Runoff coefficient for pavement *(0.90 to 0.95):*	C_p =	**0.95**	
Runoff coefficient *for unpaved areas (HDM Figure 819.2A):*	C_u =	**0.38**	

Comments: Line "A5" 190+50.00 - 193+50.00 NB

Rainfall Intensity for Q_{25} (from IDF curves):	I_{25} =	**2.86**	in/hr

Comments: I = 2.86 in/hr per NOAA Atlas 14

Rainfall Intensity for **Water Quality Flow (WQF)**:	I_{WQF} =	**0.16**	in/hr

(Lake: 0.16 in/hr, Mendocino: 0.27 in/hr, Del Norte & Humboldt: 0.36 in/hr, PPDG Section 2.4.2)

Open channel calculation for Q_{25}:

Manning's n (0.05 by HDM table 864.3A):	n =	**0.050**	
Swale longitudinal slope *(between 0.25% and 6%, but 1% - 2% is preferred):*	S_L =	**1.50%**	
Side slopes *(**z : 1** , where z = 4 or flatter, R or L looking downstream:*	z_L =	**4**	
	z_R =	**4**	
Width at invert *(0 ft for ditches, and between 2 and 10 ft for trapezoidal channels):*	b =	**3.00 ft**	must be equal (after goal-seek)
Resulting **Q_{25}** *(HDM-819 requires a multiplier for Q_{25} equal to 1.1):*	**Q_{25} =**	**17.64 cfs**	= 1.1 · I_{25} · (A_p · C_p + A_u · C_u)
Q for internal calcs *(use goal-seek to make it equal to Q_{25} by varying D_{25}):*	Q =	17.64 cfs	
Depth of flow for Q_{25}:	D_{25} =	**0.98 ft**	
Velocity for Q_{25} *(maximum is 4 ft/s if not bypassed):*	V_{25} =	2.62 ft/s	**OK, <= 4 ft/s**
Water top width for Q_{25}:	T_{25} =	10.81 ft	

Open channel calculation for Q_{WQF} (flow that must be treated by the bioswale):

Manning's n *(0.20 for routinely mowed swales, 0.24 for infrequently mowed ones):*	n =	**0.24**	
Q_{WQF} *("Water Quality Flow" in the swale)* = I_{WQF} · (Ap · Cp + Au · Cu)	**Q_{WQF} =**	**0.90 cfs**	must be equal
Q for internal calcs *(use goal-seek to make it equal to Q_{WQF} by varying D_{WQF}):*	Q =	0.90 cfs	
Depth of flow for WQF *(maximum is 0.5 ft):*	D_{WQF} =	**0.49 ft**	**OK, <= 0.5 ft**
Velocity for WQF *(maximum is 1 ft/s):*	V_{WQF} =	0.37 ft/s	**OK, <= 1 ft/s**
Water top width for Q_{WQF}:	T_{WQF} =	6.90 ft	

Hydraulic Residence Time Check (HRT):

Length of bioswale:	L =	**700.00 ft**	

Comments:

Hydraulic Residence Time (minimum is 5 min): *HRT = (L / V_{WQF}) / 60*	HRT =	31.33 min	**OK, >= 5 min**
Must satisfy: HRT / (D_{WQF} · V_{WQF}) >= 1300 sec^2/ft^2 :		10344	**OK, >= 1300**

DESIGN IS OK

Prepared by: Fernando Manzanera, Caltrans District 1 Hydraulics, January 2012

Sources: - Caltrans Biofiltration Swale Design Guidance, CTSW-TM-07-172-05, August 2009
- Storm Water Quality Handbooks Project Planning and Design Guide (PPDG), CTSW-RT-10-254.03

BIOSWALE (Bioswale Design Program)

Calculated by: Mark Thomas & Company
Date: 6/17/2016

BIOSWALE 4

Paved area contributing to bioswale:	A_p =	**0.7048**	ac
Unpaved area contributing to bioswale *(total area typically < 10 acres)* :	A_u =	**0.0793**	ac
Runoff coefficient for pavement *(0.90 to 0.95):*	C_p =	**0.95**	
Runoff coefficient *for unpaved areas (HDM Figure 819.2A):*	C_u =	**0.38**	

Comments: Line "A3" 199+00.00- 202+50.00

Rainfall Intensity for Q_{25} (from IDF curves):	I_{25} =	**2.86**	in/hr

Comments: I = 2.8 in/hr per NOAA Atlas 14

Rainfall Intensity for **Water Quality Flow (WQF)**:	I_{WQF} =	**0.16**	in/hr

(Lake: 0.16 in/hr, Mendocino: 0.27 in/hr, Del Norte & Humboldt: 0.36 in/hr, PPDG Section 2.4.2)

Open channel calculation for Q_{25}:

Manning's n (0.05 by HDM table 864.3A):	n =	**0.050**	
Swale longitudinal slope *(between 0.25% and 6%, but 1% - 2% is preferred):*	S_L =	**2.00%**	
Side slopes *(**z : 1** , where z = 4 or flatter, R or L looking downstream:*	z_L =	**4**	
	z_R =	**4**	
Width at invert *(0 ft for ditches, and between 2 and 10 ft for trapezoidal channels):*	b =	**2.00 ft**	must be equal (after goal-seek)
Resulting **Q_{25}** *(HDM-819 requires a multiplier for Q_{25} equal to 1.1):*	**Q_{25} =**	**2.20 cfs**	= 1.1 · I_{25} · (A_p · C_p + A_u · C_u)
Q for internal calcs *(use goal-seek to make it equal to Q_{25} by varying D_{25}):*	Q =	2.20 cfs	
Depth of flow for Q_{25}:	D_{25} =	**0.37 ft**	
Velocity for Q_{25} *(maximum is 4 ft/s if not bypassed):*	V_{25} =	1.70 ft/s	**OK, <= 4 ft/s**
Water top width for Q_{25}:	T_{25} =	4.98 ft	

Open channel calculation for Q_{WQF} (flow that must be treated by the bioswale):

Manning's n *(0.20 for routinely mowed swales, 0.24 for infrequently mowed ones):*	n =	**0.24**	
Q_{WQF} *("Water Quality Flow" in the swale)* = I_{WQF} · (Ap · Cp + Au · Cu)	**Q_{WQF} =**	**0.11 cfs**	must be equal
Q for internal calcs *(use goal-seek to make it equal to Q_{WQF} by varying D_{WQF}):*	Q =	0.11 cfs	
Depth of flow for WQF *(maximum is 0.5 ft):*	D_{WQF} =	**0.17 ft**	**OK, <= 0.5 ft**
Velocity for WQF *(maximum is 1 ft/s):*	V_{WQF} =	0.23 ft/s	**OK, <= 1 ft/s**
Water top width for Q_{WQF}:	T_{WQF} =	3.40 ft	

Hydraulic Residence Time Check (HRT):

Length of bioswale:	L =	**350.00 ft**	

Comments:

Hydraulic Residence Time (minimum is 5 min): *HRT = (L / V_{WQF}) / 60*	HRT =	25.04 min	**OK, >= 5 min**
Must satisfy: HRT / (D_{WQF} · V_{WQF}) >= 1300 sec^2/ft^2 :		36872	**OK, >= 1300**

DESIGN IS OK

Prepared by: Fernando Manzanera, Caltrans District 1 Hydraulics, January 2012

Sources: - Caltrans Biofiltration Swale Design Guidance, CTSW-TM-07-172-05, August 2009
- Storm Water Quality Handbooks Project Planning and Design Guide (PPDG), CTSW-RT-10-254.03

BIOSWALE (Bioswale Design Program)

Calculated by: Mark Thomas & Company
Date: 6/17/2016

BIOSWALE 5

Paved area contributing to bioswale:	A_p =	**11.5819**	ac
Unpaved area contributing to bioswale *(total area typically < 10 acres)* :	A_u =	**12.8283**	ac
Runoff coefficient for pavement *(0.90 to 0.95):*	C_p =	**0.95**	
Runoff coefficient *for unpaved areas (HDM Figure 819.2A):*	C_u =	**0.38**	

Comments: Line "A3" 241+00 - 246+00 SB

Rainfall Intensity for Q_{25} (from IDF curves):	I_{25} =	**2.86**	in/hr

Comments: I = 2.86 in/hr per NOAA Atlas 14

Rainfall Intensity for **Water Quality Flow (WQF)**:	I_{WQF} =	**0.16**	in/hr

(Lake: 0.16 in/hr, Mendocino: 0.27 in/hr, Del Norte & Humboldt: 0.36 in/hr, PPDG Section 2.4.2)

Open channel calculation for Q_{25}:

Manning's n (0.05 by HDM table 864.3A):	n =	**0.050**	
Swale longitudinal slope *(between 0.25% and 6%, but 1% - 2% is preferred):*	S_L =	**1.50%**	
Side slopes *(**z : 1** , where z = 4 or flatter, R or L looking downstream:*	z_L =	**4**	
	z_R =	**4**	
Width at invert *(0 ft for ditches, and between 2 and 10 ft for trapezoidal channels):*	b =	**3.00 ft**	must be equal (after goal-seek)
Resulting **Q_{25}** *(HDM-819 requires a multiplier for Q_{25} equal to 1.1):*	**Q_{25} =**	**49.95 cfs**	= 1.1 · I_{25} · (A_p · C_p + A_u · C_u)
Q for internal calcs *(use goal-seek to make it equal to Q_{25} by varying D_{25}):*	Q =	49.95 cfs	
Depth of flow for Q_{25}:	D_{25} =	**1.57 ft**	
Velocity for Q_{25} *(maximum is 4 ft/s if not bypassed):*	V_{25} =	3.43 ft/s	**OK, <= 4 ft/s**
Water top width for Q_{25}:	T_{25} =	15.56 ft	

Open channel calculation for Q_{WQF} (flow that must be treated by the bioswale):

Manning's n *(0.20 for routinely mowed swales, 0.24 for infrequently mowed ones):*	n =	**0.24**	
Q_{WQF} *("Water Quality Flow" in the swale)* = I_{WQF} · (Ap · Cp + Au · Cu)	**Q_{WQF} =**	**2.54 cfs**	must be equal
Q for internal calcs *(use goal-seek to make it equal to Q_{WQF} by varying D_{WQF}):*	Q =	2.54 cfs	
Depth of flow for WQF *(maximum is 0.5 ft):*	D_{WQF} =	**0.82 ft**	**Too high!**
Velocity for WQF *(maximum is 1 ft/s):*	V_{WQF} =	0.49 ft/s	**OK, <= 1 ft/s**
Water top width for Q_{WQF}:	T_{WQF} =	9.55 ft	

Hydraulic Residence Time Check (HRT):

Length of bioswale:	L =	**600.00 ft**	

Comments:

Hydraulic Residence Time (minimum is 5 min): *HRT = (L / V_{WQF}) / 60*	HRT =	20.22 min	**OK, >= 5 min**
Must satisfy: HRT / (D_{WQF} · V_{WQF}) >= 1300 sec^2/ft^2 :		2997	**OK, >= 1300**

CHECK DESIGN, IT IS NOT OK

Prepared by: Fernando Manzanera, Caltrans District 1 Hydraulics, January 2012
Sources: - Caltrans Biofiltration Swale Design Guidance, CTSW-TM-07-172-05, August 2009
- Storm Water Quality Handbooks Project Planning and Design Guide (PPDG), CTSW-RT-10-254.03

BIOSWALE (Bioswale Design Program)

Calculated by: Mark Thomas & Company
Date: 6/17/2016

BIOSWALE 6

Paved area contributing to bioswale:	A_p =	**4.3462**	ac
Unpaved area contributing to bioswale *(total area typically < 10 acres)* :	A_u =	**7.9919**	ac
Runoff coefficient for pavement *(0.90 to 0.95):*	C_p =	**0.95**	
Runoff coefficient *for unpaved areas (HDM Figure 819.2A):*	C_u =	**0.38**	

Comments: Line "A3" 630+00 - 672+50.00 SB

Rainfall Intensity for Q_{25} (from IDF curves):	I_{25} =	**2.86**	in/hr

Comments: I = 2.86 in/hr per NOAA Atlas 14

Rainfall Intensity for **Water Quality Flow (WQF)**:	I_{WQF} =	**0.16**	in/hr

(Lake: 0.16 in/hr, Mendocino: 0.27 in/hr, Del Norte & Humboldt: 0.36 in/hr, PPDG Section 2.4.2)

Open channel calculation for Q_{25}:

Manning's n (0.05 by HDM table 864.3A):	n =	**0.050**	
Swale longitudinal slope *(between 0.25% and 6%, but 1% - 2% is preferred):*	S_L =	**1.75%**	
Side slopes *(**z : 1** , where z = 4 or flatter, R or L looking downstream:*	z_L =	**4**	
	z_R =	**4**	
Width at invert *(0 ft for ditches, and between 2 and 10 ft for trapezoidal channels):*	b =	**4.00 ft**	must be equal (after goal-seek)
Resulting **Q_{25}** *(HDM-819 requires a multiplier for Q_{25} equal to 1.1):*	**Q_{25} =**	**22.54 cfs**	= 1.1 · I_{25} · (A_p · C_p + A_u · C_u)
Q for internal calcs *(use goal-seek to make it equal to Q_{25} by varying D_{25}):*	Q =	22.54 cfs	
Depth of flow for Q_{25}:	D_{25} =	**0.98 ft**	
Velocity for Q_{25} *(maximum is 4 ft/s if not bypassed):*	V_{25} =	2.92 ft/s	**OK, <= 4 ft/s**
Water top width for Q_{25}:	T_{25} =	11.81 ft	

Open channel calculation for Q_{WQF} (flow that must be treated by the bioswale):

Manning's n *(0.20 for routinely mowed swales, 0.24 for infrequently mowed ones):*	n =	**0.24**	
Q_{WQF} *("Water Quality Flow" in the swale)* = I_{WQF} · (Ap · Cp + Au · Cu)	**Q_{WQF} =**	**1.15 cfs**	must be equal
Q for internal calcs *(use goal-seek to make it equal to Q_{WQF} by varying D_{WQF}):*	Q =	1.15 cfs	
Depth of flow for WQF *(maximum is 0.5 ft):*	D_{WQF} =	**0.48 ft**	**OK, <= 0.5 ft**
Velocity for WQF *(maximum is 1 ft/s):*	V_{WQF} =	0.41 ft/s	**OK, <= 1 ft/s**
Water top width for Q_{WQF}:	T_{WQF} =	7.80 ft	

Hydraulic Residence Time Check (HRT):

Length of bioswale:	L =	**800.00 ft**	

Comments:

Hydraulic Residence Time (minimum is 5 min): *HRT = (L / V_{WQF}) / 60*	HRT =	32.52 min	**OK, >= 5 min**
Must satisfy: HRT / (D_{WQF} · V_{WQF}) >= 1300 sec^2/ft^2 :		10012	**OK, >= 1300**

DESIGN IS OK

Prepared by: Fernando Manzanera, Caltrans District 1 Hydraulics, January 2012

Sources: - Caltrans Biofiltration Swale Design Guidance, CTSW-TM-07-172-05, August 2009
- Storm Water Quality Handbooks Project Planning and Design Guide (PPDG), CTSW-RT-10-254.03

Strip and Swale Infiltration Tool Results

Version 3.01.034

PROJECT INFORMATION

Project	PCTPA - SR 65 Widening
Sub-watershed	Pleasant Grove Creek Subwatershed
BMP type	Biofiltration Swale

USER INPUT AND INTERMEDIATE CALCULATIONS	Units	Existing	Proposed Design	Isolated NNI
Input from Basin Sizer				
Unit basin storage volume from Basin Sizer, where C = 1.0	in	1.09	1.09	1.09
Drawdown time used in Basin Sizer	hr	72	72	72
Rainfall rate from Basin Sizer "Caltrans Water Quality Flows"	in/hr	0.16	0.16	0.16
Drainage and Runoff to the Strip or Swale				
Contributing drainage area (CDA), including all impervious area	ac	0	8.57202034	4.190165865
Total impervious area	ac	0	4.190165865	4.190165865
Net new impervious (NNI) area	ac	0	4.190165865	4.190165865
Additional impervious area seeking treatment credit	ac	0	0	0
CDA runoff volume (including WQV)	ft^3	0	23243	14921
WQV	ft^3	0	14921	14921
Native Soil				
Pervious area for non-amended infiltration	ac	0	0.204545455	0.204545455
Native or fill (underlying) HSG soil type	-	D	D	D
Bulk density of native soil or fill	g/cm^3	1.6	1.6	1.6
Specific gravity of soil particles	-	2.65	2.65	2.65
Infiltration rate of native soil or fill	in/hr	0.05	0.05	0.05
Amended Soil				
BMP amendment area	ac	0	0.204545455	0.204545455
Depth of amendment placement	in	0	18	18
Depth of incorporation	in	0	18	18
Specific gravity of amendment particles	-	2.65	2.65	2.65
Bulk density of amendment	g/cm^3	1.70	1.70	1.70
Final bulk density of amended soil	g/cm^3	N/A	2.04	2.04
Infiltration rate of amended soil	in/hr	N/A	8.00	8.00

RESULTS: Native Soil or Fill (rate-based calculation)	Units	Existing	Proposed Design	Isolated NNI
Runoff coefficient for downstream BMP with no amendment	-	N/A	0.69	0.89
Volume of total runoff from CDA infiltrated	ft^3	0	0	0
Percentage of WQV from net new impervious area that is infiltrated with native soil or fill (use for T-1, 5b)	**-**	N/A	**0%**	0%

RESULTS: Amended Soil (volume-based calculation)	Units	Existing	Proposed Design	Isolated NNI
Runoff coefficient for downstream BMP after amendment	-	N/A	0.62	0.76
Volume of total runoff infiltrated, ft^3	ft^3	N/A	1763	1763

Percentage of WQV from net new impervious area that is infiltrated with amended soil (use for T-1, 5d)	**-**	N/A	**12%**	12%

Strip and Swale Infiltration Tool Results

Version 3.01.034

PROJECT INFORMATION

Project	PCTPA - SR 65 Widening
Sub-watershed	Pleasant Grove Creek Subwatershed
BMP type	Biofiltration Swale "A5" 200+00 - 208+00, "P5" 207+00-219+00 SB

USER INPUT AND INTERMEDIATE CALCULATIONS	Units	Existing	Proposed Design	Isolated NNI
Input from Basin Sizer				
Unit basin storage volume from Basin Sizer, where C = 1.0	in	1.09	1.09	1.09
Drawdown time used in Basin Sizer	hr	72	72	72
Rainfall rate from Basin Sizer "Caltrans Water Quality Flows"	in/hr	0.16	0.16	0.16
Drainage and Runoff to the Strip or Swale				
Contributing drainage area (CDA), including all impervious area	ac	0	6.924357133	2.974405078
Total impervious area	ac	0	2.974405078	2.974405078
Net new impervious (NNI) area	ac	0	2.974405078	2.974405078
Additional impervious area seeking treatment credit	ac	0	0	0
CDA runoff volume (including WQV)	ft^3	0	18094	10592
WQV	ft^3	0	10592	10592
Native Soil				
Pervious area for non-amended infiltration	ac	0	0.242424242	0.242424242
Native or fill (underlying) HSG soil type	-	D	D	D
Bulk density of native soil or fill	g/cm^3	1.6	1.6	1.6
Specific gravity of soil particles	-	2.65	2.65	2.65
Infiltration rate of native soil or fill	in/hr	0.05	0.05	0.05
Amended Soil				
BMP amendment area	ac	0	0.242424242	0.242424242
Depth of amendment placement	in	0	18	18
Depth of incorporation	in	0	18	18
Specific gravity of amendment particles	-	2.65	2.65	2.65
Bulk density of amendment	g/cm^3	1.70	1.70	1.70
Final bulk density of amended soil	g/cm^3	N/A	2.04	2.04
Infiltration rate of amended soil	in/hr	N/A	8.00	8.00

RESULTS: Native Soil or Fill (rate-based calculation)	Units	Existing	Proposed Design	Isolated NNI
Runoff coefficient for downstream BMP with no amendment	-	N/A	0.66	0.88
Volume of total runoff from CDA infiltrated	ft^3	0	0	0
Percentage of WQV from net new impervious area that is infiltrated with native soil or fill (use for T-1, 5b)	-	N/A	**0%**	0%

RESULTS: Amended Soil (volume-based calculation)	Units	Existing	Proposed Design	Isolated NNI
Runoff coefficient for downstream BMP after amendment	-	N/A	0.56	0.67
Volume of total runoff infiltrated, ft^3	ft^3	N/A	2089	2089
Percentage of WQV from net new impervious area that is infiltrated with amended soil (use for T-1, 5d)	-	N/A	**20%**	20%

Strip and Swale Infiltration Tool Results

Version 3.01.034

PROJECT INFORMATION

Project	PCTPA - SR 65 Widening
Sub-watershed	Pleasant Grove Creek Subwatershed
BMP type	Biofiltration Swale "A5" 190+50 - 193+50 NB

USER INPUT AND INTERMEDIATE CALCULATIONS	Units	Existing	Proposed Design	Isolated NNI
Input from Basin Sizer				
Unit basin storage volume from Basin Sizer, where C = 1.0	in	1.09	1.09	1.09
Drawdown time used in Basin Sizer	hr	72	72	72
Rainfall rate from Basin Sizer "Caltrans Water Quality Flows"	in/hr	0.16	0.16	0.16
Drainage and Runoff to the Strip or Swale				
Contributing drainage area (CDA), including all impervious area	ac	0	8.549990684	4.139378315
Total impervious area	ac	0	4.139378315	4.139378315
Net new impervious (NNI) area	ac	0	4.139378315	4.139378315
Additional impervious area seeking treatment credit	ac	0	0	0
CDA runoff volume (including WQV)	ft^3	0	23117	14740
WQV	ft^3	0	14740	14740
Native Soil				
Pervious area for non-amended infiltration	ac	0	0.176767677	0.176767677
Native or fill (underlying) HSG soil type	-	D	D	D
Bulk density of native soil or fill	g/cm^3	1.6	1.6	1.6
Specific gravity of soil particles	-	2.65	2.65	2.65
Infiltration rate of native soil or fill	in/hr	0.05	0.05	0.05
Amended Soil				
BMP amendment area	ac	0	0.176767677	0.176767677
Depth of amendment placement	in	0	18	18
Depth of incorporation	in	0	18	18
Specific gravity of amendment particles	-	2.65	2.65	2.65
Bulk density of amendment	g/cm^3	1.70	1.70	1.70
Final bulk density of amended soil	g/cm^3	N/A	2.04	2.04
Infiltration rate of amended soil	in/hr	N/A	8.00	8.00

RESULTS: Native Soil or Fill (rate-based calculation)	Units	Existing	Proposed Design	Isolated NNI
Runoff coefficient for downstream BMP with no amendment	-	N/A	0.68	0.89
Volume of total runoff from CDA infiltrated	ft^3	0	0	0
Percentage of WQV from net new impervious area that is infiltrated with native soil or fill (use for T-1, 5b)	**-**	N/A	**0%**	0%

RESULTS: Amended Soil (volume-based calculation)	Units	Existing	Proposed Design	Isolated NNI
Runoff coefficient for downstream BMP after amendment	-	N/A	0.63	0.77
Volume of total runoff infiltrated, ft^3	ft^3	N/A	1523	1523
Percentage of WQV from net new impervious area that is infiltrated with amended soil (use for T-1, 5d)	**-**	N/A	**10%**	10%

Strip and Swale Infiltration Tool Results

Version 3.01.034

PROJECT INFORMATION

Project	PCTPA - SR 65 Widening
Sub-watershed	Pleasant Grove Creek Subwatershed
BMP type	Biofiltration Swale "A5" 199-202+50 NB

USER INPUT AND INTERMEDIATE CALCULATIONS	Units	Existing	Proposed Design	Isolated NNI
Input from Basin Sizer				
Unit basin storage volume from Basin Sizer, where C = 1.0	in	1.09	1.09	1.09
Drawdown time used in Basin Sizer	hr	72	72	72
Rainfall rate from Basin Sizer "Caltrans Water Quality Flows"	in/hr	0.16	0.16	0.16
Drainage and Runoff to the Strip or Swale				
Contributing drainage area (CDA), including all impervious area	ft²	0	1.497828742	0.704770025
Total impervious area	ft²	0	0.704770025	0.704770025
Net new impervious (NNI) area	ft²	0	0.704770025	0.704770025
Additional impervious area seeking treatment credit	ft²	0	0	0
CDA runoff volume (including WQV)	ft³	0	0	0
WQV	ft³	0	0	0
Native Soil				
Pervious area for non-amended infiltration	ft²	0	0.080348944	0.080348944
Native or fill (underlying) HSG soil type	-	D	D	D
Bulk density of native soil or fill	g/cm³	1.6	1.6	1.6
Specific gravity of soil particles	-	2.65	2.65	2.65
Infiltration rate of native soil or fill	in/hr	0.05	0.05	0.05
Amended Soil				
BMP amendment area	ft²	0	0.080348944	0.080348944
Depth of amendment placement	in	0	18	18
Depth of incorporation	in	0	18	18
Specific gravity of amendment particles	-	2.65	2.65	2.65
Bulk density of amendment	g/cm³	1.70	1.70	1.70
Final bulk density of amended soil	g/cm³	N/A	2.04	2.04
Infiltration rate of amended soil	in/hr	N/A	8.00	8.00

RESULTS: Native Soil or Fill (rate-based calculation)	Units	Existing	Proposed Design	Isolated NNI
Runoff coefficient for downstream BMP with no amendment	-	N/A	0.68	0.88
Volume of total runoff from CDA infiltrated	ft³	0	0	0
Percentage of WQV from net new impervious area that is infiltrated with native soil or fill (use for T-1, 5b)	**-**	N/A	**0%**	0%

RESULTS: Amended Soil (volume-based calculation)	Units	Existing	Proposed Design	Isolated NNI
Runoff coefficient for downstream BMP after amendment	-	N/A	0.53	0.58
Volume of total runoff infiltrated, ft³	ft³	N/A	0	0
Percentage of WQV from net new impervious area that is infiltrated with amended soil (use for T-1, 5d)	**-**	N/A	**28%**	28%

Strip and Swale Infiltration Tool Results

Version 3.01.034

PROJECT INFORMATION

Project	PCTPA - SR 65 Widening
Sub-watershed	Pleasant Grove Creek Subwatershed
BMP type	Biofiltration Swale "A5" 200+00 - 208+00, "P5" 207+00-219+00 SB

USER INPUT AND INTERMEDIATE CALCULATIONS	Units	Existing	Proposed Design	Isolated NNI
Input from Basin Sizer				
Unit basin storage volume from Basin Sizer, where C = 1.0	in	1.09	1.09	1.09
Drawdown time used in Basin Sizer	hr	72	72	72
Rainfall rate from Basin Sizer "Caltrans Water Quality Flows"	in/hr	0.16	0.16	0.16
Drainage and Runoff to the Strip or Swale				
Contributing drainage area (CDA), including all impervious area	ac	0	6.924357133	2.974405078
Total impervious area	ac	0	2.974405078	2.974405078
Net new impervious (NNI) area	ac	0	2.974405078	2.974405078
Additional impervious area seeking treatment credit	ac	0	0	0
CDA runoff volume (including WQV)	ft^3	0	18094	10592
WQV	ft^3	0	10592	10592
Native Soil				
Pervious area for non-amended infiltration	ac	0	0.242424242	0.242424242
Native or fill (underlying) HSG soil type	-	D	D	D
Bulk density of native soil or fill	g/cm^3	1.6	1.6	1.6
Specific gravity of soil particles	-	2.65	2.65	2.65
Infiltration rate of native soil or fill	in/hr	0.05	0.05	0.05
Amended Soil				
BMP amendment area	ac	0	0.242424242	0.242424242
Depth of amendment placement	in	0	18	18
Depth of incorporation	in	0	18	18
Specific gravity of amendment particles	-	2.65	2.65	2.65
Bulk density of amendment	g/cm^3	1.70	1.70	1.70
Final bulk density of amended soil	g/cm^3	N/A	2.04	2.04
Infiltration rate of amended soil	in/hr	N/A	8.00	8.00

RESULTS: Native Soil or Fill (rate-based calculation)	Units	Existing	Proposed Design	Isolated NNI
Runoff coefficient for downstream BMP with no amendment	-	N/A	0.66	0.88
Volume of total runoff from CDA infiltrated	ft^3	0	0	0
Percentage of WQV from net new impervious area that is infiltrated with native soil or fill (use for T-1, 5b)	-	N/A	**0%**	0%

RESULTS: Amended Soil (volume-based calculation)	Units	Existing	Proposed Design	Isolated NNI
Runoff coefficient for downstream BMP after amendment	-	N/A	0.56	0.67
Volume of total runoff infiltrated, ft^3	ft^3	N/A	2089	2089
Percentage of WQV from net new impervious area that is infiltrated with amended soil (use for T-1, 5d)	-	N/A	**20%**	20%

Strip and Swale Infiltration Tool Results

Version 3.01.034

PROJECT INFORMATION

Project	PCTPA - SR 65 Widening
Sub-watershed	Orchard Creek Subwatershed
BMP type	Biofiltration Swale "A3" 630+00-672+50.00 SB

USER INPUT AND INTERMEDIATE CALCULATIONS	Units	Existing	Proposed Design	Isolated NNI
Input from Basin Sizer				
Unit basin storage volume from Basin Sizer, where C = 1.0	in	1.09	1.09	1.09
Drawdown time used in Basin Sizer	hr	72	72	72
Rainfall rate from Basin Sizer "Caltrans Water Quality Flows"	in/hr	0.16	0.16	0.16
Drainage and Runoff to the Strip or Swale				
Contributing drainage area (CDA), including all impervious area	ac	0	12.33811438	4.346210174
Total impervious area	ac	0	4.346210174	4.346210174
Net new impervious (NNI) area	ac	0	4.346210174	4.346210174
Additional impervious area seeking treatment credit	ac	0	0	0
CDA runoff volume (including WQV)	ft^3	0	30655	15477
WQV	ft^3	0	15477	15477
Native Soil				
Pervious area for non-amended infiltration	ac	0	0.220385675	0.220385675
Native or fill (underlying) HSG soil type	-	D	D	D
Bulk density of native soil or fill	g/cm^3	1.6	1.6	1.6
Specific gravity of soil particles	-	2.65	2.65	2.65
Infiltration rate of native soil or fill	in/hr	0.05	0.05	0.05
Amended Soil				
BMP amendment area	ac	0	0.220385675	0.220385675
Depth of amendment placement	in	0	18	18
Depth of incorporation	in	0	18	18
Specific gravity of amendment particles	-	2.65	2.65	2.65
Bulk density of amendment	g/cm^3	1.70	1.70	1.70
Final bulk density of amended soil	g/cm^3	N/A	2.04	2.04
Infiltration rate of amended soil	in/hr	N/A	8.00	8.00

RESULTS: Native Soil or Fill (rate-based calculation)	Units	Existing	Proposed Design	Isolated NNI
Runoff coefficient for downstream BMP with no amendment	-	N/A	0.63	0.89
Volume of total runoff from CDA infiltrated	ft^3	0	0	0
Percentage of WQV from net new impervious area that is infiltrated with native soil or fill (use for T-1, 5b)	**-**	N/A	**0%**	0%

RESULTS: Amended Soil (volume-based calculation)	Units	Existing	Proposed Design	Isolated NNI
Runoff coefficient for downstream BMP after amendment	-	N/A	0.58	0.75
Volume of total runoff infiltrated, ft^3	ft^3	N/A	1899	1899
Percentage of WQV from net new impervious area that is infiltrated with amended soil (use for T-1, 5d)	**-**	N/A	**12%**	12%

Checklist T – 1, Part 5

Treatment BMPs

Checklist T-1, Part 5

Prepared by: MTCo Date: District-Co-Route: 03-PLA-65

PM : 6.5/12.8 Project ID (or EA): 03-1F170K RWQCB:Central Valley

Detention Devices

Feasibility

1.	Is there sufficient head to prevent objectionable backwater conditions in the upstream drainage systems?	☒Yes	☐No
2.	2a) Is the volume of the Detention Device equal to at least the WQV? (Note: the WQV must be ≥ 4,356 ft^3 [0.1 acre-feet]). If the BMP is used in series with a biofiltration device, then does the total upstream infiltration plus the Detention Device volume at least equal the WQV?.	☒Yes	☐No
	Only answer (b) if the Detention Device is being used also to capture traction sand.		
	2b) Is the total volume of the Detention Device at least equal to the WQV plus the anticipated volume of traction sand, while maintaining a minimum 12 inch freeboard (1 ft)?	☐Yes	☐No
3.	Is basin invert ≥ 10 ft above seasonally high groundwater or can it be designed with an impermeable liner? (Note: If an impermeable liner is used, the seasonally high groundwater elevation must not encroach within 12 inches of the invert.)	☒Yes	☐No

If No to any question above, then Detention Devices are not feasible.

4.	Does adequate area exist within the right-of-way to place Detention Device(s)? If Yes, continue to the Design Elements section. If No, continue to Question 5.	☐Yes	☒No
5.	If adequate area does not exist within right-of-way, can suitable, additional right-of-way be acquired to site Detention Device(s) and how much right-of way would be needed to treat WQV? _____ acres If Yes, continue to the Design Elements section. If No, continue to Question 6.	☐Yes	☒No
6.	If adequate area cannot be obtained, document in Section 5 of the SWDR that the inability to obtain adequate area prevents the incorporation of this Treatment BMP into the project.	☒Complete	

Design Elements

* **Required** Design Element – A "Yes" response to these questions is required to further the consideration of this BMP into the project design. Document a "No" response in Section 5 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

** **Recommended** Design Element – A "Yes" response is preferred for these questions, but not required for incorporation into a project design.

1.	Has the geotechnical integrity of the site been evaluated to determine potential impacts to surrounding slopes due to incidental infiltration? If incidental infiltration through the invert of an unlined Detention Device is a concern, consider using an impermeable liner. *	☐Yes	☐No
2.	Has the location of the Detention Device been evaluated for any effects to the adjacent roadway and subgrade? *	☐Yes	☐No
3.	Can a minimum freeboard of 12 inches be provided above the overflow event elevation? *	☐Yes	☐No
4.	Is an overflow outlet provided? *	☐Yes	☐No
5.	Is the drawdown time of the Detention Device within 24 to 72 hours? *	☐Yes	☐No
6.	Is the basin outlet designed to minimize clogging (minimum outlet orifice diameter of 0.5 inches)? *	☐Yes	☐No
7.	Are the inlet and outlet structures designed to prevent scour and re-suspension of settled materials, and to enhance quiescent conditions? *	☐Yes	☐No
8.	Can vegetation be established in an earthen basin at the invert and on the side slopes for erosion control and to minimize re-suspension? Note: Detention Basins may be lined, in which case no vegetation would be required for lined areas.*	☐Yes	☐No
9.	Has sufficient access for Maintenance been provided? *	☐Yes	☐No
10.	Is the side slope 4:1 (h:v) or flatter for interior slopes? ** (Note: Side slopes up to 3:1 (h:v) allowed with approval by District Maintenance.)	☐Yes	☐No
11.	If significant sediment is expected from nearby slopes, can the Detention Device be designed with additional volume equal to the expected annual loading? **	☐Yes	☐No
12.	Is flow path as long as possible (≥ 2:1 length to width ratio at WQV elevation is recommended)? **	☐Yes	☐No

Checklist T – 1, Part 8

Treatment BMPs

Checklist T-1, Part 8

Prepared by: MTCo Date: District-Co-Route: 03-PLA-65

PM : 6.5/12.8 Project ID (or EA): 03-1F170K RWQCB:Central Valley

Media Filters

Caltrans has approved two types of Media Filter: Austin Sand Filters and Delaware Filters. Austin Sand filters are typically designed for larger drainage areas, while Delaware Filters are typically designed for smaller drainage areas. The Austin Sand Filter is constructed with an open top and may have a concrete or earthen invert, while the Delaware is always constructed as a vault. See Appendix B, Media Filters, for a further description of Media Filters.

Feasibility – Austin Sand Filter

1.	Is the volume of the Austin Sand Filter equal to at least the WQV using a 24 hour drawdown? (Note: the WQV must be ≥ 4,356 ft^3 [0.1 acre-feet])	☒Yes	☐No
2.	Is there sufficient hydraulic head to operate the device (minimum 3 ft between the inflow and outflow chambers)?	☒Yes	☐No
3.	If initial chamber has an earthen bottom, is initial chamber invert ≥ 3 ft above seasonally high groundwater?	☒Yes	☐No
4.	If a vault is used for either chamber, is the level of the concrete base of the vault above seasonally high groundwater or is a special design provided?	☒Yes	☐No
	If No to any question above, then an Austin Sand Filter is not feasible.		
5.	Does adequate area exist within the right-of-way to place an Austin Sand Filter(s)? If Yes, continue to Design Elements sections. If No, continue to Question 6.	☐Yes	☒No
6.	If adequate area does not exist within right-of-way, can suitable, additional right-of-way be acquired to site the device and how much right-of way would be needed to treat WQV? _____ acres If Yes, continue to the Design Elements section. If No, continue to Question 7.	☐Yes	☒No
7.	If adequate area cannot be obtained, document in Section 5 of the SWDR that the inability to obtain adequate area prevents the incorporation of this Treatment BMP into the project.	☒Complete	

If an Austin Sand Filter meets these feasibility requirements, continue to the Design Elements – Austin Sand Filter below.

Feasibility- Delaware Filter

1. Is the volume of the Delaware Filter equal to at least the WQV using a 48 hour drawdown? (Note: the WQV must be ≥ 4,356 ft^3 [0.1 acre-feet], consult with District/Regional Design Storm Water Coordinator if a lesser volume is under consideration.) ☐Yes ☐No

2. Is there sufficient hydraulic head to operate the device (minimum 3 ft between the inflow and outflow chambers)? ☐Yes ☐No

3. Would a permanent pool of water be allowed by the local vector control agency? Confirm that check valves and vector proof lid as shown on standard detail sheets will be allowed, is used. ☐Yes ☐No

If No to any question, then a Delaware Filter is not feasible

4. Does adequate area exist within the right-of-way to place a Delaware Filter(s)? ☐Yes ☐No
   If Yes, continue to Design Elements sections. If No, continue to Question 5.

5. If adequate area does not exist within right-of-way, can suitable, additional right-of-way be acquired to site the device and how much right-of way would be needed to treat WQV? _____ acres ☐Yes ☐No
   If Yes, continue to the Design Elements section. If No, continue to Question 6.

6. If adequate area cannot be obtained, document in Section 5 of the SWDR that the inability to obtain adequate area prevents the incorporation of this Treatment BMP into the project. ☐Complete

7. Does the project discharge to a waterbody that has been placed on the 303-d list or has had a TMDL adopted for bacteria, mercury, sulfides, or low dissolved oxygen? ☐Yes ☐No

   If yes, contact the Regional/District NPDES Storm Water Coordinator to determine if standing water in this treatment BMP would be a risk to downstream water quality. If standing water is a potential issue, consider use of another treatment BMP.

   If a Delaware Filter is still under consideration, continue to the Design Elements – Delaware Filter section.

Design Elements – Austin Sand Filter

* **Required** Design Element – A "Yes" response to these questions is required to further the consideration of this BMP into the project design. Document a "No" response in Section 5 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

** **Recommended** Design Element – A "Yes" response is preferred for these questions, but not required for incorporation into a project design.

1.	Is the drawdown time of the 2nd chamber 24 hours? *	☐Yes	☐No
2.	Is access for Maintenance vehicles provided to the Austin Sand Filter? *	☐Yes	☐No
3.	Is a bypass/overflow provided for storms > WQV? *	☐Yes	☐No
4.	Is the flow path length to width ratio for the sedimentation chamber of the "full" Austin Sand Filter ≥ 2:1? **	☐Yes	☐No
5.	Can pretreatment be provided to capture sediment and litter in the runoff (such as using vegetation)? **	☐Yes	☐No
6.	Can the Austin Sand Filter be placed using an earthen configuration? ** If No, go to Question 9.	☐Yes	☐No
7.	Is the Austin Sand Filter invert separated from the seasonally high groundwater table by ≥ 10 ft)? * If No, design with an impermeable liner.	☐Yes	☐No
8.	Are side slopes of the earthen chamber 3:1 (h:v) or flatter? *	☐Yes	☐No
9.	Is maximum depth ≤ 13 ft below ground surface? *	☐Yes	☐No
10.	Can the Austin Sand Filter be placed in an offline configuration? **	☐Yes	☐No

Design Elements – Delaware Filter

* **Required** Design Element – A "Yes" response to these questions is required to further the consideration of this BMP into the project design. Document a "No" response in Section 5 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

** **Recommended** Design Element – A "Yes" response is preferred for these questions, but not required for incorporation into a project design.

1.	Is the drawdown time of the 2nd chamber between 40 and 48 hours, typically 40-hrs? *	☐Yes ☐No
2.	Is access for Maintenance vehicles provided to the Delaware Filter? *	☐Yes ☐No
3.	Is a bypass/overflow provided for storms > WQV? **	☐Yes ☐No
4.	Can pretreatment be provided to capture sediment and litter in the runoff (such as using vegetation)? **	☐Yes ☐No
5.	Is maximum depth ≤ 13 ft below ground surface? *	☐Yes ☐No

Attachment G
Preliminary Cost Estimate

Preliminary Cost Estimate

Project ID: 03-1F1700

Type of Estimate : Draft Project Report

Program Code :

Project Limits : PLA-65-PM 6.5/12.8

Description: Widen SR 65 from north of Galleria Blvd Interchange to Lincoln Blvd in Placer County

Scope : This alternative would add a carpool/HOV lane in the southbound direction of SR 65 in the median from the Blue Oaks Boulevard interchange to north of Galleria Boulevard/Stanford Ranch Road, a general purpose lane in each direction of SR 65 from Galleria Boulevard interchange to the Blue Oaks Boulevard interchange and intermittent auxiliary lanes from the Galleria Boulevard/Stanford Ranch Road interchange to the Twelve Bridge Drive interchange. Additional improvements include ramp reconfigurations and metering to appliable ramps.

Alternative : Alternative 1 - Carpool Lane

	Current Cost	Escalated Cost
ROADWAY ITEMS	$ 49,418,400	$ 57,289,500
STRUCTURE ITEMS	$ 2,063,000	$ 2,391,600
SUBTOTAL CONSTRUCTION COST	$ 51,481,400	$ 59,681,100
RIGHT OF WAY	$ 50,000	$ 58,000
TOTAL CAPITAL OUTLAY COST	$ 51,532,000	$ 59,740,000
PR/ED SUPPORT	$ 1,750,000	$ 1,750,000
PS&E SUPPORT	$ 2,300,000	$ 2,300,000
RIGHT OF WAY SUPPORT	$ 150,000	$ 150,000
CONSTRUCTION SUPPORT	$ 3,500,000	$ 3,500,000
TOTAL CAPITAL OUTLAY SUPPORT COST*	$ 7,700,000	$ 7,700,000
TOTAL PROJECT COST	$ 59,300,000	$ 67,500,000

If Project has been programmed enter Programmed Amount $ -

Date of Estimate (Month/Year) Month / Year: 10 / 2015

Estimated Date of Construction Start (Month/Year): 6 / 2018

Number of Working Days: 600 Working Days

Estimated Mid-Point of Construction (Month/Year) Month / Year:

Number of Plant Establishment Days: 120 Days

Estimated Project Schedule

PID Approval	
PA/ED Approval	Apr-2016
PS&E	May-2018
RTL	Oct-2018
Begin Construction	Mar-2019

Approved by Project Manager

Project Manager **Date** **Phone**

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	**Earthwork**	$	5,895,000
2	**Pavement Structural Section**	$	15,160,100
3	**Drainage**	$	767,800
4	**Specialty Items**	$	1,523,500
5	**Environmental**	$	1,102,800
6	**Traffic Items**	$	5,319,000
7	**Detours**	$	-
8	**Minor Items**	$	2,976,900
9	**Roadway Mobilization**	$	3,274,600
10	**Supplemental Work**	$	1,784,500
11	**State Furnished**	$	1,637,300
12	**Contingencies**	$	8,236,400
13	**Overhead**	$	1,740,500
	TOTAL ROADWAY ITEMS	**$**	**49,418,400**

Estimate Prepared By	Bernice Chan, P.E.	10/14/2015	916-563-2591
	Name and Title	Date	Phone
Estimate Reviewed By	Leo Heuston, P.E.	10/28/2015	916-208-1814
	Name and Title	Date	Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
160101	Clearing & Grubbing	LS	1	x	100,000.00	=	$	100,000
170101	Develop Water Supply	LS	1	x	20,000.00	=	$	20,000
190101	Roadway Excavation	CY	231,000	x	25.00	=	$	5,775,000
190103	Roadway Excavation (Type Y) ADL	CY		x		=	$	-
190105	Roadway Excavation (Type Z-2) ADL	CY		x		=	$	-
192037	Structure Excavation (Retaining Wall)	CY		x		=	$	-
193013	Structure Backfill (Retaining Wall)	CY		x		=	$	-
193031	Pervious Backfill Material (Retaining Wall)	CY		x		=	$	-
194001	Ditch Excavation	CY		x		=	$	-
198001	Impored Borrow	CY		x		=	$	-
198007	Imported Material (Shoulder Backing)	TON		x		=	$	-

TOTAL EARTHWORK SECTION ITEMS $ 5,895,000

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
150771	Remove Asphalt Concrete Dike	LF		x		=	$	-
150860	Remove Base and Surfacing	CY		x		=	$	-
153103	Cold Plane Asphalt Concrete Pavement	SQYD		x		=	$	-
1532XX	Remove Concrete (type)	CY		x		=	$	-
250401	Class 4 Aggregate Subbase	CY		x		=	$	-
260201	Class 2 Aggregate Base	CY	125,700	x	40.00	=	$	5,028,000
290201	Asphalt Treated Permeable Base	CY		x		=	$	-
365001	Sand Cover	TON		x		=	$	-
374002	Asphaltic Emulsion (Fog Seal Coat)	TON		x		=	$	-
374492	Asphaltic Emulsion (Polymer Modified)	TON		x		=	$	-
3750XX	Screenings (Type XX)	TON		x		=	$	-
377501	Slurry Seal	TON		x		=	$	-
390095	Replace Asphalt Concrete Surfacing	CY		x		=	$	-
390132	Hot Mix Asphalt (Type A)	TON	86,900	x	100.00	=	$	8,690,000
390401	Hot Mix Asphalt (OGFC)	TON	12,300	x	100.00	=	$	1,230,000
390136	Minor Hot Mix Asphalt	TON		x		=	$	-
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON		x		=	$	-
393003	Geosynthetic Pavement Interlayer	SQYD		x		=	$	-
39405X	Shoulder Rumber Strip *(HMA, Type XX Inden*	STA		x		=	$	-
394071	Place Hot Mix Asphalt Dike	LF		x		=	$	-
394090	Place Hot Mix Asphalt (Misc. Area)	SQYD		x		=	$	-
397005	Tack Coat	TON		x		=	$	-
401000	Concrete Pavement	CY		x		=	$	-
401108	Replace Concrete Pavement (Rapid Strength	CY		x		=	$	-
404092	Seal Pavement Joint	LF		x		=	$	-
404094	Seal Longitudinal Isolation Joint	LF		x		=	$	-
413112A	Repair Spalled Joints (Polyester Grout)	SQYD		x		=	$	-
413115	Seal Existing Concrete Pavement Joint	LF		x		=	$	-
420102	Groove Existing Concrete Pavement	SQYD		x		=	$	-
420201	Grind Existing Concrete Pavement	SQYD		x		=	$	-
731502	Minor Concrete (Misc. Const)	CY		x		=	$	-
731530	Minor Concrete (Textured Paving)	SQFT	17,400	x	10.00	=	$	174,000
XXXXXX	Remove Pavement	SQFT	7,605	x	5.00	=	$	38,025

TOTAL STRUCTURAL SECTION ITEMS $ 15,160,100

SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price ($)			Cost
150206	Abandon Culvert	LF		x		=	$	-
150805	Remove Culvert	LF		x		=	$	-
150820	Modify Inlet	EA		x		=	$	-
152430	Adjust Inlet	LF		x		=	$	-
155003	Cap Inlet	EA		x		=	$	-
193114	Sand Backfill	CY		x		=	$	-
510502	Minor Concrete (Minor Structure - headwall & wingwall)	CY	80	x	2,000.00	=	$	160,000
510512	Minor Concrete (Box Culvert)	CY	130	x	2,000.00	=	$	260,000
62XXXX	XXX" APC Pipe	LF		x		=	$	-
64XXXX	XXX" Plastic Pipe	LF		x		=	$	-
65XXXX	72" RCP Pipe	LF	65	x	350.00	=	$	22,750
66XXXX	XXX" CSP Pipe	LF		x		=	$	-
68XXXX	Edge Drain	LF		x		=	$	-
69XXXX	XXX" Pipe Downdrain	LF		x		=	$	-
70XXXX	XXX" Pipe Inlet	LF		x		=	$	-
70XXXX	XXX" Pipe Riser	LF		x		=	$	-
70XXXX	XXX" Flared End Section	EA		x		=	$	-
703233	Grated Line Drain	LF		x		=	$	-
72XXXX	Rock Slope Protection (Type and Method)	CY		x		=	$	-
721420	Concrete (Ditch Lining)	CY		x		=	$	-
721430	Concrete (Channel Lining)	CY		x		=	$	-
729010	Rock Slope Protection Fabric	SQYD		x		=	$	-
750001	Miscellaneous Iron and Steel	LB		x		=	$	-
XXXXXX	Onsite Drainage Systems	LS	1	x	325,000.00	=	$	325,000
XXXXXX	Some Item			x		=	$	-

TOTAL DRAINAGE ITEMS	**$**	**767,800**

SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)			Cost
070012	Progress Schedule (Critical Path Method)	LS	1	x	20,000.00	=	$	20,000
150662	Remove Metal Beam Guard Railing	LF	1,125	x	10.00	=	$	11,250
150668	Remove Terminal Systems	EA	14	x	550.00	=	$	7,700
1532XX	Remove Barrier (*Type 60)*	LF	8,630	x	25.00	=	$	215,750
153250	Remove Sound Wall	SQFT		x		=	$	-
190110	Lead Compliance Plan	LS		x		=	$	-
49XXXX	CIDH Concrete Piling *(Insert Diameter)*	LF		x		=	$	-
51006X	Ground Anchor Wall (Pleasant Grove Blvd North)	SQFT	1,502	x	205.00	=	$	307,910
51006X	Ground Anchor Wall (Pleasant Grove Blvd South)	SQFT	1,382	x	224.00	=	$	309,568
510133	Class 2 Concrete (Retaining Wall)	CY		x		=	$	-
510524	Minor Concrete (Sound Wall)	CY		x		=	$	-
5110XX	Architectural Treatment *(Insert Type)*	SQFT		x		=	$	-
511048	Apply Anti-Graffiti Coating	SQFT		x		=	$	-
5136XX	Reinforced Concrete Crib Wall *(Insert Type)*	SQFT		x		=	$	-
518002	Sound Wall (Masonry Block)	SQFT		x		=	$	-
520103	Bar Reinf. Steel (Retaining Wall)	LB		x		=	$	-
80XXXX	Fence (*Insert Type*)	LF		x		=	$	-
832001	Metal Beam Guard Railing	LF	1,340	x	40.00	=	$	53,600
839310	Double Thrie Beam Barrier	LF		x		=	$	-
839521	Cable Railing	LF		x		=	$	-
83954X	Transition Railing *(Type WB-31)*	EA	4	x	4,500.00	=	$	18,000
8395XX	Terminal System (Type CAT)	EA		x		=	$	-
8395XX	Alternative Flared Terminal System	EA	19	x	3,000.00	=	$	57,000
8395XX	End Anchor Assembly (*Insert Type*)	EA		x		=	$	-
839561	Rail Tensioning Assembly	EA		x		=	$	-
839XXX	Crash Cushion *(Insert Type)*	EA		x		=	$	-
83XXXX	Concrete Barrier *(Type 60)*	LF	8,630	x	50.00	=	$	431,500
839720	Concrete Barrier (Type 732)	LF	270	x	150.00	=	$	40,500
839720	Concrete Barrier (Type 60D)	LF	390	x	130.00	=	$	50,700

TOTAL SPECIALTY ITEMS	**$**	**1,523,500**

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
	Biological Mitigation	LS		x		=	$	-
071325	TEMPORARY REINFORCED SILT FENCE	LF		x		=	$	-
071325	Temporary Fence (Type ESA)	LS	1		25,000.00	=	$	25,000

Subtotal Environmental *$ 25,000*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
200001	Highway Planting	LS		x		=	$	-
20XXXX	XXX" (*Insert Type*) Conduit *(Use for*	LF		x		=	$	-
20XXXX	Extend XXX" *(Insert Type)* Conduit	LF		x		=	$	-
201700	Imported Topsoil	CY		x		=	$	-
2030XX	Erosion Control (Type __)	SQYD	83,100	x	2.50	=	$	207,750
203021	Fiber Rolls	LF		x		=	$	-
203026	Move In/ Move Out (Erosion Control)	EA		x		=	$	-
204099	Plant Establishment Work	LS		x		=	$	-
204101	Extend Plant Establishment (X Years)	LS		x		=	$	-
208000	Irrigation System	LS		x		=	$	-
208304	Water Meter	EA		x		=	$	-
209801	Maintenance Vehicle Pullout	EA		x		=	$	-
XXXXXX	Some Item							

Subtotal Landscape and Irrigation *$ 207,750*

5C - NPDES

Item code		Unit	Quantity		Unit Price ($)			Cost
074016	Construction Site Management	LS	1	x	100,000.00	=	$	100,000
074017	Prepare WPCP	LS		x		=	$	-
074019	Prepare SWPPP	LS	1	x	20,000.00	=	$	20,000
074023	Temporary Erosion Control	SQYD		x		=	$	-
074027	Temporary Erosion Control Blanket	SQYD		x		=	$	-
074028	Temporary Fiber Roll	LF		x		=	$	-
074032	Temporary Concrete Washout Facility	EA		x		=	$	-
074033	Temporary Construction Entrance	EA		x		=	$	-
074035	Temporary Check Dam	LF		x		=	$	-
074037	Move In/ Move Out (Temporary Erosion Con	EA		x		=	$	-
074038	Temp. Drainage Inlet Protection	EA		x		=	$	-
074041	Street Sweeping	LS		x		=	$	-
074042	Temporary Concrete Washout (Portable)	LS		x		=	$	-
XXXXXX	Water Pollution Control	LS	1		750,000.00	=	$	750,000

Supplemental Work for NPDES

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595	Water Pollution Control Maintenance Sharing	LS	1	x	50,000.00	=	$	50,000
066596	Additional Water Pollution Control**	LS	1	x	10,000.00	=	$	10,000
066597	Storm Water Sampling and Analysis***	LS	1	x	10,000.00	=	$	10,000
XXXXXX	Some Item							

Subtotal NPDES (Without Supplemental Work) *$ 870,000*

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

TOTAL ENVIRONMENTAL $ 1,102,800

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
150760	Remove Sign Structure	EA	10	x	6,000.00	=	$	60,000
151581	Reconstruct Sign Structure	EA		x		=	$	-
152641	Modify Sign Structure	EA		x		=	$	-
5602XX	Furnish and Install Sign Structure	EA	12	x	100,000.00	=	$	1,200,000
56XXXX	XXX" CIDHC Pile (Sign Foundation)	LF	300	x	1,600.00	=	$	480,000
860090	Maintain Existing Traffic Management System Elements During Construction	LS		x		=	$	-
860810	Inductive Loop Detectors	EA		x		=	$	-
86055X	Lighting & Sign Illumination	LS		x		=	$	-
8607XX	Interconnection Facilities	LS		x		=	$	-
8609XX	Traffic Monitoring Stations	LS		x		=	$	-
860XXX	Signals & Lighting	LS	1	x	250,000.00	=	$	250,000
8611XX	Ramp Metering System (Location X)	EA	6	x	50,000.00	=	$	300,000
8611XX	Ramp Metering System (Location X)	LS		x		=	$	-
86XXXX	Fiber Optic Conduit System	LS		x		=	$	-
	CCTVs	EA	3	x	1,000.00	=	$	3,000

Subtotal Traffic Electrical *$ 2,293,000*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
120090	Construction Area Signs	LS	1	x	20,000.00	=	$	20,000
150701	Remove Yellow Painted Traffic Stripe	LF		x		=	$	-
150710	Remove Traffic Stripe	LF		x		=	$	-
150713	Remove Pavement Marking	SQFT		x		=	$	-
150742	Remove Roadside Sign	EA		x		=	$	-
152320	Reset Roadside Sign	EA		x		=	$	-
152390	Relocate Roadside Sign	EA		x		=	$	-
566011	Roadside Sign (One Post)	EA		x		=	$	-
566012	Roadside Sign (Two Post)	EA		x		=	$	-
560XXX	Furnish Sign Panels	SQFT		x		=	$	-
560XXX	Install Sign Panels	SQFT		x		=	$	-
82010X	Delineator (Class X)	EA		x		=	$	-
84XXXX	Permanent Signing and Pavement Delineatior	LS	1	x	300,000.00	=	$	300,000

Subtotal Traffic Signing and Striping *$ 320,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120100	Traffic Control System	LS	1	x	2,000,000	=	$	2,000,000
120120	Type III Barricade	EA		x		=	$	-
120143	Temporary Pavement Delineation	LF		x		=	$	-
12016X	Channelizer	EA		x		=	$	-
128650	Portable Changeable Message Signs	EA	16	x	5,000.00	=	$	80,000
129000	Temporary Railing (Type K)	LF	62,100	x	10.00	=	$	621,000
129100	Temp. Crash Cushion Module	EA	10	x	500.00	=	$	5,000
129099A	Traffic Plastic Drum	EA		x		=	$	-
839603A	Temporary Crash Cushion (ADIEM)	EA		x		=	$	-
XXXXXX	Some Item							

Subtotal Stage Construction and Traffic Handling *$ 2,706,000*

TOTAL TRAFFIC ITEMS $ 5,319,000

SECTION 7: DETOURS

Include constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)		Cost
0713XX	Temporary Fence (Type X)	LF		x		= $	-
07XXXX	Temporary Drainage	LS		x		= $	-
120143	Temporary Pavement Delineation	LF		x		= $	-
1286XX	Temporary Signals	EA		x		= $	-
129000	Temporary Railing (Type K)	LF		x		= $	-
190101	Roadway Excavation	CY		x		= $	-
198001	Imported Borrow	CY		x		= $	-
198050	Embankment	CY		x		= $	-
250401	Class 4 Aggregate Subbase	CY		x		= $	-
260201	Class 2 Aggregate Base	CY		x		= $	-
390132	Hot Mix Asphalt (Type A)	TON		x		= $	-
XXXXXX	Some Item	LS		x		= $	-

TOTAL DETOURS **$ -**

SUBTOTAL SECTIONS 1-7 $ 29,768,200

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items							
	ADA Items				0.0%	$	-
8B - Bike Path Items							
	Bike Path Items				0.0%	$	-
8C - Other Minor Items							
	Other Minor Items				10.0%	$	2,976,820
	Total of Section 1-7	$	29,768,200	x	10.0%	= $	2,976,820

TOTAL MINOR ITEMS **$ 2,976,900**

SECTIONS 9: MOBILIZATION

Item code							
999990	Total Section 1-8	$	32,745,100	x	10%	= $	3,274,510

TOTAL MOBILIZATION **$ 3,274,600**

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)		Cost
066015	Federal Trainee Program	LS		x		= $	-
066063	Traffic Management Plan - Public Information	LS	1	x	500,000.00	= $	500,000
066090	Maintain Traffic	LS	1	x	500,000.00	= $	500,000
066094	Value Analysis	LS		x		= $	-
066204	Remove Rock & Debris	LS		x		= $	-
066222	Locate Existing Cross-Over	LS		x		= $	-
066670	Payment Adjustments For Price Index Fluctuations	LS	1	x	59,500.00	= $	59,500
066700	Partnering	LS		x		= $	-
066866	Operation of Existing Traffic Management System Elemer	LS		x		= $	-
066920	Dispute Review Board	LS		x		= $	-
XXXXXX	Some Item			x		= $	-

*Cost of **NPDES** Supplemental Work specified in Section 5C* = $ 70,000

Total Section 1-8 $ 32,745,100 2% = $ 654,902

TOTAL SUPPLEMENTAL WORK **$ 1,784,500**

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066063	Public Information	LS		x		=	$0
066105	RE Office	LS		x		=	$0
066803	Padlocks	LS		x		=	$0
066838	Reflective Numbers and Edge Sealer	LS		x		=	$0
066901	Water Expenses	LS		x		=	$0
066062A	COZEEP Expenses	LS		x		=	$0
06684X	Ramp Meter Controller Assembly	LS		x		=	$0
06684X	TMS Controller Assembly	LS		x		=	$0
06684X	Traffic Signal Controller Assembly	LS		x		=	$0
XXXXXX	Some Item						

Total Section 1-8	$	32,745,100	5%	=	$ 1,637,255

TOTAL STATE FURNISHED $1,637,300

SECTION 12: TIME-RELATED OVERHEAD

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = 5%

Item code		Unit	Quantity		Unit Price ($)		Cost
070018	Time-Related Overhead	WD	600	X	2900.83333	=	$1,740,500

TOTAL TIME-RELATED OVERHEAD $1,740,500

SECTION 13: CONTINGENCY

(Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Total Section 1-11	$	41,182,000	x	20%	=	$8,236,400

TOTAL CONTINGENCY $8,236,400

II. STRUCTURE ITEMS

	Bridge 1	Bridge 2	Bridge 3
DATE OF ESTIMATE	03/01/17	03/01/17	03/01/17
Bridge Name	Pleasant Grove Creek Br - Rt Widen (Rt)	Pleasant Grove Creek Br - Lt Widen (Lt)	Pleasant Grove Creek Br - Lt Widen (Rt)
Bridge Number	19-0136 R	19-0136 L	19-0136 L
Structure Type	CIP Reinforced Concrete Slab	CIP Reinforced Concrete Slab	CIP Reinforced Concrete Slab
Width (Feet) [out to out]	11.73 LF	12.48 LF	16.48 LF
Total Bridge Length (Feet)	140.00 LF	128.20 LF	128.20 LF
Total Area (Square Feet)	1642 SQFT	1600 SQFT	2112 SQFT
Structure Depth (Feet)	1.33 FT	1.29 FT	1.29 FT
Footing Type (pile or spread)	Pile	Pile	Pile
Cost Per Square Foot	$279.12	$237.26	$261.72
COST OF EACH STRUCTURE	**$458,000**	**$380,000**	**$553,000**

	Bridge 4		
DATE OF ESTIMATE	03/01/17	00/00/00	00/00/00
Bridge Name	Pleasant Grove Creek Br - Rt Widen (Lt)	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Bridge Number	19-0136 R	57-XXX	57-XXX
Structure Type	CIP Reinforced Concrete Slab	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	16.73 LF	0.00 LF	0.00 LF
Total Bridge Length (Feet)	140.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	2342 SQFT	0.00 SQFT	0.0 SQFT
Structure Depth (Feet)	1.33 FT	0.00 LF	0.00 LF
Footing Type (pile or spread)	Pile	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$286.94	$0.00	$0.00
COST OF EACH STRUCTURE	**$672,000**	**$0.00**	**$0.00**

TOTAL COST OF BRIDGES	**$2,063,000.00**
TOTAL COST OF BUILDINGS	**$0.00**

TOTAL COST OF STRUCTURES[1]	**$2,063,000.00**

Estimate Prepared By: _____ _____
XXXXXXXXXXXXXXXX ------ Division of Structures Date

[1]Structure's Estimate includes Overhead and Mobilization.
Add more sheets if needed. Call them 9a, 9b, 9c, …, etc

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way data sheet.

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill,		$	0
	A2)	SB-1210		$	0
B)	Acquisition of Offsite Mitigation			$	0
C)	C1)	Utility Relocation (State Share)		$	0
	C2)	Potholing (Design Phase)		$	0
D)	Railroad Acquisition			$	0
E)	Clearance / Demolition			$	0
F)	Relocation Assistance (RAP and/or Last Resort Housing Costs)			$	0
G)	Title and Escrow			$	0
H)	Environmental Review			$	0
I)	Condemnation Settlements (Items G & H applied to items A + B)		0%	$	0
J)	Design Appreciation Factor		0%	$	0
K)	Utility Relocation (Construction Cost)			$	50,000

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$50,000**

(Excluding Item #8 - Hazardous Waste)

M)	**TOTAL R/W ESTIMATE: Escalated**	**$58,000**

N)	**Right of Way Support**	**$**	**150,000**

Support Cost Estimate Prepared By _____ Project Coordinator[1] _____ Phone

Utility Estimate Prepared By _____ Utiliy Coordinator[2] _____ Phone

R/W Acquistion Estimate Prepared By _____ Right of Way Estimator[3] _____ Phone

[1] When estimate has Support Costs onl [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

Preliminary Cost Estimate

Project ID: 03-1F1700

Type of Estimate : Draft Project Report

Program Code :

Project Limits : PLA-65-PM 6.5/12.8

Description: Widen SR 65 from north of Galleria Blvd Interchange to Lincoln Blvd in Placer County

Scope : This alternative would add a general purpose lane in southbound direction of SR 65 from the Blue Oaks Boulevard interchange to the Galleria Boulevard/Stanford Ranch Road interchange. For added capacity on southbound SR 65, as recommended by the VA study, this alternative also includes an additional general purpose lane from the Blue Oaks Boulevard slip on-ramp to the Pleasant Grove Boulevard loop on-ramp. On northbound SR 65, a 12-foot general purpose lane would be added through the Pleasant Grove Boulevard interchange. Additional improvements include intermittent auxiliary lanes, ramp reconfiguration and metering as applicable between the Galleria Boulevard/Stanford Ranch Road interchange and the Twelve Bridge Drive interchange.

Alternative : Alternative 2 - General Purpose Lane

	Current Cost	Escalated Cost
ROADWAY ITEMS	$ 48,248,600	$ 55,933,400
STRUCTURE ITEMS	$ 2,063,000	$ 2,391,600
SUBTOTAL CONSTRUCTION COST	$ 50,311,600	$ 58,325,000
RIGHT OF WAY	$ 50,000	$ 58,000
TOTAL CAPITAL OUTLAY COST	$ 50,362,000	$ 58,383,000
PR/ED SUPPORT	$ 1,750,000	$ 1,750,000
PS&E SUPPORT	$ 2,300,000	$ 2,300,000
RIGHT OF WAY SUPPORT	$ 150,000	$ 150,000
CONSTRUCTION SUPPORT	$ 3,500,000	$ 3,500,000
TOTAL CAPITAL OUTLAY SUPPORT COST*	$ 7,700,000	$ 7,700,000
TOTAL PROJECT COST	$ 58,100,000	$ 66,100,000

If Project has been programmed enter Programmed Amount $ -

Date of Estimate (Month/Year) Month / Year: 10 / 2015

Estimated Date of Construction Start (Month/Year): 6 / 2018

Number of Working Days: 600 Working Days

Estimated Mid-Point of Construction (Month/Year) Month / Year:

Number of Plant Establishment Days: 120 Days

Estimated Project Schedule

PID Approval	
PA/ED Approval	Apr-2016
PS&E	May-2018
RTL	Oct-2018
Begin Construction	Mar-2019

Approved by Project Manager

Project Manager **Date** **Phone**

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	Earthwork	$	5,895,000
2	Pavement Structural Section	$	14,435,100
3	Drainage	$	767,800
4	Specialty Items	$	1,523,600
5	Environmental	$	1,102,800
6	Traffic Items	$	5,319,000
7	Detours	$	-
8	Minor Items	$	2,904,400
9	Roadway Mobilization	$	3,194,800
10	Supplemental Work	$	1,766,600
11	State Furnished	$	1,597,400
12	Contingencies	$	8,041,500
13	Overhead	$	1,700,600
	TOTAL ROADWAY ITEMS	**$**	**48,248,600**

Estimate Prepared By	Bernice Chan, P.E.	10/14/2015	916-563-2591
	Name and Title	Date	Phone
Estimate Reviewed By	Leo Heuston, P.E.	10/28/2015	916-208-1814
	Name and Title	Date	Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
160101	Clearing & Grubbing	LS	1	x	100,000.00	=	$	100,000
170101	Develop Water Supply	LS	1	x	20,000.00	=	$	20,000
190101	Roadway Excavation	CY	231,000	x	25.00	=	$	5,775,000
190103	Roadway Excavation (Type Y) ADL	CY		x		=	$	-
190105	Roadway Excavation (Type Z-2) ADL	CY		x		=	$	-
192037	Structure Excavation (Retaining Wall)	CY		x		=	$	-
193013	Structure Backfill (Retaining Wall)	CY		x		=	$	-
193031	Pervious Backfill Material (Retaining Wall)	CY		x		=	$	-
194001	Ditch Excavation	CY		x		=	$	-
198001	Impored Borrow	CY		x		=	$	-
198007	Imported Material (Shoulder Backing)	TON		x		=	$	-

TOTAL EARTHWORK SECTION ITEMS $ 5,895,000

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
150771	Remove Asphalt Concrete Dike	LF		x		=	$	-
150860	Remove Base and Surfacing	CY		x		=	$	-
153103	Cold Plane Asphalt Concrete Pavement	SQYD		x		=	$	-
1532XX	Remove Concrete (type)	CY		x		=	$	-
250401	Class 4 Aggregate Subbase	CY		x		=	$	-
260201	Class 2 Aggregate Base	CY	113,800	x	40.00	=	$	4,552,000
290201	Asphalt Treated Permeable Base	CY		x		=	$	-
365001	Sand Cover	TON		x		=	$	-
374002	Asphaltic Emulsion (Fog Seal Coat)	TON		x		=	$	-
374492	Asphaltic Emulsion (Polymer Modified)	TON		x		=	$	-
3750XX	Screenings (Type XX)	TON		x		=	$	-
377501	Slurry Seal	TON		x		=	$	-
390095	Replace Asphalt Concrete Surfacing	CY		x		=	$	-
390132	Hot Mix Asphalt (Type A)	TON	84,400	x	100.00	=	$	8,440,000
390401	Hot Mix Asphalt (OGFC)	TON	12,500	x	100.00	=	$	1,250,000
390136	Minor Hot Mix Asphalt	TON		x		=	$	-
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON		x		=	$	-
393003	Geosynthetic Pavement Interlayer	SQYD		x		=	$	-
39405X	Shoulder Rumber Strip *(HMA, Type XX Inden*	STA		x		=	$	-
394071	Place Hot Mix Asphalt Dike	LF		x		=	$	-
394090	Place Hot Mix Asphalt (Misc. Area)	SQYD		x		=	$	-
397005	Tack Coat	TON		x		=	$	-
401000	Concrete Pavement	CY		x		=	$	-
401108	Replace Concrete Pavement (Rapid Strength	CY		x		=	$	-
404092	Seal Pavement Joint	LF		x		=	$	-
404094	Seal Longitudinal Isolation Joint	LF		x		=	$	-
413112A	Repair Spalled Joints (Polyester Grout)	SQYD		x		=	$	-
413115	Seal Existing Concrete Pavement Joint	LF		x		=	$	-
420102	Groove Existing Concrete Pavement	SQYD		x		=	$	-
420201	Grind Existing Concrete Pavement	SQYD		x		=	$	-
731502	Minor Concrete (Misc. Const)	CY		x		=	$	-
731530	Minor Concrete (Textured Paving)	SQFT	15,500	x	10.00	=	$	155,000
XXXXXX	Remove Pavement	SQFT	7,605	x	5.00	=	$	38,025

TOTAL STRUCTURAL SECTION ITEMS $ 14,435,100

SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price ($)			Cost
150206	Abandon Culvert	LF		x		=	$	-
150805	Remove Culvert	LF		x		=	$	-
150820	Modify Inlet	EA		x		=	$	-
152430	Adjust Inlet	LF		x		=	$	-
155003	Cap Inlet	EA		x		=	$	-
193114	Sand Backfill	CY		x		=	$	-
510502	Minor Concrete (Minor Structure - headwall & wingwall)	CY	80	x	2,000.00	=	$	160,000
510512	Minor Concrete (Box Culvert)	CY	130	x	2,000.00	=	$	260,000
62XXXX	XXX" APC Pipe	LF		x		=	$	-
64XXXX	XXX" Plastic Pipe	LF		x		=	$	-
65XXXX	72" RCP Pipe	LF	65	x	350.00	=	$	22,750
66XXXX	XXX" CSP Pipe	LF		x		=	$	-
68XXXX	Edge Drain	LF		x		=	$	-
69XXXX	XXX" Pipe Downdrain	LF		x		=	$	-
70XXXX	XXX" Pipe Inlet	LF		x		=	$	-
70XXXX	XXX" Pipe Riser	LF		x		=	$	-
70XXXX	XXX" Flared End Section	EA		x		=	$	-
703233	Grated Line Drain	LF		x		=	$	-
72XXXX	Rock Slope Protection (Type and Method)	CY		x		=	$	-
721420	Concrete (Ditch Lining)	CY		x		=	$	-
721430	Concrete (Channel Lining)	CY		x		=	$	-
729010	Rock Slope Protection Fabric	SQYD		x		=	$	-
750001	Miscellaneous Iron and Steel	LB		x		=	$	-
XXXXXX	Onsite Drainage Systems	LS	1	x	325,000.00	=	$	325,000
XXXXXX	Some Item			x		=	$	-

TOTAL DRAINAGE ITEMS $ 767,800

SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)			Cost
070012	Progress Schedule (Critical Path Method)	LS	1	x	20,000.00	=	$	20,000
150662	Remove Metal Beam Guard Railing	LF	1,130	x	10.00	=	$	11,300
150668	Remove Terminal Systems	EA	14	x	550.00	=	$	7,700
1532XX	Remove Barrier (*Type 60)*	LF	8,630	x	25.00	=	$	215,750
153250	Remove Sound Wall	SQFT		x		=	$	-
190110	Lead Compliance Plan	LS		x		=	$	-
49XXXX	CIDH Concrete Piling *(Insert Diameter)*	LF		x		=	$	-
51006X	Ground Anchor Wall (Pleasant Grove Blvd North)	SQFT	1,502	x	205.00	=	$	307,910
51006X	Ground Anchor Wall (Pleasant Grove Blvd South)	SQFT	1,382	x	224.00	=	$	309,568
510133	Class 2 Concrete (Retaining Wall)	CY		x		=	$	-
510524	Minor Concrete (Sound Wall)	CY		x		=	$	-
5110XX	Architectural Treatment *(Insert Type)*	SQFT		x		=	$	-
511048	Apply Anti-Graffiti Coating	SQFT		x		=	$	-
5136XX	Reinforced Concrete Crib Wall *(Insert Type)*	SQFT		x		=	$	-
518002	Sound Wall (Masonry Block)	SQFT		x		=	$	-
520103	Bar Reinf. Steel (Retaining Wall)	LB		x		=	$	-
80XXXX	Fence (*Insert Type*)	LF		x		=	$	-
832001	Metal Beam Guard Railing	LF	1,340	x	40.00	=	$	53,600
839310	Double Thrie Beam Barrier	LF		x		=	$	-
839521	Cable Railing	LF		x		=	$	-
83954X	Transition Railing *(Type WB-31)*	EA	4	x	4,500.00	=	$	18,000
8395XX	Terminal System (Type CAT)	EA		x		=	$	-
839585	Alternative Flared Terminal System	EA	19	x	3,000.00	=	$	57,000
8395XX	End Anchor Assembly (*Insert Type*)	EA		x		=	$	-
839561	Rail Tensioning Assembly	EA		x		=	$	-
839XXX	Crash Cushion *(Insert Type)*	EA		x		=	$	-
83XXXX	Concrete Barrier *(Type 60)*	LF	8,630	x	50.00	=	$	431,500
839720	Concrete Barrier (Type 732)	LF	270	x	150.00	=	$	40,500
839704	Concrete Barrier (Type 60D)	LF	390	x	130.00	=	$	50,700

TOTAL SPECIALTY ITEMS $ 1,523,600

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
	Biological Mitigation	LS		x		=	$	-
071325	TEMPORARY REINFORCED SILT FENCE	LF		x		=	$	-
071325	Temporary Fence (Type ESA)	LS	1		25,000.00	=	$	25,000

Subtotal Environmental *$ 25,000*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
200001	Highway Planting	LS		x		=	$	-
20XXXX	XXX" (*Insert Type*) Conduit *(Use for*	LF		x		=	$	-
20XXXX	Extend XXX" *(Insert Type)* Conduit	LF		x		=	$	-
201700	Imported Topsoil	CY		x		=	$	-
2030XX	Erosion Control (Type __)	SQYD	83,100	x	2.50	=	$	207,750
203021	Fiber Rolls	LF		x		=	$	-
203026	Move In/ Move Out (Erosion Control)	EA		x		=	$	-
204099	Plant Establishment Work	LS		x		=	$	-
204101	Extend Plant Establishment (X Years)	LS		x		=	$	-
208000	Irrigation System	LS		x		=	$	-
208304	Water Meter	EA		x		=	$	-
209801	Maintenance Vehicle Pullout	EA		x		=	$	-
XXXXXX	Some Item							

Subtotal Landscape and Irrigation *$ 207,750*

5C - NPDES

Item code		Unit	Quantity		Unit Price ($)			Cost
074016	Construction Site Management	LS	1	x	100,000.00	=	$	100,000
074017	Prepare WPCP	LS		x		=	$	-
074019	Prepare SWPPP	LS	1	x	20,000.00	=	$	20,000
074023	Temporary Erosion Control	SQYD		x		=	$	-
074027	Temporary Erosion Control Blanket	SQYD		x		=	$	-
074028	Temporary Fiber Roll	LF		x		=	$	-
074032	Temporary Concrete Washout Facility	EA		x		=	$	-
074033	Temporary Construction Entrance	EA		x		=	$	-
074035	Temporary Check Dam	LF		x		=	$	-
074037	Move In/ Move Out (Temporary Erosion Con	EA		x		=	$	-
074038	Temp. Drainage Inlet Protection	EA		x		=	$	-
074041	Street Sweeping	LS		x		=	$	-
074042	Temporary Concrete Washout (Portable)	LS		x		=	$	-
XXXXXX	Water Pollution Control	LS	1		750,000.00	=	$	750,000

Supplemental Work for NPDES

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595	Water Pollution Control Maintenance Sharing	LS	1	x	50,000.00	=	$	50,000
066596	Additional Water Pollution Control**	LS	1	x	10,000.00	=	$	10,000
066597	Storm Water Sampling and Analysis***	LS	1	x	10,000.00	=	$	10,000
XXXXXX	Some Item							

Subtotal NPDES (Without Supplemental Work) *$ 870,000*

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

TOTAL ENVIRONMENTAL $ 1,102,800

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
150760	Remove Sign Structure	EA	10	x	6,000.00	=	$	60,000
151581	Reconstruct Sign Structure	EA		x		=	$	-
152641	Modify Sign Structure	EA		x		=	$	-
5602XX	Furnish and Install Sign Structure	EA	12	x	100,000.00	=	$	1,200,000
56XXXX	XXX" CIDHC Pile (Sign Foundation)	LF	300	x	1,600.00	=	$	480,000
860090	Maintain Existing Traffic Management System	LS		x		=	$	-
860810	Inductive Loop Detectors	EA		x		=	$	-
86055X	Lighting & Sign Illumination	LS		x		=	$	-
8607XX	Interconnection Facilities	LS		x		=	$	-
8609XX	Traffic Monitoring Stations	LS		x		=	$	-
860XXX	Signals & Lighting	LS	1	x	250,000.00	=	$	250,000
8611XX	Ramp Metering System (Location X)	EA	6	x	50,000.00	=	$	300,000
8611XX	Ramp Metering System (Location X)	LS		x		=	$	-
86XXXX	Fiber Optic Conduit System	LS		x		=	$	-
86XXXX	CCTVs	EA	3	x	1,000.00	=	$	3,000

Subtotal Traffic Electrical *$ 2,293,000*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
120090	Construction Area Signs	LS	1	x	20,000.00	=	$	20,000
150701	Remove Yellow Painted Traffic Stripe	LF		x		=	$	-
150710	Remove Traffic Stripe	LF		x		=	$	-
150713	Remove Pavement Marking	SQFT		x		=	$	-
150742	Remove Roadside Sign	EA		x		=	$	-
152320	Reset Roadside Sign	EA		x		=	$	-
152390	Relocate Roadside Sign	EA		x		=	$	-
566011	Roadside Sign (One Post)	EA		x		=	$	-
566012	Roadside Sign (Two Post)	EA		x		=	$	-
560XXX	Furnish Sign Panels	SQFT		x		=	$	-
560XXX	Install Sign Panels	SQFT		x		=	$	-
82010X	Delineator (Class X)	EA		x		=	$	-
84XXXX	Permanent Signing and Pavement Delineation	LS	1	x	300,000.00	=	$	300,000

Subtotal Traffic Signing and Striping *$ 320,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120100	Traffic Control System	LS	1	x	2,000,000	=	$	2,000,000
120120	Type III Barricade	EA		x		=	$	-
120143	Temporary Pavement Delineation	LF		x		=	$	-
12016X	Channelizer	EA		x		=	$	-
128650	Portable Changeable Message Signs	EA	16	x	5,000.00	=	$	80,000
129000	Temporary Railing (Type K)	LF	62,100	x	10.00	=	$	621,000
129100	Temp. Crash Cushion Module	EA	10	x	500.00	=	$	5,000
129099A	Traffic Plastic Drum	EA		x		=	$	-
839603A	Temporary Crash Cushion (ADIEM)	EA		x		=	$	-
XXXXXX	Some Item							

Subtotal Stage Construction and Traffic Handling *$ 2,706,000*

TOTAL TRAFFIC ITEMS $ 5,319,000

SECTION 7: DETOURS

Include constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)		Cost
0713XX	Temporary Fence (Type X)	LF		x		= $	-
07XXXX	Temporary Drainage	LS		x		= $	-
120143	Temporary Pavement Delineation	LF		x		= $	-
1286XX	Temporary Signals	EA		x		= $	-
129000	Temporary Railing (Type K)	LF		x		= $	-
190101	Roadway Excavation	CY		x		= $	-
198001	Imported Borrow	CY		x		= $	-
198050	Embankment	CY		x		= $	-
250401	Class 4 Aggregate Subbase	CY		x		= $	-
260201	Class 2 Aggregate Base	CY		x		= $	-
390132	Hot Mix Asphalt (Type A)	TON		x		= $	-
XXXXXX	Some Item	LS		x		= $	-

TOTAL DETOURS $ -

SUBTOTAL SECTIONS 1-7 $ 29,043,300

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items							
	ADA Items				0.0%	$	-
8B - Bike Path Items							
	Bike Path Items				0.0%	$	-
8C - Other Minor Items							
	Other Minor Items				10.0%	$	2,904,330
	Total of Section 1-7	$	29,043,300	x	10.0%	= $	2,904,330

TOTAL MINOR ITEMS $ 2,904,400

SECTIONS 9: MOBILIZATION

Item code							
999990	Total Section 1-8	$	31,947,700	x	10%	= $	3,194,770

TOTAL MOBILIZATION $ 3,194,800

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)		Cost
066015	Federal Trainee Program	LS		x		= $	-
066063	Traffic Management Plan - Public Information	LS	1	x	500,000.00	= $	500,000
066090	Maintain Traffic	LS	1	x	500,000.00	= $	500,000
066094	Value Analysis	LS		x		= $	-
066204	Remove Rock & Debris	LS		x		= $	-
066222	Locate Existing Cross-Over	LS		x		= $	-
066670	Payment Adjustments For Price Index Fluctuations	LS	1	x	57,600.00	= $	57,600
066700	Partnering	LS		x		= $	-
066866	Operation of Existing Traffic Management System Elements During Constructi	LS		x		= $	-
066920	Dispute Review Board	LS		x		= $	-
XXXXXX	Some Item			x		= $	-
	*Cost of **NPDES** Supplemental Work specified in Section 5C*					= $	70,000
	Total Section 1-8	$	31,947,700		2%	= $	638,954

TOTAL SUPPLEMENTAL WORK $ 1,766,600

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066063	Public Information	LS		x		=	$0
066105	RE Office	LS		x		=	$0
066803	Padlocks	LS		x		=	$0
066838	Reflective Numbers and Edge Sealer	LS		x		=	$0
066901	Water Expenses	LS		x		=	$0
066062A	COZEEP Expenses	LS		x		=	$0
06684X	Ramp Meter Controller Assembly	LS		x		=	$0
06684X	TMS Controller Assembly	LS		x		=	$0
06684X	Traffic Signal Controller Assembly	LS		x		=	$0
XXXXXX	Some Item						

Total Section 1-8	$	31,947,700	5%	=	$ 1,597,385

TOTAL STATE FURNISHED $1,597,400

SECTION 12: TIME-RELATED OVERHEAD

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = 5%

Item code		Unit	Quantity		Unit Price ($)		Cost
070018	Time-Related Overhead	WD	600	X	2834.33	=	$1,700,600

TOTAL TIME-RELATED OVERHEAD $1,700,600

SECTION 13: CONTINGENCY

(Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Total Section 1-11	$	40,207,100	x	20%	=	$8,041,420

TOTAL CONTINGENCY $8,041,500

II. STRUCTURE ITEMS

	Bridge 1	Bridge 2	Bridge 3
DATE OF ESTIMATE	03/01/17	03/01/17	03/01/17
Bridge Name	Pleasant Grove Creek Br. - Rt Widen (Rt)	Pleasant Grove Creek Br. - Lt Widen (Left)	Pleasant Grove Creek Br. - Lt Widen (Rt)
Bridge Number	19-0136 R	19-0136 L	19-0136 L
Structure Type	CIP Reinforced Concrete Slab	CIP Reinforced Concrete Slab	CIP Reinforced Concrete Slab
Width (Feet) [out to out]	11.73 LF	12.48 LF	16.48 LF
Total Bridge Length (Feet)	140.00 LF	128.20 LF	128.20 LF
Total Area (Square Feet)	1642 SQFT	1600 SQFT	2112 SQFT
Structure Depth (Feet)	1.33 FT	1.29 FT	1.29 FT
Footing Type (pile or spread)	Pile	Pile	Pile
Cost Per Square Foot	$279.12	$237.26	$261.72
COST OF EACH STRUCTURE	**$458,000**	**$380,000**	**$553,000**

	Bridge 4		
DATE OF ESTIMATE	03/01/17	00/00/00	00/00/00
Bridge Name	Pleasant Grove Creek Br. - Rt Widen (Lt)	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Bridge Number	19-0136 R	57-XXX	57-XXX
Structure Type	CIP Reinforced Concrete Slab	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	16.73 LF	0.00 LF	0.00 LF
Total Bridge Length (Feet)	140.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	2342 SQFT	0.00 SQFT	0.0 SQFT
Structure Depth (Feet)	1.33 FT	0.00 LF	0.00 LF
Footing Type (pile or spread)	Pile	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$286.94	$0.00	$0.00
COST OF EACH STRUCTURE	**$672,000**	**$0.00**	**$0.00**

TOTAL COST OF BRIDGES	**$2,063,000.00**
TOTAL COST OF BUILDINGS	**$0.00**

TOTAL COST OF STRUCTURES[1]	**$2,063,000.00**

Estimate Prepared By: _____ _____
XXXXXXXXXXXXXXXX ------ Division of Structures Date

[1]Structure's Estimate includes Overhead and Mobilization.
Add more sheets if needed. Call them 9a, 9b, 9c, …, etc

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way data sheet.

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill,		$	0
	A2)	SB-1210		$	0
B)	Acquisition of Offsite Mitigation			$	0
C)	C1)	Utility Relocation (State Share)		$	0
	C2)	Potholing (Design Phase)		$	0
D)	Railroad Acquisition			$	0
E)	Clearance / Demolition			$	0
F)	Relocation Assistance (RAP and/or Last Resort Housing Costs)			$	0
G)	Title and Escrow			$	0
H)	Environmental Review			$	0
I)	Condemnation Settlements (Items G & H applied to items A + B)		0%	$	0
J)	Design Appreciation Factor		0%	$	0
K)	Utility Relocation (Construction Cost)			$	50,000

L) **TOTAL RIGHT OF WAY ESTIMATE** **$50,000**

(Excluding Item #8 - Hazardous Waste)

M) **TOTAL R/W ESTIMATE: Escalated** **$58,000**

N) **Right of Way Support** **$** **150,000**

Support Cost Estimate Prepared By _____ Project Coordinator[1] _____ Phone

Utility Estimate Prepared By _____ Utiliy Coordinator[2] _____ Phone

R/W Acquistion Estimate Prepared By _____ Right of Way Estimator[3] _____ Phone

[1] When estimate has Support Costs onl [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

Attachment H
Exceptions to Design Standards (DRAFT)

03-PLA-65-PM 6.2/12.8
SR 65 Widening Project
EA 03-1F1700
October 20, 2016

Fact Sheet
Exceptions to Caltrans Design Standards

Prepared by:

REGISTERED CIVIL ENGINEER

Submitted by:

Scott Mann *OVERSIGHT ENGINEER*	*DATE*	*TELEPHONE*

Recommended for Approval by:

Rodney Murphy *PROJECT MANAGER*	*DATE*	*TELEPHONE*

District Approval by:

Laurie Lammert P.E. *CHIEF, Office of Design South*	*DATE*	*TELEPHONE*

HQ DOD Exceptions Approved by:

Timothy B. Sobelman, P.E. *DESIGN COORDINATOR, Division of Design*	*DATE*

1.0 PROPOSED PROJECT

A. Project Description:

Project Type:	*Roadway Widening*		
Proposed Facility:	*Freeway*		
County:	**Placer**	**Route:**	**SR 65**
Begin PM:	**6.2**	**End PM:**	**12.8**
Design Vehicle:	**(TA) STAA**	**Design Period:**	**20 Years**

The California Department of Transportation (Caltrans), in cooperation with the Placer County Transportation Planning Agency (PCTPA), Placer County, and the Cities of Roseville, Rocklin, and Lincoln, proposes to widen State Route 65 (SR 65) from north of Galleria Boulevard/Stanford Ranch Road to Lincoln Boulevard (from post miles 6.2 to 12.8).

This project has been assigned the Project Development Processing Category 4A for widening the existing freeway without requiring a revised freeway agreement. The project is subject to federal as well as state environmental review requirements. Caltrans is the lead agency under the National Environmental Policy Act (NEPA) and under the California Environmental Quality Act (CEQA). The posted speed for this segment of SR 65 is 65 miles per hour (mph), and the design speed is 70 mph.

There are three (3) alternatives that were considered for this report; a No Build alternative and two (2) Build alternatives. The alternatives assessment was based on 2040 design year conditions. Both build alternatives will allow inside widening as future projects along SR 65 from north of the Blue Oaks Boulevard interchange to Lincoln Boulevard.

No-Build Alternative:

Both build alternatives described below would allow for inside highway widening as future projects along SR 65 from north of the Blue Oaks Boulevard interchange to Lincoln Boulevard and would accommodate the I-80/SR 65 project and take into consideration the carpool/HOV lane restrictions and weaving volumes from the carpool/HOV lanes proposed by the I-80/SR 65 project.

Carpool Lane Alternative:

This alternative adds a 12-foot carpool/HOV lane in the southbound direction of SR 65 in the median from the Blue Oaks Boulevard interchange to north of Galleria Boulevard/Stanford Ranch Road interchange. The carpool/HOV lane would connect to the carpool/HOV lanes proposed as part of the I-80/SR 65 interchange project.

The separate I-80/SR 65 interchange Improvements project will add a third lane in each direction of SR 65 from I-80 to Pleasant Grove Boulevard. This SR 65 Widening project alternative would also add one 12-foot general purpose lane through the Pleasant Grove Boulevard Interchange, to create a third lane on SR 65 in both directions from I-80 to Blue Oaks Boulevard. This alternative would also add an auxiliary lane in each direction of SR 65 from the Galleria Boulevard interchange to the Pleasant Grove Boulevard interchange, from the Blue Oaks Boulevard interchange to the Sunset Boulevard interchange, and from the Whitney Ranch Parkway interchange to the Twelve Bridges Drive interchange.

Following the recommendation from the Value Analysis (VA) study, this alternative would also include ramp metering modifications for the slip on-ramps to a 2+1 configuration (2 metered lanes plus 1 carpool preferential lane) and a 1+1 (1 metered lane plus 1 carpool preferential lane) for the loop on-ramps along SR 65 from the Galleria Boulevard interchange to Lincoln Boulevard. The southbound Pleasant Grove Boulevard slip and loop on-ramps, Blue Oaks Boulevard slip and loop on-ramps, and Lincoln Boulevard slip on-ramp would be modified to include these ramp metering changes.

General Purpose Lane Alternative:

This alternative would add a 12-foot general purpose lane in southbound direction of SR 65 from the Blue Oaks Boulevard interchange to the Galleria Boulevard/Stanford Ranch Road off-ramp. The separate I-80/SR 65 interchange Improvements project will add a third lane in each direction of SR 65 from I-80 to Pleasant Grove Boulevard. For added capacity on southbound SR 65, as recommended by the VA study, this alternative also includes an additional general purpose lane from the Blue Oaks Boulevard slip on-ramp to the Pleasant Grove Boulevard loop on-ramp. On northbound SR 65, a 12-foot general purpose lane would be added through the Pleasant Grove Boulevard interchange. These improvements would result in a third lane in both directions of SR 65 from I-80 to Blue Oaks Boulevard.

This alternative would also add an auxiliary lane on northbound SR 65 from the Galleria Boulevard interchange to the Pleasant Grove Boulevard interchange; and in both directions of SR 65 from the Blue Oaks Boulevard interchange to the Sunset Boulevard interchange, and from Whitney Ranch Parkway interchange to the Twelve Bridges Drive interchange. Following the recommendation from the Value Analysis (VA) study, this alternative would also include ramp metering modifications for the slip on-ramps to a 2+1 configuration (2 metered lanes plus 1 carpool preferential lane) and a 1+1 (1 metered lane plus 1 carpool preferential lane) for the loop-on ramps along SR 65 from the Galleria Boulevard interchange to Lincoln Boulevard. The southbound Pleasant Grove Boulevard slip and loop-on ramps, Blue Oaks Boulevard slip and loop on-ramps, and Lincoln Boulevard slip on-ramp would be modified to include these ramp metering changes.

This is a freeway capacity and operational improvement project and there are no pedestrian facilities proposed in this project. The existing pedestrian facilities closest to the project include the sidewalk and crosswalks at the intersections of SB off-ramp and SB loop on-ramp at Pleasant Grove Boulevard and at intersection of SB loop on-ramp at Blue Oaks Boulevard. No records of previous design exceptions on the ADA standards for Pleasant Grove Boulevard and Blue Oaks Boulevard are found. The design team reviewed the existing features and found them to meet ADA standards. The existing sidewalks along WB Pleasant Gove Boulevard and WB Blue Oaks Boulevard are 6 feet wide with maximum cross slopes of 2%. The existing crosswalks all have 2% cross slopes with longitudinal profile varying from 3% to 4%.

B. Existing Highway:

SR 65 Mainline

Existing Facility:	Highway	**Design Speed:**	**80 mph**
Truck Route Network:	Terminal Access (STAA)	**Climate Region:**	**Inland Valley**
Number of Lanes:	**4**	**Posted Speed:**	**65 mph**
Lane Width:	**12 ft.**	**Sidewalk Width:**	**N/A**
Shoulder Width:	**10 ft outside and 5 ft inside**	**Median Width:**	**Vary 22 ft to 78 ft**
Concept Facility:	F/6 and F/4	**Ultimate Facility:**	F/8 and F/6

SR 65 begins at the I-80 junction and is an important interregional route that serves both local and regional traffic. SR 65 generally runs north/south and serves as a major connector for both automobile and truck traffic originating from the I-80 corridor in the Roseville/Rocklin area to the SR 70/99 corridor in the Marysville/Yuba City area. SR 65 is a vital economic link from residential areas to shopping and employment centers in southern Placer County. It is also an important route for transporting aggregate, lumber, and other commodities. SR 65 is characterized by a significant growth of industrial, commercial, and residential development. The southern Placer County region is one of the fastest growing areas in California, both in terms of housing and economic development.

SR 65 was constructed as a two-lane expressway in 1971. The I-80/SR 65 Roseville Bypass to Blue Oaks Boulevard was constructed in 1985. SR 65 from Blue Oaks Boulevard to Twelve Bridges Drive was widened to a 4-lane facility in 1999. In 2009, Caltrans Corridor System Management Plan (CSMP) for SR-65 identified major mobility challenges including highway and roadway traffic congestion, lack of roadway capacity, and inadequate transit funding. A Supplemental Traffic Report was completed in June 2012 by Caltrans District 3 Office of Freeway Operations. The report indicated that the segment of SR 65 from Galleria Boulevard/Stanford Ranch Road to Lincoln Boulevard was experiencing operational problems caused by high peak period traffic volumes, vehicles hours of delay, average speeds, travel time, and other traffic performance measures that were

deteriorating by the increasing growth in the surrounding areas. In 2013, a Project Study Report-Project Development Support (PSR-PDS) for Capital Support of adding one vehicle lane in each direction in the median of SR 65 from 0.5 miles north of Galleria Boulevard/Stanford Ranch Road to Lincoln Boulevard was approved.

C. Safety Improvements:

The project will improve traffic operations and safety in this segment of the highway. The added new lanes will add capacity to reduce congestion related accidents and the added auxiliary lanes will reduce weaving maneuvers between vehicles entering freeway and exiting to local roads.

D. Total Project Cost:

The estimated project cost for the interchange project is summarized below:

Item	***Carpool Lane Alternative***	***GP Lane Alternative***
Roadway	$44,948,300	$43,777,600
Structure	$651,884	$644,215
Right-of-Way & Utilities	$250,000	$250,000
Total Capital Cost	**$45,851,000**	**$44,672,000**

2.0 FEATURES REQUIRING AN EXCEPTION

Approval of the following design exceptions are in accordance with the Design Stewardship Agreement dated January 20, 2015.

2.1 FEATURES REQUIRING AN ADVISORY EXCEPTION

A. Advisory Design Exception Feature #1: Superelevation Runoff Length

To document nonstandard features for each ramp being proposed for ramp metering modification, the design team has reviewed the existing superelevation runoff length of each ramp, from the ramp intersection to the gore, and found them to meet design standards. The ramps with non-standard superelevation runoff lengths are summarized below:

Ramp	Superelevation Transition	Curve Number/ Location	Standard Runoff Length	Proposed Runoff Length	Existing Runoff Length	Transition Rate (Maximum 0.06)
Blue Oaks NB Loop On-Ramp ("B1")	10%	C24	240 ft	167 ft	162 ft	0.060
Pleasant Grove SB Off-Ramp ("P3")	12%	C11	300 ft	223 ft	220 ft	0.054
Pleasant Grove SB Off-Ramp ("P3")	10%	C12	210 ft	186 ft	180 ft	0.054

Non-Standard Feature:

Three (3) non-standard superelevation runoff lengths are proposed: one on the Blue Oaks Boulevard northbound loop on-ramp ("B1") and the other two on the Pleasant Grove Boulevard southbound off-ramp ("P3"), see Figure 1 in Attachment D for exhibits.

The alignment of SR65 NB loop on-ramp from EB Blue Oaks Boulevard "B1" starts the superelevation at 0.5% to match overcrossing profile and transition into 10% cross slope in a non-standard runoff length of 167 ft.

The alignment of SR65 SB off-ramp at Pleasant Grove Boulevard "P3" starts the superelevation at 12% superelevation for curve C11 and transition into 10% superelevation of curve C12 with n non-standard runoff lengths of 223 ft and 186 ft.

Standard For Which Exception Is Requested:

Topic 202 – Superelevation, Index 202.5(1): "A superelevation transition should be designed in accordance with the diagram and tabular data shown in Figure 202.5A to satisfy the requirements of safety, comfort and pleasing appearance. The length of superelevation transition should be based upon the combination of superelevation rate and width of rotated plane in accordance with the tabulated superelevation runoff lengths on the bottom of Figure 202.5A."

Reasons For Requesting Exceptions:

An exception to the superelevation transition standards is requested for the Blue Oaks Boulevard northbound loop on-ramp ("B1"), and the Pleasant Grove Boulevard southbound off-ramp ("P3").

The proposed project includes retrofitting the existing NB loop on-ramp for ramp metering as a result of the VA Study. The ramp needs to be realigned to accommodate an added mixed flow lane while holding the exiting configuration at the ramp intersection and at the gore area. The non-standard superelevation transition is located along the tangent section at the ramp entrance conforming to the Blue Oaks Boulevard roadway profile. Vehicle speeds are expected to be low (30 mph or less) in this area.

Similarly, for the southbound off-ramp ("P3"), the non-standard superelevation transition is located along the existing tangent section, between the curves C11 and C12, near the ramp terminal exit and is needed to conform to the roadway profile of Pleasant Grove Boulevard. Vehicle speeds are expected to be low (35 mph or less) in this area.

All proposed transition rates are less than or equal to 6% per 100 feet (0.06), the maximum superelevation transition rate required per HDM Section 202.5(3) under restrictive situations.

Added Cost to Make Standard:

The ramp geometry of the Blue Oaks northbound ramps restricts the standard superelevation rate of change. To make it standard, substantial reconstruction of the ramp intersection including both the ramp structures and the northbound exit lanes is needed. The reconstruction cost of ramp realignment for both Blue Oaks Boulevard and Pleasant Grove Boulevard will be in excess of 10 million in structure, roadway, and electrical items.

B. Advisory Design Exception Feature #2: Side Slope

Non-Standard Feature:

The following locations have proposed embankment slopes steeper than 4:1 (H:V):

- Galleria Boulevard SB Off-Ramp from Station 164+00 to 171+50 *(750 LF)*
- SR 65 SB direction from Station 191+00 to 202+00 *(1100 LF)*
- SR 65 NB direction from Station 191+00 to 200+00 *(900 LF)*
- SR 65 SB direction from Station 241+50 to 248+00 *(650 LF)*

See Figure 2 in the Attachment D for exhibits.

Standard For Which Exception Is Requested:

Topic 304 - Side Slopes, Index 304.1 "Slopes should be designed as flat as is reasonable. For new construction, widening, or where slopes are otherwise being modified, embankment (fill) slopes should be 4:1 or flatter."

Reasons For Requesting Exceptions:

No right-of-way (ROW) acquisition was included in this project to avoid direct and indirect impact to the vernal pool and wetlands next to the right of way. Segments of existing slope were already substandard with variable slopes that range from 2:1 to 3:1 for the same environmental concerns.

Added Cost to Make Standard:

In order to achieve the standard embankment slope of 4:1 (H:V), mitigation to the impacted wetland, vernal pools, and open space set aside for permitting requirements alone will be millions of dollars plus the project delay for the review and approval of permitting agencies. Option to install retaining walls has been considered. The construction costs for the retaining wall are in excess of $800,000, but the construction of retaining walls would not be able to avoid the indirect impact to the adjacent environmental sensitive areas due to their larger footprint to the disturbed soils.

FEATURES REQUIRING A HEADQUARTERS APPROVED MANDATORY EXCEPTION

A. HQ Mandatory Design Exception Feature #1: Shoulder Standards

Non-Standard Feature:

The following locations have proposed shoulder of less than 10 feet where proposed concrete barrier type 60 will be placed to protect the existing columns at the overcrossing structures:

- SR-65 SB direction Pleasant Grove OC from Station 218+50 to 219+50
- SR-65 SB direction Blue Oaks Boulevard. OC at Station 269+30 to 270+30
- SR-65 SB direction Blue Oaks Boulevard. Off-Ramp OC at Station 273+90 to 274+40

See Attachment C for exhibits.

Standard For Which Exception Is Requested:

Topic 302 - Highway Shoulder Standards: Index 302.1 Width, "The shoulder widths given in Table 302.1 shall be the minimum continuous usable width of paved shoulder on highways." Table 302.1, Mandatory Standards for Paved Shoulder Widths on Highways, shows the paved left shoulder on Freeways with six or more lanes is 10 feet.

Reasons For Requesting Exceptions:

For southbound SR 65 at Pleasant Grove Boulevard. from station 218+50 to 219+50, Blue Oaks Boulevard. from station 269+30 to 270+30 and Blue Oaks Boulevard. off-ramp from station 273+90 to 274+40, the inside shoulder width would be less than 10 feet next to a concrete barrier at the column, it will be a short transition before it goes back to standard width of 10 feet.

To provide the standard 10 ft inside shoulder, the SB SR 65 widening will be shifting toward west and impacting the configuration of the SB on ramps and overcrossing bridge abutments at Pleasant Grove Boulevard and Blue Oak Boulevard.

Added Cost to Make Standard:

The estimated costs to reconstruct ramps and ground anchor walls to avoid the bridge abutments will be approximately $8.0 million.

B. HQ Mandatory Design Exception Feature #2: Superelevation Rate

To document nonstandard features for each ramp being proposed for ramp metering modification, the design team has reviewed the existing superelevation rate of each ramp, from the ramp intersection to the gore, and found them to meet design standards. The ramps with non-standard superelevation rate have been documented below for design exception.

Non-Standard Feature:

The proposed Blue Oaks Boulevard NB loop on-ramp ("B1" Line) with curve C24 radius of 159 ft has a non-standard superelevation rate of 10% instead of 12%. See Attachment C for exhibits.

Standard For Which Exception Is Requested:

Topic 202.2(1) Highways: "Based on an emax selected by the designer for one of the conditions, superelevation rates from Table 202.2 shall be used within the given range of curve radii. If less than standard superelevation rates are approved (see Index 82.1), Figure 202.2 shall be used to determine superelevation based on the curve radius and maximum comfortable speed."

Reasons For Requesting Exceptions:

The exiting loop on-ramp was designed with non-standard superelevation rate of 10% and to provide standard rate of 12%, the ramp alignment needs to be reconfigured including lengthening the curve and tangent on each side of curve

C24 to develop standard runoff transition. The free right onto the on-ramp from EB Blue Oaks will be eliminated for having nonstandard algebraic difference in cross slope with adjacent lanes on EB Blue Oaks Boulevard. The ramp intersection will be reconstructed including signal modification and the reconstruction of the bridge structure. Lacking the existing NB slip on-ramp at Blue Oaks Boulevard, the intersection of this ramp intersection will impact the operation and safety of the freeway and the interchange.

Based on Figure 202.2, a comfortable speed of approximately 25 miles per hour can be provided using the 10% superelevation rate on 159 ft radius curve. This comfortable speed exceeds the posted speed of 20 miles per hour at the existing loop on-ramp. Accident records at the existing loop on-ramp from TASAS are low and do not provide justification for high construction cost for ramp and intersection reconstruction.

Added Cost to Make Standard:

The reconstruction of the loop on-ramp and bridge structure at the ramp intersection is estimated to be approximately $10.0 million.

3.0 TRAFFIC DATA

A Final Transportation Analysis Report was prepared by Fehr & Peers (September 2015) to document the traffic forecasts and operations analysis. Existing traffic volumes and design year projections are summarized in the table below and are documented in the "State Route 65 Capacity and Operational Improvements Transportation Analysis Report" dated September 2015. The base year is 2012, construction year is 2020 and design year is 2040.

TABLE 1: AVERAGE ANNUAL DAILY TRAFFIC VOLUME

	Existing Conditions[1]		Design Year Conditions					
			Alternative 1 (Carpool Lane)		Alternative 2 (GP Lane)		Alternative 3 (No Build)	
Segment	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
I-80 to Galleria Boulevard	106,100	3,500	168,100	6,300	169,000	6,400	158,000	6,200
Stanford Ranch Rd/ Galleria Boulevard to Pleasant Grove Boulevard	104,400	3,500	169,200	6,600	170,900	6,700	152,400	6,300
Pleasant Grove Boulevard to Blue Oaks Boulevard	83,400	3,100	159,800	6,300	162,300	6,400	140,800	6,000
Blue Oaks Boulevard to Sunset Boulevard	65,300	2,400	134,600	4,900	135,700	4,900	112,100	4,600

Sunset Boulevard to Whitney Ranch Pkwy/ Placer Pkwy	54,000	1,900	114,000	3,700	114,600	3,700	96,900	3,300
Whitney Ranch Pkwy/Placer Pkwy to Twelve Bridges Dr			126,500	3,500	127,000	3,500	112,700	3,400
Twelve Bridges Dr to Lincoln Boulevard[2]	48,800	1,900	104,300	3,200	104,500	3,200	93,600	3,000
Lincoln Boulevard to Ferrari Ranch Rd	-	-	61,100	2,700	61,400	2,700	56,300	2,600

Notes: [1]The existing conditions total volume data is from 2009 as reported in the PeMS database. The existing truck volumes are estimated from the base year SACMET model.
[2]The existing condition total volume data from Twelve Bridges Dr to Lincoln Boulevard is estimated based on 2009 PeMS data at Sunset Boulevard and the base year SACMET model.
Source: Fehr & Peers, 2015

4.0 COLLISION ANALYSIS

Table 2 summarizes traffic collision data on SR-65 near the project. The data was obtained from the TASAS-TSN database maintained by Caltrans. The data shown is for the three-year period between beginning October 1, 2010 and ending September 30, 2013.

Table 2 –State Route 65 Accident Data Summary
October 1, 2010 through September 30, 2013

Location	Number of Accidents				Accident Rates (Acc/MVM)*					
					Actual			Statewide Average		
	Fatal	Injury	F&I**	Total	Fatal	F&I	Total	Fatal	F&I**	Total
SR 65 NB Galleria Boulevard./ Stanford Ranch Rd.(PM 5.5) to Lincoln Boulevard. (PM 12.9)	1	39	40	122	0.003	0.14	0.43	0.007	0.24	0.72
SR 65 SB Galleria Boulevard./ Stanford Ranch Rd.(PM 5.5) to Lincoln Boulevard. (PM 12.9)	2	57	59	151	0.007	0.21	0.53	0.007	0.24	0.72

* Accidents per Million Vehicle Miles
** Fatal Plus Injury
Source: *Caltrans District 3 TASAS Table B Data*

The table above shows that the actual accident rate on the SR-65 mainline is less than the average rate for similar freeway facilities. During the three year period, 122 accidents occurred on the northbound segment of SR-65 resulting 1 fatality and 39 injuries, and 151 accidents occurred on the southbound segment of SR-65 resulting 2 fatalities and 57 injuries.

In reviewing the individual accident records, the majority of these types of accidents along SR 65 occurred during the peak commute periods, which could be indicative of the traffic congestion observed along the corridor. The proposed improvements will reduce current and projected traffic congestion along the corridor.

5.0 INCREMENTAL IMPROVEMENTS

There are no practical incremental improvements that would eliminate the need for the proposed design exceptions.

6.0 FUTURE CONSTRUCTION

As mentioned in the proposed project above, a future MTP update will program the extension of the new lane in the northbound direction of SR 65 from north of Galleria Boulevard/Stanford Ranch Road interchange to Lincoln Boulevard, and in the southbound direction from Lincoln Boulevard to Blue Oaks Boulevard.

7.0 PROJECT REVIEWS, CONCURRENCE

The exception included in this fact sheet is being submitted for review.

8.0 FEDERAL ACTION

This project is not part of the Interstate System or the National Highway System and there is no federal administration action related to approval of this fact sheet. The project will use federal-aid funding and a federal environmental determination/document will be approved specifically for this project.

9.0 ATTACHMENTS

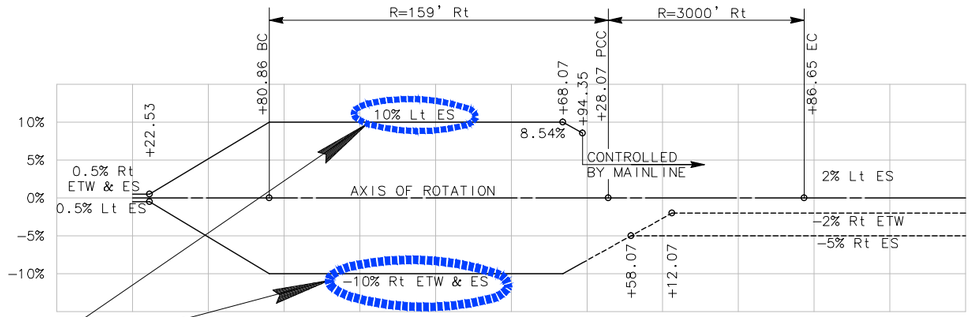
Attachment A: Location Map
Attachment B: Project Geometric Approval Drawing (GAD)
Attachment C: Mandatory Design Exception Exhibit
Attachment D: Advisory Design Exception Exhibit

STATE ROUTE 65 WIDENING

ATTACHMENT A: LOCATION MAP

PLACER COUNTY TRANSPORTATION PLANNING AGENCY

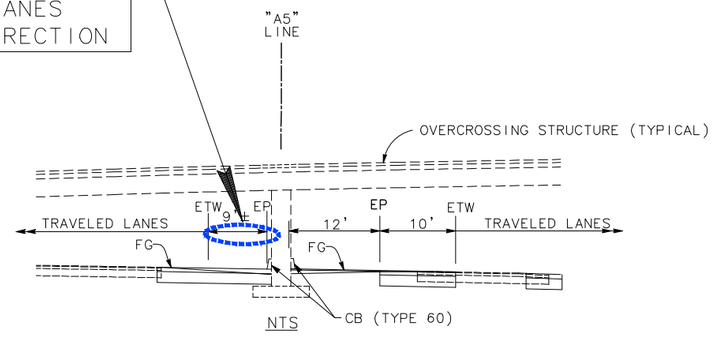
MARK THOMAS & COMPANY
Providing Engineering, Surveying & Planning Services



"B1" LINE SUPERELEVATION DIAGRAM

SUPERELEVATION RATE
INDEX 202.2(1)
STANDARD: 12% FOR RADIUS UNDER 625'
PROPOSED: 10% FOR NB LOOP ON-RAMP

HIGHWAY SHOULDER STANDARD WIDTHS
INDEX 302.1
STANDARD: 10' FOR 6 OR MORE LANES
PROPOSED: 9± FOR SR 65 SB DIRECTION



ROUTE 65 AT
PLEASANT GROVE BLVD. OC STATION 218+50 TO 219+50
BLUE OAKS BLVD. OC AT STATION 269+30 TO 270+30
BLUE OAKS BLVD OFF-RAMP OC AT STATION 273+90 TO 274+40

STATE ROUTE 65 WIDENING
ATTACHMENT C
MANDATORY DESIGN EXCEPTION

PLACER COUNTY TRANSPORTATION PLANNING AGENCY

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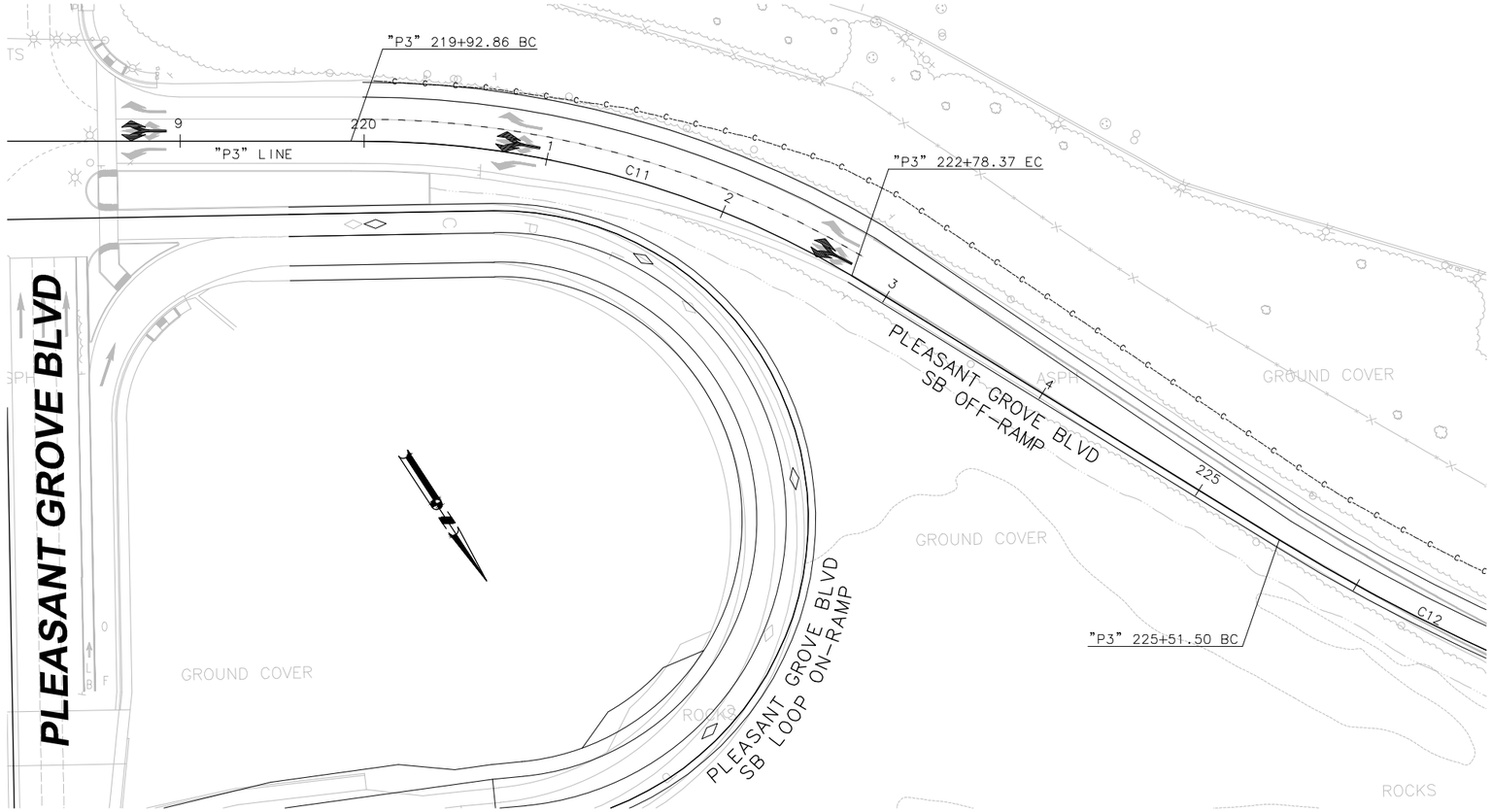
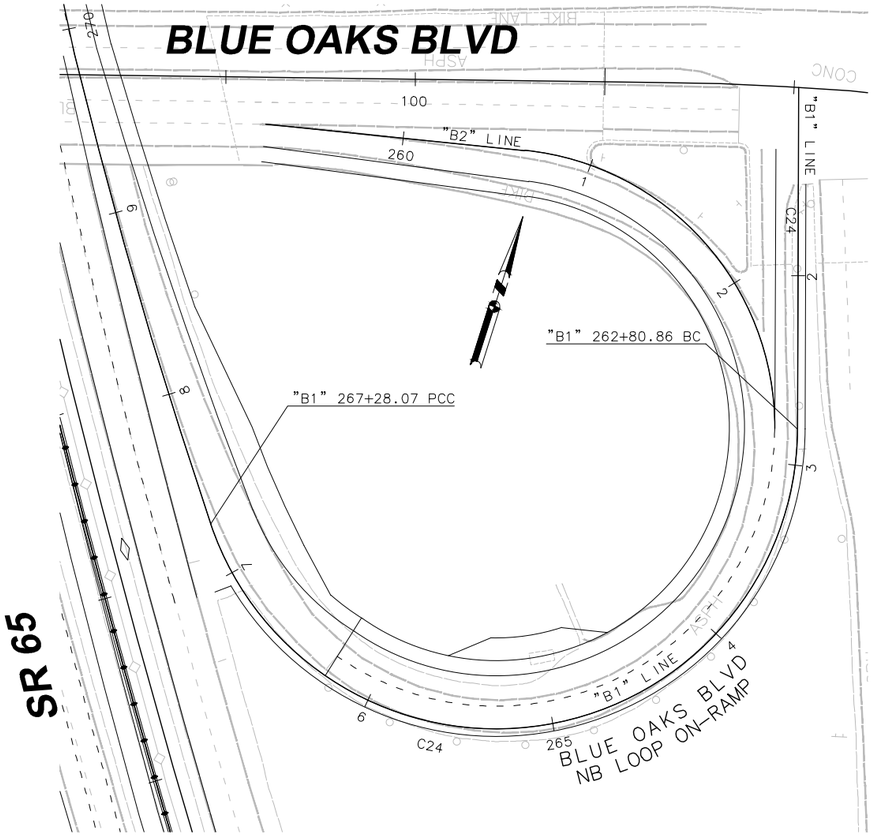
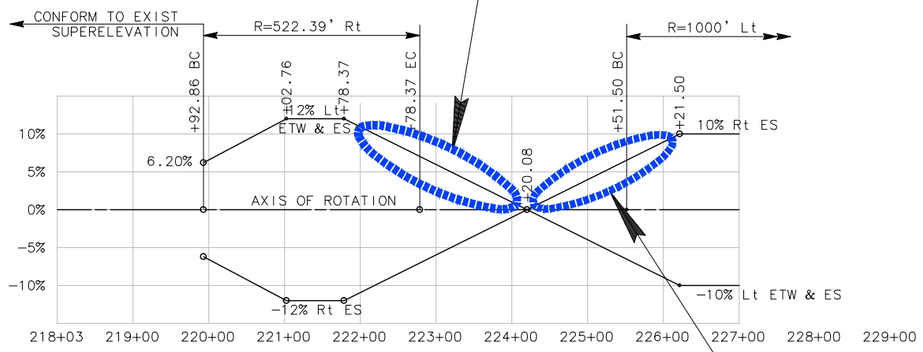




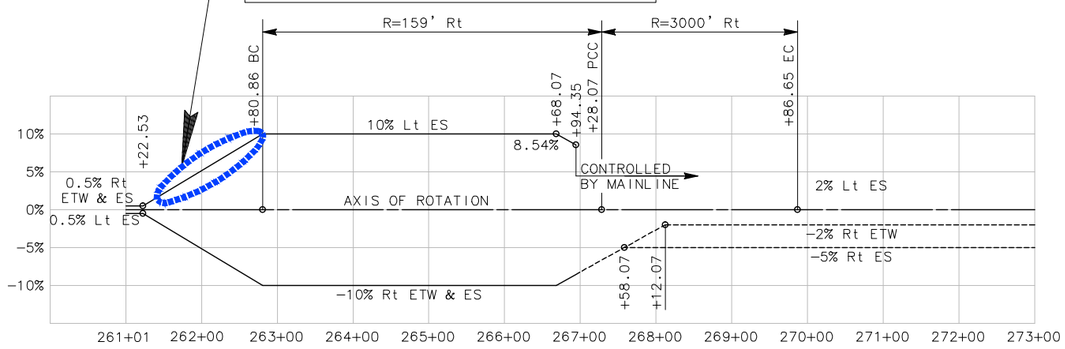
SUPERELEVATION TRANSITION
INDEX 202.5
STANDARD: 300 FEET FOR 12%
PROPOSED: 223 FEET



"P3" LINE SUPERELEVATION DIAGRAM

SUPERELEVATION TRANSITION
INDEX 202.5
STANDARD: 210 FEET FOR 10%
PROPOSED: 186 FEET

SUPERELEVATION TRANSITION
INDEX 202.5
STANDARD: 240 FEET FOR 10%
PROPOSED: 170 FEET

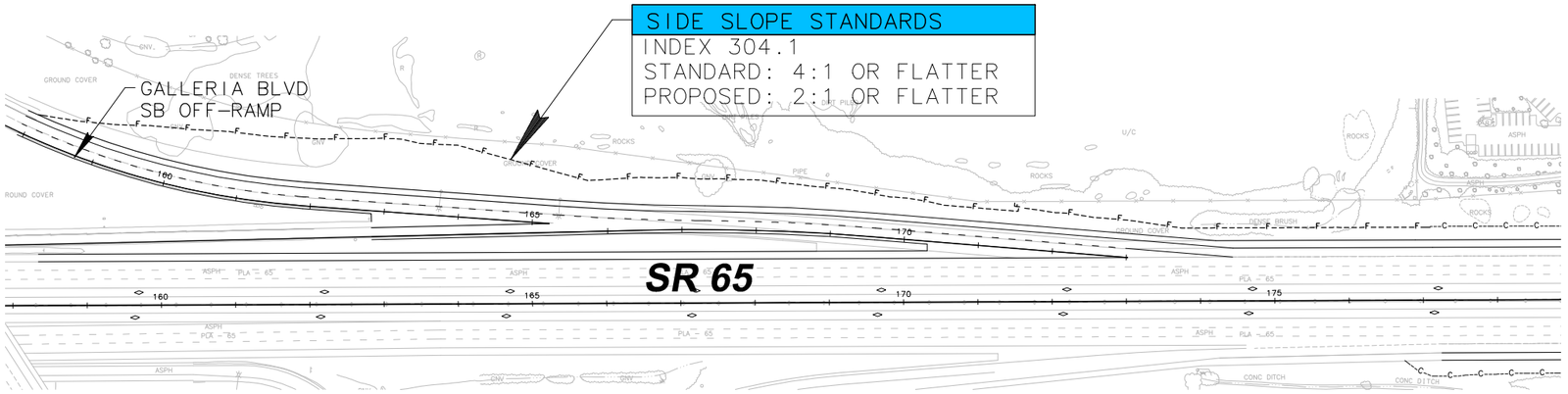


"B1" LINE SUPERELEVATION DIAGRAM

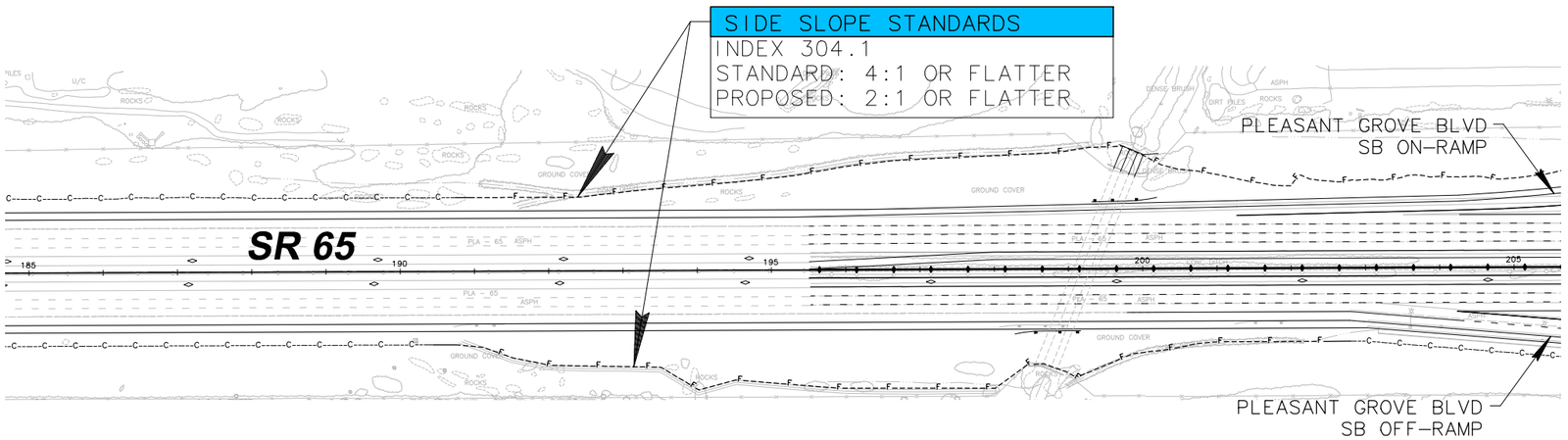
STATE ROUTE 65 WIDENING
ATTACHMENT D: FEATURE 1
ADVISORY DESIGN EXCEPTION

PLACER COUNTY TRANSPORTATION PLANNING AGENCY

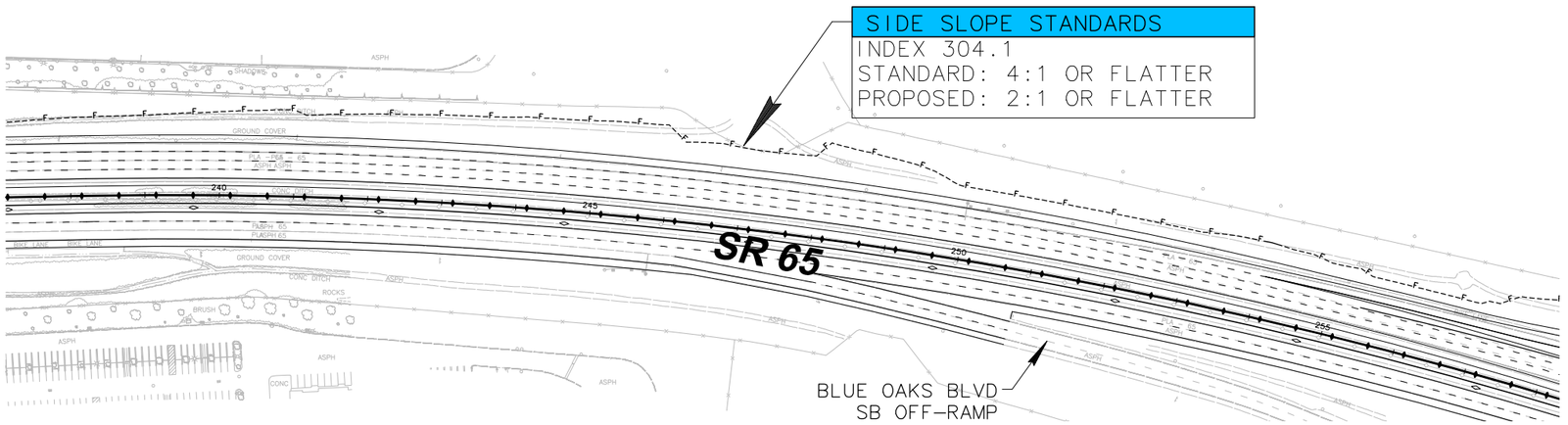
MARK THOMAS & COMPANY
Providing Engineering, Surveying & Planning Services



LOCATION 1: GALLERIA SB OFF-RAMP 164+00 TO 171+50



LOCATION 2: SR-65 STATION 191+00 TO 202+00



LOCATION 3: SR-65 STATION 241+50 TO 248+00

STATE ROUTE 65 WIDENING
ATTACHMENT D: FEATURE 2
ADVISORY DESIGN EXCEPTION

PLACER COUNTY TRANSPORTATION PLANNING AGENCY

MARK THOMAS & COMPANY
Providing Engineering, Surveying & Planning Services

Attachment I
Initial Site Assessment and Aerially Deposited Lead Assessment

AERIALLY DEPOSITED LEAD ASSESSMENT

SR65 Capacity and Operational Improvements Project
Placer County, CA

January 2015

Prepared for:

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Sacramento, CA 95826

Prepared by:

BLACKBURN CONSULTING
2491 Boatman Ave
West Sacramento, CA 95691

AERIALLY DEPOSITED LEAD ASSESSMENT
SR65 Capacity and Operational Improvements Project
Placer County, California

TABLE OF CONTENTS

INTRODUCTION

Blackburn Consulting (BCI) prepared this aerially deposited lead (ADL) assessment for the State Route 65 (SR65) Capacity and Operational Improvements Project located in Placer County. The purpose of the investigation is to assess the presence of ADL in surface and shallow subsurface soil throughout the project corridor within areas anticipated to be disturbed by the planned improvements. The Assessment evaluates whether impacts due to ADL will require mitigation recommendations for construction and/or additional testing.

Project Description and Location

The project proposes capacity and operational improvements on SR65 from north of Galleria Boulevard/Stanford Ranch Road to Lincoln Boulevard (Post mile R6.5 to R12.9) and includes roadway widening, bridge work and widening, grinding off the existing pavement, overlay of new pavement, equipment staging areas, drainage/culvert work and stream channel work. No additional right-of-way is required and all work (with the exception of eight parcels identified for temporary construction easement) will be within existing Caltrans right-of-way. The project area is shown on the "Vicinity Map" attached as Figure 1. The project limits and ADL sample locations are depicted on the "ADL Sample Location Map" attached as Figures 2a through 2e.

Potential for Aerially Deposited Lead

Soil testing by Caltrans and others along roads heavily traveled prior to 1987, indicates that ADL may be present in the surface soil of the unpaved shoulders. The lead is generally attributed to emissions from vehicles powered by internal-combustion, leaded-gasoline engines. Along roads where the shoulder subgrade has not been disturbed, the presence of ADL is generally limited to the upper twenty-four inches. Lead concentrations typically drop rapidly with increasing depth below the ground surface.

Historically, SR65 from Lincoln Boulevard to Blue Oaks Boulevard was a two lane highway until 1998, when it was expanded to a four lane divided highway. The northbound lanes were added and the two existing lanes became the southbound lanes. Consequently, it's reasonable to conclude that if ADL is present it will be associated with the older (current southbound) lanes. The extension of SR65 from Blue Oaks Boulevard to the Galleria Boulevard/SR65 Interchange began in 1985 and was completed in 1987. There were no roads in this segment of the project corridor prior to 1987, therefore the likelihood of encountering significant ADL concentrations is low.

Prior Environmental Reports

BCI prepared an "*Aerially Deposited Lead Screening Evaluation – Placer Parkway Interchange*" report in June 2013 (Appendix A). This report concludes that ADL is present in the surface and shallow subsurface soil along the shoulder and median of the southbound lanes in relatively low concentrations at the proposed Placer Parkway Interchange. All detectable levels of "total lead" were at or below 100 mg/kg, well below the total Threshold Limit Concentration (TTLC) of 1,000 mg/kg that defines the lower limit for hazardous waste. The surface and shallow

subsurface soil within the shoulder along the northbound lanes had no detectable concentrations of total lead.

BCI prepared an "*Aerially Deposited Lead Screening Evaluation – Pleasant Grove Interchange*" report in October 2007 (Appendix B). This report concludes that low levels of ADL are present in the surface and shallow subsurface soil at the Pleasant Grove Boulevard/SR65 Interchange. All detectable levels of "total lead" were at or below 5 mg/kg, well below the total TTLC of 1,000 mg/kg that defines the lower limit for hazardous waste. The report also concludes that the likelihood of encountering significant ADL concentrations in the improvement area was low as this interchange was part of the SR65 realignment constructed between 1985 and 1987 and not part of the original SR65 alignment.

SCOPE OF WORK

BCI completed an ADL assessment for the project corridor modeled after historical roadway use including a near surface ADL assessment for the northbound lanes and a more typical ADL assessment incorporating more sample locations and additional soil profile (to a depth of $\pm$ 2 feet below ground surface) for the southbound lanes and median. The intent of this limited surface soil screening is to assess soil expected to represent the highest ADL concentrations within the project corridor.

To perform this assessment, BCI completed the following tasks:

- Prepared an ADL Sampling Plan
- Reviewed prior environmental reports for the project area
- Prepared a map of the proposed sample locations based on the project limits depicted on plans provided by MTCo (Figures 2a through 2e, attached)
- Obtained Caltrans encroachment/traffic management permits
- Collected sixty-six (66) soil samples from fifty (50) locations within the project limits
- Submitted sixty-six (66) soil samples for laboratory analysis of total lead, soluble lead and/or pH
- Reviewed analytical results
- Performed statistical analysis of the analytical data set
- Prepared this report

SAMPLING SUMMARY

BCI obtained samples from fifty (50) hand auger borings spaced approximately 1500 feet apart along both the southbound and northbound lanes of SR65 from north of Galleria Boulevard/Stanford Ranch Road to Lincoln Boulevard (Post mile R6.5 to R12.9). We summarize below sample collection, subsurface soil conditions, and laboratory analysis.

Sample Collection

BCI collected and prepared samples for analysis as follows:

- Collected two discrete samples zero to four inches (0-4") below ground surface (bgs) and twelve to eighteen inches (12-18") bgs within sixteen (16) hand auger borings located primarily along southbound SR65 with limited samples obtained in the median.
- Collected one discrete sample zero to four inches (0-4") bgs within thirty-four (34) hand auger borings located along northbound and southbound SR65.
- Transferred samples into glass jars, labeled with the sample time, date, location, depth, and the sampler's initials.
- Cleaned sampling equipment between each sample location by washing with an Alconox solution followed by rinsing with potable water and a second rinse using de-ionized water.
- Placed sample containers in a cooled ice chest, and delivered to SunStar Laboratories, a California certified analytical laboratory, under continuous chain-of-custody documentation.
- Backfilled borings with excess cuttings and discharged wash and rinse water to the ground surface at the boring locations.

Soil Description

The soil profile varied over the project alignment according to the cut or fill sections along the highway, particularly on the southbound side. The soil consisted primarily of strong brown to light yellowish brown silty clay for the more shallow specimens, and dense, light yellowish brown breccia and gravel for the deeper specimens.

Sample Analysis

BCI submitted sixty-six (66) soil samples to SunStar Laboratories for total lead analysis, using EPA Test Method 6010B. Six (6) samples exhibited total lead concentrations exceeding 50 milligrams per kilograms (mg/kg) and were therefore further tested for soluble lead using the Waste Extraction Test (WET) methodology. The 50 mg/kg threshold indicates a sample has the potential to exceed the Soluble Threshold Limit Concentration (STLC) of 5 milligrams per liter (mg/l), which is one criteria used for defining hazardous waste in California.

In addition to total lead testing, analytical testing also included pH testing of five (5) randomly selected samples using EPA Method 9045.

The laboratory performed Quality Assurance/Quality Control (QA/QC) procedures for each method of analysis. Laboratory QA/QC procedures include: 1) Method Blanks, 2) Duplicate Samples, and 3) Spiked Samples. We include a copy of the laboratory reports and chain-of-custody documents in Appendix C.

ANALYTICAL RESULTS

The analytical test results indicate the following:

- Total lead concentrations range from below the detection limit of 3.0 mg/kg to 160 mg/kg.
- No samples exceed the Total Threshold Limit Concentration (TTLC) for lead of 1,000 mg/kg.
- Six samples exhibited total lead in excess of 50 mg/kg (i.e. ten times higher than the STLC of 5.0 mg/l) and were further tested for soluble lead by the WET method.
- Soluble lead test results range from 3.8 mg/l to 15 mg/l, with three of the six samples analyzed exhibiting soluble lead levels which exceed the STLC for lead of 5.0 mg/l.
- The pH test results range from 6.3 to 7.8 with an average value of 6.84.

Appendix D presents a table which summarizes the analytical results.

STATISTICAL ANALYSIS

BCI performed statistical analysis of the ADL sample data using ProUCL 5.0 software to calculate the sample mean (average) as well as the 95% Upper Confidence Limit (UCL) on the mean. UCLs were calculated using standard bootstrap methodology for normal and non-parametric data distribution (as appropriate).

Total Lead

We analyzed groups of data based on location (northbound and southbound) and sample depth. Table 1 summarizes the total lead results for each sample depth interval, as well as combined intervals (0-4”), (12-18”) and (0-18”).

TABLE 1: TOTAL LEAD STATISTICAL SUMMARY BY DEPTH INTERVAL

Location and Depth Interval (inches bgs)	Data Points (#)	Range (mg/kg)	Mean (mg/kg)	95% UCL (mg/kg)
Southbound/Median 0 - 4	29	ND to 160	24.95	72.4
Southbound/Median 12 - 18	16	ND to 110	22.47	37.74
Southbound/Median Combined Depths 0 - 18	45	ND to 160	34.6	47.6
Northbound 0 - 4	21	ND to 34	7.3	13.18

Based on the mean and 95% UCL values shown in Table 1, the total lead concentrations in all intervals are below the 1,000 mg/kg Total Threshold Limit Concentration (TTLC) for lead based on the individual analytical test results.

Soluble Lead

Six samples exhibit total lead in excess of 50 mg/kg (i.e. ten times higher than the STLC of 5.0 mg/l) and were further tested for soluble lead by the WET method. Soluble lead results range from 3.8 mg/l to 15 mg/l, however, only three of the six samples analyzed exhibit soluble lead levels exceeding the individual STLC for lead of 5.0 mg/l. Of these three samples, two were obtained from one sample location, ADL-39. The soil samples obtained from surrounding sample locations, including ADL-36, -37, and -41 exhibit total lead levels below the 50 mg/kg criteria.

As solubility testing was limited to the six samples with the highest total lead concentrations, this tends to introduce an upward bias in solubility results. We therefore performed a regression analysis to predict the 95% UCL on the mean for WET solubility of unbiased sample populations, as presented below.

Predicted Lead Solubility

We used Excel Regression Analysis software to perform the regression calculations by comparing the total lead and corresponding WET data. A correlation coefficient (r) greater than 0.86 was calculated for the data set, which indicates an acceptable correlation between the total and soluble lead data for use in the regression analysis.

The regression equation is calculated to be:

$y = 0.042 (x)$

Where:

y = Soluble (WET) lead concentrations in mg/l
x = Total Lead concentrations in mg/kg
Note: The 95% UCL value for total lead was used in the regression formula.

TABLE 2: PREDICTED LEAD SOLUBILITY

Depth Interval (inches)	Total Lead Mean (mg/kg)	Total Lead 95% UCL (mg/kg)	Predicted WET Solubility 95% UCL (mg/l)
0-4	24.95	72	3.024
0-18	34.6	47.6	1.99

The results presented in Table 2 indicate that the predicted WET 95% UCL for soluble lead by WET method testing for both intervals have predicted soluble lead levels below the 5.0 mg/l regulatory threshold.

CONCLUSIONS AND RECOMMENDATIONS

The near-surface soil within the project corridor exhibit low levels of ADL. The results indicate total lead concentrations at or below 160 mg/kg, with the higher concentrations associated with the southbound lanes adjacent to the historical alignment of SR65. These concentrations are well below the total Threshold Limit Concentrations (TTLC) of 1,000 mg/kg that defines the lower limit for hazardous waste. Based on the mean and 95% UCL values shown in Table 1, the total lead concentrations in all intervals are below the 1,000 mg/kg TTLC for lead based on the individual analytical test results.

Soluble lead results range from 3.8 mg/l to 15 mg/l; however, only three of the six samples analyzed exhibit soluble lead levels exceeding the individual Soluble Threshold Limit Concentration (STLC) for lead of 5.0 mg/l. Of these three samples, two were obtained from one sample location, ADL-39. The soil samples obtained from surrounding sample locations, including ADL-36, -37, and -41 exhibited total lead levels below the 50 mg/kg criteria. It is our opinion that ADL-39 is not representative of the project soil profile. In addition, the regression analysis to predict soluble lead levels (WET) of unbiased sample populations indicates the 95% UCL for soluble lead levels is below the STLC of 5 mg/l.

Because this assessment focuses on the near surface soil (0-18”), it is biased toward identifying “elevated” ADL concentrations. If the investigation were expanded to model a deeper soil section (i.e. 0 to 3 ft. bgs), where ADL concentrations drop sharply within the upper 3 feet of the soil profile, the average total and soluble concentrations would be significantly lower than the values presented in this screening. Proposed project improvements include soil disturbance along roadway shoulders to a depth of 4-10 feet bgs. Correlating a decrease in ADL concentrations with sample depth, the overall soil conditions for the project area would have significantly lower ADL concentrations than within the upper eighteen (18) inches. Therefore, based on the concentrations of both total and soluble lead detected, and depth of the proposed improvements, it is our opinion that specialized soil management is not warranted.

The project soil pH averages 6.84 (close to neutral). The pH conditions do not impose any special soil management requirements.

Waste Disposal/Soil Reuse

Regulatory criteria to classify a waste as “California Hazardous” for handling and disposal purposes are contained in the California Code of Regulations (CCR), Title 22, Division 4.5, Chapter 11, Article 3, subsection 66261.24. Federal criteria to classify a waste as “Resource Conservation and Recovery Act (RCRA) Hazardous Waste” are contained in Chapter 40 of the Code of Federal Regulations (40 CFR), Section 261. For a waste containing lead, the waste is classified as California Hazardous when:

- Total lead content exceeds the TTLC (1,000 mg/kg); and
- Soluble lead content exceeds the STLC (5.0 mg/l) based on the standard Waste Extraction Test (WET).

Based on our review and analysis of the lead testing data, and the results of the statistical analyses, we conclude that the tested soil in the project area will not be classified as California Hazardous waste.

Risk to Human Health

It is appropriate to compare the total lead values to the California Human Health Screening Levels (CHHSL) limits for lead in soil. The CHHSL is 320 mg/kg for an industrial exposure scenario. All of the ADL samples exhibited total lead below the industrial CHHSL for lead. Based on the results of our ADL assessment we conclude that lead impacted soil within the project limits do not pose a significant health risk to site workers.

Health and Safety Requirements

We recommend that the contractor conduct all grading operations with the awareness that lead impacted soil is present on the site and conduct all operations in accordance with applicable Cal-OSHA requirements including a project specific worker Health & Safety Plan (HASP) and Lead Compliance Plan.

LIMITATIONS

BCI performed these services in accordance with generally accepted environmental engineering principles and practices currently used in Northern California. We do not warranty our services.

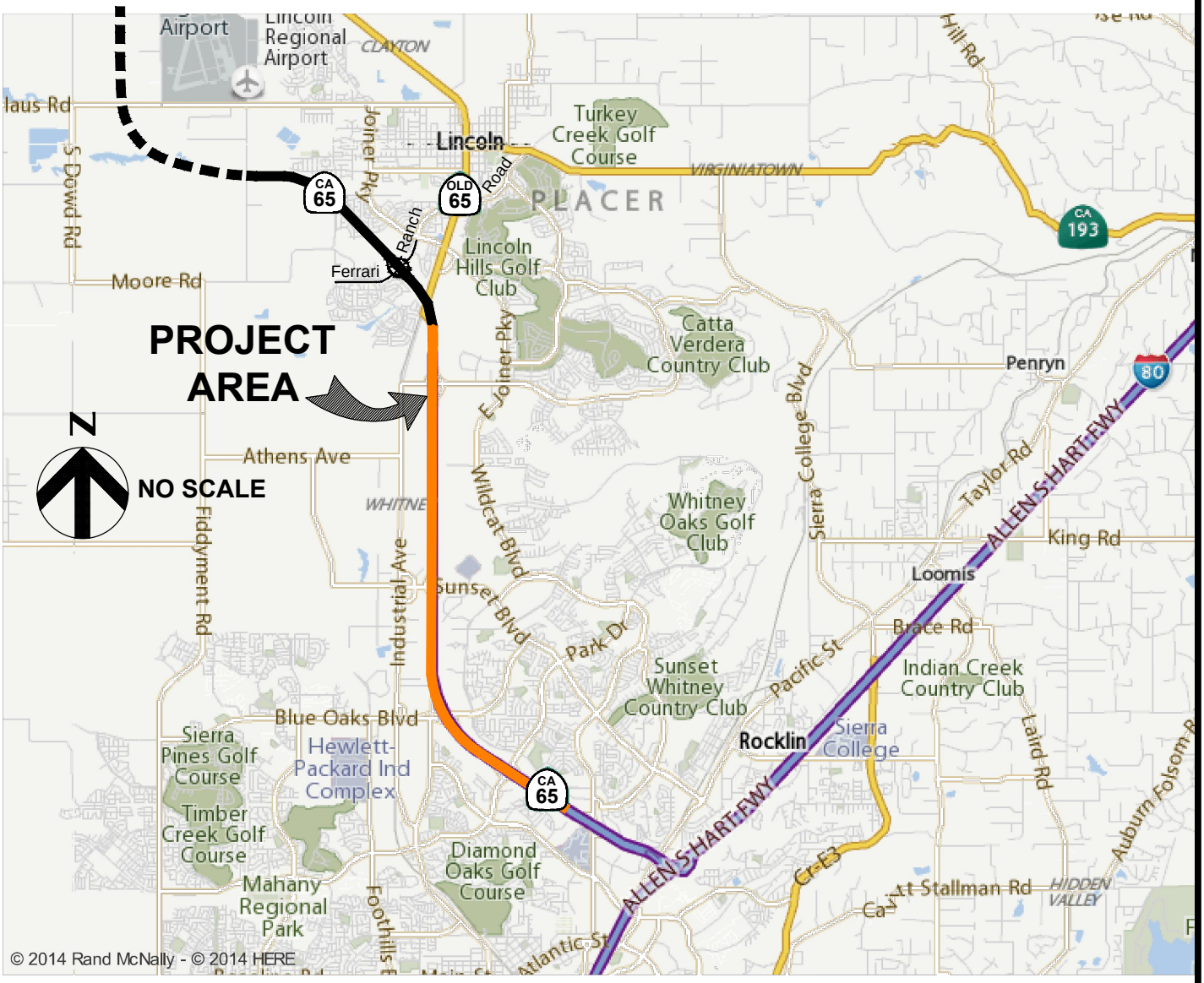
Our scope does not include evaluation of other hazardous materials or a determination of their potential presence on the site.

The report is not a comprehensive site characterization and shall not be so construed. The findings presented in this report are predicated on the results of limited sampling and laboratory analyses. In addition, the obtained information is not intended to address potential impacts related to sources other than those specified herein. Therefore, we deem the report conclusive only with respect to the information presented.

FIGURES

Vicinity Map

ADL Sampling Location Map



blackburn consulting

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www.blackburnconsulting.com

VICINITY MAP

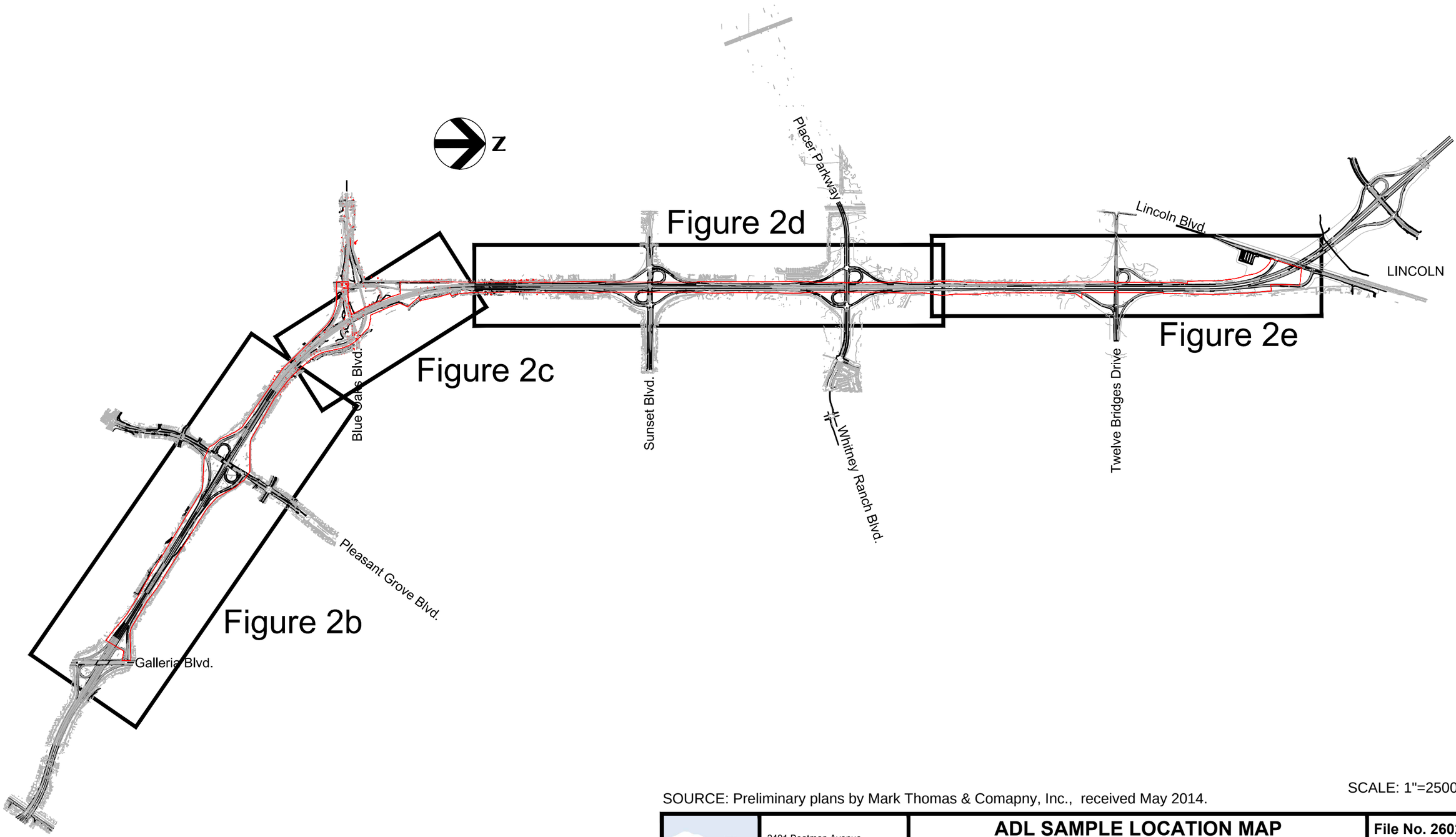
SR 65 Capacity and Operational Improvements Project
Placer County, California

File No. 2602.x

January 2015

Figure 1

1/14/2015 2602.x Fig1 SR65 CnO Imp ADL Sampling.dwg



SOURCE: Preliminary plans by Mark Thomas & Comapny, Inc., received May 2014.

SCALE: 1"=2500'

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ADL SAMPLE LOCATION MAP

SR 65 Capacity and Operational Improvements Project
Placer County, California

File No. 2602.x

January 2015

Figure 2a

1/14/2015 2602.x Fig2a SR65 CnO Imp ADL Sampling.dwg

LEGEND:

EXISTING STATE R/W

ADL-1

ADL-2

ADL-3

ADL-4

ADL-5

STATE ROUTE 65

GALLERIA BLVD

APN 363-011-003-000

APN 363-020-009-000

APN 363-020-053-000

APN 017-123-059-000

APN 017-123-042-000

PG-ADL-4 (4.6/4.0)

SEE BELOW

PG-ADL-6 (4.1/4.5)

PG-ADL-3 (3.7/3.1)

PG-ADL-1 (3.2/3.2)

PG-ADL-7 (8.0/ n/a)

PG-ADL-2 (4.4/5.0)

PG-ADL-5 (3.0/4.1)

PLEASANT GROVE BLVD

SEE ABOVE

ADL-6

ADL-7

ADL-8

ADL-9

ADL-10

ADL-11

APN 363-020-024-000

SEE SHEET 2c

SR65 CAPACITY AND OPERATIONAL PROJECT

PROJECT IMPACT

NO SCALE

SHEET 1 OF 4

LEGEND

ADL-X — 2014 Approximate Sampling Location

PP-ADL-X — 2013 Sampling Location and Results (mg/kg & mg/L)

PG-ADL-X — 2007 Sampling Location and Results (mg/kg at 0-4" / 8-18")

SOURCE: Preliminary plans by Mark Thomas & Comapny, Inc., received May 2014.

blackburn consulting

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ADL SAMPLE LOCATION MAP

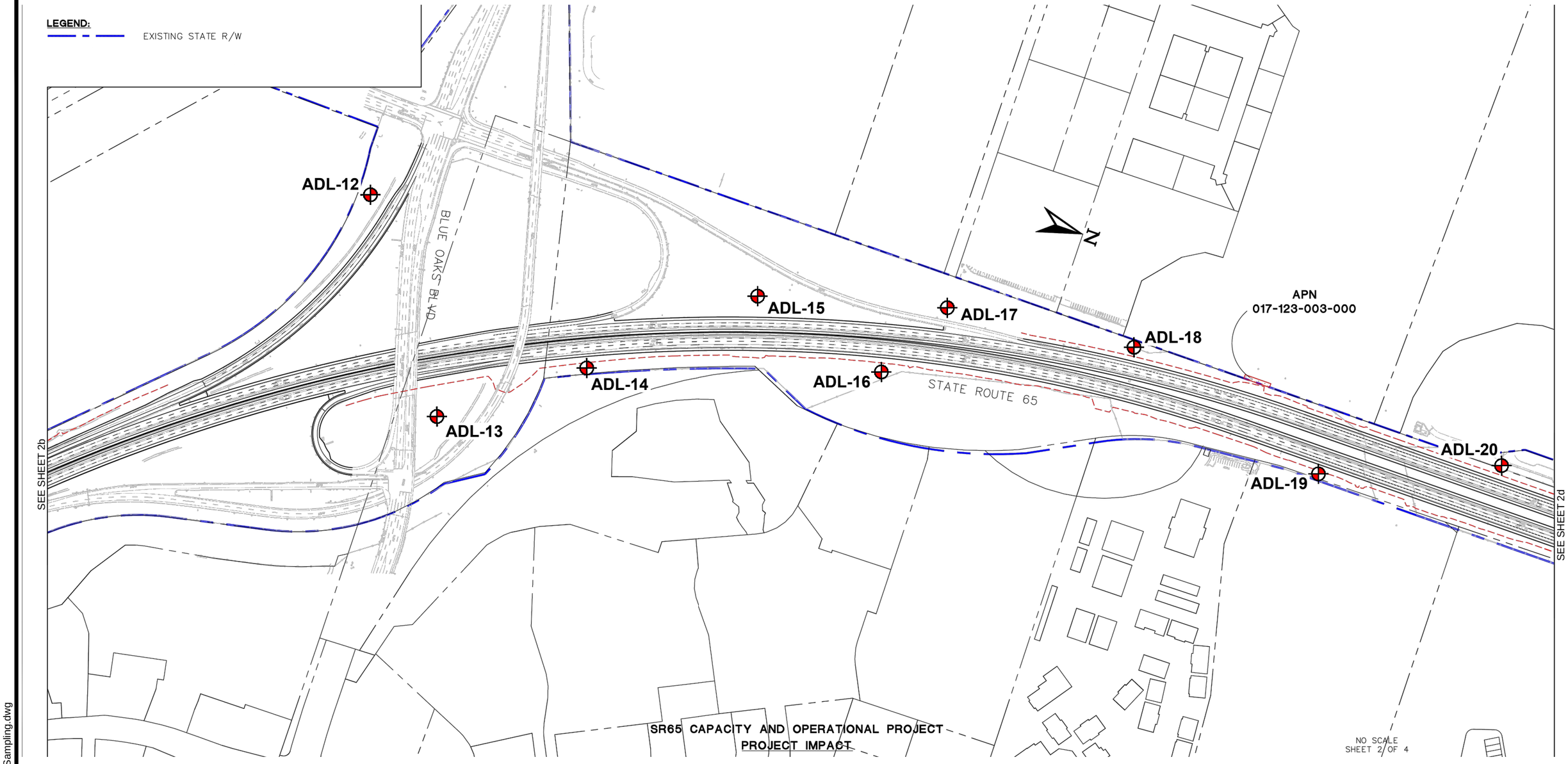
SR 65 Capacity and Operational Improvements Project
Placer County, California

File No. 2602.x

January 2015

Figure 2b

1/14/2015 2602.x Fig2 SR65 CnO Imp ADL Sampling.dwg



LEGEND

ADL-X ⊕ 2014 Approximate Sampling Location

PP-ADL-X ● 2013 Sampling Location and Results (mg/kg & mg/L)

PG-ADL-X ● 2007 Sampling Location and Results (mg/kg at 0-4" / 8-18")

SOURCE: Preliminary plans by Mark Thomas & Comapny, Inc., received May 2014.

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ADL SAMPLE LOCATION MAP

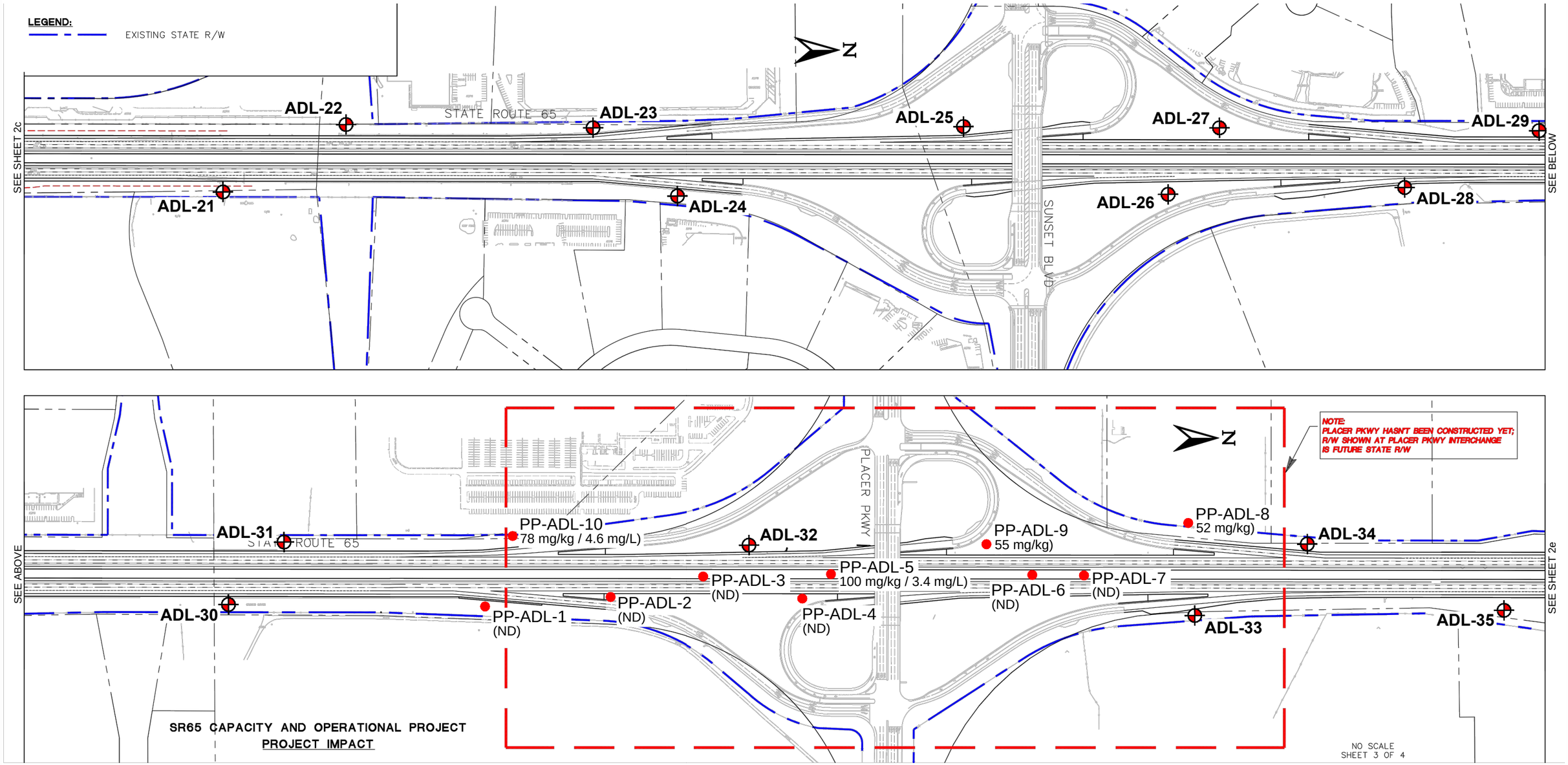
SR 65 Capacity and Operational Improvements Project
Placer County, California

File No. 2602.x

January 2015

Figure 2c

1/14/2015 2602.x Fig2 SR65 CnO Imp ADL Sampling.dwg



LEGEND

ADL-X — 2014 Approximate Sampling Location

PP-ADL-X — 2013 Sampling Location and Results (mg/kg & mg/L)

PG-ADL-X — 2007 Sampling Location and Results (mg/kg at 0-4" / 8-18")

SOURCE: Preliminary plans by Mark Thomas & Comapny, Inc., received May 2014.

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ADL SAMPLE LOCATION MAP

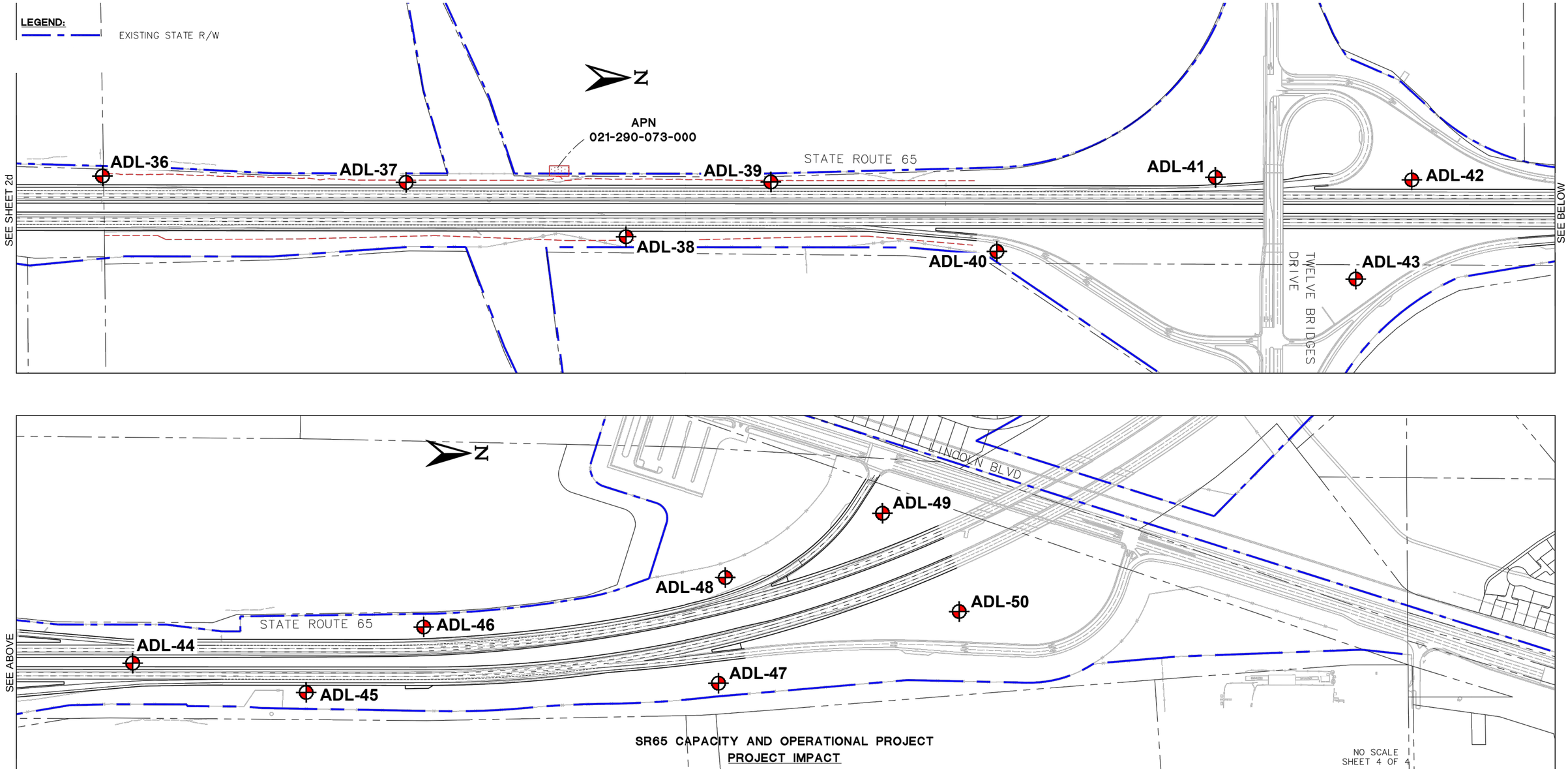
SR 65 Capacity and Operational Improvements Project
Placer County, California

File No. 2602.x

January 2015

Figure 2d

1/14/2015 2602.x Fig2 SR65 CnO Imp ADL Sampling.dwg



LEGEND

ADL-X ⊕ 2014 Approximate Sampling Location

PP-ADL-X ● 2013 Sampling Location and Results (mg/kg & mg/L)

PG-ADL-X ● 2007 Sampling Location and Results (mg/kg at 0-4" / 8-18")

SOURCE: Preliminary plans by Mark Thomas & Comapny, Inc., received May 2014.

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ADL SAMPLE LOCATION MAP

SR 65 Capacity and Operational Improvements Project
Placer County, California

File No. 2602.x

January 2015

Figure 2e

1/14/2015 2602.x Fig2 SR65 CnO Imp ADL Sampling.dwg

APPENDIX A

BCI Aerially Deposited Lead Screening Evaluation
Placer Parkway Interchange, June 2013

AERIALLY DEPOSITED LEAD SCREENING

Placer Parkway/SR65 Interchange
Placer County, CA

Prepared by:

BLACKBURN CONSULTING
11521 Blocker Drive, Suite 110
Auburn, CA 95603
(530) 887-1494

May 2013

Prepared for:

Mark Thomas and Company
7300 Folsom Blvd., Suite 203
Sacramento, CA 95826

Auburn Office:
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(530) 887-1494

blackburn consulting

Fresno Office: (559) 438-8411
Modesto Office: (209) 522-6273
West Sacramento Office: (916) 375-8706

Geotechnical ▪ Geo-Environmental ▪ Construction Services ▪ Forensics

File No. 2150.3
May 29, 2013

Mr. Matt Brogan
Mark Thomas & Co.
7300 Folsom Blvd., Suite 203
Sacramento, CA 95826

Subject: **Aerially Deposited Lead Screening**
Placer Parkway/SR65 Interchange
Placer County, California

Dear Mr. Brogan,

Blackburn Consulting (BCI) completed an aerially deposited lead (ADL) screening for near surface soil along the shoulders and median of State Route 65 in the vicinity of the future Placer Parkway interchange.

This report includes a brief description of the project, the scope of our ADL investigation, analytical findings, and conclusions and recommendations regarding the occurrence of ADL within the project area.

Sincerely,

BLACKBURN CONSULTING

David Buck, P.G., C.E.G.
Senior Project Manager

Jeff Patton, PE
Principal Engineer

AERIALLY DEPOSITED LEAD SCREENING
Placer Parkway/SR65 Interchange
Placer County, California

TABLE OF CONTENTS

INTRODUCTION

Blackburn Consulting (BCI) is pleased to provide this screening report for aerially deposited lead (ADL) at the planned Placer Parkway/State Route 65 (SR65) interchange in Placer County, California.

This ADL screening assesses the presence of ADL in near surface soil throughout the project corridor. By focusing on near surface soil, where the highest ADL concentrations are expected, the finding of this assessment are used determine if a more extensive ADL study is recommended. We commonly use this approach in areas where it's not clear if historic (pre-1987) traffic volumes were high enough to produce significant ADL concentrations.

This report is for Mark Thomas and Company (MTCo) and the County to use during planning and construction. Do not rely on this report for different locations or improvements without the written consent of BCI.

Project Location and Description

This ADL assessment is limited to the shoulders and median of SR65 in the vicinity of the proposed Whitney Boulevard interchange. Based on plans prepared by MTCo, road improvements will consist of on/off ramps and extended merge lanes. We performed this ADL investigation within the proposed improvement areas. The project area is shown on the "Vicinity Map" attached as Figure 1. The project limits and the individual sample locations are depicted on the "ADL Sample Location Map" attached as Figure 2.

BACKGROUND

Prior Environmental Report

BCI prepared the "Draft ISA, Whitney Blvd. and SR65 Interchange" in 2009. The ISA recommends evaluation for ADL within the project boundaries within the SR65 corridor.

Potential Lead in Soil

Soil testing by Caltrans and others along heavily traveled roads (i.e. heavily traveled prior to 1987) indicates that ADL may be present in the surface soil of the unpaved the shoulders. The lead is generally attributed to emissions from vehicles powered by internal-combustion, leaded-gasoline engines. Along roads where the shoulder subgrade has not been disturbed, the presence of ADL is generally limited to the upper 24 inches. Lead concentrations typically drop rapidly with increasing depth below the ground surface. A portion of the SR65 alignment assessed for this investigation was constructed sometime between 1967 and 1975; therefore, the potential for ADL exists.

Compared to this limited near surface assessment, typical full scale ADL assessments include more samples more sample locations, and they assess the soil profile to a depth of ± 3 feet below ground surface (bgs). However, results of these investigations predictably detect the highest ADL concentrations in the near surface soil (0 to 6 inches below ground surface). Consequently, the intent of this limited surface soil screening is to assess soil expected to represent the highest ADL concentrations within the project area.

SCOPE OF WORK

To prepare this report, BCI:

- Discussed the project with MTCo
- Prepared a map of the proposed sample locations based on the project limits depicted on plans provided by MTCo
- Obtained a County encroachment permit
- Collected surface soil samples (0-4 inches below ground surface) at ten locations along the project alignment
- Submitted ten soil samples for laboratory analysis of total lead
- Submitted the two samples with the highest total lead concentrations for soluble lead analysis
- Reviewed the laboratory test results and prepared this report of ADL Screening

SAMPLING SUMMARY

Sample Locations

Throughout the project corridor, BCI selected ten sample locations along north and south bound shoulders and median of SR65. All sample locations are within eight feet of the existing pavement edge. Each location is in an area where we anticipate the existing soil will be disturbed by the planned interchange construction. Aerially deposited lead concentrations are typically highest at the ground surface and decrease with increasing depth. Therefore, because this is a focused screening, intended to represent the highest ADL concentrations in the project corridor, our sampling targeted surface soils: all ten samples were collected from the zone zero to four inches below ground surface. We show sample locations on the attached "ADL Sample Location Map", Figure 2.

Sample Collection

We collected soil samples using a hand trowel and placed the collected soil in self-sealing plastic bags. We cleaned the sampling equipment between sample locations by washing in an Alconox solution and double rinsing with de-ionized water. Rinse water was disposed at the sample locations. After collection, we labeled the samples with the BCI Project number, sample time, date, location, depth, and the sampler's initials. We delivered all samples under continuous chain-of-custody (COC) to Sunstar Laboratory for testing.

Soil Description

Soils encountered are generally loose silty sand with gravel.

Sample Analysis

We submitted 10 soil samples to Sunstar Labs for total lead analysis using EPA Test Method 6010B. The two samples with highest total lead concentrations (samples ADL-5 and ADL-10) were further tested for soluble lead using the Waste Extraction Test (WET) methodology. The laboratory performed Quality Assurance/Quality Control (QA/QC) procedures including method blanks, and spiked samples. We include a copy of the laboratory reports and chain-of-custody documents in the Appendix.

Analytical Results

Total lead concentrations range from below the detection limit of 3.0 milligram per kilogram (mg/kg) to 100 mg/kg. WET test results are 3.4 mg/l and 4.6 mg/l for samples ADL-5 and ADL-10 respectively. Table 1 summarizes the test results.

TABLE 1:
Total & Soluble Lead Test Results (EPA Method 6010B)

Sample Number	Location	Depth (inches bgs)	Total lead (mg/kg)	WET lead (mg/l)
ADL-1	NB Shoulder	0 – 4	ND	--
ADL-2	NB Shoulder	0 – 4	ND	--
ADL-3	NB Median	0 – 4	ND	--
ADL-4	NB Shoulder	0 – 4	ND	--
ADL-5	SB Median	0 – 4	100	3.4
ADL-6	NB Median	0 – 4	ND	--
ADL-7	NB Shoulder	0 – 4	ND	--
ADL-8	SB Shoulder	0 – 4	52	--
ADL-9	SB Shoulder	0 – 4	55	--
ADL-10	SB Shoulder	0 – 4	78	4.6

NB = northbound; SB = southbound
bgs = below ground surface
ND = Not detected at a reporting limit of 3.0 mg/kg

CONCLUSIONS AND RECOMMENDATIONS

Based on the distribution of "total lead", it appears that ADL is present along the shoulder and median of the southbound lanes. No detectable concentrations of "total lead" were detected along the northbound lanes. These findings are consistent with the historic roadway configuration. Specifically, historic SR65 was a two lane highway. In 1998, when it was expanded to a four lane divided highway, the northbound lanes were added and the two existing lanes became the southbound lanes. Consequently, it's reasonable to conclude that if ADL is present it will be associated with the older (current southbound) lanes.

"Total lead" concentrations adjacent to the southbound lanes are relatively low (all concentrations at or below 100 mg/kg). This is well below the total Threshold Limit Concentration (TTLC) of 1,000 mg/kg that defines the lower limit for hazardous waste. However, all four samples from the southbound lanes did exceed the 50 mg/kg threshold (equal to ten times the Soluble Threshold Limit Concentration (STLC) for lead of 5mg/l). Commonly when total lead concentrations exceed 50 mg/kg additional testing is done to establish relative soluble lead concentrations.

Soluble lead testing is done using the Waste Extraction Test (WET). Based on the findings of this investigation, specifically, that four of ten samples have "total lead" concentrations greater than 50 mg/kg, the two samples with the highest "total lead" concentrations were selected for

soluble lead testing. Soluble lead (WET) test results range from 3.4 to 4.6 mg/l, which correspond to "total lead" concentrations of 100 and 78 mg/kg, respectively. These soluble lead results are below the STLC hazardous waste threshold of 5 mg/l.

Consequently, because this assessment focuses on the near surface soil, it is biased toward identifying "elevated" ADL concentrations. If the investigation were expanded to model a deeper soil section (i.e. 0 to 3 ft. bgs), where ADL concentrations drop sharply within the upper 3 feet of the soil profile, the average total and soluble concentrations would be significantly lower than the values presented in this screening. Therefore, based on the concentrations of both total and soluble lead detected, it is our opinion that additional testing including the deeper soil horizons is not warranted.

Caltrans should review these screening results to determine if they concur with the findings.

The contractor should provide a lead compliance plan as part of worker health and safety plans.

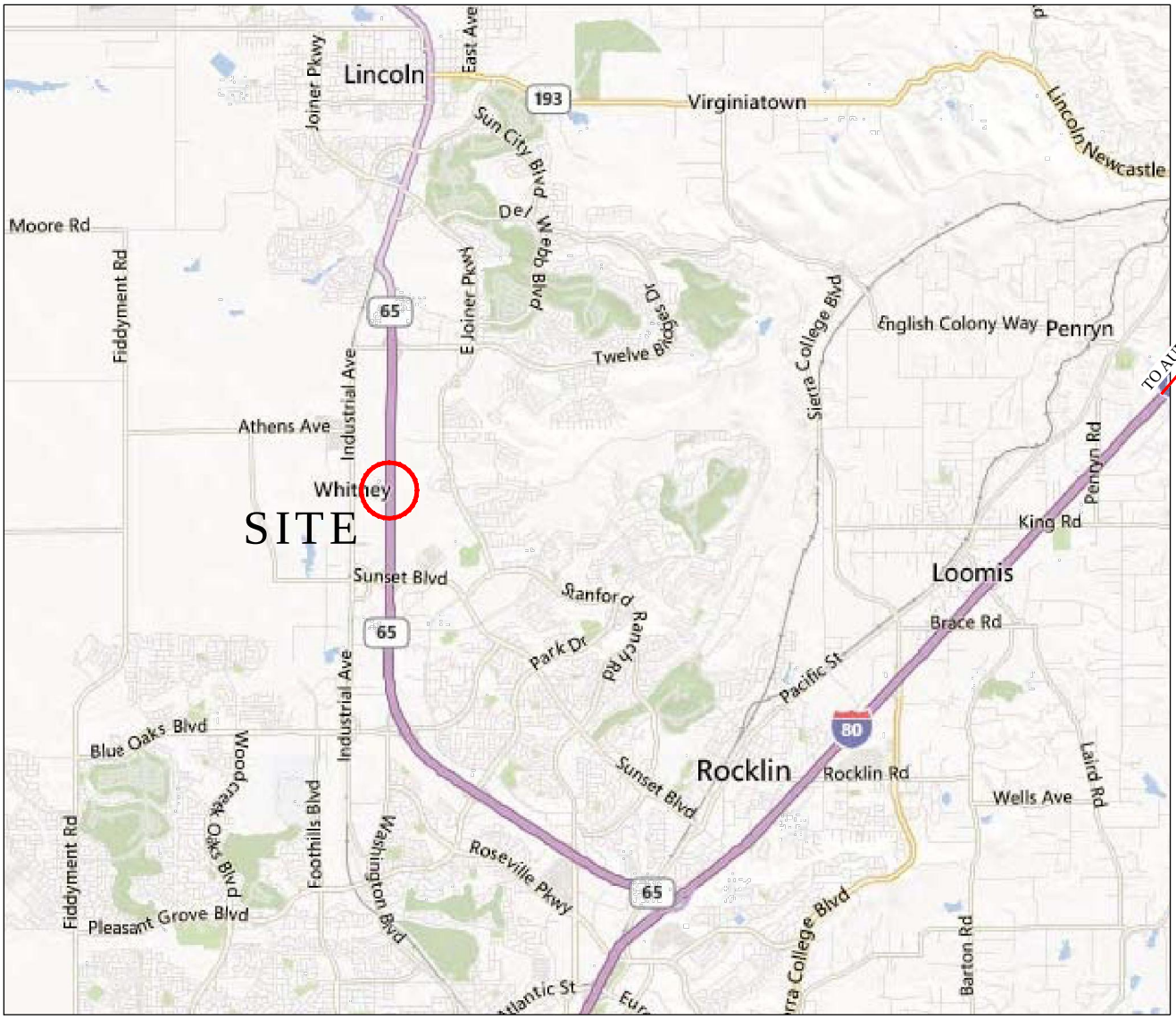
LIMITATIONS

BCI performed these services in accordance with generally accepted environmental engineering principles and practices currently used in Northern California. We do not warranty our services.

Our scope does not include evaluation of other hazardous materials or a determination of their potential presence on the site.

This report is not a comprehensive site characterization. We base the findings presented in this report on limited soil sampling and laboratory analyses. This report is not intended to address potential impacts related to sources other than those specified herein.

Figures



N

NO SCALE

blackburn consulting

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VICINITY MAP

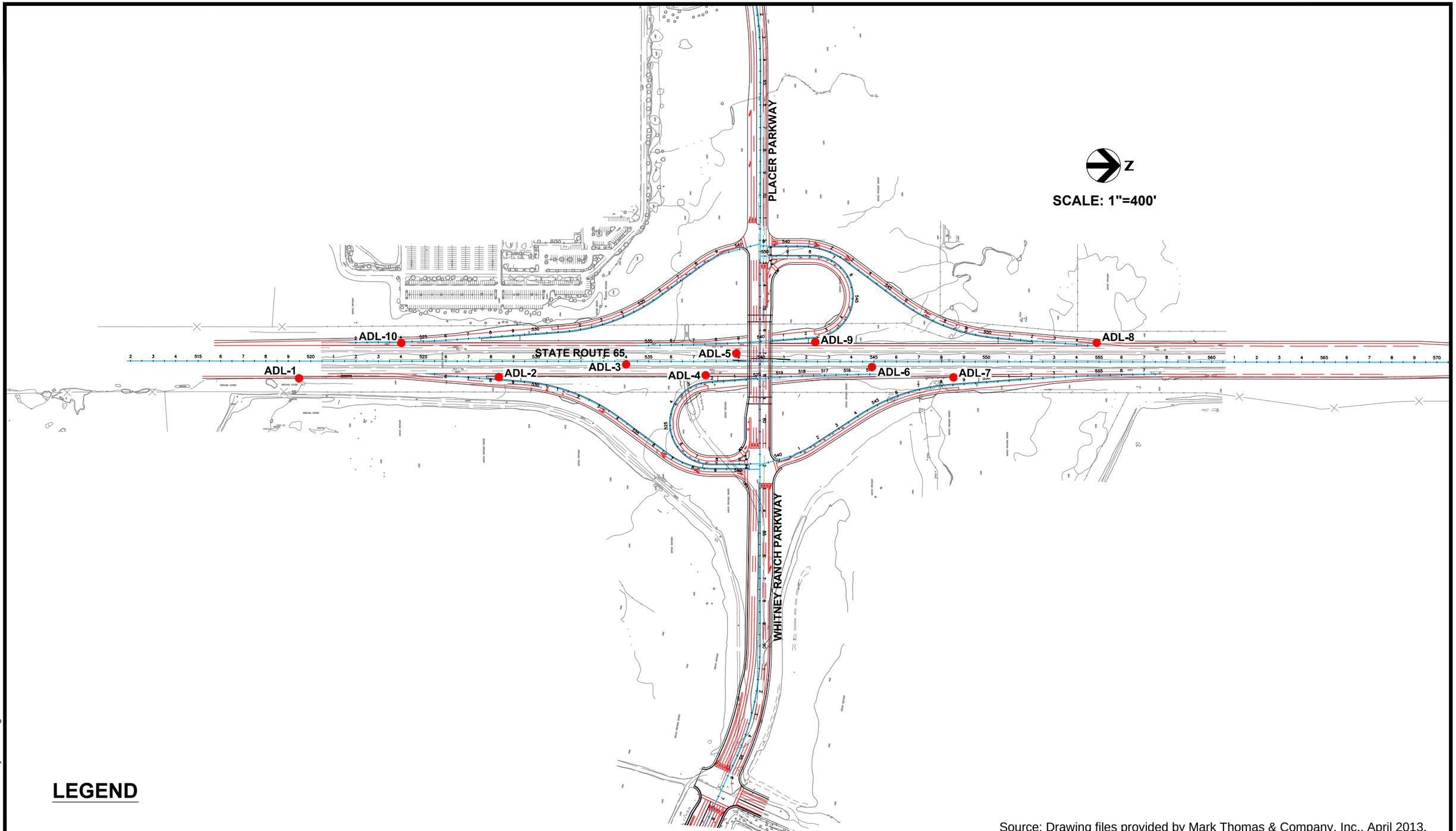
Placer Parkway / SR65 Interchange
Placer County, California

File No. 2150.3

May 2013

Figure 1

4/15/2013 2150.X Fig 1 Placer Parkway ISA.dwg



LEGEND

ADL-1 ● APPROXIMATE SAMPLING LOCATION

Source: Drawing files provided by Mark Thomas & Company, Inc., April 2013.

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ADL SAMPLE LOCATION MAP

Placer Parkway / SR65 Interchange
Placer County, California

File No. 2150.3

May 2013

Figure 2

5/28/2013 2150.3 Fig 2 Placer Parkway ADL.dwg

APPENDIX A

Laboratory Test Results
Chain of Custody

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

21 March 2013

Dave Buck
Blackburn Consulting
11521 Blocker Dr #110
Auburn, CA 95603

RE: Place Parkway / SR65

Enclosed are the results of analyses for samples received by the laboratory on 03/15/13 09:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Wendy Hsiao For Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	03/21/13 13:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
ADL-1	T130605-01	Soil	03/14/13 09:40	03/15/13 09:50
ADL-2	T130605-02	Soil	03/14/13 09:50	03/15/13 09:50
ADL-3	T130605-03	Soil	03/14/13 09:55	03/15/13 09:50
ADL-4	T130605-04	Soil	03/14/13 10:00	03/15/13 09:50
ADL-5	T130605-05	Soil	03/14/13 10:10	03/15/13 09:50
ADL-6	T130605-06	Soil	03/14/13 10:15	03/15/13 09:50
ADL-7	T130605-07	Soil	03/14/13 10:20	03/15/13 09:50
ADL-8	T130605-08	Soil	03/14/13 10:40	03/15/13 09:50
ADL-9	T130605-09	Soil	03/14/13 10:50	03/15/13 09:50
ADL-10	T130605-10	Soil	03/14/13 11:00	03/15/13 09:50

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Wendy Hsiao For Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	03/21/13 13:26

ADL-1

T130605-01 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	ND	3.0	mg/kg	1	3031530	03/15/13	03/18/13	EPA 6010B	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Wendy Hsiao For Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	03/21/13 13:26

ADL-2

T130605-02 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	ND	3.0	mg/kg	1	3031530	03/15/13	03/18/13	EPA 6010B	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	03/21/13 13:26

ADL-3

T130605-03 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	ND	3.0	mg/kg	1	3031530	03/15/13	03/18/13	EPA 6010B	

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
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949.297.5027 Fax

Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	03/21/13 13:26

ADL-4

T130605-04 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	ND	3.0	mg/kg	1	3031530	03/15/13	03/18/13	EPA 6010B	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	03/21/13 13:26

ADL-5

T130605-05 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**100**	3.0	mg/kg	1	3031530	03/15/13	03/18/13	EPA 6010B	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	03/21/13 13:26

ADL-6

T130605-06 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	ND	3.0	mg/kg	1	3031530	03/15/13	03/18/13	EPA 6010B	

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	03/21/13 13:26

ADL-7

T130605-07 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	ND	3.0	mg/kg	1	3031530	03/15/13	03/18/13	EPA 6010B	

SunStar Laboratories, Inc.
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949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	03/21/13 13:26

ADL-8

T130605-08 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**52**	3.0	mg/kg	1	3031530	03/15/13	03/18/13	EPA 6010B	

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949.297.5027 Fax

Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	03/21/13 13:26

ADL-9

T130605-09 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**55**	3.0	mg/kg	1	3031530	03/15/13	03/18/13	EPA 6010B	

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949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	03/21/13 13:26

ADL-10

T130605-10 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**78**	3.0	mg/kg	1	3031530	03/15/13	03/18/13	EPA 6010B	

SunStar Laboratories, Inc.
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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	03/21/13 13:26

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3031530 - EPA 3051										
Blank (3031530-BLK1)				Prepared: 03/15/13		Analyzed: 03/18/13				
Lead	ND	3.0	mg/kg							
LCS (3031530-BS1)				Prepared: 03/15/13		Analyzed: 03/18/13				
Lead	113	3.0	mg/kg	100		113	75-125			
Matrix Spike (3031530-MS1)	**Source: T130605-01**			Prepared: 03/15/13		Analyzed: 03/18/13				
Lead	106	3.0	mg/kg	100	ND	106	75-125			
Matrix Spike Dup (3031530-MSD1)	**Source: T130605-01**			Prepared: 03/15/13		Analyzed: 03/18/13				
Lead	107	3.0	mg/kg	100	ND	107	75-125	0.618	20	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Wendy Hsiao For Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
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949.297.5027 Fax

Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	03/21/13 13:26

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.

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Wendy Hsiao For Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: Blackburn Consulting (BCI)
Address: 11521 Blocker Dr #110, Auburn, CA 95603
Phone: 530-887-1494 Fax:
Project Manager: David Buck

Date: 3/14/13 Page: 1 Of 1
Project Name: Placer Parkway / SR65
Collector: David Buck Client Project #: 2150.X
Batch #: T130605 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	TCLP				Laboratory ID #	Comments/Preservative	Total # of containers
ADL-1	3/14/13	9:30	Soil	2 jars										X				01		
2		9:50																02		
3		9:55																03		
4		10:00																04		
5		10:10																05		
6		10:15																06		
7		10:20																07		
8		10:40																08		
9		10:50																09		
10		11:00																10		

Relinquished by: (signature) Date / Time: 3/14/13 1:30 PM
Received by: (signature) Date / Time: 3-14-13

Relinquished by: GSO Date / Time: 3.15.13 9:50
Received by: (signature) Date / Time: 3.15.13 9:50

Relinquished by: (signature) Date / Time:
Received by: (signature) Date / Time:

13 Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 5.3

Turn around time: 4 day (needed 3/21/13)

Notes
STD. TAT
3.15.13

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

SAMPLE RECEIVING REVIEW SHEET

BATCH # T130605

Client Name: Blackburn Con. Project: Place Parkway / SR65

Received by: Sunny Date/Time Received: 3.15.13 / 9:50

Delivered by : ☐ Client ☐ SunStar Courier ☒ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 1 **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 5.5 °C +/- the CF (- 0.2°C) = 5.3 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

Samples outside temp. but received on ice, w/in 6 hours of final sampling.	☒ Yes	☐ No*	☐ N/A
Custody Seals Intact on Cooler/Sample	☒ Yes	☐ No*	☐ N/A
Sample Containers Intact	☒ Yes	☐ No*	
Sample labels match COC ID's	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☐ Yes	☐ No*	☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date SZ 3.15.13

Comments:

_____

_____

_____

_____

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

22 April 2013

Dave Buck
Blackburn Consulting
11521 Blocker Dr #110
Auburn, CA 95603

RE: Place Parkway / SR65

Enclosed are the results of analyses for samples received by the laboratory on 03/15/13 09:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Wendy Hsiao For Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
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949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	04/22/13 17:01

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
ADL-5	T130605-05	Soil	03/14/13 10:10	03/15/13 09:50
ADL-10	T130605-10	Soil	03/14/13 11:00	03/15/13 09:50

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Wendy Hsiao For Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
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Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	04/22/13 17:01

ADL-5

T130605-05 (Soil)

SunStar Laboratories, Inc.

STLC Metals by 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**3.4**	0.10	mg/l	1	3041729	04/17/13	04/22/13	STLC EPA 6010	

SunStar Laboratories, Inc.

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Wendy Hsiao For Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
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Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	04/22/13 17:01

ADL-10

T130605-10 (Soil)

SunStar Laboratories, Inc.

STLC Metals by 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**4.6**	0.10	mg/l	1	3041729	04/17/13	04/22/13	STLC EPA 6010	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Wendy Hsiao

Wendy Hsiao For Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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949.297.5027 Fax

Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	04/22/13 17:01

STLC Metals by 6000/7000 Series Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3041729 - STLC Metals										
Blank (3041729-BLK1)				Prepared: 04/17/13 Analyzed: 04/22/13						
Lead	ND	0.10	mg/l							
LCS (3041729-BS1)				Prepared: 04/17/13 Analyzed: 04/22/13						
Lead	9.94	0.10	mg/l	10.0		99.4	75-125			
Matrix Spike (3041729-MS1)	**Source: T130605-05**			Prepared: 04/17/13 Analyzed: 04/22/13						
Lead	13.5	0.10	mg/l	10.0	3.39	101	75-125			
Matrix Spike Dup (3041729-MSD1)	**Source: T130605-05**			Prepared: 04/17/13 Analyzed: 04/22/13						
Lead	13.0	0.10	mg/l	10.0	3.39	96.0	75-125	3.51	30	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Wendy Hsiao For Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: Place Parkway / SR65	
11521 Blocker Dr #110	Project Number: 2150.X	**Reported:**
Auburn CA, 95603	Project Manager: Dave Buck	04/22/13 17:01

Notes and Definitions

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ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Wendy Hsiao For Daniel Chavez, Project Manager

Wendy Hsiao

From: Dave Buck [daveb@blackburnconsulting.com]
Sent: Wednesday, April 17, 2013 9:39 AM
To: 'Wendy Hsiao'
Subject: RE: final report and invoice for SR65 (T130605)

Hi Wendy – I need to have two of the samples run for WET lead:

ADL-5

ADL-10

I'm not sure what the minimum time is for extraction but If possible I would like to get the results by next Monday.

Thanks

Dave Buck

From: Wendy Hsiao [mailto:wendy@sunstarlabs.com]
Sent: Thursday, March 21, 2013 1:36 PM
To: 'Dave Buck'
Cc: 'Bill Hannell'; accounting@sunstarlabs.com; 'Rene Erickson'; accounting@sunstarlabs.com
Subject: final report and invoice for SR65 (T130605)

Hi Dave,

Here is the final report and invoice for the project referenced in the subject line.
Please feel free to contact me if you have any questions or need any further STLC/TCLP tests run.

Thank you,

Wendy Hsiao
Project Manager
SunStar Laboratories, Inc.
25712 Commercentre Drive, Lake Forest, CA 92630
Office: (949) 297-5020
E-mail: wendy@sunstarlabs.com

APPENDIX B

BCI Aerially Deposited Lead Screening Evaluation
Pleasant Grove Interchange, October 2007

AERIALLY DEPOSITED LEAD SCREENING INVESTIGATION

State Route 65 / Pleasant Grove Boulevard Interchange

Roseville, California

Prepared by:
Blackburn Consulting
11521 Blocker Drive, Suite 110
Auburn, CA 95603

October 2007

Prepared for:
Mark Thomas & Company, Inc.

BCI File No. 1081.2
October 3, 2007

Mr. Matt Brogan
Mark Thomas & Company
7300 Folsom Blvd., Suite 203
Sacramento, CA 95826

Subject: **Aerially Deposited Lead Screening Investigation**
SR65/Pleasant Grove Boulevard Interchange
Roseville, California

Dear Mr. Brogan:

Blackburn Consulting (BCI) has completed aerially deposited lead (ADL) testing of soil in select areas of the proposed road improvements for the SR65/Pleasant Grove Boulevard Interchange project.

In summary, all collected and tested soil samples have detectable lead concentrations less than 10 parts per million (ppm) lead. Our report includes a description of the project, a summary of findings, and a map of the sample locations.

Sincerely,

BLACKBURN CONSULTING

Alfred P. Worcester, P.G., C.E.G.
Senior Project Manager

Reviewed by:

Jeffrey S. Patton, P.E.
Principal Engineer

Aerially Deposited Lead Screening Investigation
SR65/Pleasant Grove Boulevard Interchange
Roseville, California

TABLE OF CONTENTS

INTRODUCTION

Blackburn Consulting (BCI) is pleased to provide this letter report of a limited screening investigation for aerially deposited lead (ADL) for the City of Roseville's SR65/Pleasant Grove Boulevard Interchange project. We show the project site on a "Vicinity Map" attached as Figure 1.

Typically, Caltrans requires an ADL investigation for improvements along State owned roads, particularly roads constructed prior to 1987, which is the date of effective removal of lead from automobile fuels. There were no roads in the project area prior to 1987 and the subject roads (i.e. State Route 65 and Pleasant Grove Boulevard) were not extended into the project area until 1992. Therefore, the likelihood of encountering significant ADL concentrations in the improvement area was low, but it couldn't be rationally discounted without any supporting documentation. Consequently, the City decided to perform this limited ADL screening in the project area.

If this limited investigation had detected evidence of elevated ADL this report would have recommended additional sampling and testing. However, since the detected concentrations are low, there is no apparent need for additional sampling and testing.

Project Description

The current SR65/Pleasant Grove Boulevard interchange was opened in 2000. The overcrossing allows 4 lanes of Pleasant Grove Boulevard to cross over 6 lanes of SR65.

Based on information provided by Mark Thomas & Company (MTCo), the proposed improvements consist of the following:

- Widen the Pleasant Grove Boulevard overcrossing structure on the northwest side.
- Add southbound travel lanes along the west side of Pleasant Grove Boulevard from Fairway Drive to the overcrossing structure.
- Provide a fourth travel lane along the east side of Pleasant Grove Boulevard between Roseville Parkway and the southbound SR65 ramp terminal.
- Provide three travel lanes in each direction along Pleasant Grove Boulevard between Highland Park Drive and Fairway Drive.
- Construct a southbound SR65 loop on-ramp from southbound Pleasant Grove Boulevard.
- Provide an additional lane at the southbound and northbound exit ramp terminals from SR65.
- Add auxiliary lanes along northbound and southbound SR65, between Pleasant Grove Boulevard and the Galleria Boulevard / Stanford Ranch Road Interchanges. The auxiliary lanes are planned as a separate, later phase of the project.

BACKGROUND

Hazardous Materials Determination Criteria

Regulatory criteria to classify a waste as "California Hazardous" for handling and disposal purposes are contained in the California Code of Regulations (CCR), Title 22, Division 4.5, Chapter 11, Article 3, subsection 66261.24. Federal criteria to classify a waste as "Resource Conservation and Recovery Act (RCRA) Hazardous Waste" are contained in Chapter 40 of the Code of Federal Regulations (40 CFR), Section 261.

For a waste containing metals, it is classified as California Hazardous when: 1) the total metal content exceeds the respective Total Threshold Limit Concentration (TTLC) of 1000 mg/kg (California); or 2) the soluble metal content exceeds the respective Soluble Threshold Limit Concentration (STLC) of 5 milligrams/liter (mg/l). For California waste, the soluble level is determined using the Waste Extraction Test (WET) with de-ionized water. For Federal RCRA waste the soluble value is determined using the Toxicity Characteristic Leaching Potential (TCLP) test.

A lead-containing soil has the potential of exceeding the 5 mg/l soluble concentration (Federal criteria to classify as waste as hazardous) when the soil has a total lead content greater than or equal to ten times the respective STLC regulatory level (i.e. 50 mg/kg). Hence, when test results detect total lead in excess of 10 times the STLC, soluble metal analysis is typically recommended.

SCOPE

BCI completed the following tasks to prepare this report.

- Hand-augured seven (7) sample locations, and collected soil samples from 0 to 4 inches below ground surface (bgs) and between about 8 to 18 inches bgs. We obtained soil samples from the unpaved, exterior shoulders of proposed widening areas, from the proposed exit ramp widening areas, and at the foundation area where the overcrossing will be widened. All samples are located within 10 to 15 feet of the paved, travel lanes. Our original scope included six (6) sample locations but we collected an additional sample to determine potential lead impacts in the SR65 median adjacent to the existing bent.

- Conducted laboratory analysis of 13 samples for total lead.

- Reviewed the lab test results and prepared this report of findings for the City and Caltrans to review.

SAMPLING SUMMARY

Sample Locations

BCI selected seven (7) ADL test locations within the project limits. Each location represents an area where the existing soil may be disturbed by planned new construction.

Plans provided by MTCo define the project limits. ADL sample locations are shown on the "ADL Sampling Map", Figure 2.

Sampling Collection

We collected soil samples using a combination of hand augering and a slide-hammer to drive a 1.0-inch diameter, slotted-spoon, soil sampler to the desired sample interval. After driving to the appropriate depth, we manually retrieved a soil sample from the slotted spoon. We sealed the collected soil samples in sterile glass jars provided by the analytical lab. After collection, we labeled the samples with the BCI Project number, sample time, date, location, depth, and the sampler's initials. We maintained all samples under continuous chain-of-custody (COC) until transport to the ExcelChem laboratory for testing.

At each sample interval, we cleaned the slotted-spoon by washing in an Alconox solution, rinsing with tap water, and final rinse with deionized water. Rinse water was disposed at the sample locations.

Soil Description

Consistent with our previous geotechnical investigation of the site, surface soils consist of predominately dense to very dense, dry to slightly moist, silty sand with gravel and cobbles.

Sample Analysis

We submitted thirteen (13) soil samples to ExcelChem for total lead analysis using EPA Test Method 6010B.

Copies of the laboratory reports and chain-of-custody documents are attached to the report.

Analytical Results

The tests show low lead concentrations in all samples. The lowest is 3.0 ppm at ADL-5 (0 to 4 inches). The highest is 8.0 mg/kg at ADL-7 (0 to 4 inches bgs).

We present analytical test results on Table 1.

TABLE 1:
TTLC Analytical Test Results

Boring	Total lead (mg/kg)	
	0 to 4 inches	8 to 18 inches
ADL-1	3.2	3.2
ADL-2	4.4	5.0
ADL-3	3.7	3.1
ADL-4	4.6	4.0
ADL-5	3.0	4.1
ADL-6	4.1	4.5
ADL-7	8.0	N/A

CONCLUSIONS AND RECOMMENDATIONS

Statistical Evaluation

Following the hazardous waste characterization guidelines published in California Code of Regulations (CCR), Title 22, Section 66694, we used appropriate statistical analysis to assess the total lead findings.

From all lead test results, the total lead concentration average is 4.2 mg/kg, the standard deviation is 1.3 mg/kg, the 90 percent upper confidence interval (UCI) is 4.7 mg/kg, and the 95 percent UCI is 4.9 mg/kg.

Recommendations

We do not recommend additional analysis and field sampling, based on the following:

- Low overall total lead concentrations.
- Low average total lead (significantly less than 50 mg/kg).
- A 95 percent UCI that is an order of magnitude below the California action level (350 mg/kg) and the California Preliminary Remediation Goal (PRG) for industrial areas (400 mg/kg).

Risk to Human Health

Based on the current and proposed land use for the project and surrounding areas, it is appropriate to compare the highest reported total lead values to the EPA Region 9 Preliminary Remediation Goal (PRG) for lead in both industrial and residential soil.

The highest reported total lead concentration from all tests conducted for this project is 8.0 mg/kg. The 95% UCI for total lead in soil located within 18 inches of the ground surface is less than 5.0 mg/kg. This value is significantly less than the California-modified 150 mg/kg PRG in residential application.

Waste Disposal/Soil Reuse

Based on our review and analysis of the lead testing data, we conclude that the Contractor may reuse, without restrictions related to ADL, all soil excavated within the project boundaries. However, this does not relieve the contractor of his independent responsibility to confirm the actual conditions. Soil should not be moved outside the project boundaries without prior written approval from the City.

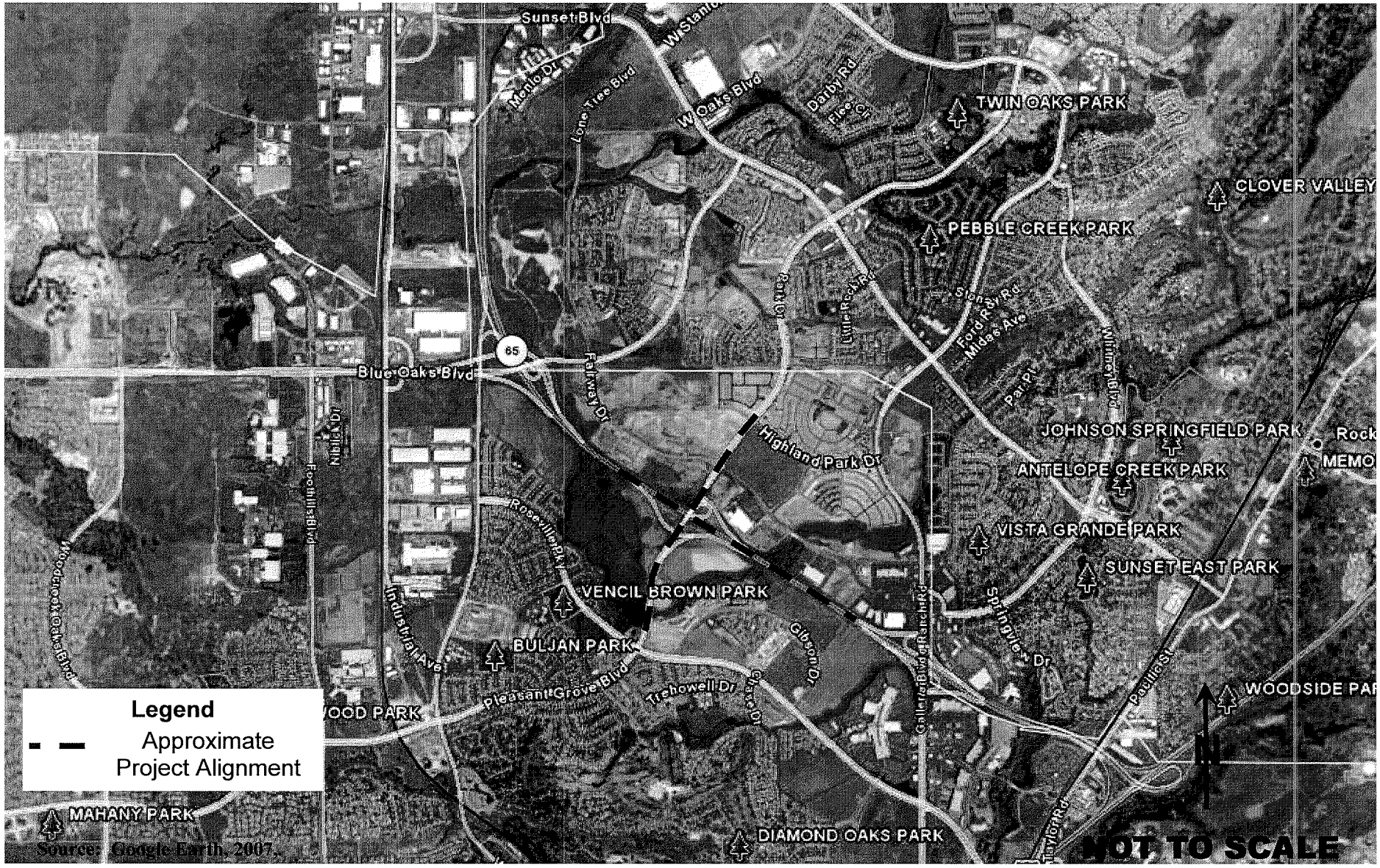
LIMITATIONS

BCI performed these services in accordance with generally accepted environmental engineering principles and practices currently used in Northern California. We do not warranty our services.

We intend this report for MTCo and the City of Roseville to use during advanced planning and construction. Do not rely on this report for different locations or improvements. Others shall not rely upon this report without the written consent of BCI.

Our scope does not include evaluation of other hazardous materials or a determination of their potential presence on the site.

The scope of services performed to prepare this report are not intended to be a comprehensive site characterization. The findings presented in this report are based on the results of limited sampling and laboratory analyses. This scope of services is only intended to look for indications that elevated ADL concentrations may be encountered within the project area.



Source: Google Earth, 2007.

blackburn consulting

11521 Blocker Drive, Suite 110
Auburn, CA 95603

(530) 887-1494
(530) 887-1495-Fax

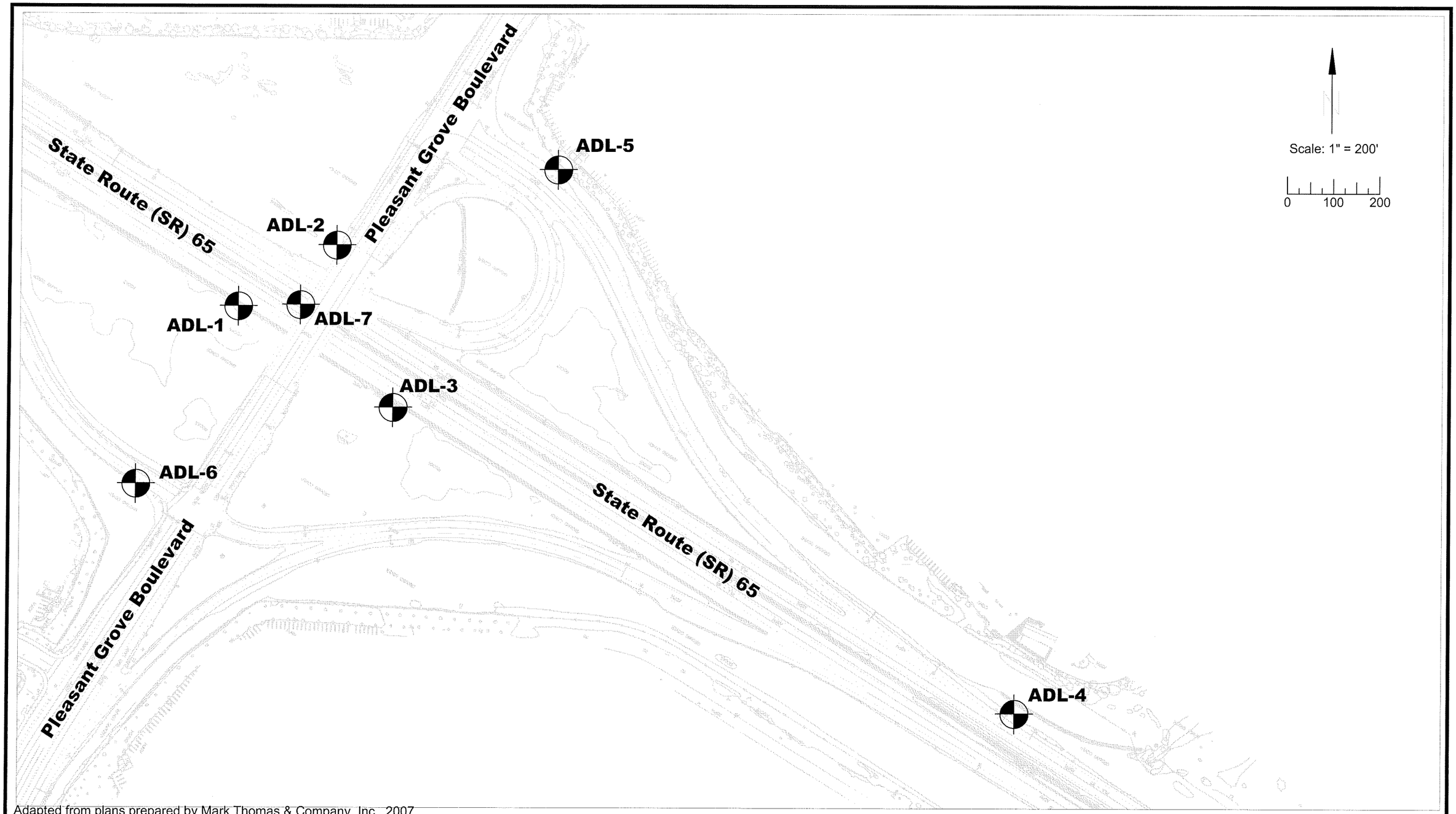
www.blackburnconsulting.com

VICINITY MAP
Pleasant Grove Boulevard / State Route 65 Interchange, Phase II
Roseville, California

File No. 1081.2

October 2007

Figure 1



Adapted from plans prepared by Mark Thomas & Company, Inc., 2007

blackburn consulting

11521 Blocker Drive
Suite 110
Auburn, CA 95603

Phone (530) 887-1494
Fax (530) 887-1495

E-Mail:
bcistaff@blackburnconsulting.com

ADL SAMPLING MAP

Pleasant Grove Boulevard / SR65 Interchange Project
Roseville, California

File No. 1081.2

October 2007

Figure 2

EXCELCHEM
Environmental Labs

1135 W Sunset Boulevard
Suite A
Rocklin, CA 95765
Phone# 916-543-4445
Fax# 916-543-4449

ELAP Certificate No. : 2119

10 September 2007

Alfred P. Worcester

Blackburn

11521 Blocker Dr, Suite 110

Auburn, CA 95603

RE: Pleasant Grove

Workorder number:0708147

Enclosed are the results of analyses for samples received by the laboratory on 08/31/07 13:52. All Quality Control results are within acceptable limits except where noted as a case narrative. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

_____

John Somers, Lab Director

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
ADL-6 0-4	0708147-01	Soil	08/31/07 10:30	08/31/07 13:52
ADL-6 12-18	0708147-02	Soil	08/31/07 10:55	08/31/07 13:52
ADL-1 0-4	0708147-03	Soil	08/31/07 11:05	08/31/07 13:52
ADL-1 10-12	0708147-04	Soil	08/31/07 11:10	08/31/07 13:52
ADL-2 0-4	0708147-05	Soil	08/31/07 12:30	08/31/07 13:52
ADL-2 12-18	0708147-06	Soil	08/31/07 12:30	08/31/07 13:52
ADL-3 0-4	0708147-07	Soil	08/31/07 11:15	08/31/07 13:52
ADL-3 10-12	0708147-08	Soil	08/31/07 11:20	08/31/07 13:52
ADL-4 04	0708147-09	Soil	08/31/07 11:52	08/31/07 13:52
ADL-4 8-10	0708147-10	Soil	08/31/07 11:59	08/31/07 13:52
ADL-5 0-4	0708147-11	Soil	08/31/07 12:05	08/31/07 13:52
ADL-5 12-18	0708147-12	Soil	08/31/07 12:18	08/31/07 13:52
ADL-7 0-4	0708147-13	Soil	08/31/07 12:50	08/31/07 13:52

Excelchem Environmental Lab.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Laboratory Representative

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12

ADL-6 0-4
0708147-01 (Soil)

Analyte	Result	Reporting Limit	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
METALS BY 6000/7000 SERIES								
Lead	**4.1**	1.0	mg/kg	AQI0055	09/08/07	09/10/07	EPA 6010B	

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12

ADL-6 12-18
0708147-02 (Soil)

Analyte	Result	Reporting Limit	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
METALS BY 6000/7000 SERIES								
Lead	**4.5**	1.0	mg/kg	AQI0055	09/08/07	09/10/07	EPA 6010B	

Excelchem Environmental Lab.

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Laboratory Representative

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12

ADL-1 0-4
0708147-03 (Soil)

Analyte	Result	Reporting Limit	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
METALS BY 6000/7000 SERIES								
Lead	**3.2**	1.0	mg/kg	AQI0055	09/08/07	09/10/07	EPA 6010B	

Excelchem Environmental Lab.

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Laboratory Representative

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12

ADL-1 10-12
0708147-04 (Soil)

Analyte	Result	Reporting Limit	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
METALS BY 6000/7000 SERIES								
Lead	**3.2**	1.0	mg/kg	AQI0055	09/08/07	09/10/07	EPA 6010B	

Excelchem Environmental Lab.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Laboratory Representative

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12

ADL-2 0-4

0708147-05 (Soil)

Analyte	Result	Reporting Limit	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
METALS BY 6000/7000 SERIES								
Lead	**4.4**	1.0	mg/kg	AQI0055	09/08/07	09/10/07	EPA 6010B	

Excelchem Environmental Lab.

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Laboratory Representative

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12

ADL-2 12-18
0708147-06 (Soil)

Analyte	Result	Reporting Limit	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
METALS BY 6000/7000 SERIES								
Lead	**5.0**	1.0	mg/kg	AQI0055	09/08/07	09/10/07	EPA 6010B	

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12

ADL-3 0-4
0708147-07 (Soil)

Analyte	Result	Reporting Limit	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
METALS BY 6000/7000 SERIES								
Lead	**3.7**	1.0	mg/kg	AQI0055	09/08/07	09/10/07	EPA 6010B	

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12

ADL-3 10-12
0708147-08 (Soil)

Analyte	Result	Reporting Limit	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
METALS BY 6000/7000 SERIES								
Lead	**3.1**	1.0	mg/kg	AQI0055	09/08/07	09/10/07	EPA 6010B	

Excelchem Environmental Lab.

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Laboratory Representative

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12

ADL-4 04

0708147-09 (Soil)

Analyte	Result	Reporting Limit	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
METALS BY 6000/7000 SERIES								
Lead	**4.6**	1.0	mg/kg	AQI0055	09/08/07	09/10/07	EPA 6010B	

Excelchem Environmental Lab.

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Laboratory Representative

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12

ADL-4 8-10
0708147-10 (Soil)

Analyte	Result	Reporting Limit	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
METALS BY 6000/7000 SERIES								
Lead	**4.0**	1.0	mg/kg	AQI0055	09/08/07	09/10/07	EPA 6010B	

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12

ADL-5 0-4
0708147-11 (Soil)

Analyte	Result	Reporting Limit	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
METALS BY 6000/7000 SERIES								
Lead	**3.0**	1.0	mg/kg	AQI0055	09/08/07	09/10/07	EPA 6010B	

Excelchem Environmental Lab.

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Laboratory Representative

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12

ADL-5 12-18
0708147-12 (Soil)

Analyte	Result	Reporting Limit	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
METALS BY 6000/7000 SERIES								
Lead	**4.1**	1.0	mg/kg	AQI0055	09/08/07	09/10/07	EPA 6010B	

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12

ADL-7 0-4
0708147-13 (Soil)

Analyte	Result	Reporting Limit	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
METALS BY 6000/7000 SERIES								
Lead	**8.0**	1.0	mg/kg	AQ10055	09/08/07	09/10/07	EPA 6010B	

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12

METALS BY 6000/7000 SERIES - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AQI0055 - EPA 6010B										
Blank (AQI0055-BLK1)				Prepared: 09/08/07 Analyzed: 09/10/07						
Lead	ND	1.0	mg/kg							
LCS (AQI0055-BS1)				Prepared: 09/08/07 Analyzed: 09/10/07						
Lead	97.6	1.0	mg/kg	100		97.6	75-125			
LCS Dup (AQI0055-BSD1)				Prepared: 09/08/07 Analyzed: 09/10/07						
Lead	98.6	1.0	mg/kg	100		98.6	75-125	1.02	25	
Matrix Spike (AQI0055-MS1)		**Source: 0708147-01**		Prepared: 09/08/07 Analyzed: 09/10/07						
Lead	98.4	1.0	mg/kg	100	4.1	94.3	75-125			
Matrix Spike Dup (AQI0055-MSD1)		**Source: 0708147-01**		Prepared: 09/08/07 Analyzed: 09/10/07						
Lead	99.6	1.0	mg/kg	100	4.1	95.5	75-125	1.21	25	

Laboratory Representative

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12

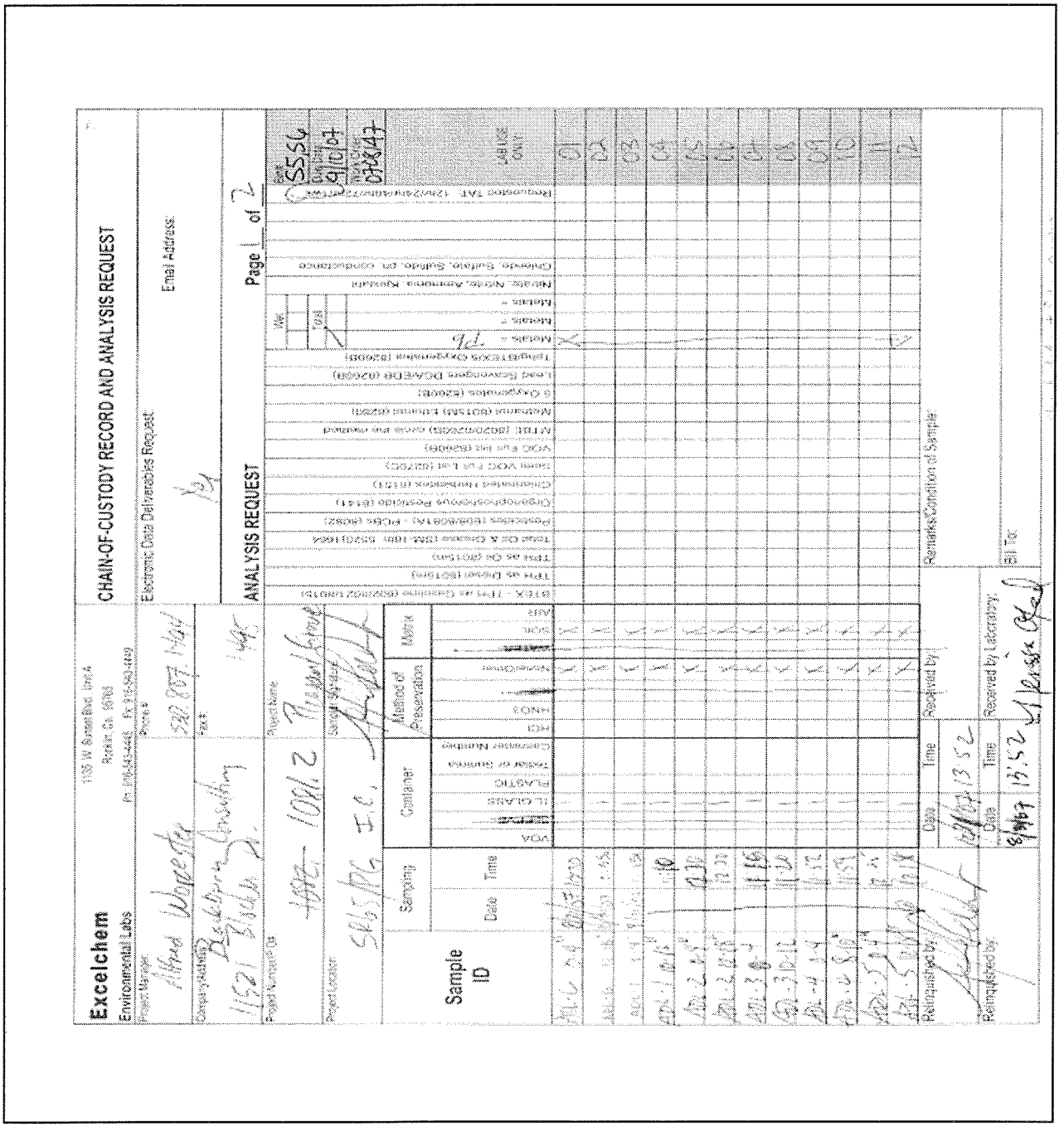
Notes and Definitions

ND - Analyte not detected at reporting limit.

NR - Not reported

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12



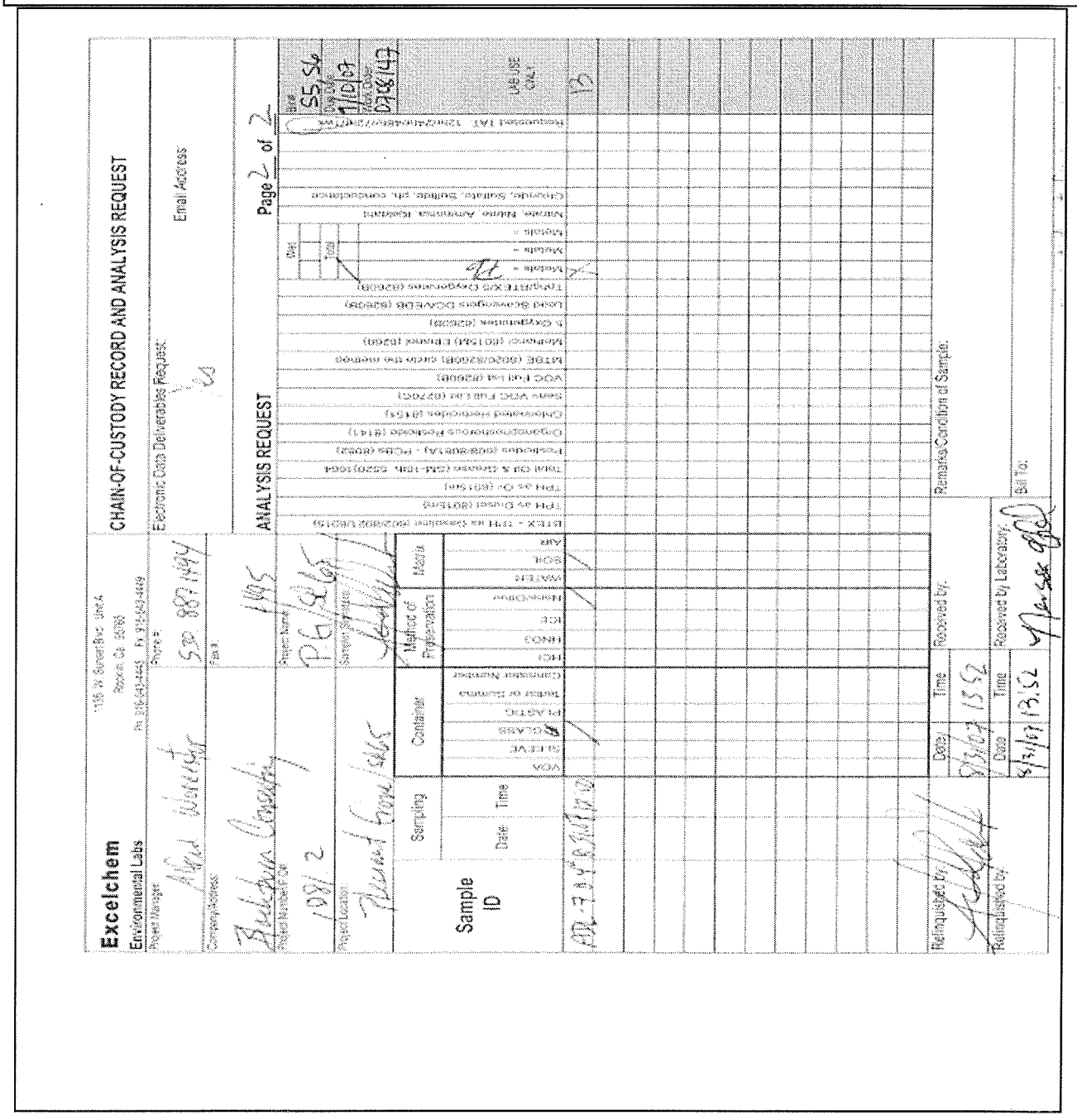
Excelchem Environmental Lab.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Laboratory Representative

Excelchem Environmental Labs

Blackburn	Project:	Pleasant Grove	
11521 Blocker Dr, Suite 110	Project Number:	1081.2	Date Reported:
Auburn, CA 95603	Project Manager:	Alfred P. Worcester	09/10/07 16:12



APPENDIX C

SunStar Laboratories Analytical Results and Chain-of-Custody

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

08 August 2014

Laura Long
Blackburn Consulting
11521 Blocker Dr #110
Auburn, CA 95603

RE: SR65 Capacity

Enclosed are the results of analyses for samples received by the laboratory on 08/01/14 08:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel J. Chavez

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	Reported:
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S49-2	T141513-01	Soil	07/29/14 09:45	08/01/14 08:40
S49-15	T141513-02	Soil	07/29/14 09:45	08/01/14 08:40
S48-2	T141513-03	Soil	07/29/14 10:20	08/01/14 08:40
S48-15	T141513-04	Soil	07/29/14 10:20	08/01/14 08:40
S46-2	T141513-05	Soil	07/29/14 10:50	08/01/14 08:40
S46-15	T141513-06	Soil	07/29/14 10:50	08/01/14 08:40
S44-2	T141513-07	Soil	07/29/14 10:30	08/01/14 08:40
S41-2	T141513-08	Soil	07/29/14 12:30	08/01/14 08:40
S41-15	T141513-09	Soil	07/29/14 12:30	08/01/14 08:40
S50-2	T141513-10	Soil	07/29/14 13:30	08/01/14 08:40
S47-2	T141513-11	Soil	07/29/14 13:47	08/01/14 08:40
S2-2	T141513-12	Soil	07/29/14 14:15	08/01/14 08:40
S42-2	T141513-13	Soil	07/29/14 10:45	08/01/14 08:40
S42-15	T141513-14	Soil	07/29/14 10:45	08/01/14 08:40
S39-2	T141513-15	Soil	07/29/14 08:50	08/01/14 08:40
S39-15	T141513-16	Soil	07/29/14 08:50	08/01/14 08:40
S37-2	T141513-17	Soil	07/29/14 09:30	08/01/14 08:40
S37-15	T141513-18	Soil	07/29/14 09:30	08/01/14 08:40
S36-2	T141513-19	Soil	07/29/14 09:45	08/01/14 08:40
S36-15	T141513-20	Soil	07/29/14 09:45	08/01/14 08:40
S34-2	T141513-21	Soil	07/29/14 10:30	08/01/14 08:40
S34-15	T141513-22	Soil	07/29/14 10:30	08/01/14 08:40
S32-2	T141513-23	Soil	07/29/14 10:45	08/01/14 08:40
S32-15	T141513-24	Soil	07/29/14 10:45	08/01/14 08:40
S31-2	T141513-25	Soil	07/29/14 11:15	08/01/14 08:40
S31-15	T141513-26	Soil	07/29/14 11:15	08/01/14 08:40

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S29-2	T141513-27	Soil	07/29/14 11:45	08/01/14 08:40
S29-15	T141513-28	Soil	07/29/14 11:45	08/01/14 08:40
S27-2	T141513-29	Soil	07/29/14 12:15	08/01/14 08:40
S27-15	T141513-30	Soil	07/29/14 12:15	08/01/14 08:40
S25-2	T141513-31	Soil	07/29/14 12:45	08/01/14 08:40
S25-15	T141513-32	Soil	07/29/14 12:45	08/01/14 08:40
S23-2	T141513-33	Soil	07/29/14 13:15	08/01/14 08:40
S23-15	T141513-34	Soil	07/29/14 13:15	08/01/14 08:40
S22-2	T141513-35	Soil	07/29/14 13:45	08/01/14 08:40
S22-15	T141513-36	Soil	07/29/14 13:45	08/01/14 08:40

DETECTIONS SUMMARY

Sample ID: S49-2 **Laboratory ID:** T141513-01

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	4.8	3.0	mg/kg	EPA 6010B	

Sample ID: S49-15 **Laboratory ID:** T141513-02

No Results Detected

Sample ID: S48-2 **Laboratory ID:** T141513-03

No Results Detected

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

Sample ID: S48-15 **Laboratory ID:** T141513-04

No Results Detected

Sample ID: S46-2 **Laboratory ID:** T141513-05

No Results Detected

Sample ID: S46-15 **Laboratory ID:** T141513-06

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.3**	3.0	mg/kg	EPA 6010B	

Sample ID: S44-2 **Laboratory ID:** T141513-07

No Results Detected

Sample ID: S41-2 **Laboratory ID:** T141513-08

No Results Detected

Sample ID: S41-15 **Laboratory ID:** T141513-09

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.0**	3.0	mg/kg	EPA 6010B	

Sample ID: S50-2 **Laboratory ID:** T141513-10

No Results Detected

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

Sample ID: S47-2 **Laboratory ID:** T141513-11

No Results Detected

Sample ID: S2-2 **Laboratory ID:** T141513-12

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	7.8	3.0	mg/kg	EPA 6010B	
pH	6.4	0.1	pH Units	EPA 9045B	

Sample ID: S42-2 **Laboratory ID:** T141513-13

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	67	3.0	mg/kg	EPA 6010B	

Sample ID: S42-15 **Laboratory ID:** T141513-14

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	16	3.0	mg/kg	EPA 6010B	

Sample ID: S39-2 **Laboratory ID:** T141513-15

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	160	3.0	mg/kg	EPA 6010B	

Sample ID: S39-15 **Laboratory ID:** T141513-16

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	100	3.0	mg/kg	EPA 6010B	

Sample ID: S37-2 **Laboratory ID:** T141513-17

Analyte	Result	Reporting Limit	Units	Method	Notes

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

Sample ID: S37-2 **Laboratory ID:** T141513-17

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	49	3.0	mg/kg	EPA 6010B	

Sample ID: S37-15 **Laboratory ID:** T141513-18

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	19	3.0	mg/kg	EPA 6010B	

Sample ID: S36-2 **Laboratory ID:** T141513-19

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	44	3.0	mg/kg	EPA 6010B	
pH	6.3	0.1	pH Units	EPA 9045B	

Sample ID: S36-15 **Laboratory ID:** T141513-20

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	3.2	3.0	mg/kg	EPA 6010B	

Sample ID: S34-2 **Laboratory ID:** T141513-21

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	85	3.0	mg/kg	EPA 6010B	

Sample ID: S34-15 **Laboratory ID:** T141513-22

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	110	3.0	mg/kg	EPA 6010B	

Sample ID: S32-2 **Laboratory ID:** T141513-23

Analyte	Result	Reporting Limit	Units	Method	Notes

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	Reported:
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

Sample ID: S32-2 **Laboratory ID:** T141513-23

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	140	3.0	mg/kg	EPA 6010B	

Sample ID: S32-15 **Laboratory ID:** T141513-24

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	20	3.0	mg/kg	EPA 6010B	

Sample ID: S31-2 **Laboratory ID:** T141513-25

No Results Detected

Sample ID: S31-15 **Laboratory ID:** T141513-26

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	3.4	3.0	mg/kg	EPA 6010B	

Sample ID: S29-2 **Laboratory ID:** T141513-27

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	4.4	3.0	mg/kg	EPA 6010B	

Sample ID: S29-15 **Laboratory ID:** T141513-28

No Results Detected

Sample ID: S27-2 **Laboratory ID:** T141513-29

No Results Detected

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Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

Sample ID: S27-15 **Laboratory ID:** T141513-30

No Results Detected

Sample ID: S25-2 **Laboratory ID:** T141513-31

Analyte	Result	Reporting Limit	Units	Method	Notes
pH	6.7	0.1	pH Units	EPA 9045B	

Sample ID: S25-15 **Laboratory ID:** T141513-32

No Results Detected

Sample ID: S23-2 **Laboratory ID:** T141513-33

No Results Detected

Sample ID: S23-15 **Laboratory ID:** T141513-34

No Results Detected

Sample ID: S22-2 **Laboratory ID:** T141513-35

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	39	3.0	mg/kg	EPA 6010B	

Sample ID: S22-15 **Laboratory ID:** T141513-36

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	44	3.0	mg/kg	EPA 6010B	

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Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

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Daniel J Chávez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S49-2

T141513-01 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**4.8**	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S49-15

T141513-02 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S48-2

T141513-03 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S48-15

T141513-04 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S46-2
T141513-05 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S46-15

T141513-06 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**5.3**	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S44-2

T141513-07 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Daniel J Chavez

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S41-2

T141513-08 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Daniel J Chávez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S41-15

T141513-09 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**4.0**	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Daniel J Chavez

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S50-2

T141513-10 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S47-2

T141513-11 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Daniel J Chávez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S2-2

T141513-12 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**7.8**	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods									
pH	**6.4**	0.1	pH Units	1	4080127	08/01/14	08/01/14	EPA 9045B	

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Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S42-2

T141513-13 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	67	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S42-15

T141513-14 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**16**	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S39-2

T141513-15 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**160**	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S39-15

T141513-16 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**100**	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S37-2

T141513-17 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**49**	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S37-15

T141513-18 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**19**	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S36-2

T141513-19 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**44**	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods									
pH	**6.3**	0.1	pH Units	1	4080127	08/01/14	08/01/14	EPA 9045B	

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Daniel J Chavez

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S36-15

T141513-20 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**3.2**	3.0	mg/kg	1	4080135	08/01/14	08/05/14	EPA 6010B	

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Daniel J Chavez

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S34-2

T141513-21 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**85**	3.0	mg/kg	1	4080136	08/01/14	08/05/14	EPA 6010B	

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Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S34-15

T141513-22 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**110**	3.0	mg/kg	1	4080136	08/01/14	08/05/14	EPA 6010B	

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Blackburn Consulting 11521 Blocker Dr #110 Auburn CA, 95603	Project: SR65 Capacity Project Number: 2602.2 Project Manager: Laura Long	**Reported:** 08/08/14 15:47

S32-2

T141513-23 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	**140**	3.0	mg/kg	1	4080136	08/01/14	08/05/14	EPA 6010B	

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Daniel J Chavez

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Blackburn Consulting 11521 Blocker Dr #110 Auburn CA, 95603	Project: SR65 Capacity Project Number: 2602.2 Project Manager: Laura Long	**Reported:** 08/08/14 15:47

S32-15

T141513-24 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**20**	3.0	mg/kg	1	4080136	08/01/14	08/05/14	EPA 6010B	

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Daniel J Chavez

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S31-2

T141513-25 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4080136	08/01/14	08/05/14	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S31-15

T141513-26 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**3.4**	3.0	mg/kg	1	4080136	08/01/14	08/05/14	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S29-2

T141513-27 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	4.4	3.0	mg/kg	1	4080136	08/01/14	08/05/14	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chavez

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S29-15

T141513-28 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4080136	08/01/14	08/05/14	EPA 6010B	

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Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S27-2

T141513-29 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4080136	08/01/14	08/05/14	EPA 6010B	

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Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S27-15

T141513-30 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4080136	08/01/14	08/05/14	EPA 6010B	

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Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S25-2

T141513-31 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4080136	08/01/14	08/05/14	EPA 6010B	
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods									
pH	**6.7**	0.1	pH Units	1	4080127	08/01/14	08/01/14	EPA 9045B	

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Daniel Chavez, Project Manager

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949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S25-15

T141513-32 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4080136	08/01/14	08/05/14	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S23-2

T141513-33 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4080136	08/01/14	08/05/14	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S23-15

T141513-34 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4080136	08/01/14	08/05/14	EPA 6010B	

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S22-2

T141513-35 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	**39**	3.0	mg/kg	1	4080136	08/01/14	08/05/14	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

S22-15

T141513-36 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	44	3.0	mg/kg	1	4080136	08/01/14	08/05/14	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4080135 - EPA 3051										
Blank (4080135-BLK1)				Prepared: 08/01/14 Analyzed: 08/05/14						
Lead	ND	3.0	mg/kg							
LCS (4080135-BS1)				Prepared: 08/01/14 Analyzed: 08/05/14						
Lead	108	3.0	mg/kg	100		108	75-125			
Matrix Spike (4080135-MS1)	**Source: T141513-01**			Prepared: 08/01/14 Analyzed: 08/05/14						
Lead	107	3.0	mg/kg	100	4.79	102	75-125			
Matrix Spike Dup (4080135-MSD1)	**Source: T141513-01**			Prepared: 08/01/14 Analyzed: 08/05/14						
Lead	107	3.0	mg/kg	100	4.79	102	75-125	0.139	20	
Batch 4080136 - EPA 3051										
Blank (4080136-BLK1)				Prepared: 08/01/14 Analyzed: 08/05/14						
Lead	ND	3.0	mg/kg							
LCS (4080136-BS1)				Prepared: 08/01/14 Analyzed: 08/05/14						
Lead	124	3.0	mg/kg	100		124	75-125			
Matrix Spike (4080136-MS1)	**Source: T141513-21**			Prepared: 08/01/14 Analyzed: 08/05/14						
Lead	250	3.0	mg/kg	100	85.4	165	75-125			QM-07
Matrix Spike Dup (4080136-MSD1)	**Source: T141513-21**			Prepared: 08/01/14 Analyzed: 08/05/14						
Lead	182	3.0	mg/kg	100	85.4	97.1	75-125	31.3	20	QM-07

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4080127 - General Preparation										
Duplicate (4080127-DUP1)		**Source: T141513-12**		Prepared & Analyzed: 08/01/14						
pH	6.47	0.1	pH Units		6.36			1.71	20	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/08/14 15:47

Notes and Definitions

QM-07	The spike recovery and or RPD was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: Blackburn Consulting
Address: 2491 Boatman Ave
Phone: 530-219-4891 Fax: 916-296-2447
Project Manager: Laura Long

Date: 7/29 Page: 1 Of 3
Project Name: SR65 Capacity
Collector: Dylan Farver Client Project #: 2602.2
Batch #: T141513 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	Lead	pH			Laboratory ID #	Comments/Preservative	Total # of containers
~~S4~~ S49-2	7/29	9:45a	Soil	Glass										X				01		
S49-15		9:45a																02		
S48-2		10:20a																03		
S48-15		10:20a																04		
S46-2		10:50a																05		
S46-15		10:50a																06		
S44-2		10:30																07		
S41-2		12:30																08		
S41-15		12:30																09		
S50-3 ~~S50-15~~		1:30																10		
S47-2		1:47																11		
S2-2		2:15													X			12		
S42-2		10:45																13		
S42-15		10:45																14		

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	7/30/14:45		7/30/1445
	7/31/1245		7/31/14 12:45
GSO	8.1.14 8:40		8.1.14 8:40

Total # of containers: 14 - 14
Chain of Custody seals Y/N/NA:
Seals intact? Y/N/NA:
Received good condition/cold: 1.0°

Turn around time: STND

Notes: STD TAT

Sample disposal instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: Blackburn Consulting
Address: 2491 Boatman Ave
Phone: 530-219-4891 Fax: 916-296-2447
Project Manager: Laura Long

Date: 7/30 Page: 2 Of 3
Project Name: SRES Capacity
Collector: Dylan Farrer Client Project #: 2602.2
Batch #: T141513 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	Lead	pH			Laboratory ID #	Comments/Preservative	Total # of containers
S39-2	7/30	8:50	Soil	Glass										X				15		
S39-15		8:50																16		
S37-2		9:30																17		
S37-15		9:30																18		
S36-2		9:45													X			19		
S36-15		9:45																20		
S34-2		10:30																21		
S34-15		10:30																22		
S32-2		10:45																23		
S32-15		10:45																24		
S31-2		11:15																25		
S31-15		11:15																26		
S29-2		11:45																27		
S29-15		11:45																28		

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Laura Long	7/31/14 1245	Bill Stum	7/31/14 1245
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
GSO	8:1:14 8:40		8/1/14 8:40
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers: 14 - 19
Chain of Custody seals (Y)N/NA
Seals intact? (Y)N/NA
Received good condition/cold: 1.0
Turn around time: STND

Notes: STD. TAT

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

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25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: Blackburn Consulting
Address:
Phone: Fax:
Project Manager:

Date: 7/30 Page: 3 Of 3
Project Name: SR65 Capacity
Collector: Dylan Farrer Client Project #: 26022
Batch #: 1714513 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	Lead	pH			Laboratory ID #	Comments/Preservative	Total # of containers
S27-2	7/30	12:15	Soil	Glass										X				29		
S27-15	↓	12:15	↓	↓										↓				30		
S25-2		12:45													X			31		
S25-15		~~12:45~~ 12:45													↓			32		
S23-2		1:15																33		
S23-15		1:15																34		
S22-2		1:45												↓				35		
S22-15	↓	1:45	↓	↓														36		

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	7/31/14 12:80	[signature]	7/31/14 12:45
GSO 8/1/14 8:40		[signature]	8/1/14 8:40

Total # of containers: 8 = 8
Chain of Custody seals: Y/N/NA
Seals Intact? Y/N/NA
Received good condition/cold: 1.0
Turn around time: STND

Notes
STD. TAT

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

SAMPLE RECEIVING REVIEW SHEET

BATCH # 7/15/13

Client Name: Blackburn Con. Project: SR 65 Capacity

Received by: Sunny Date/Time Received: 8:1:14 / 8:40

Delivered by : ☐ Client ☐ SunStar Courier ☒ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 1 **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 1.2 °C +/- the CF (- 0.2°C) = 1.0 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

Samples outside temp. but received on ice, w/in 6 hours of final sampling.	☒ Yes	☐ No*	☐ N/A
Custody Seals Intact on Cooler/Sample	☒ Yes	☐ No*	☐ N/A
Sample Containers Intact	☒ Yes	☐ No*	
Sample labels match COC ID's	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☐ Yes	☐ No*	☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ Yes ☐ No*

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date SL 8:1:14

Comments:

_____

_____

_____

_____

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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15 August 2014

Laura Long
Blackburn Consulting
11521 Blocker Dr #110
Auburn, CA 95603

RE: SR65 Capacity

Enclosed are the results of analyses for samples received by the laboratory on 08/08/14 08:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel J Chavez

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S43-2	T141580-01	Soil	08/07/14 09:50	08/08/14 08:50
S33-2	T141580-02	Soil	08/04/14 13:55	08/08/14 08:50
S30-2	T141580-03	Soil	08/04/14 13:45	08/08/14 08:50
S38-2	T141580-04	Soil	08/04/14 14:30	08/08/14 08:50
S35-2	T141580-05	Soil	08/04/14 14:00	08/08/14 08:50
S28-2	T141580-06	Soil	08/04/14 13:10	08/08/14 08:50
S26-2	T141580-07	Soil	08/04/14 13:00	08/08/14 08:50
S21-2	T141580-08	Soil	08/04/14 12:30	08/08/14 08:50
S14-2	T141580-09	Soil	08/04/14 09:55	08/08/14 08:50
S16-2	T141580-10	Soil	08/04/14 10:05	08/08/14 08:50
S19-2	T141580-11	Soil	08/04/14 10:15	08/08/14 08:50
S4-2	T141580-12	Soil	08/04/14 09:00	08/08/14 08:50
S8-2	T141580-13	Soil	08/04/14 09:15	08/08/14 08:50
S10-2	T141580-14	Soil	08/04/14 09:30	08/08/14 08:50
S13-2	T141580-15	Soil	08/04/14 09:40	08/08/14 08:50
S5-2	T141580-16	Soil	08/07/14 09:40	08/08/14 08:50
S3-2	T141580-17	Soil	08/07/14 12:50	08/08/14 08:50
S24-2	T141580-18	Soil	08/07/14 13:40	08/08/14 08:50
S1-2	T141580-19	Soil	08/07/14 12:55	08/08/14 08:50
S7-2	T141580-20	Soil	08/07/14 11:50	08/08/14 08:50
S6-2	T141580-21	Soil	08/07/14 12:30	08/08/14 08:50
S15-2	T141580-22	Soil	08/07/14 11:15	08/08/14 08:50
S12-2	T141580-23	Soil	08/07/14 11:20	08/08/14 08:50
S9-2	T141580-24	Soil	08/07/14 11:30	08/08/14 08:50
S11-2	T141580-25	Soil	08/07/14 11:20	08/08/14 08:50
S17-2	T141580-26	Soil	08/07/14 11:10	08/08/14 08:50

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Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S45-2	T141580-27	Soil	08/07/14 10:10	08/08/14 08:50
S20-2	T141580-28	Soil	08/07/14 10:05	08/08/14 08:50
S18-2	T141580-29	Soil	08/07/14 10:36	08/08/14 08:50
S40-2	T141580-30	Soil	08/07/14 09:30	08/08/14 08:50

DETECTIONS SUMMARY

Sample ID: S43-2 **Laboratory ID:** T141580-01

No Results Detected

Sample ID: S33-2 **Laboratory ID:** T141580-02

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	5.6	3.0	mg/kg	EPA 6010B	

Sample ID: S30-2 **Laboratory ID:** T141580-03

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	4.4	3.0	mg/kg	EPA 6010B	
pH	6.7	0.1	pH Units	EPA 9045B	

Sample ID: S38-2 **Laboratory ID:** T141580-04

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	14	3.0	mg/kg	EPA 6010B	

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Sample ID: S35-2 **Laboratory ID:** T141580-05

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**34**	3.0	mg/kg	EPA 6010B	

Sample ID: S28-2 **Laboratory ID:** T141580-06

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**12**	3.0	mg/kg	EPA 6010B	

Sample ID: S26-2 **Laboratory ID:** T141580-07

No Results Detected

Sample ID: S21-2 **Laboratory ID:** T141580-08

No Results Detected

Sample ID: S14-2 **Laboratory ID:** T141580-09

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.8**	3.0	mg/kg	EPA 6010B	

Sample ID: S16-2 **Laboratory ID:** T141580-10

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.2**	3.0	mg/kg	EPA 6010B	

Sample ID: S19-2 **Laboratory ID:** T141580-11

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**9.3**	3.0	mg/kg	EPA 6010B	

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Sample ID: S4-2 **Laboratory ID:** T141580-12

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	4.2	3.0	mg/kg	EPA 6010B	

Sample ID: S8-2 **Laboratory ID:** T141580-13

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	8.6	3.0	mg/kg	EPA 6010B	

Sample ID: S10-2 **Laboratory ID:** T141580-14

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	5.5	3.0	mg/kg	EPA 6010B	

Sample ID: S13-2 **Laboratory ID:** T141580-15

No Results Detected

Sample ID: S5-2 **Laboratory ID:** T141580-16

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	22	3.0	mg/kg	EPA 6010B	

Sample ID: S3-2 **Laboratory ID:** T141580-17

No Results Detected

Sample ID: S24-2 **Laboratory ID:** T141580-18

No Results Detected

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Sample ID: S1-2 **Laboratory ID:** T141580-19

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**6.5**	3.0	mg/kg	EPA 6010B	

Sample ID: S7-2 **Laboratory ID:** T141580-20

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**6.5**	3.0	mg/kg	EPA 6010B	

Sample ID: S6-2 **Laboratory ID:** T141580-21

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.4**	3.0	mg/kg	EPA 6010B	

Sample ID: S15-2 **Laboratory ID:** T141580-22

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**8.5**	3.0	mg/kg	EPA 6010B	
pH	**6.7**	0.1	pH Units	EPA 9045B	

Sample ID: S12-2 **Laboratory ID:** T141580-23

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**3.8**	3.0	mg/kg	EPA 6010B	

Sample ID: S9-2 **Laboratory ID:** T141580-24

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**5.8**	3.0	mg/kg	EPA 6010B	

Sample ID: S11-2 **Laboratory ID:** T141580-25

Analyte	Result	Reporting Limit	Units	Method	Notes

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Sample ID: S11-2 **Laboratory ID:** T141580-25

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	14	3.0	mg/kg	EPA 6010B	

Sample ID: S17-2 **Laboratory ID:** T141580-26

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	5.0	3.0	mg/kg	EPA 6010B	

Sample ID: S45-2 **Laboratory ID:** T141580-27

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	4.2	3.0	mg/kg	EPA 6010B	

Sample ID: S20-2 **Laboratory ID:** T141580-28

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	19	3.0	mg/kg	EPA 6010B	

Sample ID: S18-2 **Laboratory ID:** T141580-29

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	7.9	3.0	mg/kg	EPA 6010B	

Sample ID: S40-2 **Laboratory ID:** T141580-30

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	13	3.0	mg/kg	EPA 6010B	

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S43-2

T141580-01 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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S33-2

T141580-02 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**5.6**	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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S30-2

T141580-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	**4.4**	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods									
pH	**6.7**	0.1	pH Units	1	4081123	08/11/14	08/11/14	EPA 9045B	

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S38-2

T141580-04 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**14**	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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S35-2

T141580-05 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**34**	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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S28-2

T141580-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	**12**	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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S26-2

T141580-07 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S21-2

T141580-08 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
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S14-2

T141580-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	**4.8**	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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11521 Blocker Dr #110	Project Number: 2602	**Reported:**
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S16-2

T141580-10 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**5.2**	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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11521 Blocker Dr #110	Project Number: 2602	**Reported:**
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S19-2

T141580-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	**9.3**	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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11521 Blocker Dr #110	Project Number: 2602	**Reported:**
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S4-2

T141580-12 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**4.2**	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S8-2

T141580-13 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**8.6**	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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11521 Blocker Dr #110	Project Number: 2602	**Reported:**
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S10-2

T141580-14 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**5.5**	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S13-2

T141580-15 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S5-2

T141580-16 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**22**	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S3-2

T141580-17 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S24-2

T141580-18 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	ND	3.0	mg/kg	1	4081128	08/11/14	08/12/14	EPA 6010B	

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S1-2

T141580-19 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	**6.5**	3.0	mg/kg	1	4081128	08/11/14	08/14/14	EPA 6010B	

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949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S7-2

T141580-20 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	**6.5**	3.0	mg/kg	1	4081128	08/11/14	08/14/14	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
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949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S6-2

T141580-21 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**4.4**	3.0	mg/kg	1	4081129	08/11/14	08/12/14	EPA 6010B	

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Providing Quality Analytical Services Nationwide

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S15-2

T141580-22 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	**8.5**	3.0	mg/kg	1	4081129	08/11/14	08/12/14	EPA 6010B	
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods									
pH	**6.7**	0.1	pH Units	1	4081123	08/11/14	08/11/14	EPA 9045B	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S12-2

T141580-23 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	**3.8**	3.0	mg/kg	1	4081129	08/11/14	08/12/14	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S9-2

T141580-24 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	**5.8**	3.0	mg/kg	1	4081129	08/11/14	08/12/14	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S11-2

T141580-25 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**14**	3.0	mg/kg	1	4081129	08/11/14	08/12/14	EPA 6010B	

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S17-2

T141580-26 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	**5.0**	3.0	mg/kg	1	4081129	08/11/14	08/12/14	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S45-2

T141580-27 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	**4.2**	3.0	mg/kg	1	4081129	08/11/14	08/12/14	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S20-2

T141580-28 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**19**	3.0	mg/kg	1	4081129	08/11/14	08/12/14	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S18-2

T141580-29 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Lead	**7.9**	3.0	mg/kg	1	4081129	08/11/14	08/12/14	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

S40-2

T141580-30 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Lead	**13**	3.0	mg/kg	1	4081129	08/11/14	08/12/14	EPA 6010B	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4081128 - EPA 3051										
Blank (4081128-BLK1)				Prepared: 08/11/14 Analyzed: 08/12/14						
Lead	ND	3.0	mg/kg							
LCS (4081128-BS1)				Prepared: 08/11/14 Analyzed: 08/12/14						
Lead	109	3.0	mg/kg	100		109	75-125			
Matrix Spike (4081128-MS1)	**Source: T141580-01**			Prepared: 08/11/14 Analyzed: 08/12/14						
Lead	106	3.0	mg/kg	100	ND	106	75-125			
Matrix Spike Dup (4081128-MSD1)	**Source: T141580-01**			Prepared: 08/11/14 Analyzed: 08/12/14						
Lead	93.6	3.0	mg/kg	100	ND	93.6	75-125	12.2	20	
Batch 4081129 - EPA 3051										
Blank (4081129-BLK1)				Prepared: 08/11/14 Analyzed: 08/12/14						
Lead	ND	3.0	mg/kg							
LCS (4081129-BS1)				Prepared: 08/11/14 Analyzed: 08/12/14						
Lead	116	3.0	mg/kg	100		116	75-125			
Matrix Spike (4081129-MS1)	**Source: T141580-21**			Prepared: 08/11/14 Analyzed: 08/12/14						
Lead	111	3.0	mg/kg	100	4.45	107	75-125			
Matrix Spike Dup (4081129-MSD1)	**Source: T141580-21**			Prepared: 08/11/14 Analyzed: 08/12/14						
Lead	102	3.0	mg/kg	99.0	4.45	98.7	75-125	8.72	20	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4081123 - General Preparation										
Duplicate (4081123-DUP1)		**Source: T141580-03**		Prepared & Analyzed: 08/11/14						
pH	6.99	0.1	pH Units		6.71			4.09	20	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/15/14 12:12

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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Chain of Custody Record

SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Client: Blackburn Consulting
Address:
Phone: Fax:
Project Manager: Laura Long

Date: 8/7/14 Page: 1 Of 2
Project Name: SRGS Capacity
Collector: Dylan Farver Client Project #: 2602
Batch #: T191580 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	Lead	pH			Laboratory ID #	Comments/Preservative	Total # of containers
S43-2	8/7	9:50	Soil	Glass Jar										X				01		
S33-2	8/4	1:55																02		
S30-2		1:45													X			03		
S38-2		2:30																04		
S35-2		2:00																05		
S28-2		1:10																06		
S26-2		1:00																07		
S21-2		12:30																08		
S14-2		9:55																09		
S16-2		10:05																10		
S19-2		10:15																11		
S4-2		9:00AM																12		
S8-2		9:15																13		
S10-2		9:30																14		
S13-2	8/4	9:40																15		

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	8/7@ 15:55		8-7-14
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
GSO	8-8-14 8:50		8-8-14 8:50
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

15 Total # of containers 15
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 1.0

Turn around time:

Notes
STD. TAT

Sample disposal instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 130551

K 8-15-14

SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: Blackburn Consulting west
Address: 2491 Boatman Ave Sacramento
Phone: (530) 219 4891 Fax:
Project Manager: Laura Lory

Date: 8/7/14 Page: 2 of 2
Project Name: SR65 Capacity
Collector: Dylan Farer Client Project #: 2602
Batch #: T141580 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	Lead	Oh			Laboratory ID #	Comments/Preservative	Total # of containers
S5-2	8/7	12:45	Soil	Glass Jar										X				16		
S3-2	8/7	12:50																17		
S24-2		1:40																18		
S1-2		12:55																19		
S7-2		11:50																20		
S6-2		12:30																21		
S15-2		11:15													X			22		
S12-2		11:20																23		
S9-2		11:30																24		
S11-2		11:20																25		
S17-2		11:10																26		
S45-2		10:10																27		
S20-2		10:05																28		
S18-2		10:30																29		
S10-2	X	9:30	X	X														30		

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	8/7 @ 15:55	[signature]	8-7-14 / 15:55
[signature] GSO	8:8:14 8:50	[signature]	8:8:14 8:50

Total # of containers: 15
Chain of Custody seals: Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold: 1.0

Turn around time:

Notes: STD. TAT

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 130550

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

SAMPLE RECEIVING REVIEW SHEET

BATCH # T141580

Client Name: BLACKBURN Project: SRGS CAPACITY

Received by: SUNNY Date/Time Received: 8.8.14 8:50

Delivered by : ☐ Client ☐ SunStar Courier ☒ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 1 **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 1.2 °C +/- the CF (- 0.2°C) = 1.0 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

Samples outside temp. but received on ice, w/in 6 hours of final sampling.	☒Yes	☐No*	☐N/A
Custody Seals Intact on Cooler/Sample	☒Yes	☐No*	☐N/A
Sample Containers Intact	☒Yes	☐No*	
Sample labels match COC ID's	☒Yes	☐No*	
Total number of containers received match COC	☒Yes	☐No*	
Proper containers received for analyses requested on COC	☒Yes	☐No*	
Proper preservative indicated on COC/containers for analyses requested	☐Yes	☐No*	☒N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date BC 8.8.14

Comments:

_____

_____

_____

_____

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22 August 2014

Laura Long
Blackburn Consulting
11521 Blocker Dr #110
Auburn, CA 95603

RE: SR65 Capacity

Enclosed are the results of analyses for samples received by the laboratory on 08/01/14 08:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/22/14 14:56

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S42-2	T141513-13	Soil	07/29/14 10:45	08/01/14 08:40
S39-2	T141513-15	Soil	07/29/14 08:50	08/01/14 08:40
S39-15	T141513-16	Soil	07/29/14 08:50	08/01/14 08:40
S34-2	T141513-21	Soil	07/29/14 10:30	08/01/14 08:40
S34-15	T141513-22	Soil	07/29/14 10:30	08/01/14 08:40
S32-2	T141513-23	Soil	07/29/14 10:45	08/01/14 08:40

DETECTIONS SUMMARY

Sample ID: S42-2 **Laboratory ID:** T141513-13

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**3.8**	0.10	mg/l	STLC Waste Extractio	

Sample ID: S39-2 **Laboratory ID:** T141513-15

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**15**	0.10	mg/l	STLC Waste Extractio	

Sample ID: S39-15 **Laboratory ID:** T141513-16

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**6.2**	0.10	mg/l	STLC Waste Extractio	

Sample ID: S34-2 **Laboratory ID:** T141513-21

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.7**	0.10	mg/l	STLC Waste Extractio	

SunStar Laboratories, Inc.

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/22/14 14:56

Sample ID: S34-15 **Laboratory ID:** T141513-22

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**4.8**	0.10	mg/l	STLC Waste Extractio	

Sample ID: S32-2 **Laboratory ID:** T141513-23

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**7.5**	0.10	mg/l	STLC Waste Extractio	

SunStar Laboratories, Inc.

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/22/14 14:56

S42-2

T141513-13 (Soil)

SunStar Laboratories, Inc.

STLC Metals by 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**3.8**	0.10	mg/l	1	4081233	08/12/14	08/18/14	STLC Waste Extraction Test	

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/22/14 14:56

S39-2

T141513-15 (Soil)

SunStar Laboratories, Inc.

STLC Metals by 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**15**	0.10	mg/l	1	4081233	08/12/14	08/18/14	STLC Waste Extraction Test	

SunStar Laboratories, Inc.

Daniel Chavez, Project Manager

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/22/14 14:56

S39-15

T141513-16 (Soil)

SunStar Laboratories, Inc.

STLC Metals by 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**6.2**	0.10	mg/l	1	4081233	08/12/14	08/18/14	STLC Waste Extraction Test	

SunStar Laboratories, Inc.

Daniel Chavez, Project Manager

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949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/22/14 14:56

S34-2

T141513-21 (Soil)

SunStar Laboratories, Inc.

STLC Metals by 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**4.7**	0.10	mg/l	1	4081233	08/12/14	08/18/14	STLC Waste Extraction Test	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/22/14 14:56

S34-15

T141513-22 (Soil)

SunStar Laboratories, Inc.

STLC Metals by 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**4.8**	0.10	mg/l	1	4081233	08/12/14	08/18/14	STLC Waste Extraction Test	

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/22/14 14:56

S32-2

T141513-23 (Soil)

SunStar Laboratories, Inc.

STLC Metals by 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Lead	**7.5**	0.10	mg/l	1	4081233	08/12/14	08/18/14	STLC Waste Extraction Test	

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/22/14 14:56

STLC Metals by 6000/7000 Series Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4081233 - STLC Metals										
Blank (4081233-BLK1)				Prepared: 08/12/14 Analyzed: 08/18/14						
Chromium	ND	0.10	mg/l							
Lead	ND	0.10	"							
LCS (4081233-BS1)				Prepared: 08/12/14 Analyzed: 08/18/14						
Chromium	9.78	0.10	mg/l	10.0		97.8	75-125			
Lead	9.55	0.10	"	10.0		95.5	75-125			
Matrix Spike (4081233-MS1)		**Source: T141564-01**		Prepared: 08/12/14 Analyzed: 08/18/14						
Chromium	10.2	0.10	mg/l	10.0	0.553	96.0	75-125			
Lead	10.5	0.10	"	10.0	1.96	85.8	75-125			
Matrix Spike Dup (4081233-MSD1)		**Source: T141564-01**		Prepared: 08/12/14 Analyzed: 08/18/14						
Chromium	10.2	0.10	mg/l	10.0	0.553	96.7	75-125	0.748	30	
Lead	10.9	0.10	"	10.0	1.96	89.4	75-125	3.35	30	

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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Providing Quality Analytical Services Nationwide

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949.297.5020 Phone
949.297.5027 Fax

Blackburn Consulting	Project: SR65 Capacity	
11521 Blocker Dr #110	Project Number: 2602.2	**Reported:**
Auburn CA, 95603	Project Manager: Laura Long	08/22/14 14:56

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: Blackburn Consulting
Address: 2491 Boatman Ave
Phone: 530-219-4891 Fax: 916-296-2447
Project Manager: Laura Long

Date: 7/29 Page: 1 Of 3
Project Name: SR65 Capacity
Collector: Dylan Farver Client Project #: 26002.2
Batch #: T141513 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	Lead	pH			Laboratory ID #	Comments/Preservative	Total # of containers
~~S4~~ S49-2	7/29	9:45a	Soil	Glass										X				01		
S49-15		9:45a																02		
S48-2		10:20a																03		
S48-15		10:20a																04		
S46-2		10:50a																05		
S46-15		10:50a																06		
S44-2		10:30																07		
S41-2		12:30																08		
S41-15		12:30																09		
S50-3 ~~S50-2~~		1:30																10		
S47-2		1:47																11		
S2-2		2:15													X			12		
S42-2		10:45																13		
S42-15		10:45																14		

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	7/30/14:45		7/30/1445
	7/31/1245		7/31/14 12:45
GSO 8.1.14 8:40			8.1.14 8:40

Total # of containers: 14 - 14
Chain of Custody seals Y/N/NA:
Seals intact? Y/N/NA:
Received good condition/cold: 1.0°
Turn around time: STND

Notes: STD TAT

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: Blackburn Consulting
Address: 2491 Boatman Ave
Phone: 530-219-4891 Fax: 916-296-2447
Project Manager: Laura Long

Date: 7/30 Page: 2 Of 3
Project Name: SRGS Capacity
Collector: Dylan Farver Client Project #: 2602.2
Batch #: T141513 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	Lead	pH			Laboratory ID #	Comments/Preservative	Total # of containers
S39-2	7/30	8:50	Soil	Glass										X				15		
S39-15		8:50																16		
S37-2		9:30																17		
S37-15		9:30																18		
S36-2		9:45													Y			19		
S36-15		9:45																20		
S34-2		10:30																21		
S34-15		10:30																22		
S32-2		10:45																23		
S32-15		10:45																24		
S31-2		11:15																25		
S31-15		11:15																26		
S29-2		11:45																27		
S29-15		11:45																28		

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	7/31/14 1245	[signature]	7/31/14 1245
GSO	8.1.14 8:40	[signature]	8.1.14 8:40
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers: 14 - 19
Chain of Custody seals (Y/N/NA): N
Seals intact? (Y/N/NA):
Received good condition/cold: 1.0

Turn around time: STND

Notes: STD. TAT

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: Blackburn Consulting
Address:
Phone: Fax:
Project Manager:

Date: 7/30 Page: 3 Of 3
Project Name: SR65 Capacity
Collector: Dylan Farver Client Project #: 2602.2
Batch #: 7141513 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	Lead	pH			Laboratory ID #	Comments/Preservative	Total # of containers
S27-2	7/30	12:15	Soil	Glass										X				29		
S27-15		12:15																30		
S25-2		12:45													X			31		
S25-15		~~12:45~~ 12:45																32		
S23-2		1:15																33		
S23-15		1:15																34		
S22-2		1:45																35		
S22-15		1:45																36		

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	7/31/14 12:50		7/31/14 12:45
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
GSO	8/1/14 8:40		8/1/14 8:40
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers: 8 - 8
Chain of Custody seals Y/N/NA:
Seals intact? Y/N/NA:
Received good condition/cold: 1.0

Turn around time: STND

Notes

STD. TAT

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

SAMPLE RECEIVING REVIEW SHEET

BATCH # T14513

Client Name: Blackburn Con. Project: SR65 Capacity

Received by: Sunny Date/Time Received: 8.1.14 / 8:40

Delivered by : ☐ Client ☐ SunStar Courier ☒ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 1 **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 1.2 °C +/- the CF (- 0.2°C) = 1.0 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

Samples outside temp. but received on ice, w/in 6 hours of final sampling.	☒ Yes	☐ No*	☐ N/A
Custody Seals Intact on Cooler/Sample	☒ Yes	☐ No*	☐ N/A
Sample Containers Intact	☒ Yes	☐ No*	
Sample labels match COC ID's	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☐ Yes	☐ No*	☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date SL 8.1.14

Comments:

_____

_____

_____

_____

APPENDIX D

Analytical Laboratory Results Summary and GPS Sample Locations

Northbound								
Sample Location	Sample ID	Average Depth	Date Sampled	Total Lead (mg/kg)	pH	Soluble Lead (mg/l)	Coordinates	
							Latitude	Longitude
ADL-2	S2-2	2"	7/29/2014	7.8	6.4	---	38.77968^0 N	-121.26982^0 W
ADL-4	S4-2	2"	8/4/2014	4.2	---	---	38.78220^0 N	-121.27486^0 W
ADL-8	S8-2	2"	8/4/2014	8.6	---	---	38.79059^0 N	-121.29137^0 W
ADL-10	S10-2	2"	8/4/2014	5.5	---	---	38.79353^0 N	-121.29447^0 W
ADL-13	S13-2	2"	8/4/2014	nrd	---	---	38.79607^0 N	-121.29724^0 W
ADL-14	S14-2	2"	8/4/2014	4.8	---	---	38.79763^0 N	-121.29832^0 W
ADL-16	S16-2	2"	8/4/2014	5.2	---	---	38.80082^0 N	-121.29969^0 W
ADL-19	S19-2	2"	8/4/2014	9.3	---	---	38.80468^0 N	-121.29999^0 W
ADL-21	S21-2	2"	8/4/2014	nrd	---	---	38.80918^0 N	-121.29987^0 W
ADL-24	S24-2	2"	8/7/2014	nrd	---	---	n/a	n/a
ADL-26	S26-2	2"	8/4/2014	nrd	---	---	38.81820^0 N	121.29977^0 W
ADL-28	S28-2	2"	8/4/2014	12	---	---	38.82288^0 N	-121.29974^0 W
ADL-30	S30-2	2"	8/4/2014	4.4	6.7	---	38.82712^0 N	-121.29469^0 W
ADL-33	S33-2	2"	8/4/2014	5.6	---	---	38.82860^0 N	-121.29967^0 W
ADL-35	S35-2	2"	8/4/2014	34	---	---	38.83029^0 N	-121.29965^0 W
ADL-38	S38-2	2"	8/4/2014	14	---	---	38.83475^0 N	-121.29968^0 W
ADL-40	S40-2	2"	8/7/2014	13	---	---	n/a	n/a
ADL-43	S43-2	2"	8/7/2014	nrd	---	---	n/a	n/a
ADL-45	S45-2	2"	8/7/2014	4.2	---	---	n/a	n/a
ADL-47	S47-2	2"	7/29/2014	nrd	---	---	38.86017^0 N	-121.29951^0 W
ADL-50	S50-2	2"	7/29/2014	nrd	---	---	38.86400^0 N	-121.29990^0 W

Southbound								
Sample Location	Sample ID	Average Depth	Date Sampled	Total Lead (mg/kg)	pH	Soluble Lead (mg/l)	Coordinates	
							Latitude	Longitude
ADL-1	S1-2	2"	8/7/2014	6.5	---	---	n/a	n/a
ADL-3	S3-2	2"	8/7/2014	nrd	---	---	n/a	n/a
ADL-5	S5-2	2"	8/7/2014	22	---	---	n/a	n/a
ADL-6	S6-2	2"	8/7/2014	4.4	---	---	n/a	n/a
ADL-7	S7-2	2"	8/7/2014	6.5	---	---	n/a	n/a
ADL-9	S9-2	2"	8/7/2014	5.8	---	---	n/a	n/a
ADL-11	S11-2	2"	8/7/2014	14	---	---	n/a	n/a
ADL-12	S12-2	2"	8/7/2014	3.8	---	---	n/a	n/a
ADL-15	S15-2	2"	8/7/2014	8.5	6.7	---	n/a	n/a
ADL-17	S17-2	2"	8/7/2014	5	---	---	n/a	n/a
ADL-18	S18-2	2"	8/7/2014	7.9	---	---	n/a	n/a
ADL-20	S20-2	2"	8/7/2014	19	---	---	n/a	n/a
ADL-22	S22-2	2"	7/30/2014	39	---	---	38.80920^0 N	-121.30056^0 W
ADL-22	S22-15	12"	7/30/2014	44	---	---	38.80920^0 N	-121.30056^0 W
ADL-23	S23-2	2"	7/30/2014	nrd	---	---	38.81131^0 N	-121.30054^0 W
ADL-23	S23-15	12"	7/30/2014	nrd	---	---	38.81131^0 N	-121.30054^0 W
ADL-25	S25-2	2"	7/30/2014	nrd	6.7	---	38.81632^0 N	-121.30050^0 W
ADL-25	S25-15	12"	7/30/2014	nrd	---	---	38.81632^0 N\	-121.30050^0 W
ADL-27	S27-2	2"	7/30/2014	nrd	---	---	38.81838^0 N	-121.30052^0 W
ADL-27	S27-15	12"	7/30/2014	nrd	---	---	38.81838^0 N	-121.30052^0 W
ADL-29	S29-2	2"	7/30/2014	4.4	---	---	38.82234^0 N	-121.30045^0 W
ADL-29	S29-15	12"	7/30/2014	nrd	---	---	38.82234^0 N	-121.30045^0 W
ADL-31	S31-2	2"	7/30/2014	nrd	---	---	38.82591^0 N	-121.30038^0 W
ADL-31	S31-15	12"	7/30/2014	20	---	---	38.82591^0 N	-121.30038^0 W
ADL-32	S32-2	2"	7/30/2014	140	---	7.5	38.83050^0 N	-121.30027^0 W
ADL-32	S32-15	12"	7/30/2014	20	---	---	38.83050^0 N	-121.30027^0 W
ADL-34	S34-2	2"	7/30/2014	85	---	4.7	38.83498^0 N	-121.30024^0 W
ADL-34	S34-15	12"	7/30/2014	110	---	4.8	38.83498^0 N	-121.30024^0 W
ADL-36	S36-2	2"	7/30/2014	44	6.3	---	38.83829^0 N	-121.30015^0 W
ADL-36	S36-15	12"	7/30/2014	3.2	---	---	38.83829^0 N	-121.30015^0 W
ADL-37	S37-2	2"	7/30/2014	49	---	---	38.48036^0 N	-121.30015^0 W
ADL-37	S37-15	12"	7/30/2014	19	---	---	38.48036^0 N	-121.30015^0 W\
ADL-39	S39-2	2"	7/30/2014	160	---	15	38.84428^0 N	-121.30022^0 W
ADL-39	S39-15	12"	7/30/2014	100	---	6.2	38.84428^0 N	-121.30022^0 W
ADL-41	S41-2	2"	7/29/2014	nrd	---	---	38.85078^0 N	-121.30023^0 W
ADL-41	S41-15	12"	7/29/2014	4	---	---	38.85078^0 N\	-121.30023^0 W
ADL-42	S42-2	2"	7/29/2014	67	---	3.8	38.85221^0 N\	-121.30007^0 W
ADL-42	S42-15	12"	7/29/2014	16	---	---	38.85221^0 N	-121.30007^0 W
ADL-44*	S44-2*	2"	7/29/2014	nrd	---	---	38.85531^0 N	-121.29987^0 W
ADL-46	S46-2	2"	7/29/2014	nrd	---	---	38.85786^0 N	-121.30008^0 W

Southbound								
Sample Location	Sample ID	Average Depth	Date Sampled	Total Lead (mg/kg)	pH	Soluble Lead (mg/l)	Coordinates	
							Latitude	Longitude
ADL-46	S46-15	12"	7/29/2014	5.3	---	---	38.85786^{0} N	-121.30008^{0} W
ADL-48	S48-2	2"	7/29/2014	nrd	---	---	38.860706^{0} N	121.301359^{0} W
ADL-48	S48-15	12"	7/29/2014	nrd	---	---	38.860706^{0} N	121.301359^{0} W
ADL-49	S49-2	2"	7/29/2014	4.8	---	---	38.848438^{0} N	121.359003^{0} W
ADL-49	S49-15	12"	7/29/2014	nrd	---	---	38.848438^{0} N	21.359003^{0} W

Draft Initial Site Assessment
State Route 65 (SR65)
Capacity and Operational Improvements Project
Placer County, California

Prepared by:

BLACKBURN CONSULTING
West Sacramento, California

Prepared for:

Mark Thomas and Company, Inc.
Sacramento, California

September 2014

Draft Initial Site Assessment

State Route 65 (SR65) Capacity and Operational Improvements Project
Placer County, California

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List of Figures

INVESTIGATIVE SUMMARY

Blackburn Consulting (BCI) completed this Draft Initial Site Assessment (ISA) for the proposed State Route 65 (SR65) Capacity and Operational Improvements Project located in Placer County, California. The purpose of this assessment is to identify recognized environmental conditions (RECs) [1] and/or potential RECs within and adjacent to the proposed improvement area which could affect the design, constructability, feasibility, and/or the cost of the proposed project. We prepared this report in general conformance with ASTM E1527-13 *"Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process."*

The project proposes capacity and operational improvements on SR65 from north of Galleria Boulevard/Stanford Ranch Road to Lincoln Boulevard (Post mile R6.5 to R12.9) and includes roadway widening, bridge work and widening, grinding off the existing pavement, overlay of new pavement, equipment staging areas, drainage/culvert work and stream channel work. No additional right-of-way is required and all work (with the exception of eight parcels identified for temporary construction easement) will be within existing Caltrans right-of-way.

Sites Within or Adjacent to the Project Corridor with Potential RECs

BCI did not identify any sites with known or potential hazardous materials issues within or adjacent to the project site that are likely to have a significant impact on the project.

General Contamination/Hazardous Materials Issue

Our assessment identified the following general environmental conditions that should be considered for present and future planning for the proposed project.

Aerially Deposited Lead (ADL)
BCI completed an ADL Assessment (September 2014) to evaluate the presence of ADL within the project area. Based on the lead testing data and the results of the statistical analyses, we conclude that additional ADL testing is not warranted and that soil excavated within the project limits is not classified as a hazardous material. We recommend that the contractor conduct all grading operations with the awareness that lead impacted soil is present on the site and conduct all operations in accordance with applicable Cal-OSHA requirements including a project specific worker Health & Safety Plan (HASP) and Lead Compliance Plan.

[1] BCI uses the term Recognized Environmental Condition (REC) in general but not strict compliance with ASTM E1527-13, which defines the meaning as *"the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products on the property or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimus conditions that generally do not present a threat to human health or the environment and generally would not be the subject of an enforcement action if brought to the attention of the appropriate regulatory agencies. Conditions determined to be de minimus are not recognized environmental conditions."* BCI includes this definition to clarify conditions addressed in this ISA but it does not imply that this ISA is compliant with ASTM E 1527 – 13.

Asbestos Containing Materials (ACM) and Lead Based Paint (LBP)

The design team requested an asbestos and lead survey of the Pleasant Grove Creek Bridges, which are included in the project area. BCI contracted Entek to perform this survey. The *"Hazardous Materials Survey Report"* dated August 7, 2014, prepared by Entek Consulting evaluated the presence of ACM and LBP at the Pleasant Grove Creek Bridges. The report concluded that ACM is not present in the concrete that comprises the bridge deck and supporting columns beneath the bridges. In addition, Entek did not observe existing paints or coatings associated with the bridges that would require sampling for LBP. The report further concluded that although asbestos was not found during the survey, written notification to the California Air Resources Board may be required. Attachment 1 contains a copy of the report.

Yellow Traffic Stripes

Yellow traffic stripes may contain heavy metals such as lead and chromium at concentrations in excess of the hazardous waste thresholds established by the California Code of Regulations and may produce toxic fumes when heated. Consequently, removal or disturbance of any yellow traffic striping within the project area will require development of an appropriate Lead Compliance Plan.

Metal Beam Guardrail (MBGR) Wood Post

If MBRG wood posts are removed as part of this project, the contractor shall prepare and submit a safety and health work practices plan for handling treated wood waste approved by an ABIH Certified Industrial Hygienist. Treated wood waste must be disposed of in an approved treated wood waste facility.

1 INTRODUCTION

Blackburn Consulting (BCI) completed this Draft Initial Site Assessment (ISA) for the proposed State Route 65 (SR65) Capacity and Operational Improvements Project located in Placer County, California. The purpose of this assessment is to identify recognized environmental conditions (RECs) [2] and/or potential RECs within and adjacent to the proposed improvement area which could affect the design, constructability, feasibility, and/or the cost of the proposed project. We prepared this report in general conformance with ASTM E1527-13 *"Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process."*

The project proposes capacity and operational improvements on SR65 from north of Galleria Boulevard/Stanford Ranch Road to Lincoln Boulevard (Post mile R6.5 to R12.9) and includes roadway widening, bridge work and widening, grinding off the existing pavement, overlay of new pavement, equipment staging areas, drainage/culvert work and stream channel work. No additional right-of-way is required and all work (with the exception of eight sliver parcels for temporary construction easement) will be within existing Caltrans right-of-way. Figure 1 presents the Vicinity Map and Figure 2 presents the Site Plan.

To conduct this ISA, BCI:

- Conducted a limited site inspection to observe current land use and indications of potential contamination, as well as hazardous and potentially hazardous waste issues for the project area and immediately adjacent parcels.
- Reviewed historical aerial photographic coverage and topographic map coverage, and the City Directory for the project area and surrounding properties for indications of potential sources of contamination.
- Performed updated (July 18, 2014) federal, state, and county records review for indications of the use, misuse, or storage of hazardous and/or potentially hazardous materials on or near the project corridor. The federal, state, and county database search was provided by Environmental Data Resources, Inc. (EDR) of Shelton, Connecticut. A copy of the EDR report's Executive Summary is included in Appendix D. The complete EDR report in CD format is also included in Appendix D.
- Conducted reviews of state records available on GeoTracker and DTSC Envirostor websites.

[2] BCI uses the term Recognized Environmental Condition (REC) in general but not strict compliance with ASTM E1527-13, which defines the meaning as *"the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products on the property or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimus conditions that generally do not present a threat to human health or the environment and generally would not be the subject of an enforcement action if brought to the attention of the appropriate regulatory agencies. Conditions determined to be de minimus are not recognized environmental conditions."* BCI includes this definition to clarify conditions addressed in this ISA but it does not imply that this ISA is compliant with ASTM E 1527 – 05.

- Reviewed existing environmental reports including:
  - *Placer 65 HOV Lane Hazardous Waste Evaluation for a Mini-Preliminary Environmental Analysis Report*, Caltrans (2012)
  - *State Route 65/Whitney Boulevard Interchange Initial Site Assessment*, BCI (2009)
  - *State Route 65/Pleasant Grove Interchange Initial Site Assessment*, BCI (2007)
  - *I-80/State Route 65 Interchange Project Initial Site Assessment*, BCI (2014)
  - *Aerially Deposited Lead Screening Evaluation – Pleasant Grove Interchange*, BCI (2007)
  - *Aerially Deposited Lead Screening Evaluation – Placer Parkway Interchange*, BCI (2013)
  - *Hazardous Materials Survey Final Report*, Entek Consulting Group, Inc. (2014)

2 PROJECT DESCRIPTION AND LOCATION

2.1 Description and Location

The project proposes capacity and operational improvements on SR65 from north of Galleria Boulevard/Stanford Ranch Road to Lincoln Boulevard (Post mile R6.5 to R12.9) and includes roadway widening, bridge work and widening, grinding off the existing pavement, overlay of new pavement, equipment staging areas, drainage/culvert work and stream channel work. No additional right-of-way is anticipated and all work is proposed to be within existing Caltrans right-of-way. Figure 1 presents the Vicinity Map and Figure 2 presents the Site Plan.

According to a preliminary site plan dated July 2014, provided by the design team, MTCo indicates minor areas of eight parcels which may require temporary acquisition to accommodate planned construction. Assessor's parcel numbers (APN) for parcels in the temporary construction easement are identified on Figure 2 and listed below.

- APN 017-123-059
- APN 017-123-042
- APN 363-011-003
- APN 363-202-009
- APN 363-020-053
- APN 363-020-024
- APN 017-123-003
- APN 021-290-073

2.2 Regional Geology and Physical Setting

The topography of the area can be characterized as rolling hills with gentle slopes. The site elevation is approximately 150 feet above mean sea level (msl) based on the USGS 7.5 Minute

Roseville Quadrangle; the elevation across the site ranges from a high of approximately 150 ft msl to a low of approximately 135 ft msl.

The site lies within the Sacramento Valley portion of the Great Valley geomorphic province. The Cascade and Klamath Ranges border the Great Valley to the north, the Coast Ranges to the west and the Sierra Nevada to the east. The valley is characterized by a thick sequence of alluvial, lacustrine, and marine sediments. The thickness of the sediments varies from a thin veneer at the edges of the valley, to thousands of feet in the central portion.

Based on review of published geologic maps (Wagner et al, 1981; Loyd, 1995) and our review of site conditions, most of the site appears to be underlain by hard volcanic mudflow breccia and dense conglomerate of the Miocene age Mehrten Formation. The western portion of the site and lower elevations in the central portion appear to be underlain by what is expected to be a relatively thin layer of sediments of the Quaternary age Turlock Lake Formation. This formation is typically composed of semi-consolidated, medium dense to dense sand and stiff silts with gravels.

2.3 Surface Water, Groundwater, Wells

Drainage is generally to the west-southwest but construction of SR65 has modified the natural drainage courses. At SR65, drainage is directed through roadside ditches into culverts crossing beneath the highway.

The depth to groundwater beneath the site is expected to be variable considering the transition from relatively young sediments in the western portion to rock of the Mehrten Formation in central and eastern portions. We reviewed ground water level data made available by the California Department of Water Resources (DWR) website and available groundwater elevation maps. DWR reports the regional ground water table in the project vicinity at a level of approximately 50 to 85 feet in depth (DWR, 2008). Groundwater flow is generally to the southwest.

No Federal Public Water Supply System or State Database wells are located within a ½ mile radius of the project area.

2.4 Current Land Use

The project site is developed with existing roads, highway fencing, and drainage culverts. Properties immediately surrounding the site are primarily undeveloped from Lincoln Boulevard to Sunset Boulevard with the exception of a large warehouse occupied by ACE Shipping and Receiving, Sundance Self Storage, AT&T offices and Greenheck Corp. Properties immediately surrounding the site from Sunset Boulevard to Blue Oaks Boulevard include Stanford Ranch Business Center, Placer County Court House and Jail, Arizona Tile, storage warehouses, and Blue Oaks Town Center. Properties immediately surrounding the site from Blue Oaks Boulevard to Galleria Boulevard include a variety of restaurants, commercial and retail big box stores. A Solid Waste Management Landfill, Thunder Valley Casino, the prior Formica Corporation and

the Rio Bravo Biomass Power Plant are all located within a mile west of the project area and west of the railroad tracks.

2.5 Historic Land Use

2.5.1 *Aerial Photograph Review*

BCI reviewed aerial photos from 1947, 1952, 1961, 1984, 1993, 1998 and 2005, 2006, 2009, 2010, and 2012 as listed below:

1947 Photo by USGS, Scale 1"=655'
1952 Photo by Southwestern, Scale 1"=555'
1961 Photo by Cartwright, Scale 1"=555'
1984 Photo by USGS, Scale 1"=690'
1993 Photo by USGS, Scale 1"=666'
1998 Photo by USGS, Scale 1"=666'
2005 Photo by EDR, Scale 1"=484'
2006 Photo by EDR, Scale 1"=500'
2009 Photo by EDR, Scale 1"=500'
2010 Photo by EDR, Scale 1"=500'
2012 Photo by EDR, Scale 1"=500'

We reviewed historic aerial photography in an attempt to identify significant changes in site use that may indicate the potential for hazardous materials within or adjacent to the project corridors. Copies of aerial photographs are provided in Appendix A. The following is a summary of notable features observed within the overall project area.

1947, 1952 and 1961, 1966:

- The project area is undeveloped. SR65 has not yet been constructed.

1984:

- Industrial Boulevard and SR65 have been constructed and appear to be two-lane highways. Whitney Boulevard appears to be a dirt road and is in its current alignment.
- A warehouse/commercial structure and parking lot are developed west of the project area.

1993:

- The warehouse/commercial structure present in 1984 is identified by a rooftop sign as "Western Electric".
- Sunset Boulevard is present. Surrounding sites appear to be light industrial.
- Blue Oaks Boulevard is present. Surrounding sites have limited development.
- SR 65 extends to I-80.

1998:

- The large building between SR65 and Industrial Avenue has a railroad spur into the property ending at a small structure with two above ground tanks.
- Stanford Ranch Road/Galleria Boulevard is present.

2005:

- SR65 has been reconstructed as a 4 lane divided highway.
- Pleasant Grove Boulevard is present.
- Development surrounding the project corridor has increased.

2006, 2009, 2010, 2012:

- Development surrounding the project corridor has increased.

2.5.2 *Topographic Map Review*

BCI reviewed topographic maps for features that may indicate an impact to the site. Maps included a Sacramento 30-minute quad map from 1893, Lincoln 15-minute quad maps from 1953, Markham Ravine quad map from 1941, Roseville 7.5-minute quad maps from 1910, 1953, 1967, 1975, 1981, and 1992, and Rockling-adjoining quad maps from 1967 and 1975. Appendix B contains copies of the topographic maps. This summary includes noted changes within and adjacent to the project location as recorded on the maps:

1893 Historical Topographic Map, Sacramento, Scale 1:125000

- The C.P.R.R. railroad exists west of the project area.

1910 USGS Roseville Quad, Scale 1:31680

- The C.P.R.R. railroad is renamed Southern Pacific Rail Road.

1941 Markham Ravine Quad, Scale 1:62500

- A secondary highway (99), present day Industrial Avenue, is located immediately east of the railroad.

1953 USGS Lincoln Quad, Scale 1:62500 and Roseville Quad, Scale 1: 24000

- Two reservoirs exist, one southeast and one north, of the project area.

1967 USGS Roseville Quad, Scale 1:24000

- One large building and associated “water tanks” are identified west of the railroad.

1975 USGS Roseville Quad (Photo revised from 1967), Scale 1:24000

- One large building is present immediately west of the project area.
- SR65 is located in its present alignment.

1981 USGS Roseville Quad (Photo revised from 1967), Scale 1:24000

- An unimproved Whitney Boulevard exists.
- Improved roads extend from SR65 to the building immediately west of the project area.

1992 USGS Roseville Quad), Scale 1:24000

- SR65 is identified extending southeast to I80.

2.5.3 *Sanborn® Map Review*

Sanborn® Maps do not exist for the project area.

3 RECORDS REVIEW

3.1 County, State and Federal Records Review

BCI requested EDR, a commercial data base search firm, to perform a corridor study for the study area. The search includes a review of county, state, federal and EDR proprietary databases. Appendix C contains the list of searched databases. Appendix D presents the EDR Report Executive Summary in hardcopy and the entire report on a CD. The maximum search radius is 1 mile from the outline of the project study area. Sites with adequate address information are plotted on EDR's site plan "EDR Radius Map with Geocheck". EDR lists sites with inadequate address information as "orphan sites" and does not provide mapped locations. BCI reviewed the complete list of twenty "orphan sites" and determined there are no additional sites that appear to be located within the project location.

3.2 Summary of Records Search

To generate this summary, we reviewed the database records search for sites within or adjacent to the project site, or considered close enough to the project site to potentially impact the project.

Gap Inc, 695 Menlo Drive. This site is adjacent to the project limits and is listed in the following databases:

- UST
- PLACER Co. MS
- SWEEPS UST

One 9,500 gallon gasoline UST is listed for this site. The UST registration has been active since 1994. The site is also listed as a small quantity generator of hazardous waste. No violations or accidental releases are noted in the records. Site reconnaissance determined the tank location is

potentially at the southwest corner of the site approximately 130 feet from the project limits. There is no evidence in the records review to suggest hazardous material issues from this site will impact the planned roadway improvement.

Formica Corp, 3500 Cincinnati Avenue. This site is nearby the project limits and is listed in the following databases:

- HIST UST
- RCRA-SQG
- FINDS
- LUST
- CHMIRS
- RCRA-TSDF
- CORRACTS
- CERC-NFRAP
- EMI
- HIST CORTESE

The Formica Corporation is located more than 0.6 miles from the project site. There is no evidence in the records review to suggest hazardous material issues from this site will impact the planned roadway improvement. The California Regional Water Quality Control Board completed their review of the site on September 22, 2009 and granted site closure.

3.3 City Directory Review

BCI reviewed the historical city directory. The information contained in the directory supported information presented in other sections of this report.

3.4 Title Documents Review

BCI was not provided title documents for this assessment.

3.5 Prior Environmental Investigations

The review of the following reports did not identify any additional information that is not discussed in other areas of this report

- *Placer 65 HOV Lane Hazardous Waste Evaluation for a Mini-Preliminary Environmental Analysis Report*, Caltrans (2012)
- *State route 65/Whitney Boulevard Interchange Initial Site Assessment*, BCI (2009)
- *State Route 65/Pleasant Grove Interchange Initial Site Assessment*, BCI (2007)
- *I-80/State Route 65 Interchange Project Initial Site Assessment*, BCI (2013)
- *Aerially Deposited Lead Screening Evaluation – Pleasant Grove Interchange*, BCI (2007)
- *Aerially Deposited Lead Screening Evaluation – Placer Parkway Interchange*, BCI (2013)

We also reviewed the October 2001 *"Initial Site Assessment and Geologic Conditions Report (Final), Whitney Boulevard/Route 65 Interchange"* prepared by BCI. The information provided in the report support the findings of this ISA and included one additional site identified in the records search conducted in 2001. This site is discussed below.

Western Regional Landfill, 3195 Athens Road. This site was included on the following list:

- Solid Waste Landfill (SWLF)

This site is identified as a solid waste facility, including an operations and/or disposal site. The landfill is located more than 1 mile from the project site. There is no evidence to suggest any hazardous material issues from this site will impact the planned roadway improvement.

4 RECONNAISSANCE INFORMATION

4.1 Subject Property Reconnaissance

BCI completed a site reconnaissance on July 29, 2014. Observations were made from publicly accessible portions of the study area. Our observations generally support the descriptions and background data above. A fence line view of the Gap Inc property indicated the potential underground storage tank location to be at the southwest corner of the property.

5 FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The scope of this initial site assessment was directed at determining whether there may be hazardous materials at or near the study area at concentrations likely to warrant mitigation pursuant to regulations, and to identify sites with recognized environmental conditions (RECs) and/or potential RECs within and adjacent to the proposed improvement area which could affect the design, constructability, feasibility, and/or the cost of the proposed project.

5.1 Sites Within or Adjacent to the Project Corridor with Potential RECs

BCI identified the following site(s) with known or potential hazardous materials issues within or adjacent to the project corridor.

Gap Inc, 695 Menlo Drive.

Findings: One 9,500 gallon gasoline UST is listed for this site. The UST registration has been active since 1994. The site is also listed as a small quantity generator of hazardous waste. No violations or accidental releases are noted in the records. Site reconnaissance determined the tank location is potentially at the southwest corner of the site approximately 130 feet from the project limits.

Recommendations: There is no evidence in the records review to suggest hazardous material issues from this site will impact the planned roadway improvement. It does not appear that ROW acquisition will occur at this property, however if partial or complete acquisition of this parcel occurs, further review and investigation of potential contamination impacts is recommended. The initial investigation should include an in depth records review, site inspection and interview with the property owner and the local environmental health department.

5.2 General Contamination/Hazardous Waste Issues

Our assessment identified the following general environmental conditions that should be considered for present and future planning for the proposed project.

Yellow Traffic Stripes
Yellow traffic stripes are known to contain heavy metals such as lead and chromium at concentrations in excess of the hazardous waste thresholds established by the California Code of Regulations and may produce toxic fumes when heated. Consequently, any yellow traffic striping within the project area will require development of an appropriate Lead Compliance Plan.

Aerially Deposited Lead (ADL)
BCI completed an ADL Assessment (September 2014) to evaluate the presence of ADL within the project area. Based on the lead testing data and the results of the statistical analyses, we conclude that additional ADL testing is not warranted and that soil excavated within the project limits is not classified as a hazardous material. We recommend that the contractor conduct all grading operations with the awareness that lead impacted soil is present on the site and conduct all operations in accordance with applicable Cal-OSHA requirements including a project specific worker Health & Safety Plan (HASP) and Lead Compliance Plan.

Asbestos Containing Materials (ACM) and Lead Based Paint (LBP)
The design team requested an asbestos and lead survey of the Pleasant Grove Creek Bridges, which are included in the project area. BCI contracted Entek to perform this survey. The *"Hazardous Materials Survey Report"* dated August 7, 2014, prepared by Entek Consulting evaluated the presence of ACM and LBP at the Pleasant Grove Creek Bridges. The report concluded that ACM is not present in the concrete that comprises the bridge deck and supporting columns beneath the bridges. In addition, Entek did not observe existing paints or coatings associated with the bridges that would require sampling for LBP. The report further concluded that although asbestos was not found during the survey, written notification to the California Air Resources Board may be required. Attachment 1 contains a copy of the report.

Metal Beam Guardrail (MBGR) Wood Post
If MBRG wood posts are removed, the contractor shall prepare and submit a safety and health work practices plan for handling treated wood waste approved by an ABIH Certified Industrial Hygienist. Treated wood waste must be disposed of in an approved treated wood waste facility.

6 LIMITATIONS

The accompanying report summarizes the findings and opinions of Blackburn Consulting (BCI), with regard to the potential for hazardous materials to be present on the properties within and adjacent to the proposed improvement area at concentrations likely to warrant mitigation under current statutes and guidelines. Our findings and opinions are based on information obtained on given dates or provided by specified individuals, through records review, site review, and related activities. Conditions can change after we have made our observations. We cannot warrant or

guarantee that hazardous materials do not exist at the described site. To further reduce your risk, an extensive invasive exploration may be necessary.

This report was prepared for the specific use of our client and applies only to the subject area. We are not responsible for interpretations by others of data presented in this report. This report does not represent a legal opinion. No warranty is expressed or implied. We base our conclusions in this report on judgment and experience. We performed this work in accordance with generally accepted standards of practice existing in northern California at the time of the assessment.

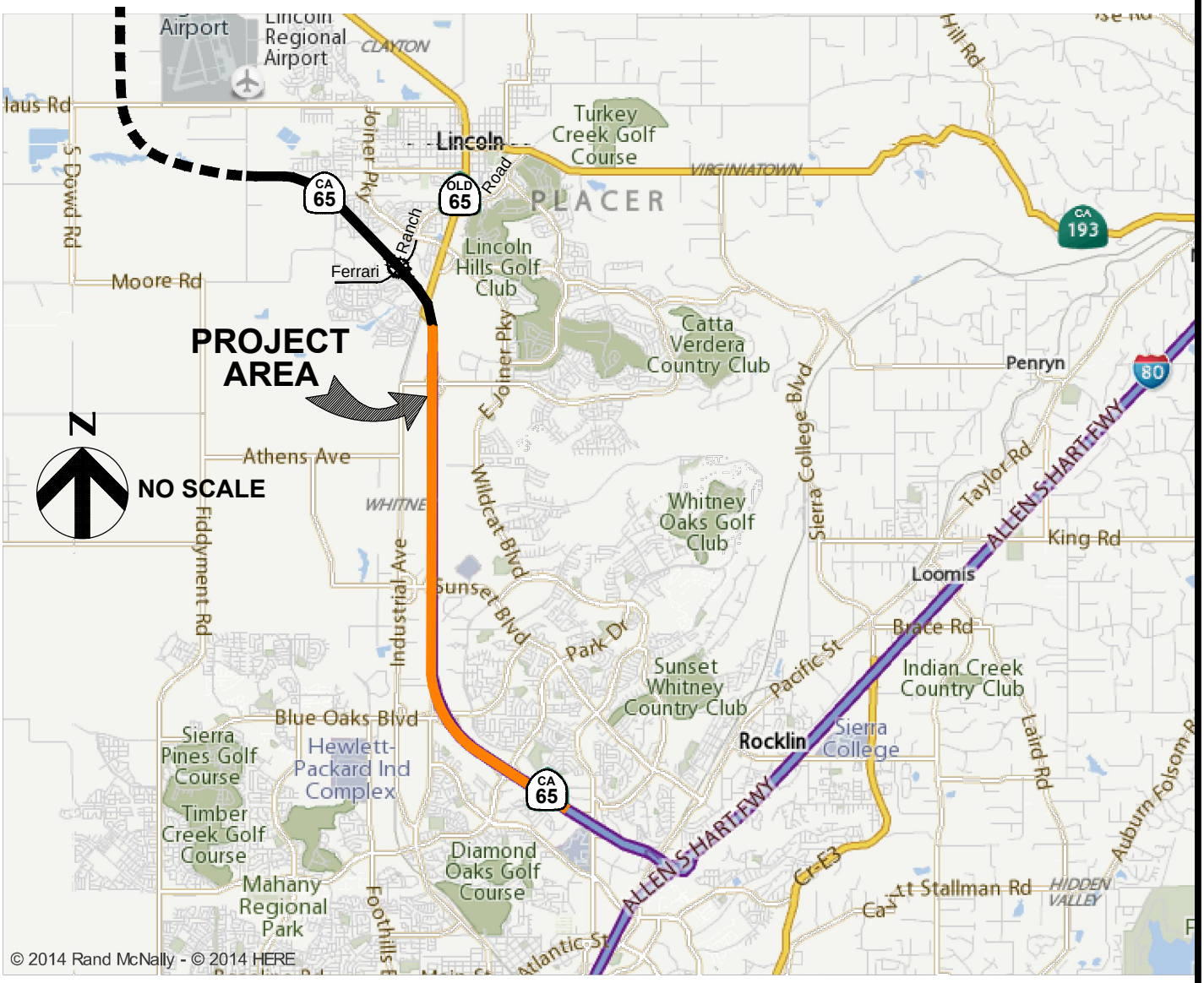
The scope of our investigation did not include determining the presence of radon, lead-based paint, or asbestos-containing materials, except as described herein. Identifying endangered species, geologic hazards, archeological sites, or ecologically sensitive areas are also beyond the scope of this report.

The governmental records portion of this report is derived from public records and is updated on a continual basis. For this reason, we do not advise you to use this information to base a decision after 180 days of the issue date of this report. Also, conditions at the site can and will change over time. Please contact BCI to revise this report to reflect new information.

FIGURES

Figure 1 – Vicinity Map

Figure 2 – Site Plan



blackburn consulting

2491 Boatman Avenue
West Sacramento, CA 95691
Phone: (916) 375-8706
Fax: (916) 375-8709
www.blackburnconsulting.com

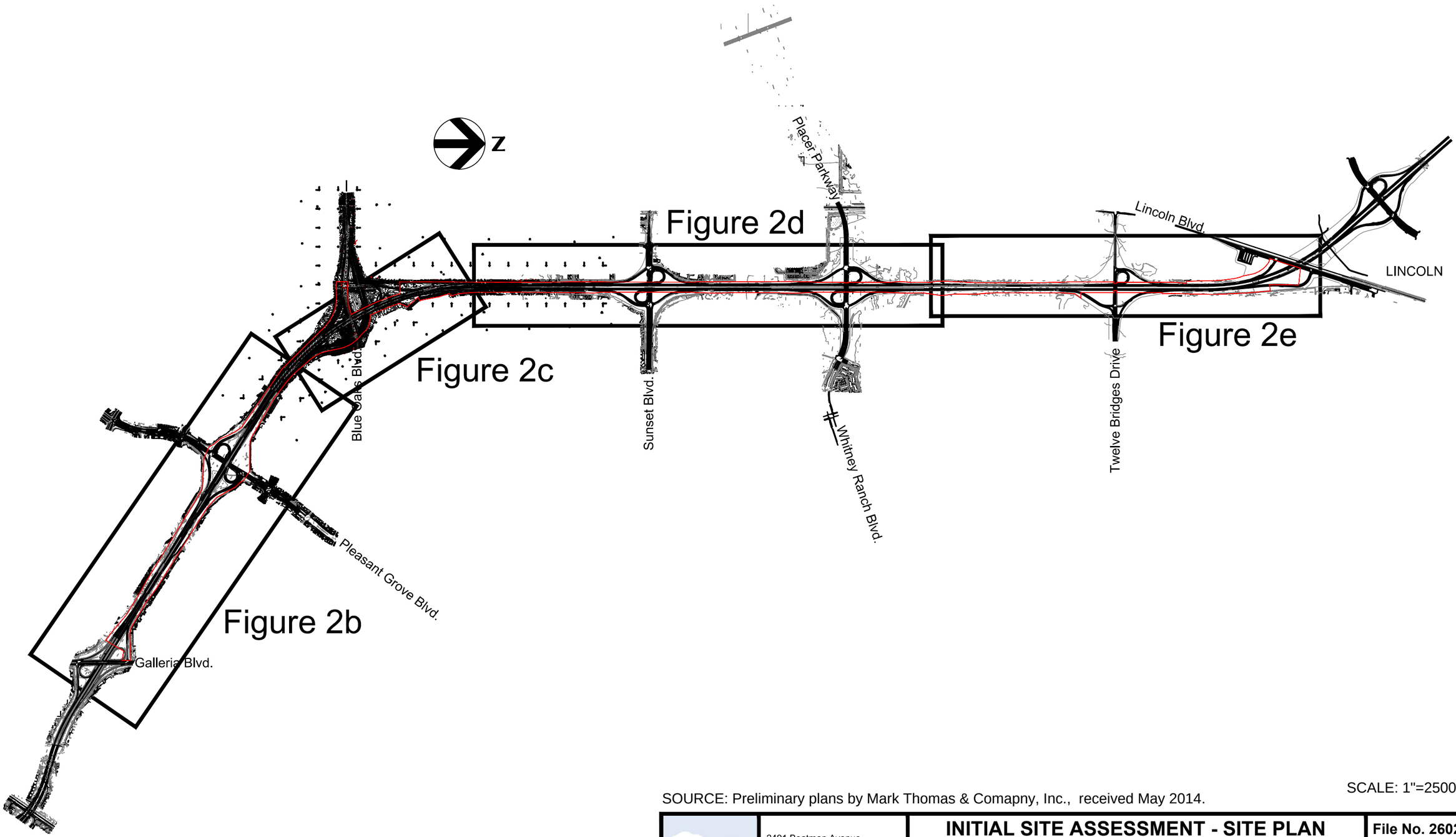
VICINITY MAP
INITIAL SITE ASSESSMENT

SR 65 Capacity and Operational Improvements Project
Placer County, California

File No. 2602.x

September 2014

Figure 1



SOURCE: Preliminary plans by Mark Thomas & Comapny, Inc., received May 2014.

SCALE: 1"=2500'

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INITIAL SITE ASSESSMENT - SITE PLAN

SR 65 Capacity and Operational Improvements Project
Placer County, California

File No. 2602.x

September 2014

Figure 2a

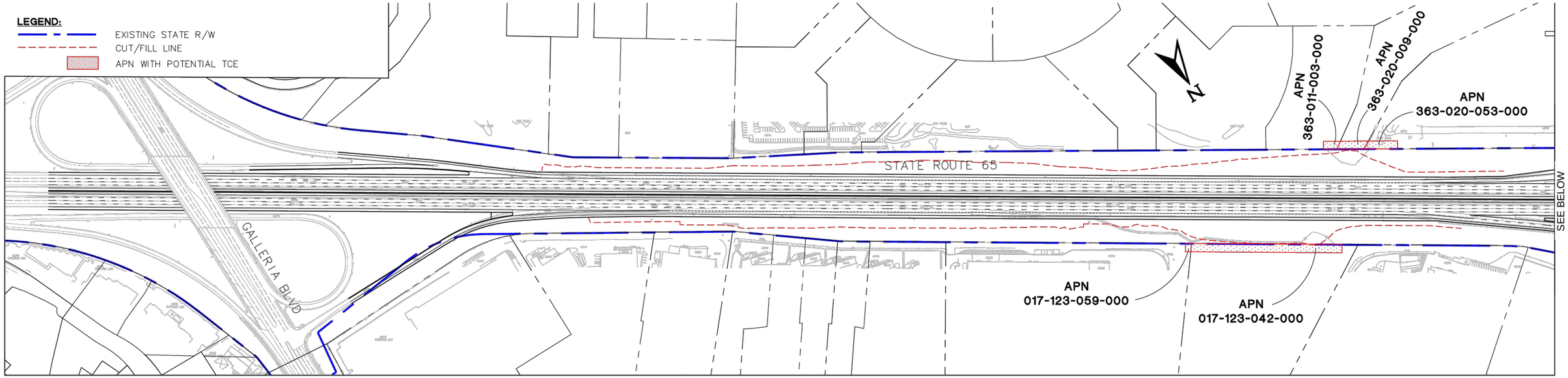
9/5/2014 2602.x Fig2a SR65 CnO Imp ISA.dwg

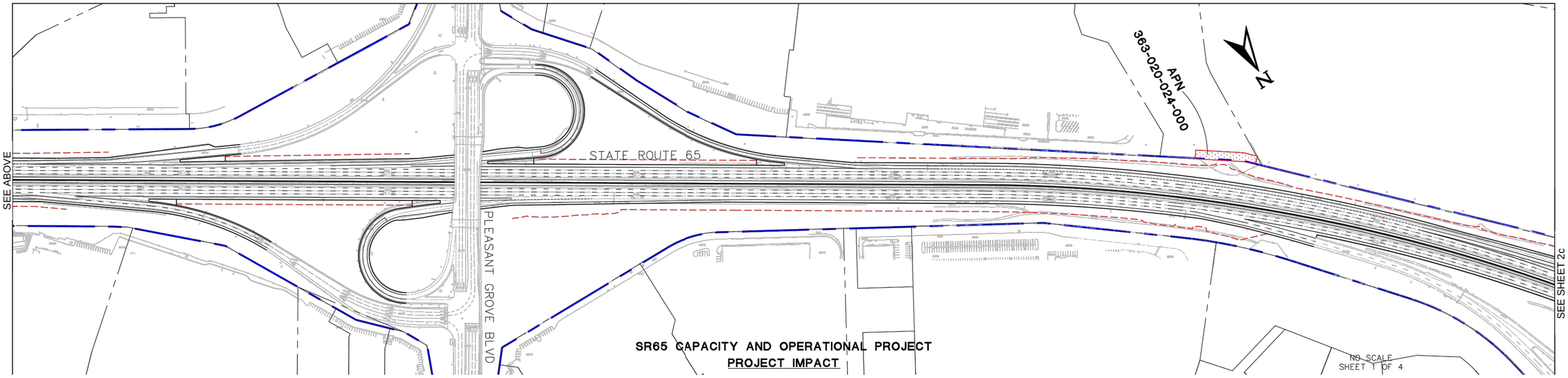
LEGEND:

EXISTING STATE R/W

CUT/FILL LINE

APN WITH POTENTIAL TCE





SR65 CAPACITY AND OPERATIONAL PROJECT

PROJECT IMPACT

NO SCALE

SHEET 1 OF 4

SOURCE: Preliminary plans by Mark Thomas & Comapny, Inc., received May 2014.

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INITIAL SITE ASSESSMENT - SITE PLAN

SR 65 Capacity and Operational Improvements Project
Placer County, California

File No. 2602.x

September 2014

Figure 2b

LEGEND:

EXISTING STATE R/W

CUT/FILL LINE

APN WITH POTENTIAL TCE

BLUE OAKS BLVD

STATE ROUTE 65

N

APN
017-123-003-000

SEE SHEET 2b

SEE SHEET 2d

SR65 CAPACITY AND OPERATIONAL PROJECT
PROJECT IMPACT

NO SCALE
SHEET 2 OF 4

SOURCE: Preliminary plans by Mark Thomas & Comapny, Inc., received May 2014.

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INITIAL SITE ASSESSMENT - SITE PLAN

SR 65 Capacity and Operational Improvements Project
Placer County, California

File No. 2602.x

September 2014

Figure 2c

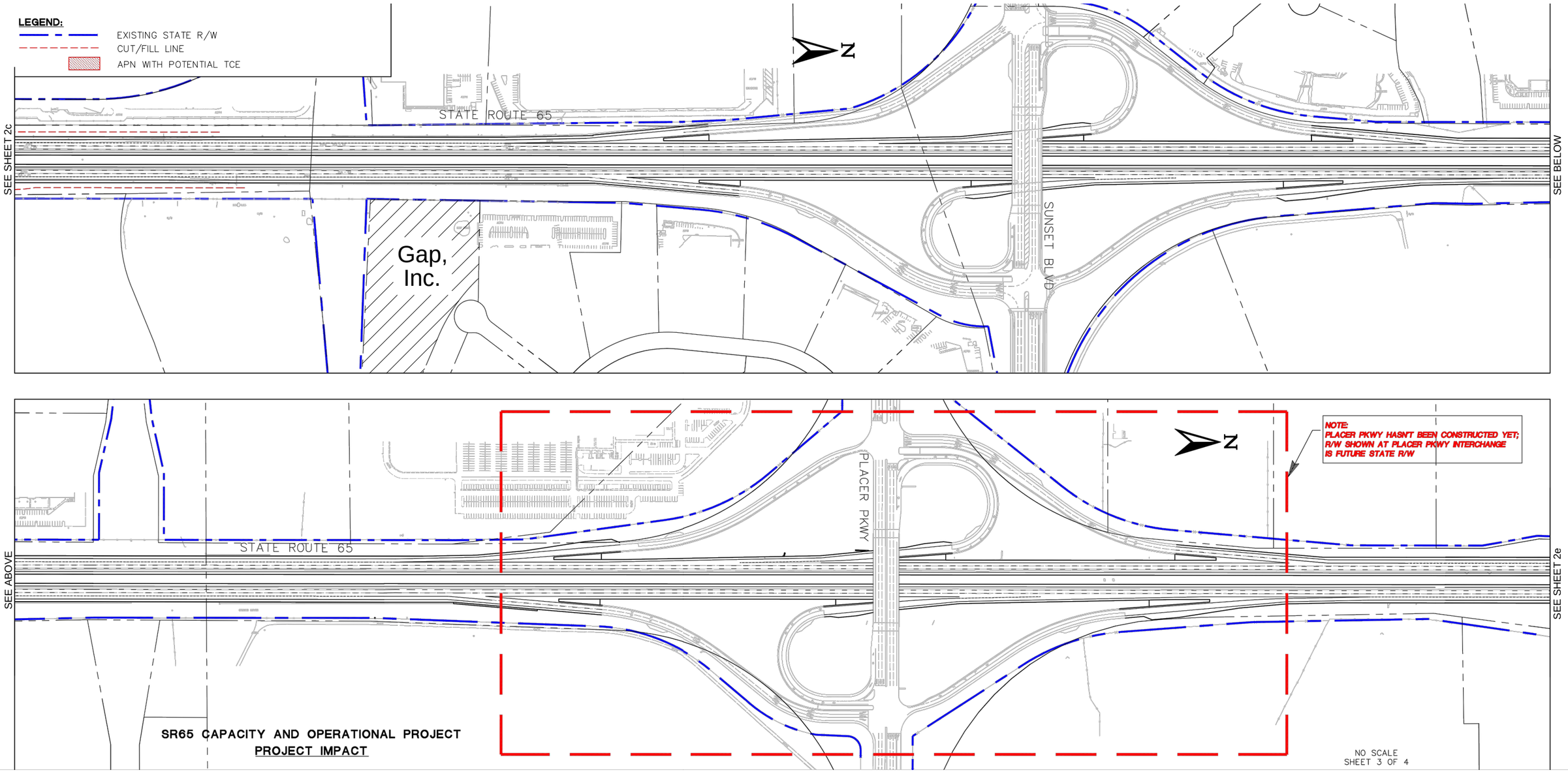
9/24/2014 2602.x Fig2 SR65 CnO Imp ISA.dwg

LEGEND:

EXISTING STATE R/W

CUT/FILL LINE

APN WITH POTENTIAL TCE



SR65 CAPACITY AND OPERATIONAL PROJECT

PROJECT IMPACT

SOURCE: Preliminary plans by Mark Thomas & Comapny, Inc., received May 2014.

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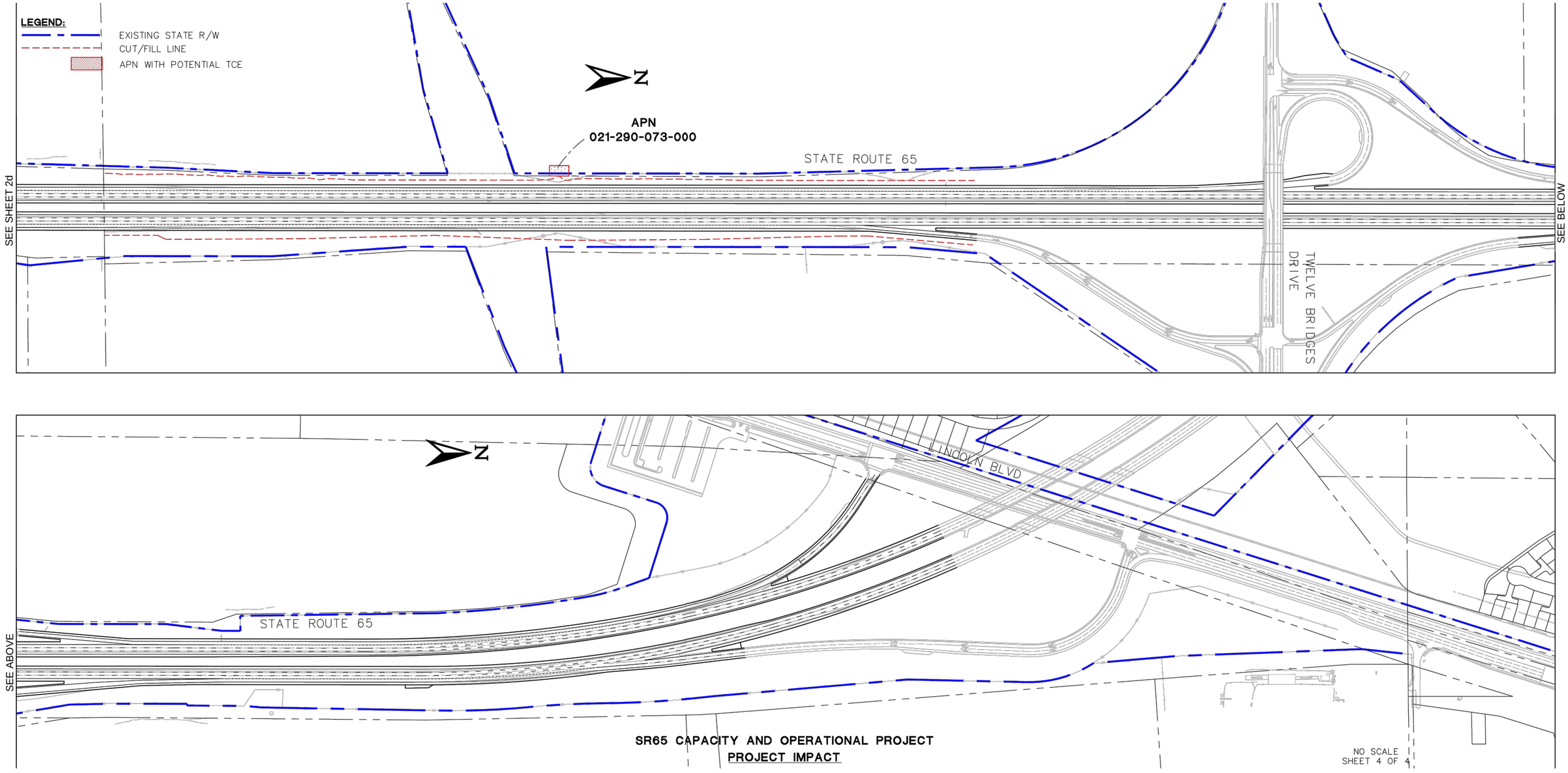
INITIAL SITE ASSESSMENT - SITE PLAN

SR 65 Capacity and Operational Improvements Project
Placer County, California

File No. 2602.x

September 2014

Figure 2d



SR65 CAPACITY AND OPERATIONAL PROJECT
PROJECT IMPACT

NO SCALE
SHEET 4 OF 4

SOURCE: Preliminary plans by Mark Thomas & Comapny, Inc., received May 2014.

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INITIAL SITE ASSESSMENT - SITE PLAN

SR 65 Capacity and Operational Improvements Project
Placer County, California

File No. 2602.x
September 2014
Figure 2e

APPENDIX A

Aerial Photographs

SR 65 HOV
SR 65 and Lincoln Boulevard
Lincoln, CA 95648

Inquiry Number: 3664215.5
August 06, 2013

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Date EDR Searched Historical Sources:
Aerial Photography August 06, 2013

Target Property:
SR 65 and Lincoln Boulevard
Lincoln, CA 95648

Year	***Scale***	***Details***	***Source***
1947	Aerial Photograph. Scale: 1"=500'	Flight Year: 1947	USGS
1952	Aerial Photograph. Scale: 1"=500'	Flight Year: 1952	Southwestern
1961	Aerial Photograph. Scale: 1"=500'	Flight Year: 1961	Cartwright
1966	Aerial Photograph. Scale: 1"=500'	Flight Year: 1966 Best Copy Available from original source	USGS
1984	Aerial Photograph. Scale: 1"=500'	Flight Year: 1984	USGS
1993	Aerial Photograph. Scale: 1"=500'	Flight Year: 1993	USGS
1998	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1998	EDR
1998	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1998	EDR
1998	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1998	EDR
1998	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1998	EDR
1998	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1998	EDR
1998	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1998	EDR
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	EDR
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	EDR
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	EDR
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	EDR
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	EDR
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	EDR
2006	Aerial Photograph. Scale: 1"=500'	Flight Year: 2006	EDR

Year	*Scale*	*Details*	*Source*
2006	Aerial Photograph. Scale: 1"=500'	Flight Year: 2006	EDR
2006	Aerial Photograph. Scale: 1"=500'	Flight Year: 2006	EDR
2006	Aerial Photograph. Scale: 1"=500'	Flight Year: 2006	EDR
2006	Aerial Photograph. Scale: 1"=500'	Flight Year: 2006	EDR
2006	Aerial Photograph. Scale: 1"=500'	Flight Year: 2006	EDR
2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	EDR
2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	EDR
2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	EDR
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2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	EDR
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2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	EDR
2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	EDR
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	EDR
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	EDR
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	EDR
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	EDR
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	EDR
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	EDR


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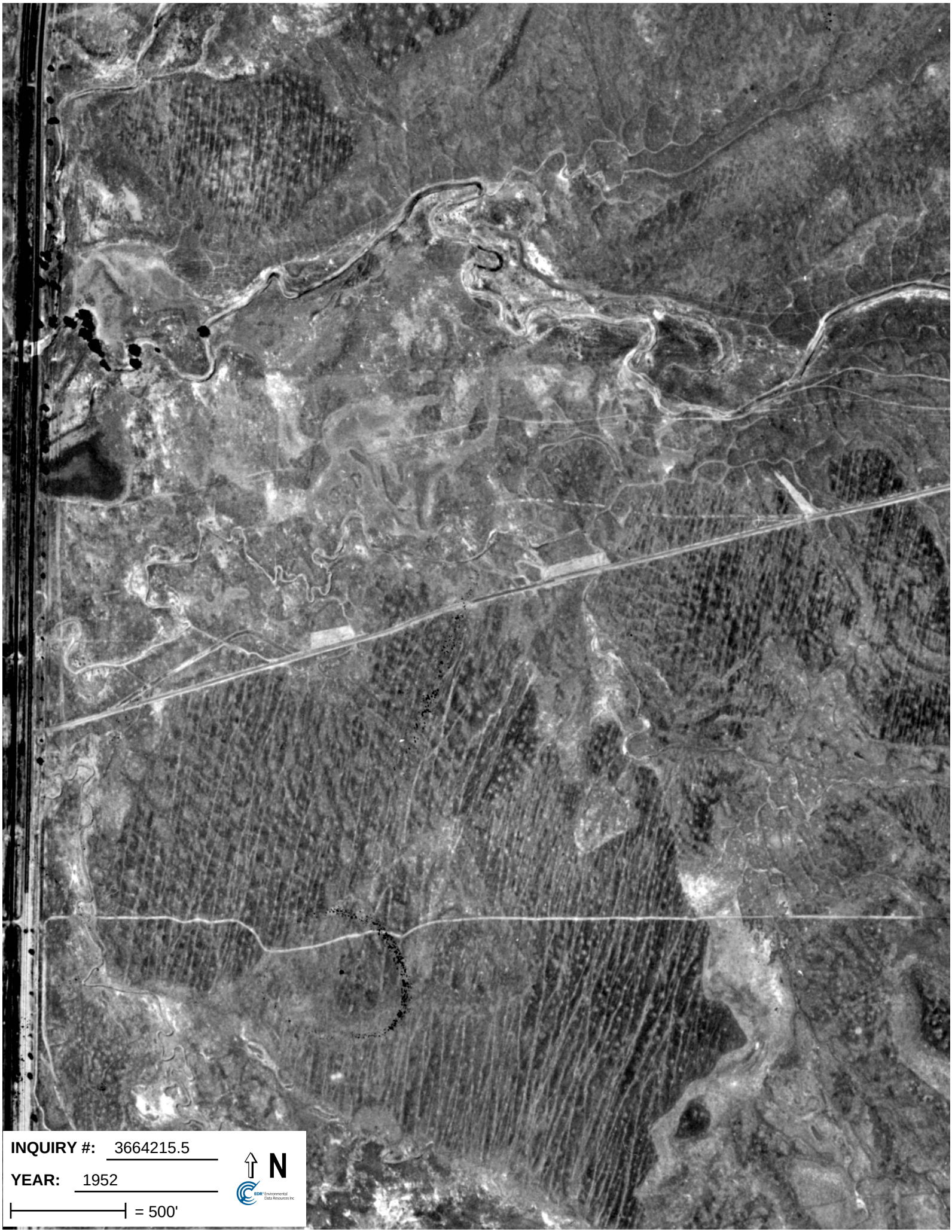
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EDR Environmental Data Resources Inc


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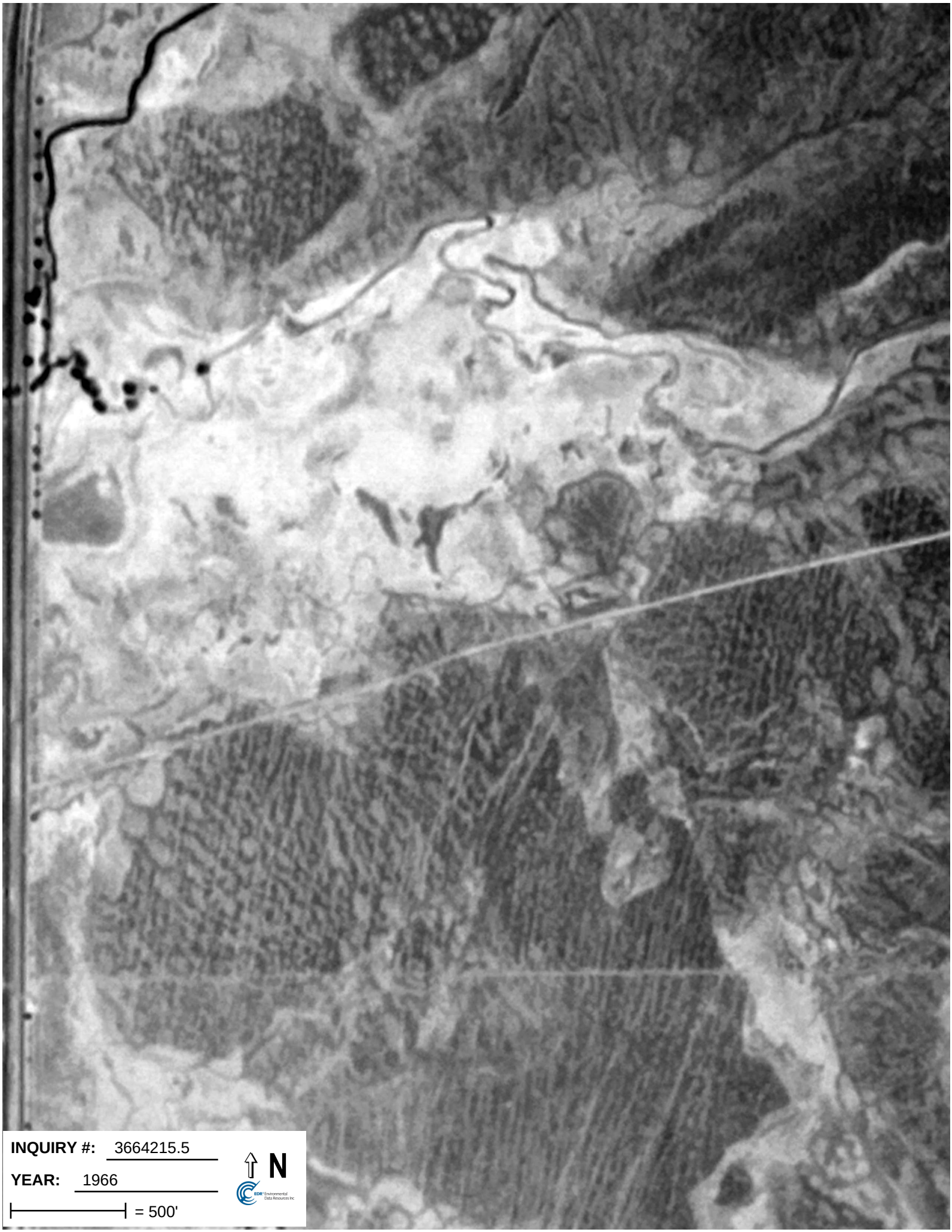
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YEAR: 1993
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EDR Environmental Data Resources Inc


INQUIRY #: 3664215.5
YEAR: 1998
= 500'
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EDR Environmental Data Resources Inc


INQUIRY #: 3664215.5
YEAR: 1998
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N
EDR Environmental Data Resources Inc


INQUIRY #: 3664215.5
YEAR: 1998
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INQUIRY #: 3664215.5
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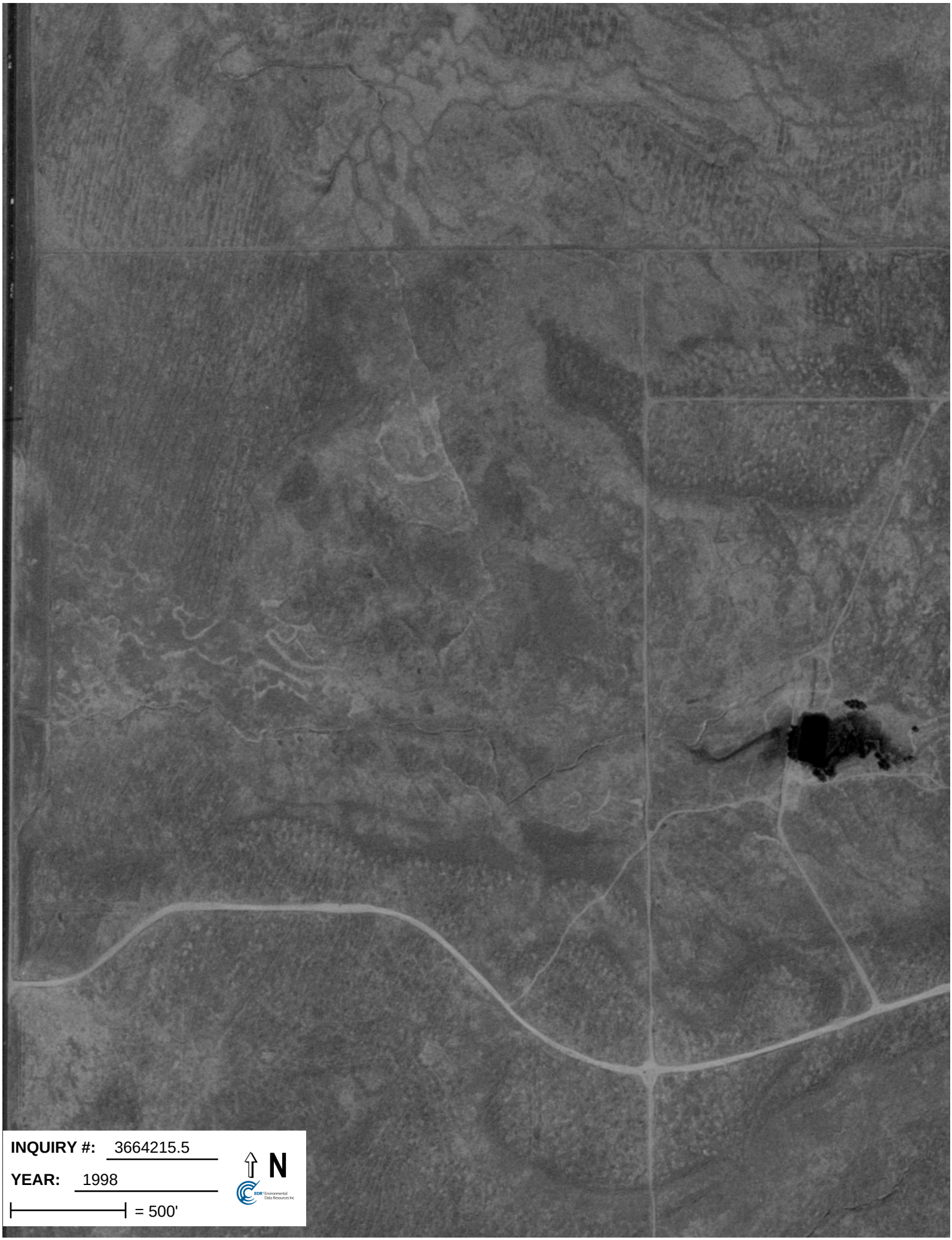

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EDR Environmental Data Resources Inc


INQUIRY #: 3664215.5
YEAR: 2005
= 500'
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INQUIRY #: 3664215.5
YEAR: 2005
= 500'
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EDR Environmental Data Resources Inc


INQUIRY #: 3664215.5
YEAR: 2005
= 500'
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INQUIRY #: 3664215.5
YEAR: 2005
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YEAR: 2005
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INQUIRY #: 3664215.5
YEAR: 2006
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EDR Environmental Data Resources Inc


INQUIRY #: 3664215.5
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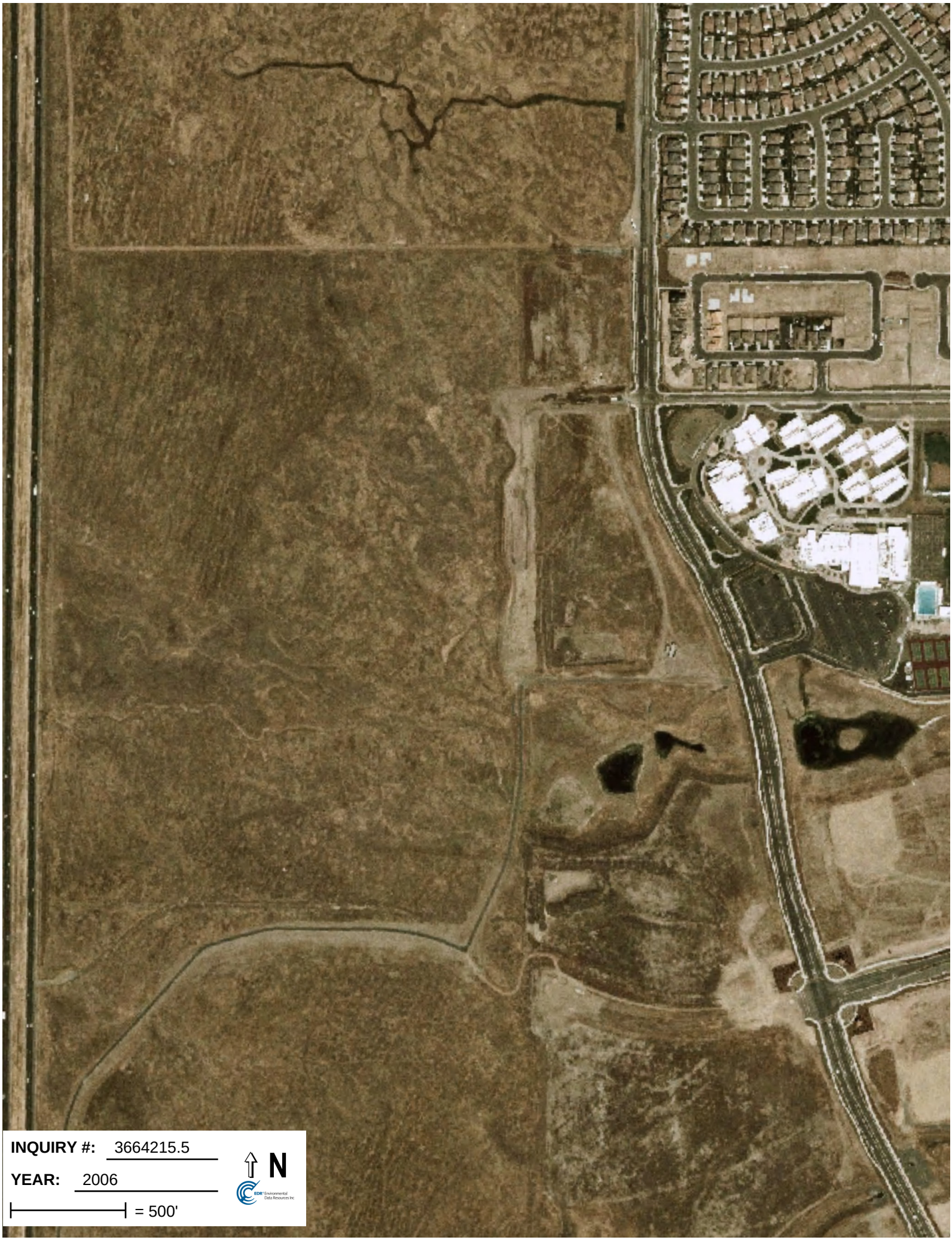

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EDR Environmental Data Resources Inc


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INQUIRY #: 3664215.5
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INQUIRY #: 3664215.5
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EDR Environmental Data Resources Inc


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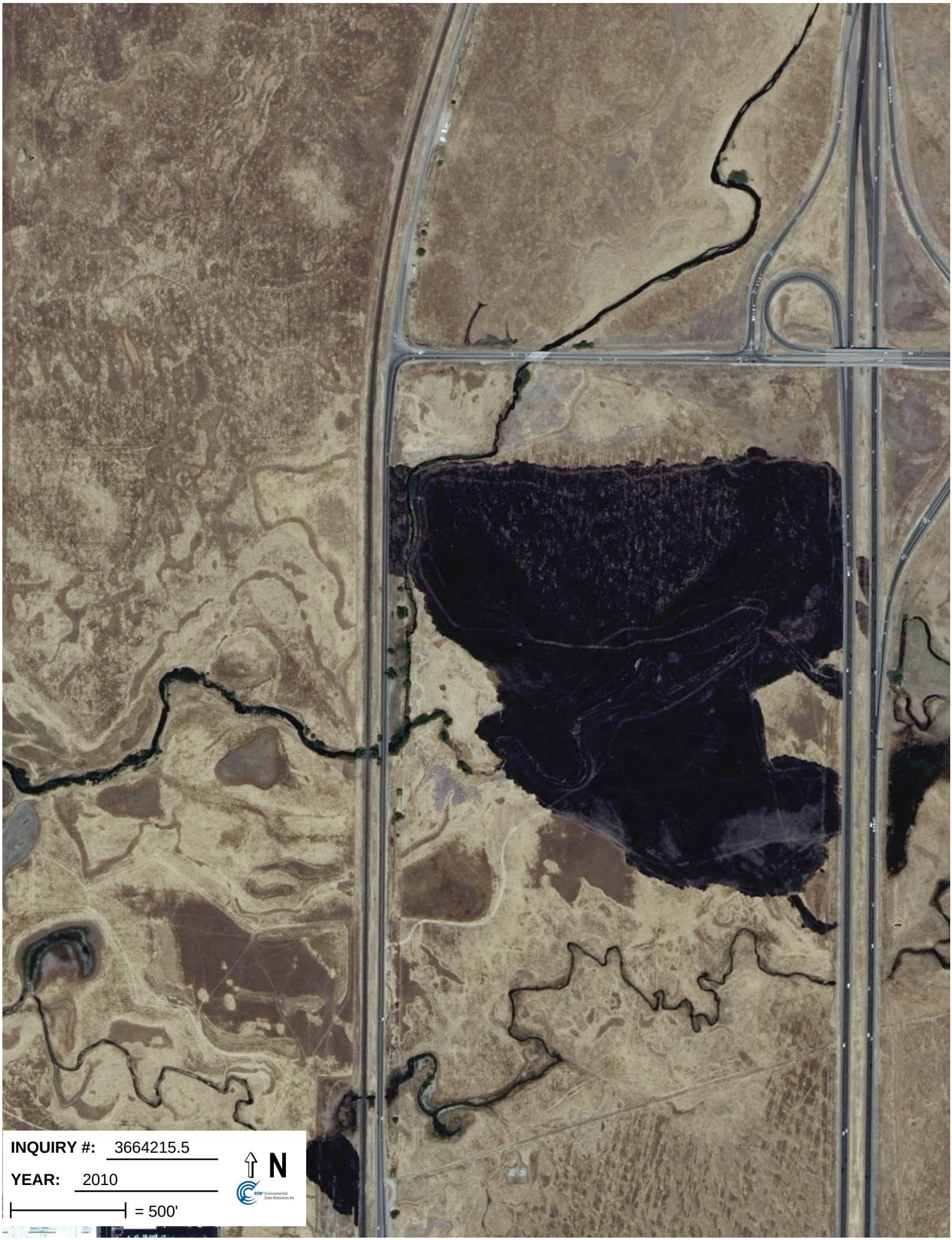
EDR Environmental Data Resources Inc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INQUIRY #: 3664215.5
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EDR Environmental Data Resources Inc


INQUIRY #: 3664215.5
YEAR: 2010
= 500'
N
EDR Environmental Data Resources Inc


INQUIRY #: 3664215.5
YEAR: 2012
= 500'
N


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YEAR: 2012
= 500'
N


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YEAR: 2012
= 500'
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YEAR: 2012
= 500'
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INQUIRY #: 3664215.5

YEAR: 2012

= 500'

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YEAR: 2012
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INQUIRY #: 3596071.5
YEAR: 2009
= 500'
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EDR Environmental Data Resources Inc


INQUIRY #: 3596071.5
YEAR: 2005
= 500'
N
EDR Environmental Data Resources Inc


INQUIRY #: 3596071.5
YEAR: 2005
= 500'
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APPENDIX B

Topographic Maps

SR 65 HOV
SR 65 and Lincoln Boulevard
Lincoln, CA 95648

Inquiry Number: 3664215.4
July 15, 2013

EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

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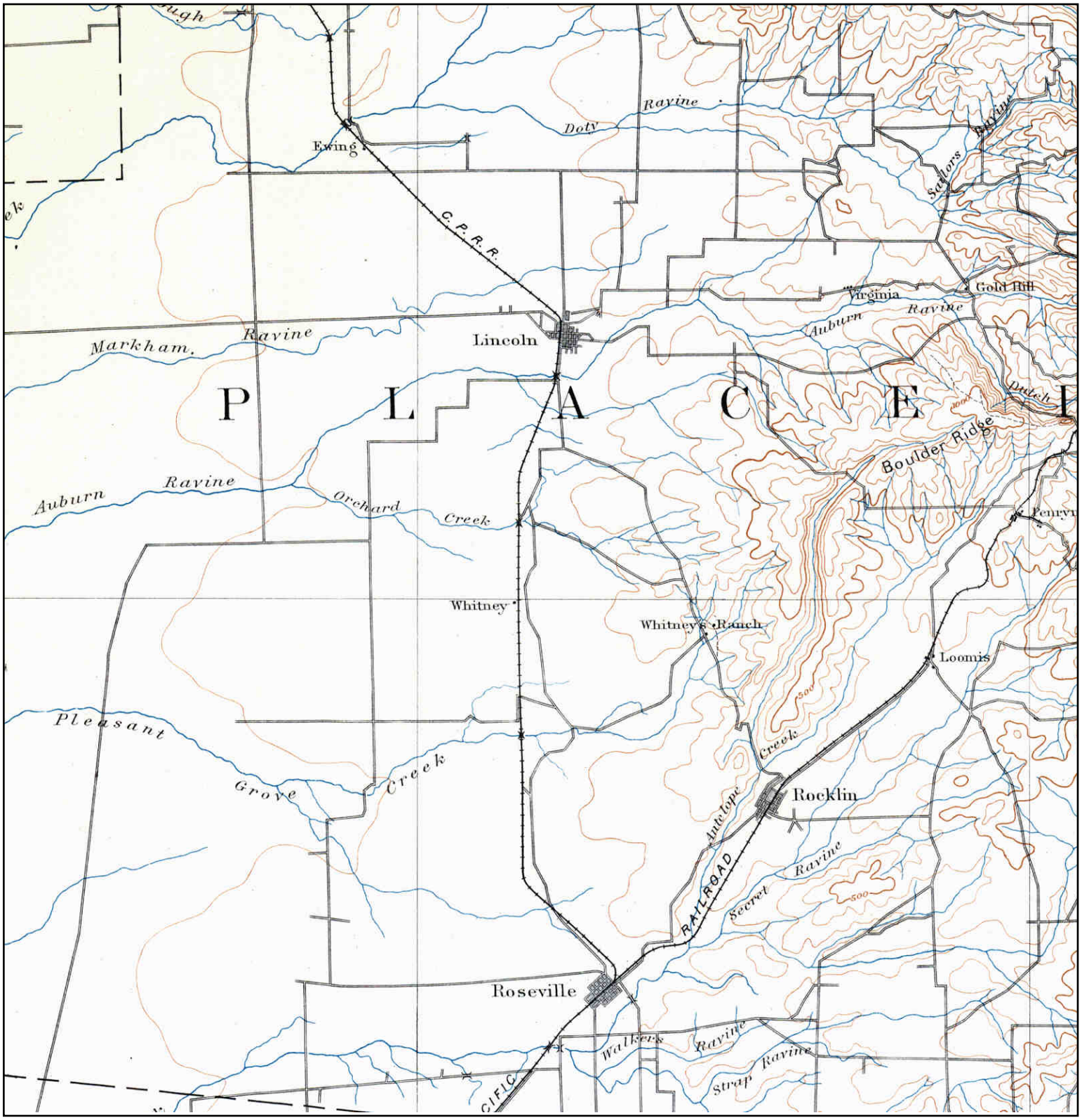
Historical Topographic Map

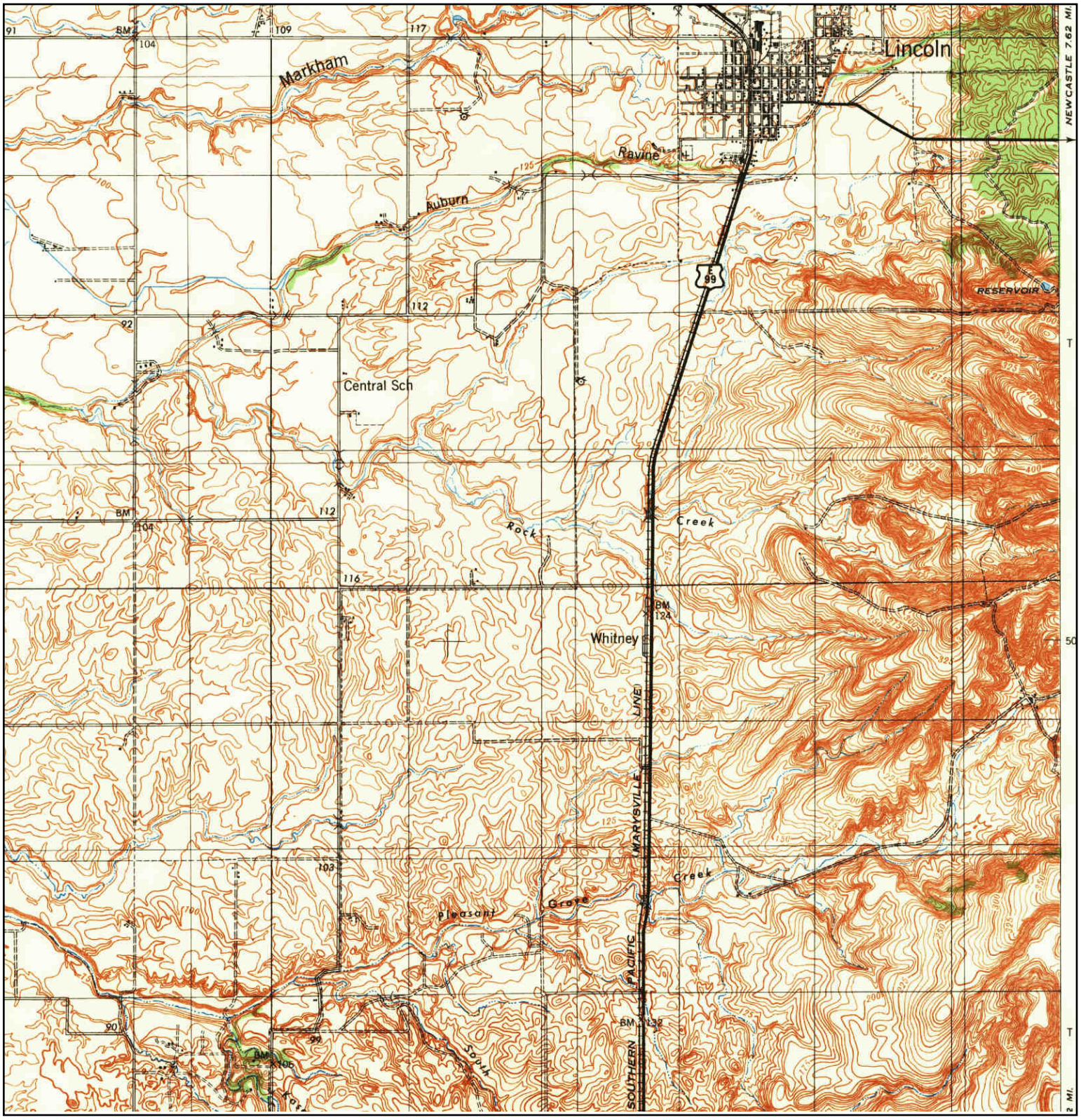


N	TARGET QUAD NAME: SACRAMENTO MAP YEAR: 1893 SERIES: 30 SCALE: 1:125000	SITE NAME: SR 65 HOV ADDRESS: SR 65 and Lincoln Boulevard Lincoln, CA 95648 LAT/LONG: 38.8421 / -121.2996	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3664215.4 RESEARCH DATE: 07/15/2013

Historical Topographic Map

N	TARGET QUAD NAME: ROSEVILLE MAP YEAR: 1910 SERIES: 7.5 SCALE: 1:31680	SITE NAME: SR 65 HOV ADDRESS: SR 65 and Lincoln Boulevard Lincoln, CA 95648 LAT/LONG: 38.8421 / -121.2996	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3664215.4 RESEARCH DATE: 07/15/2013

Historical Topographic Map



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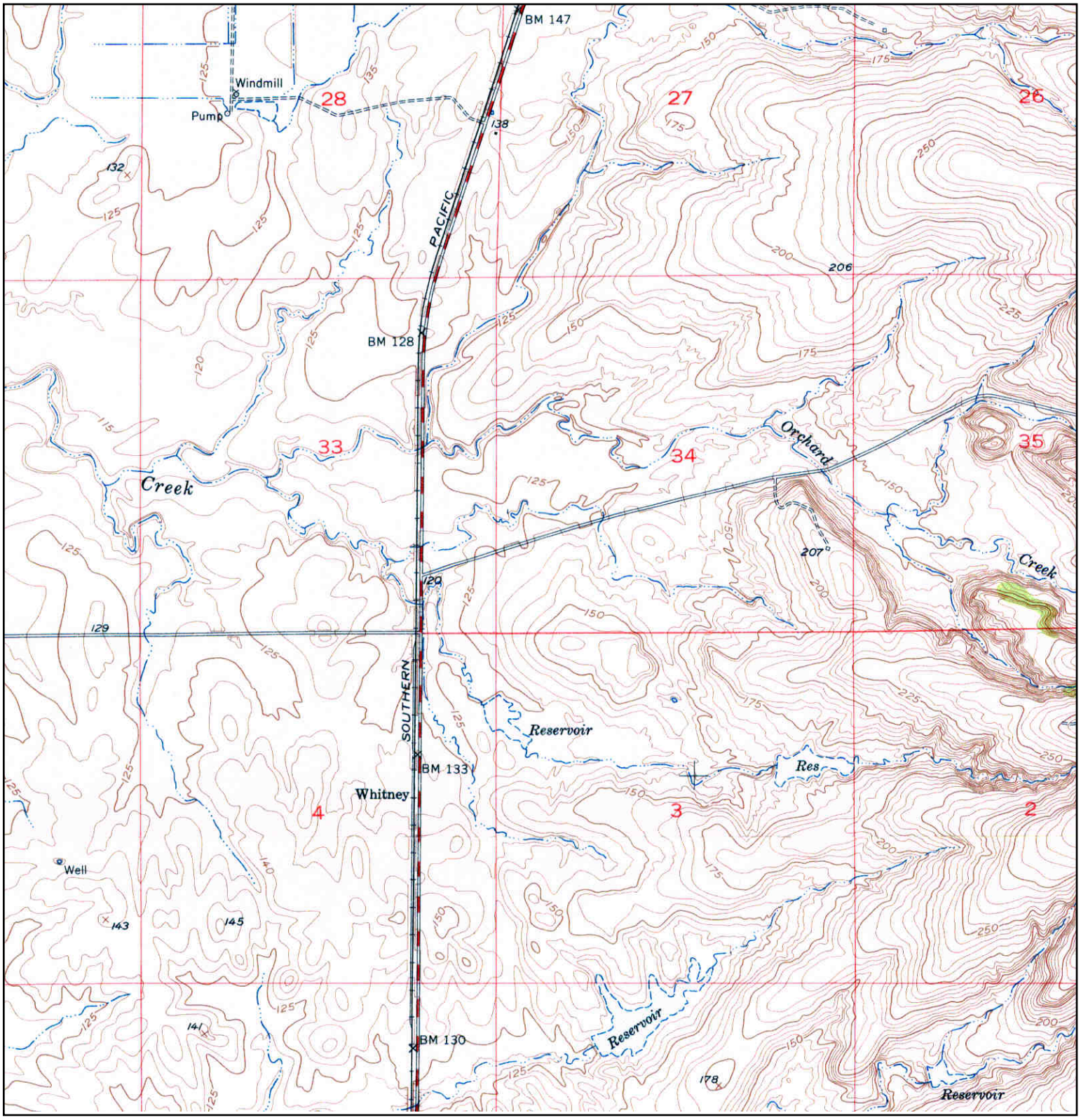
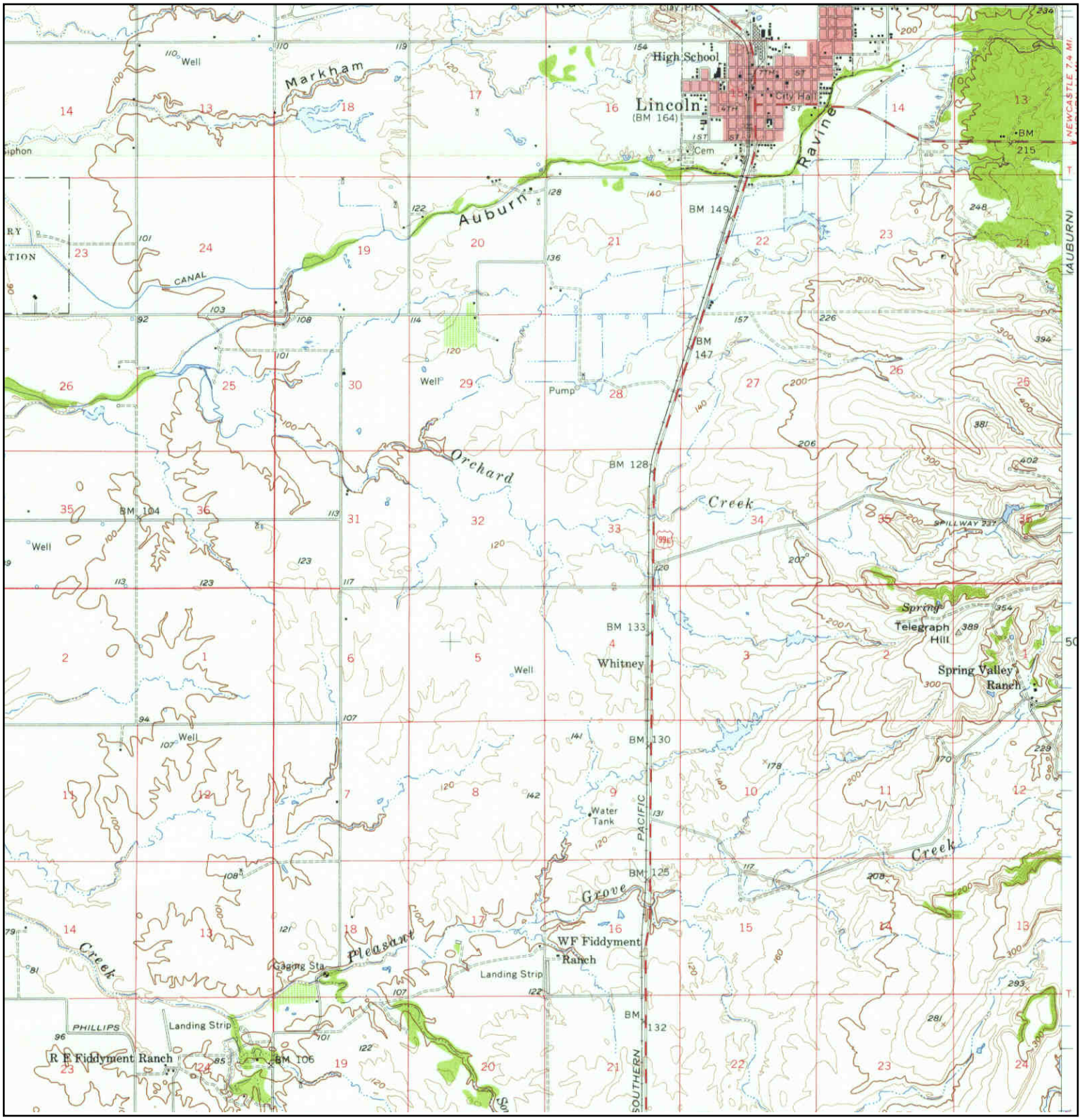
	MAP YEAR:	1941	ADDRESS:	SR 65 and Lincoln Boulevard Lincoln, CA 95648	CONTACT: Laura Long
	SERIES:	15	LAT/LONG:	38.8421 / -121.2996	INQUIRY#: 3664215.4
	SCALE:	1:62500			RESEARCH DATE: 07/15/2013

Historical Topographic Map



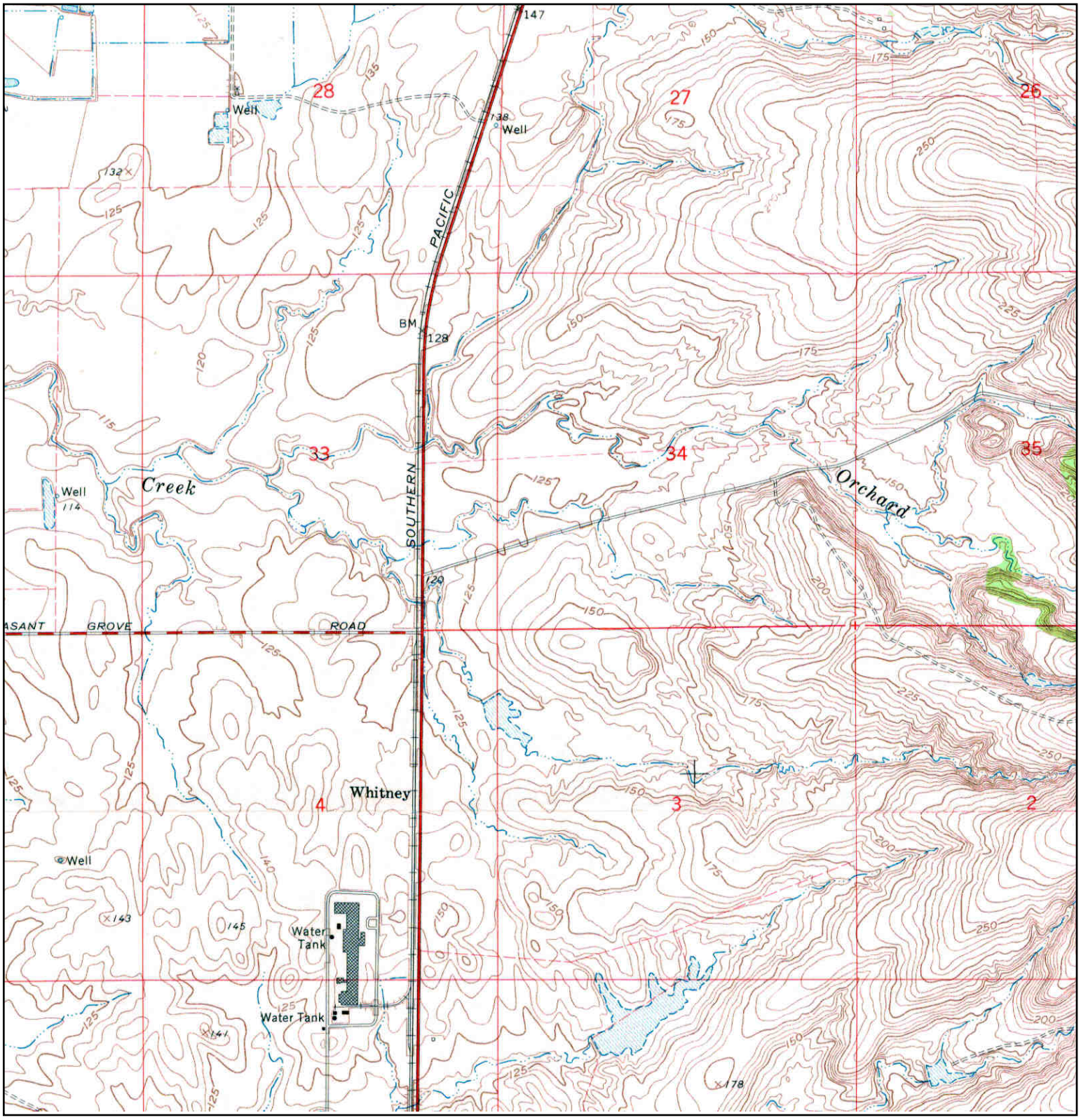
N	TARGET QUAD		SITE NAME:	SR 65 HOV	CLIENT:	Blackburn Consulting
	NAME:	ROSEVILLE	ADDRESS:	SR 65 and Lincoln Boulevard	CONTACT:	Laura Long
	MAP YEAR:	1953		Lincoln, CA 95648	INQUIRY#:	3664215.4
			LAT/LONG:	38.8421 / -121.2996	RESEARCH DATE:	07/15/2013
	SERIES:	7.5				
	SCALE:	1:24000				

Historical Topographic Map



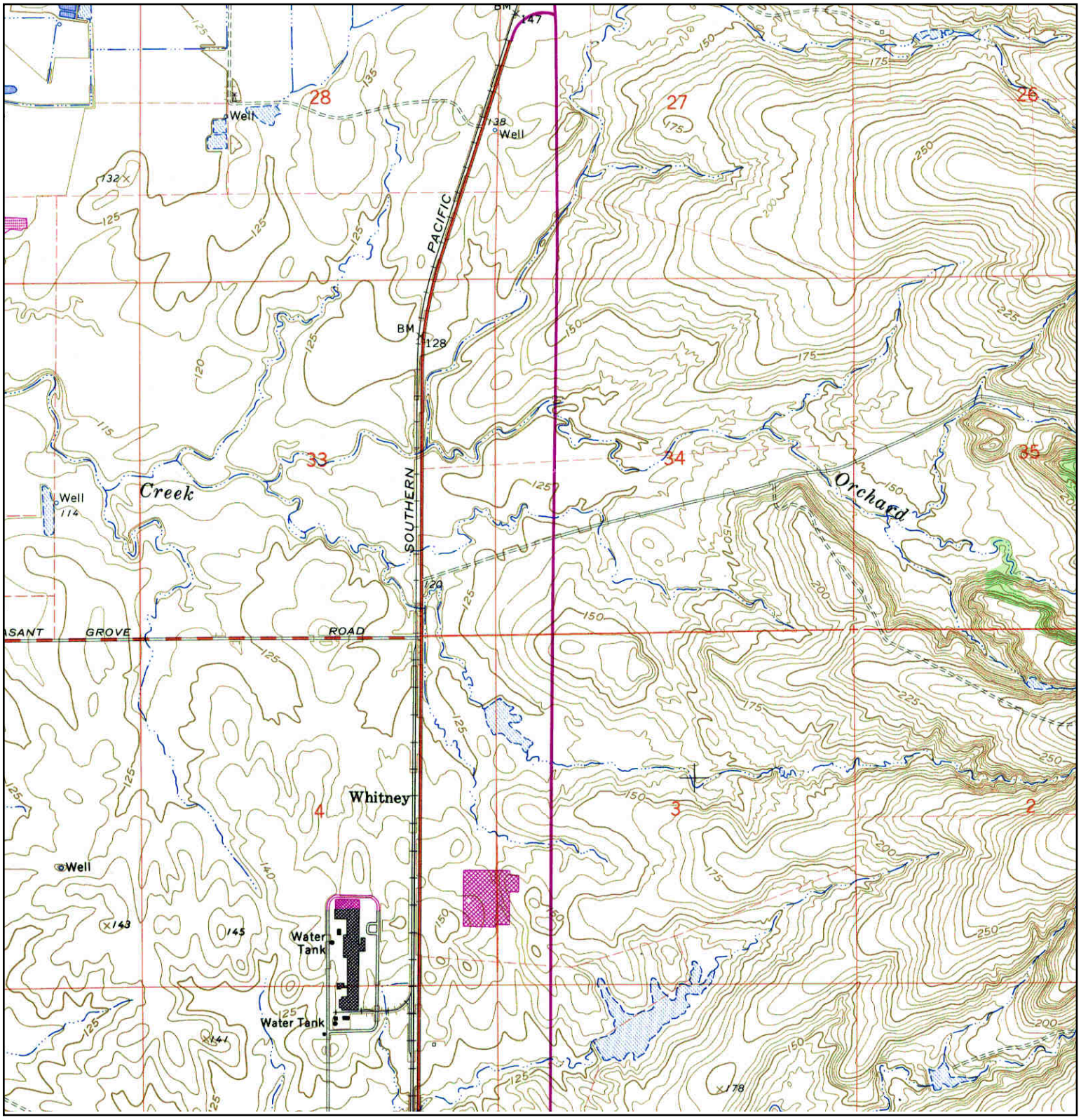
N	TARGET QUAD NAME: LINCOLN MAP YEAR: 1953 SERIES: 15 SCALE: 1:62500	SITE NAME: SR 65 HOV ADDRESS: SR 65 and Lincoln Boulevard Lincoln, CA 95648 LAT/LONG: 38.8421 / -121.2996	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3664215.4 RESEARCH DATE: 07/15/2013

Historical Topographic Map



N	TARGET QUAD NAME: ROSEVILLE MAP YEAR: 1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: SR 65 HOV ADDRESS: SR 65 and Lincoln Boulevard Lincoln, CA 95648 LAT/LONG: 38.8421 / -121.2996	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3664215.4 RESEARCH DATE: 07/15/2013

Historical Topographic Map



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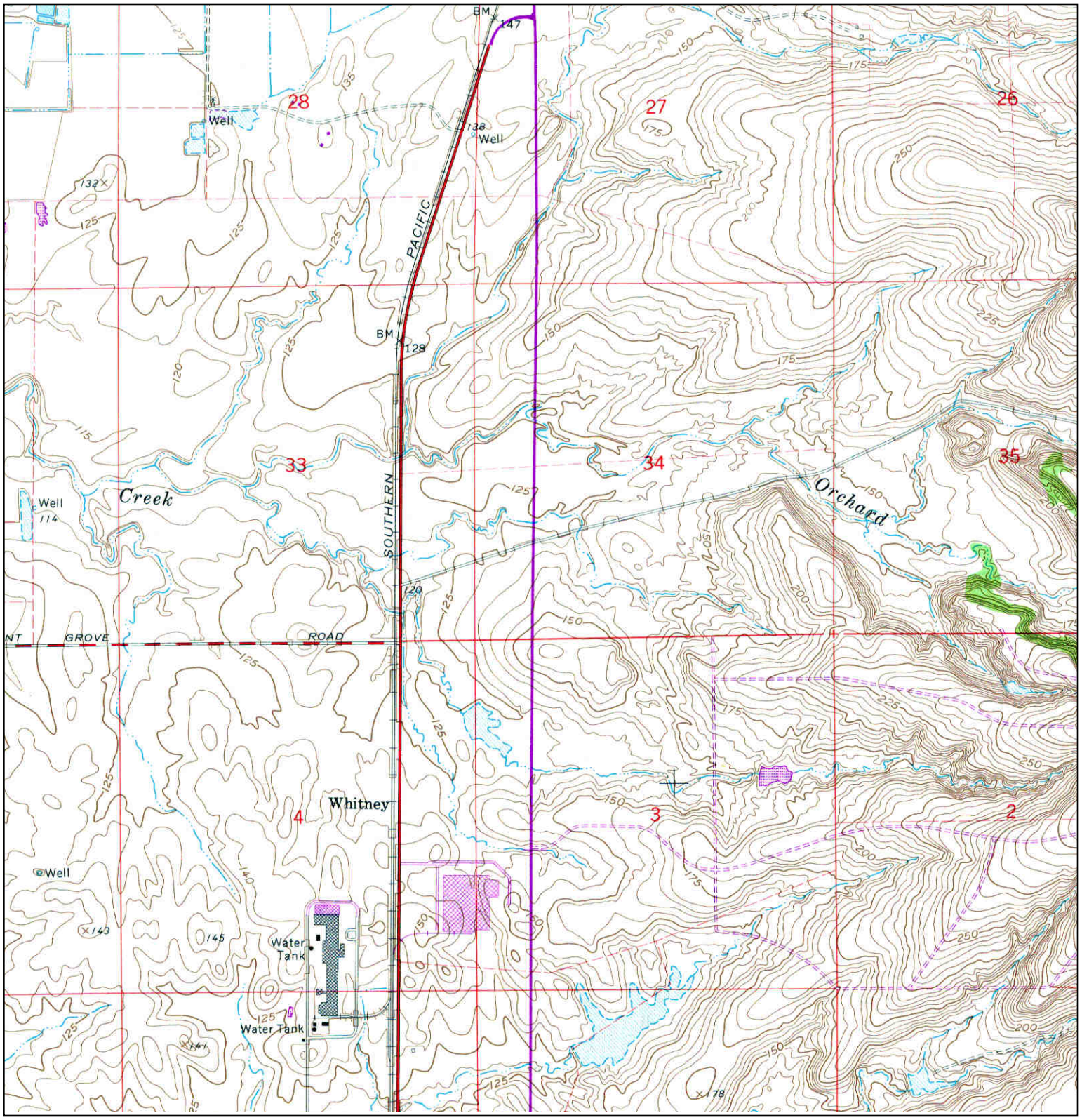
Historical Topographic Map



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I-80/SR-65 Interchange
Interstate 80/State Route 65
Roseville, CA 95678

Inquiry Number: 3596071.4
May 03, 2013

EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

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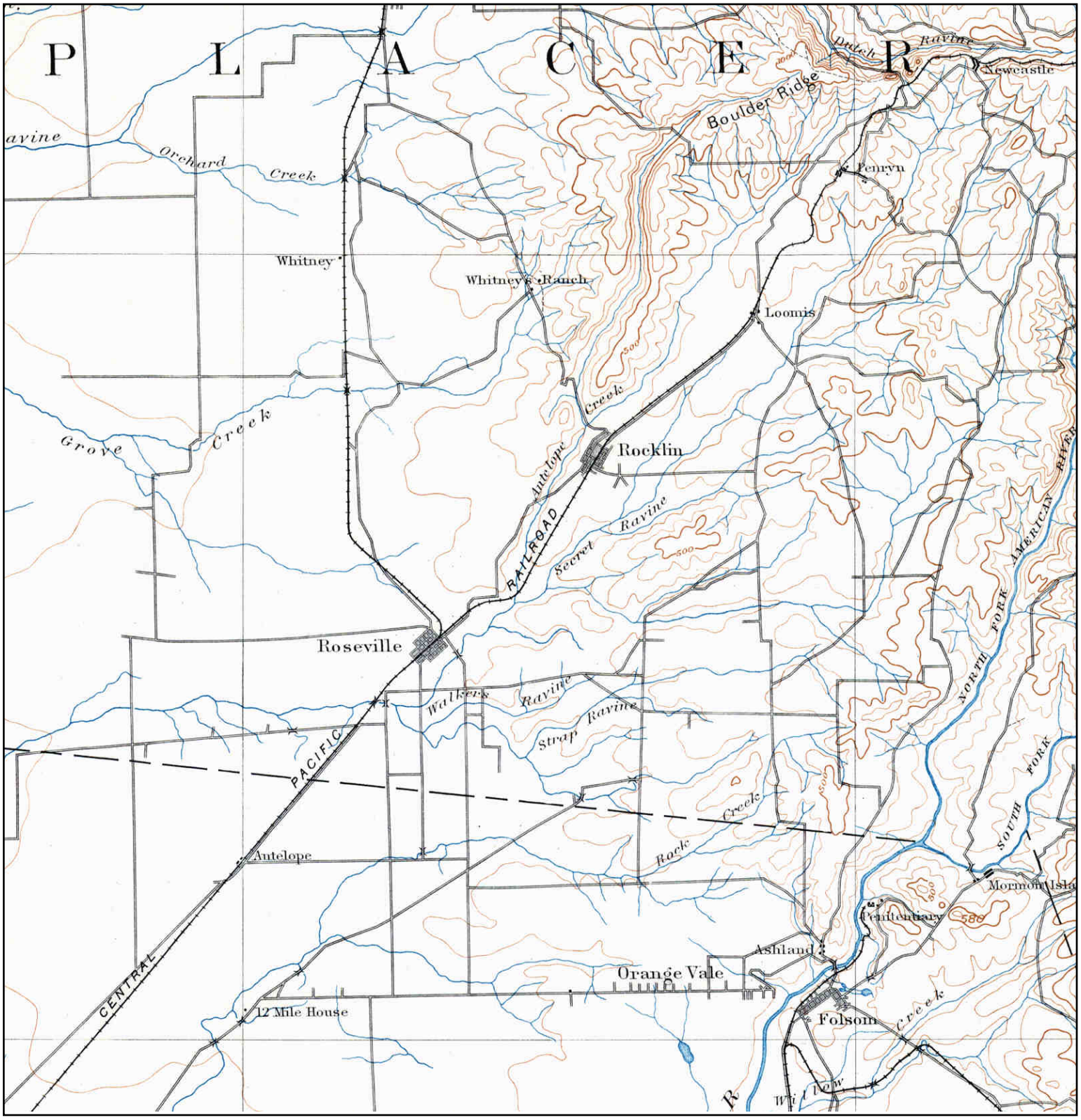
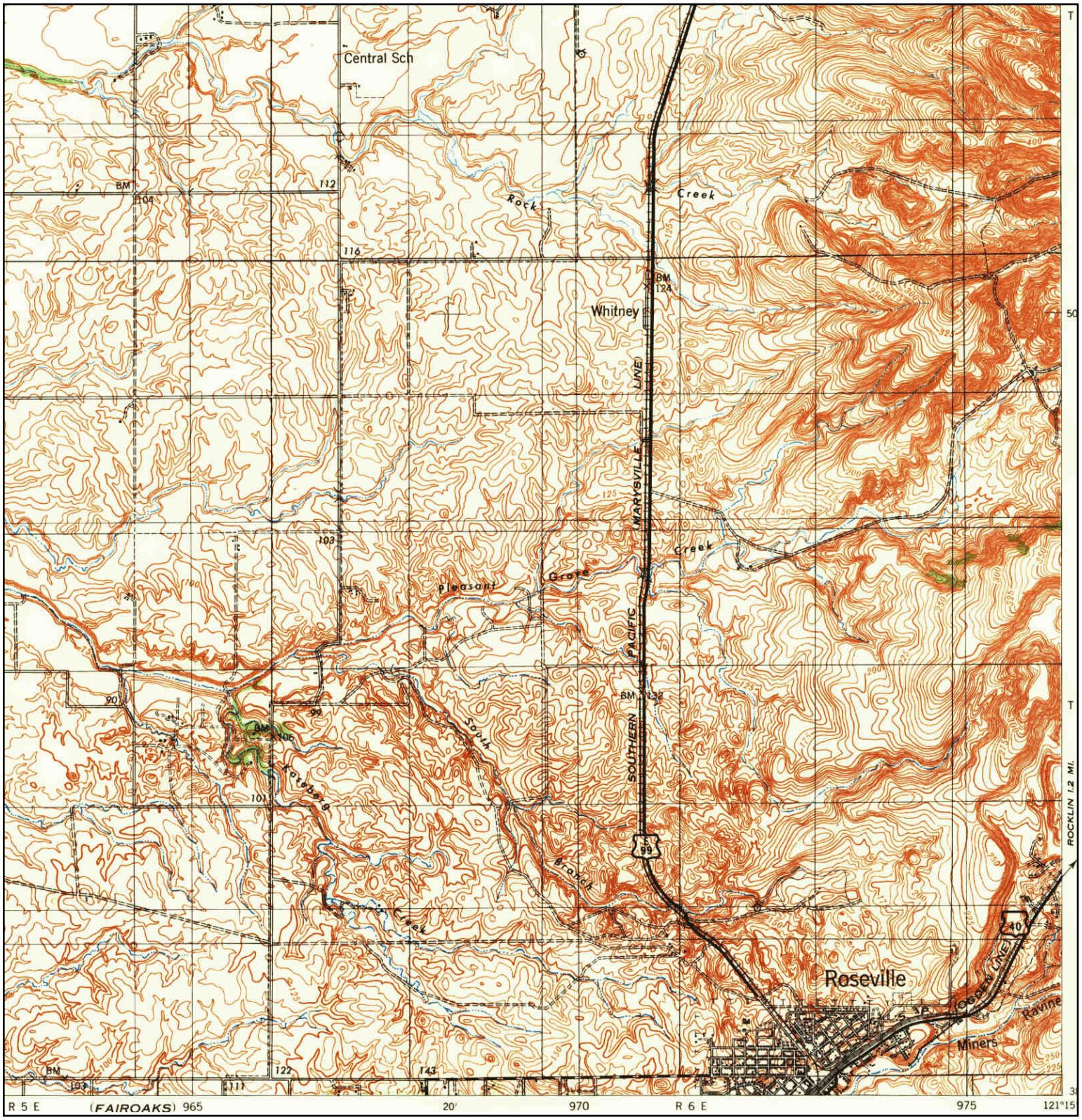


N	TARGET QUAD NAME: SACRAMENTO MAP YEAR: 1893 SERIES: 30 SCALE: 1:125000	SITE NAME: I-80/SR-65 Interchange ADDRESS: Interstate 80/State Route 65 Roseville, CA 95678 LAT/LONG: 38.7689 / -121.2523	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3596071.4 RESEARCH DATE: 05/03/2013

Historical Topographic Map

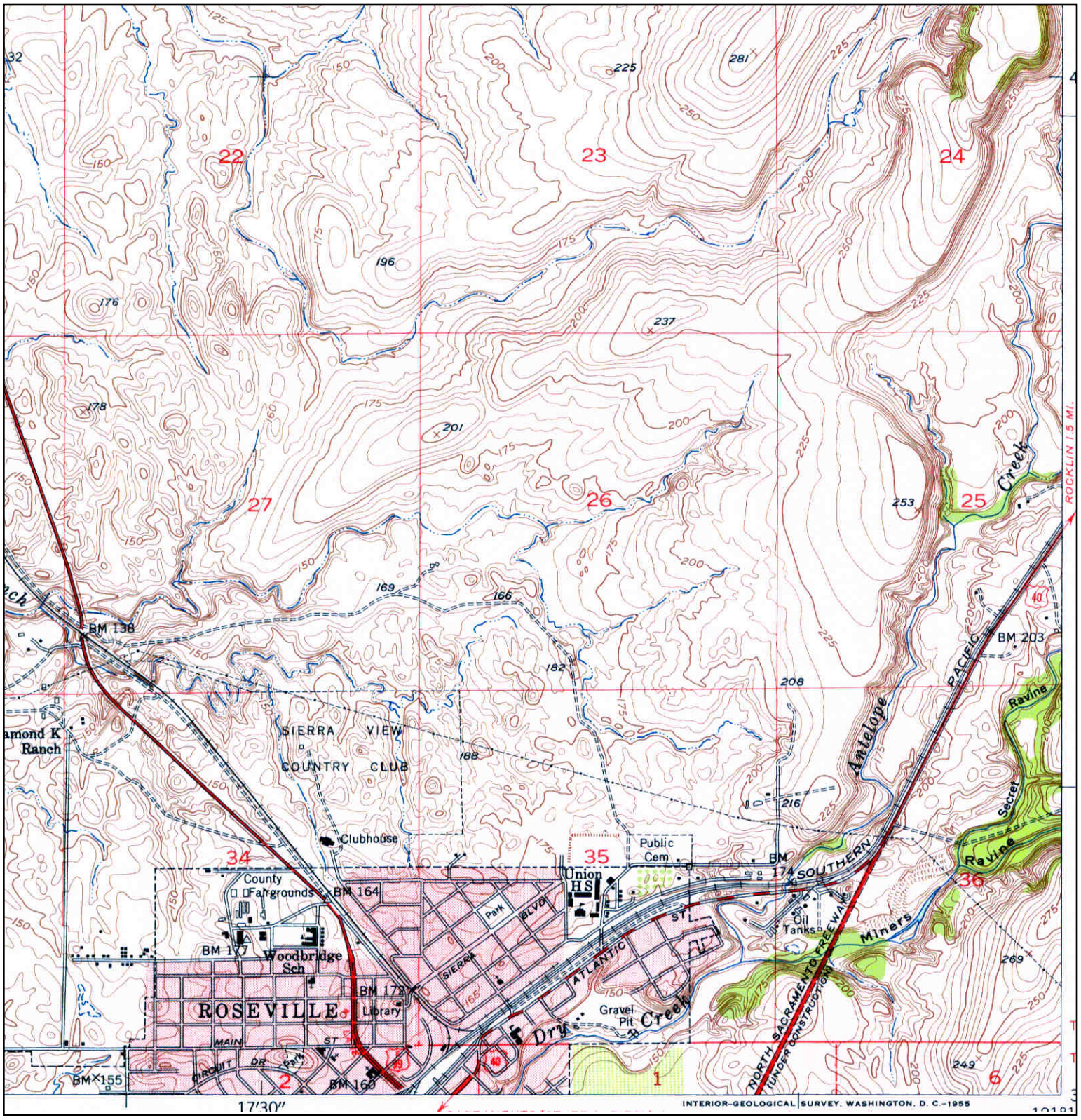
N	TARGET QUAD NAME: ROSEVILLE MAP YEAR: 1910 SERIES: 7.5 SCALE: 1:31680	SITE NAME: I-80/SR-65 Interchange ADDRESS: Interstate 80/State Route 65 Roseville, CA 95678 LAT/LONG: 38.7689 / -121.2523	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3596071.4 RESEARCH DATE: 05/03/2013

Historical Topographic Map



N	TARGET QUAD NAME: MARKHAM RAVINE MAP YEAR: 1941 SERIES: 15 SCALE: 1:62500	SITE NAME: I-80/SR-65 Interchange ADDRESS: Interstate 80/State Route 65 Roseville, CA 95678 LAT/LONG: 38.7689 / -121.2523	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3596071.4 RESEARCH DATE: 05/03/2013

Historical Topographic Map



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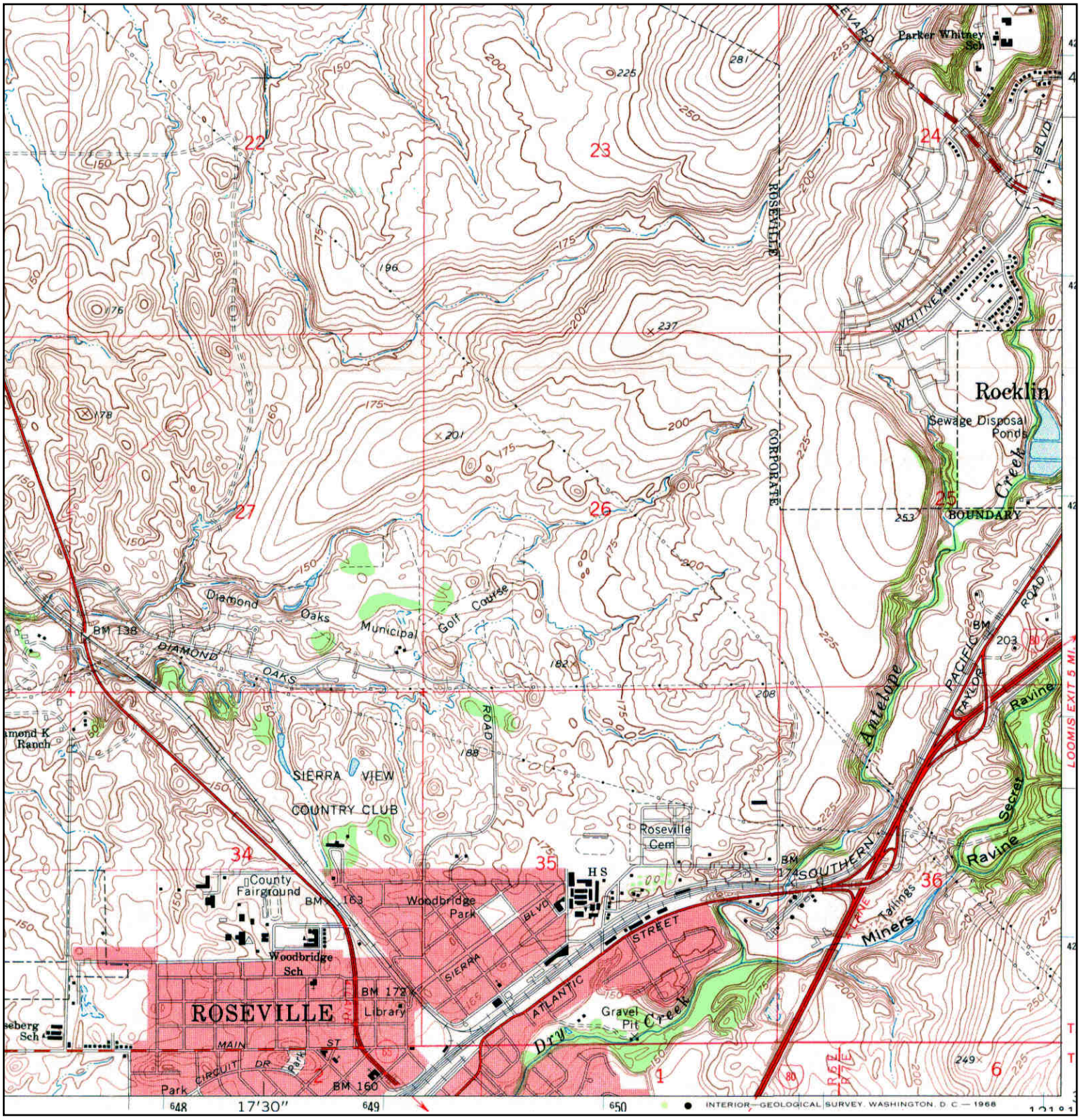
TARGET QUAD		SITE NAME:	I-80/SR-65 Interchange	CLIENT:	Blackburn Consulting
NAME:	ROSEVILLE	ADDRESS:	Interstate 80/State Route 65	CONTACT:	Laura Long
MAP YEAR:	1953		Roseville, CA 95678	INQUIRY#:	3596071.4
		LAT/LONG:	38.7689 / -121.2523	RESEARCH DATE:	05/03/2013
SERIES:	7.5				
SCALE:	1:24000				

Historical Topographic Map

N	TARGET QUAD			
	NAME:	LINCOLN	SITE NAME:	I-80/SR-65 Interchange
	MAP YEAR:	1953	ADDRESS:	Interstate 80/State Route 65
				Roseville, CA 95678
	SERIES:	15	LAT/LONG:	38.7689 / -121.2523
	SCALE:	1:62500		

CLIENT:	Blackburn Consulting
CONTACT:	Laura Long
INQUIRY#:	3596071.4
RESEARCH DATE:	05/03/2013

Historical Topographic Map



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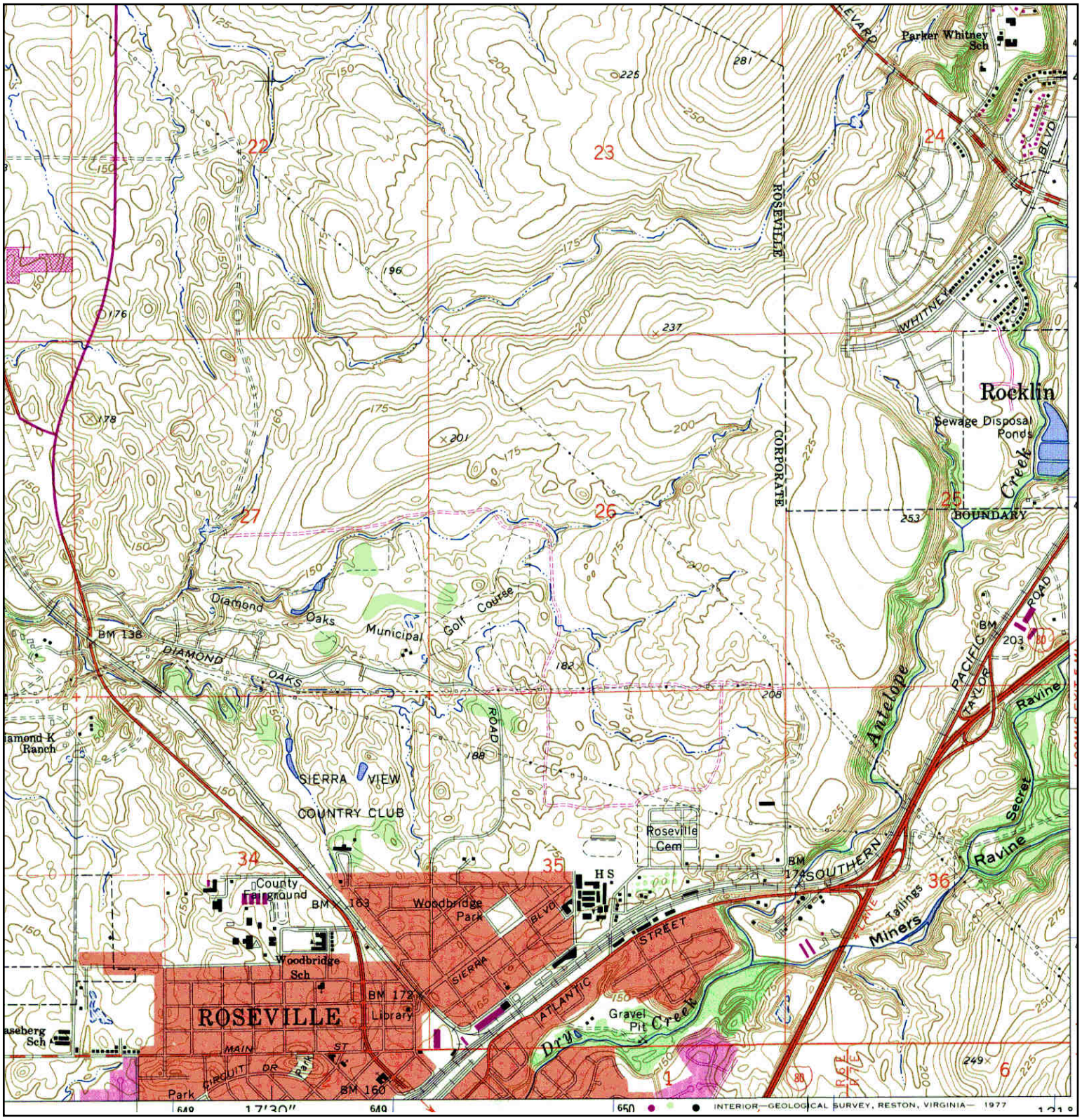
Historical Topographic Map



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Interstate 80/State Route 65
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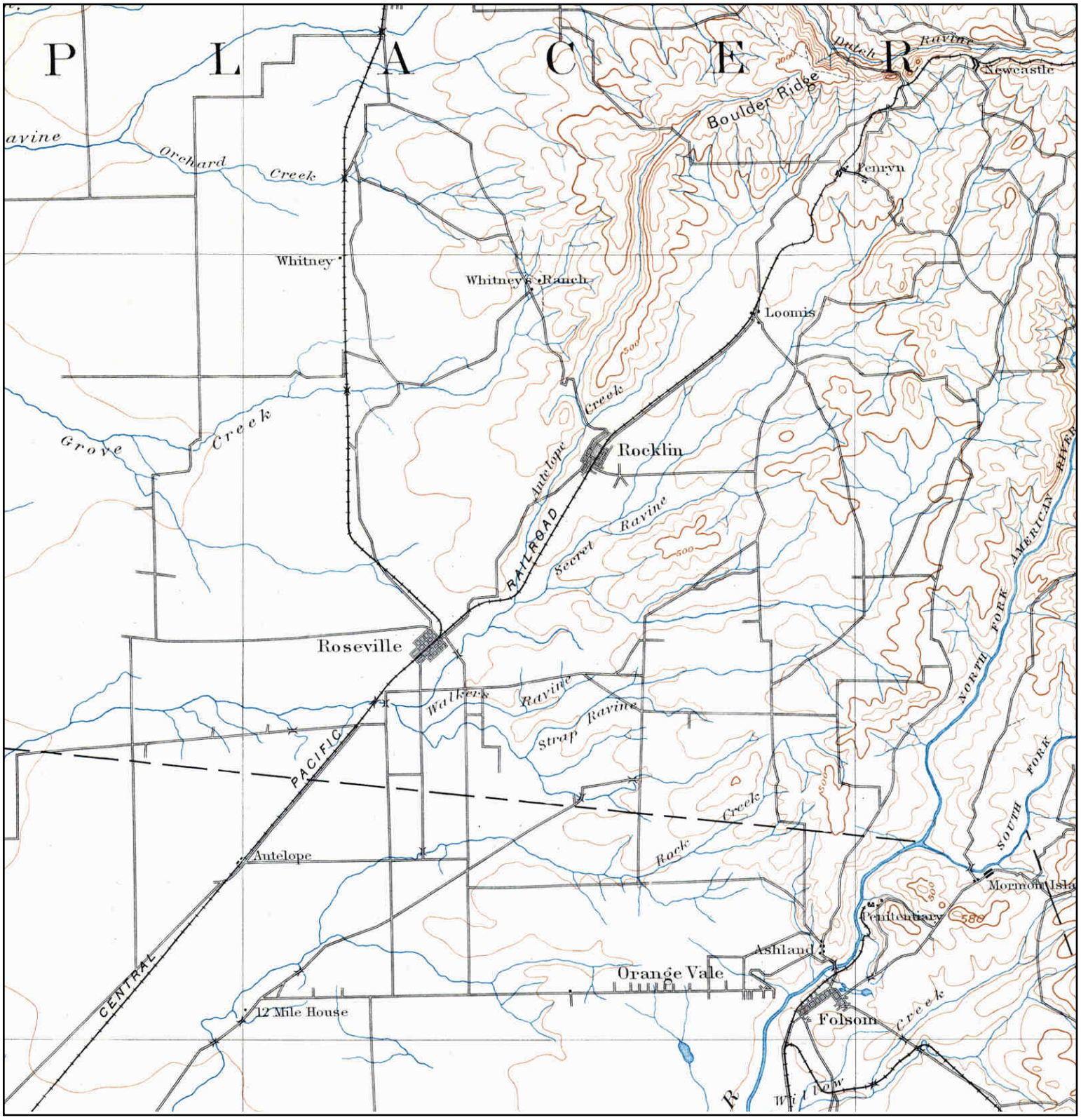
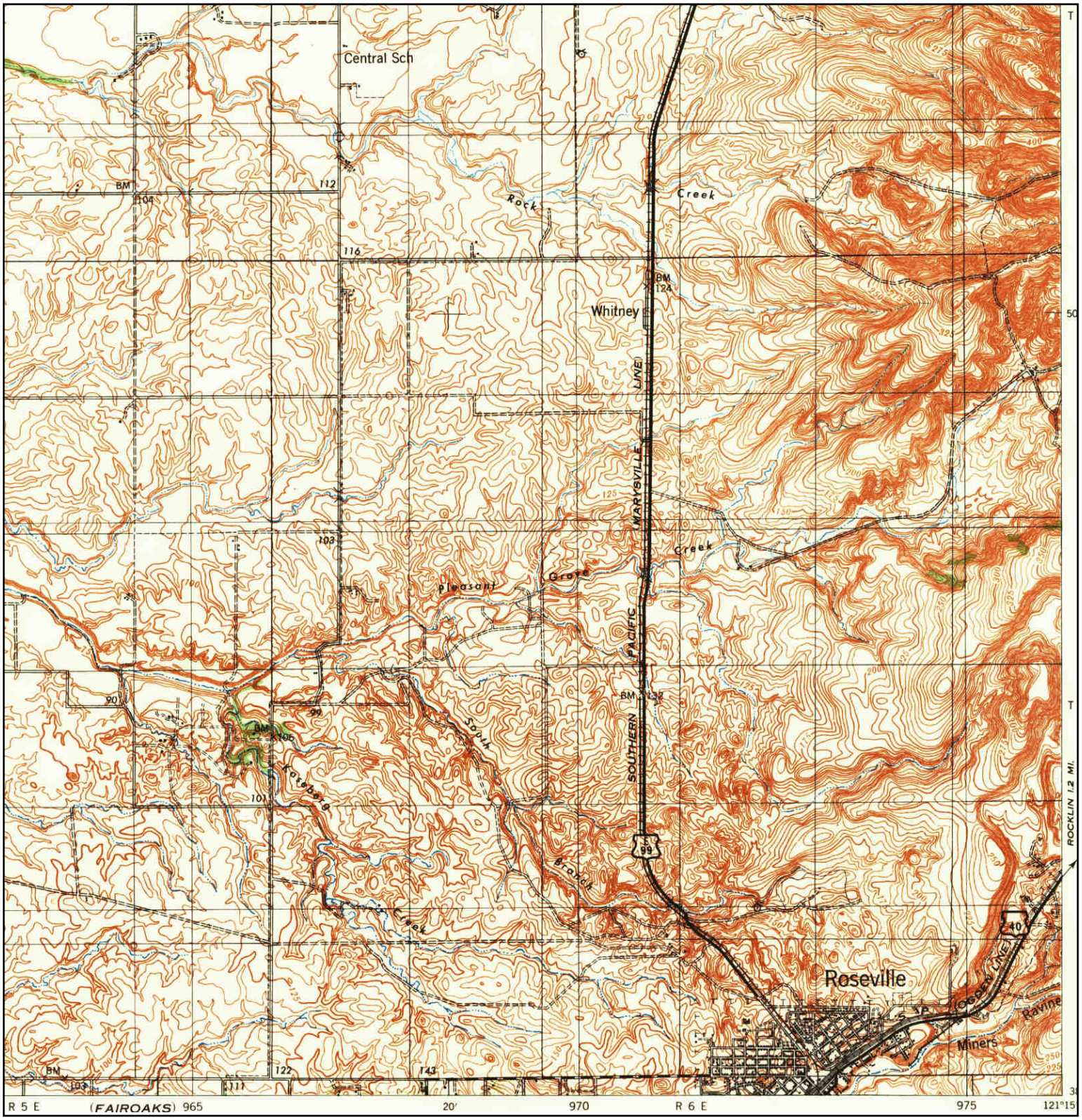


N	TARGET QUAD NAME: SACRAMENTO MAP YEAR: 1893 SERIES: 30 SCALE: 1:125000	SITE NAME: I-80/SR-65 Interchange ADDRESS: Interstate 80/State Route 65 Roseville, CA 95678 LAT/LONG: 38.7689 / -121.2523	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3596071.4 RESEARCH DATE: 05/03/2013

Historical Topographic Map

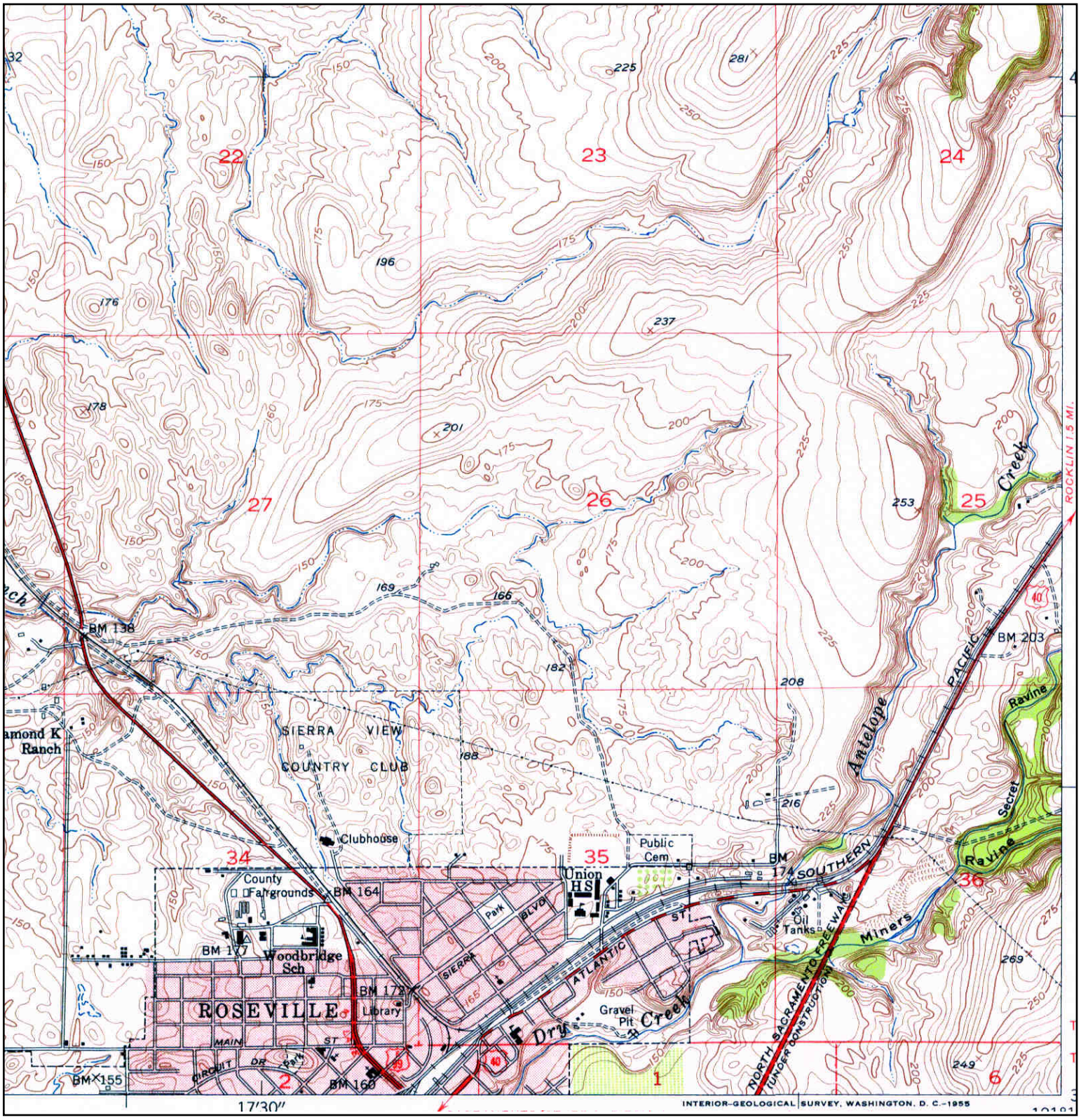
N	TARGET QUAD NAME: ROSEVILLE MAP YEAR: 1910 SERIES: 7.5 SCALE: 1:31680	SITE NAME: I-80/SR-65 Interchange ADDRESS: Interstate 80/State Route 65 Roseville, CA 95678 LAT/LONG: 38.7689 / -121.2523	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3596071.4 RESEARCH DATE: 05/03/2013

Historical Topographic Map



N	TARGET QUAD NAME: MARKHAM RAVINE MAP YEAR: 1941 SERIES: 15 SCALE: 1:62500	SITE NAME: I-80/SR-65 Interchange ADDRESS: Interstate 80/State Route 65 Roseville, CA 95678 LAT/LONG: 38.7689 / -121.2523	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3596071.4 RESEARCH DATE: 05/03/2013

Historical Topographic Map



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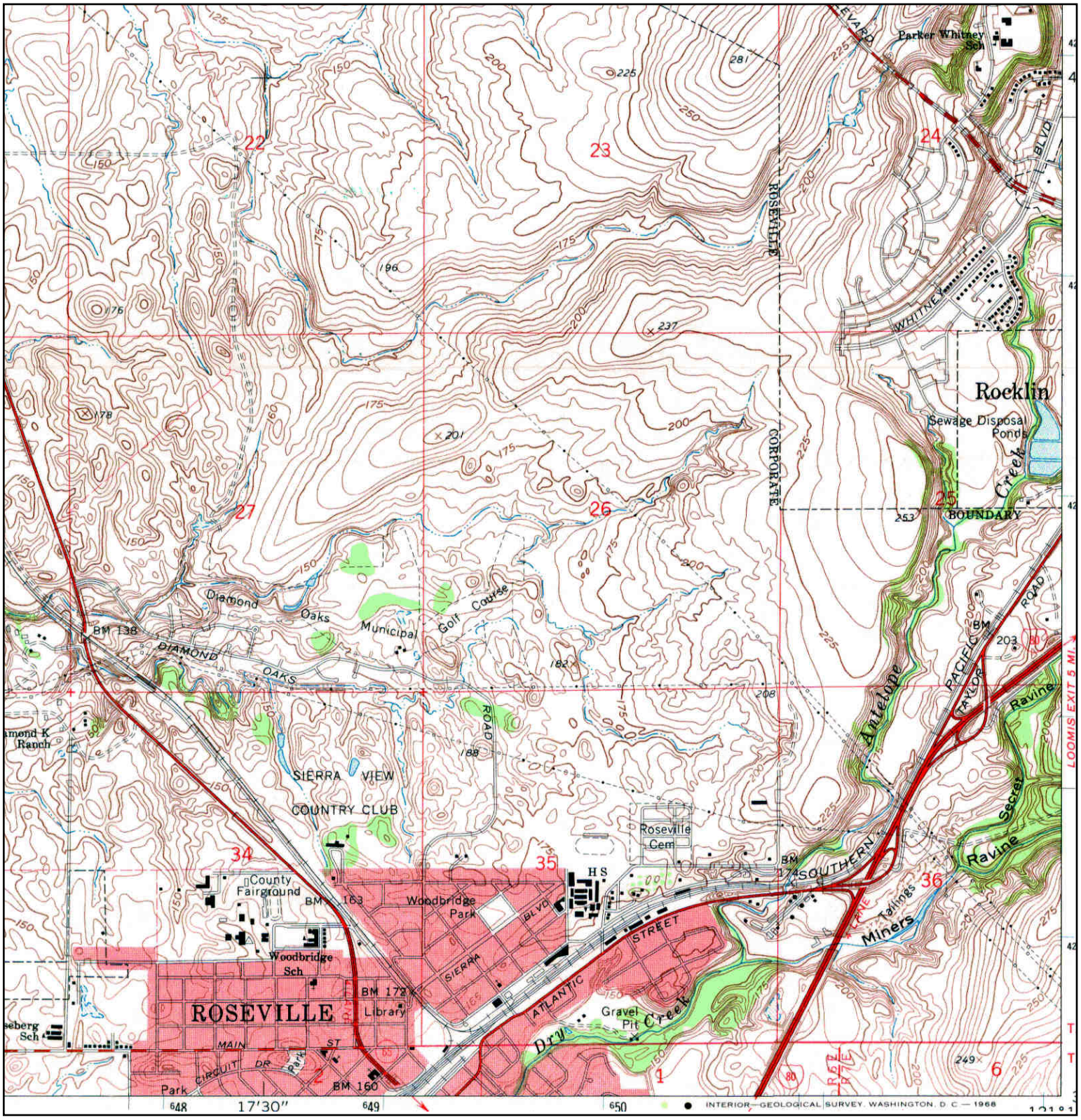
TARGET QUAD		SITE NAME:	I-80/SR-65 Interchange	CLIENT:	Blackburn Consulting
NAME:	ROSEVILLE	ADDRESS:	Interstate 80/State Route 65	CONTACT:	Laura Long
MAP YEAR:	1953		Roseville, CA 95678	INQUIRY#:	3596071.4
		LAT/LONG:	38.7689 / -121.2523	RESEARCH DATE:	05/03/2013
SERIES:	7.5				
SCALE:	1:24000				

Historical Topographic Map

N	TARGET QUAD			
	NAME:	LINCOLN	SITE NAME:	I-80/SR-65 Interchange
	MAP YEAR:	1953	ADDRESS:	Interstate 80/State Route 65
				Roseville, CA 95678
	SERIES:	15	LAT/LONG:	38.7689 / -121.2523
	SCALE:	1:62500		

CLIENT:	Blackburn Consulting
CONTACT:	Laura Long
INQUIRY#:	3596071.4
RESEARCH DATE:	05/03/2013

Historical Topographic Map



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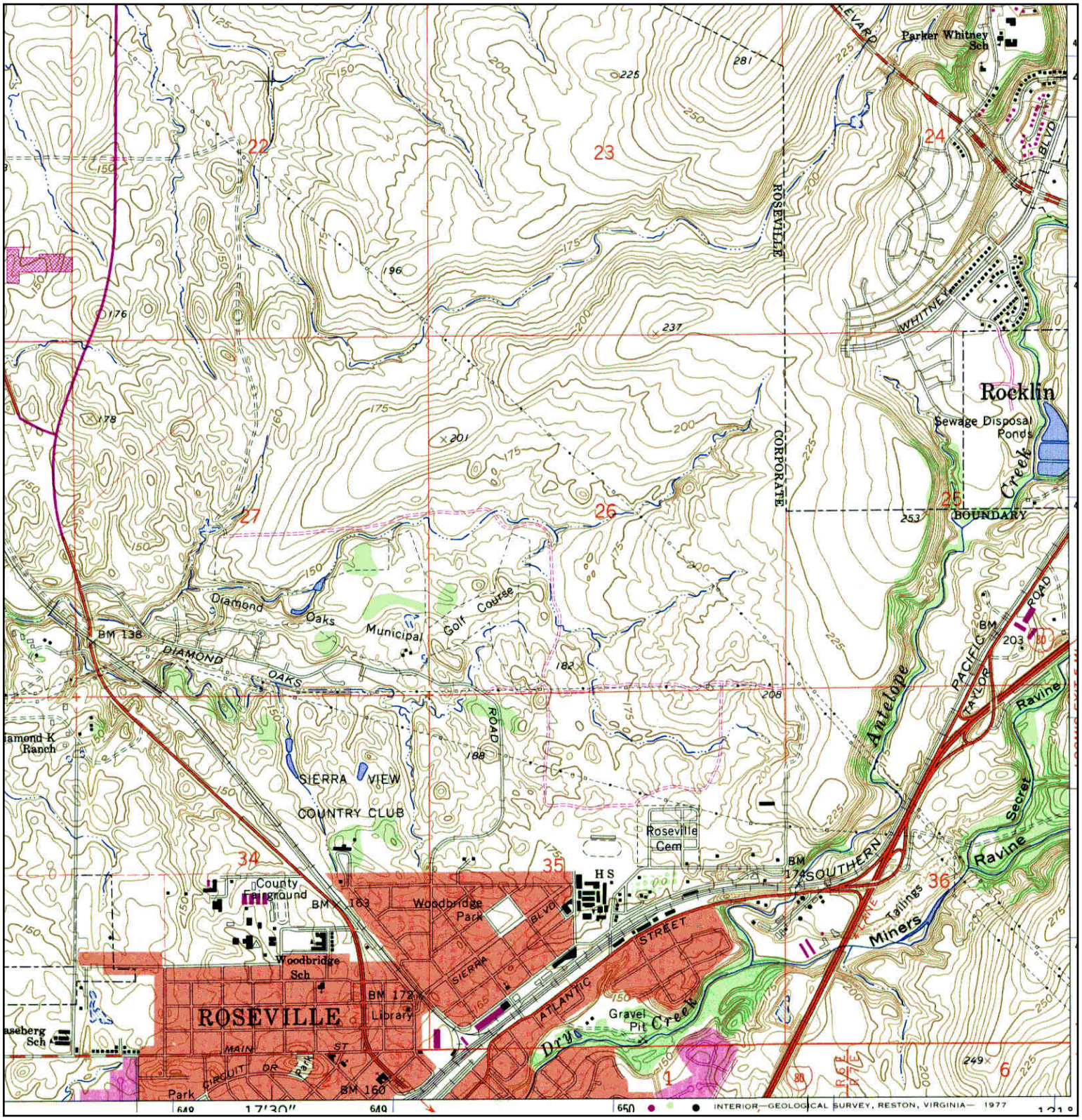
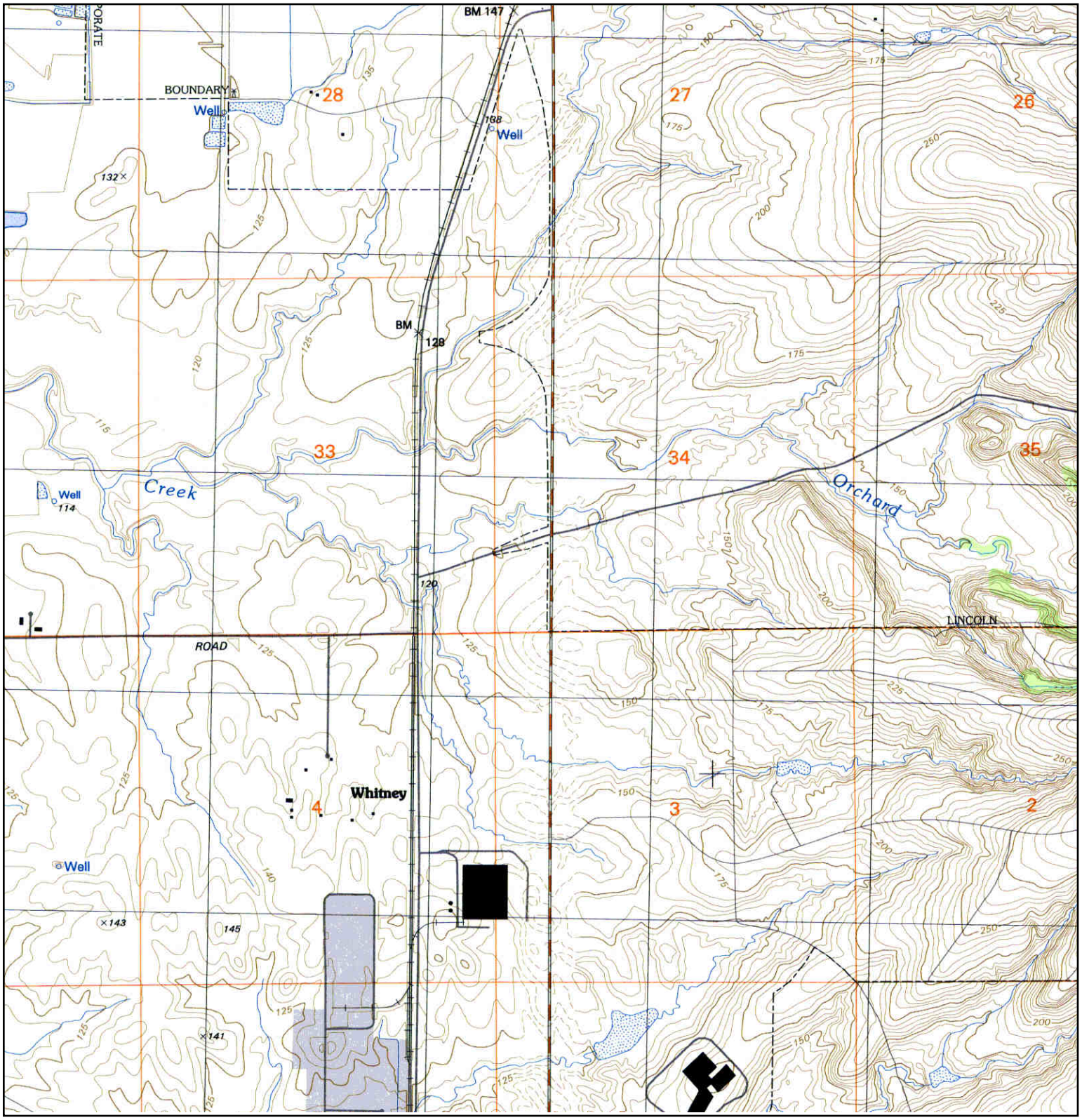
Historical Topographic Map



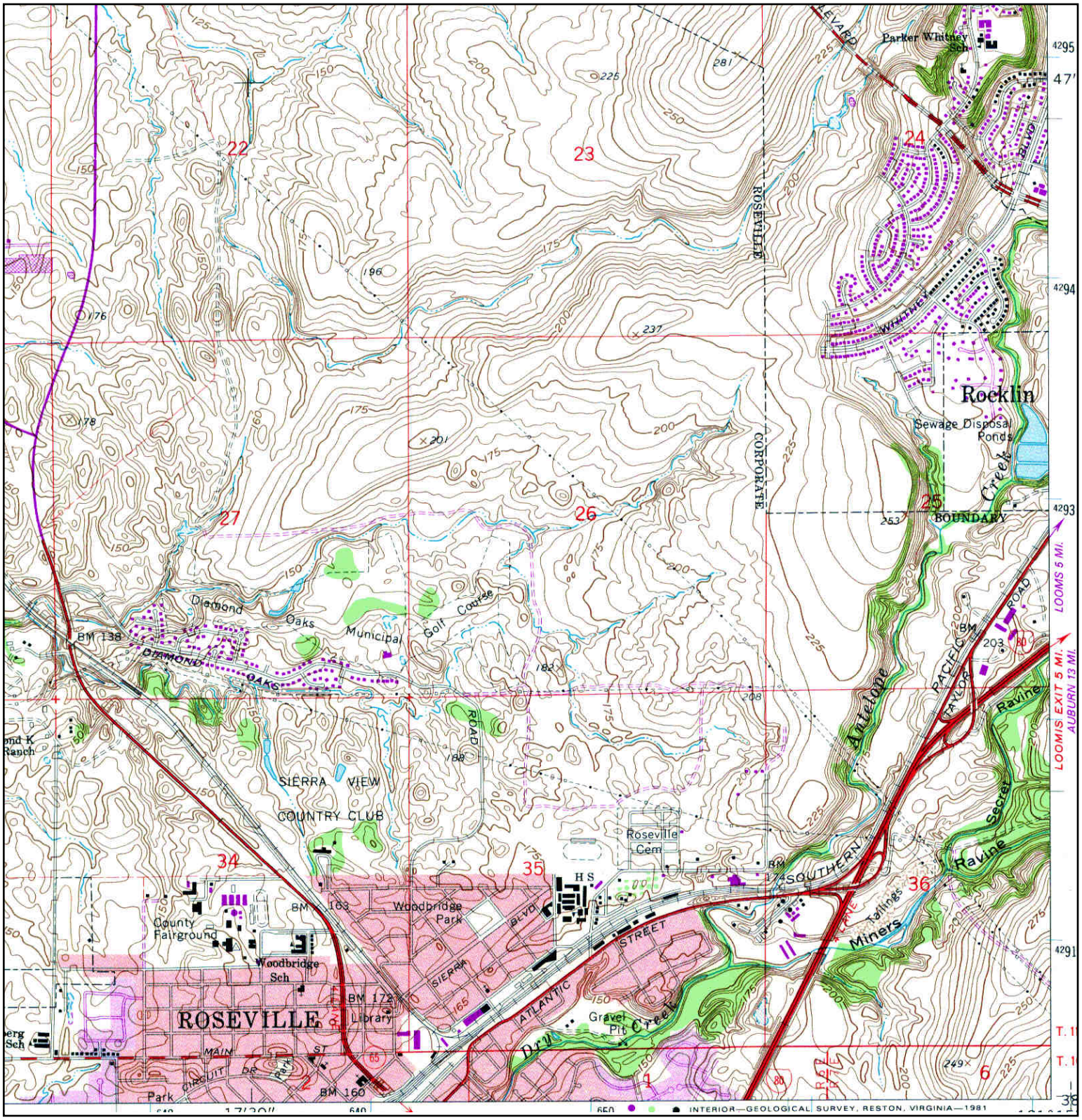
N	TARGET QUAD NAME: ROSEVILLE MAP YEAR: 1975 PHOTOREVISED FROM :1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: I-80/SR-65 Interchange ADDRESS: Interstate 80/State Route 65 Roseville, CA 95678 LAT/LONG: 38.7689 / -121.2523	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3596071.4 RESEARCH DATE: 05/03/2013

Historical Topographic Map



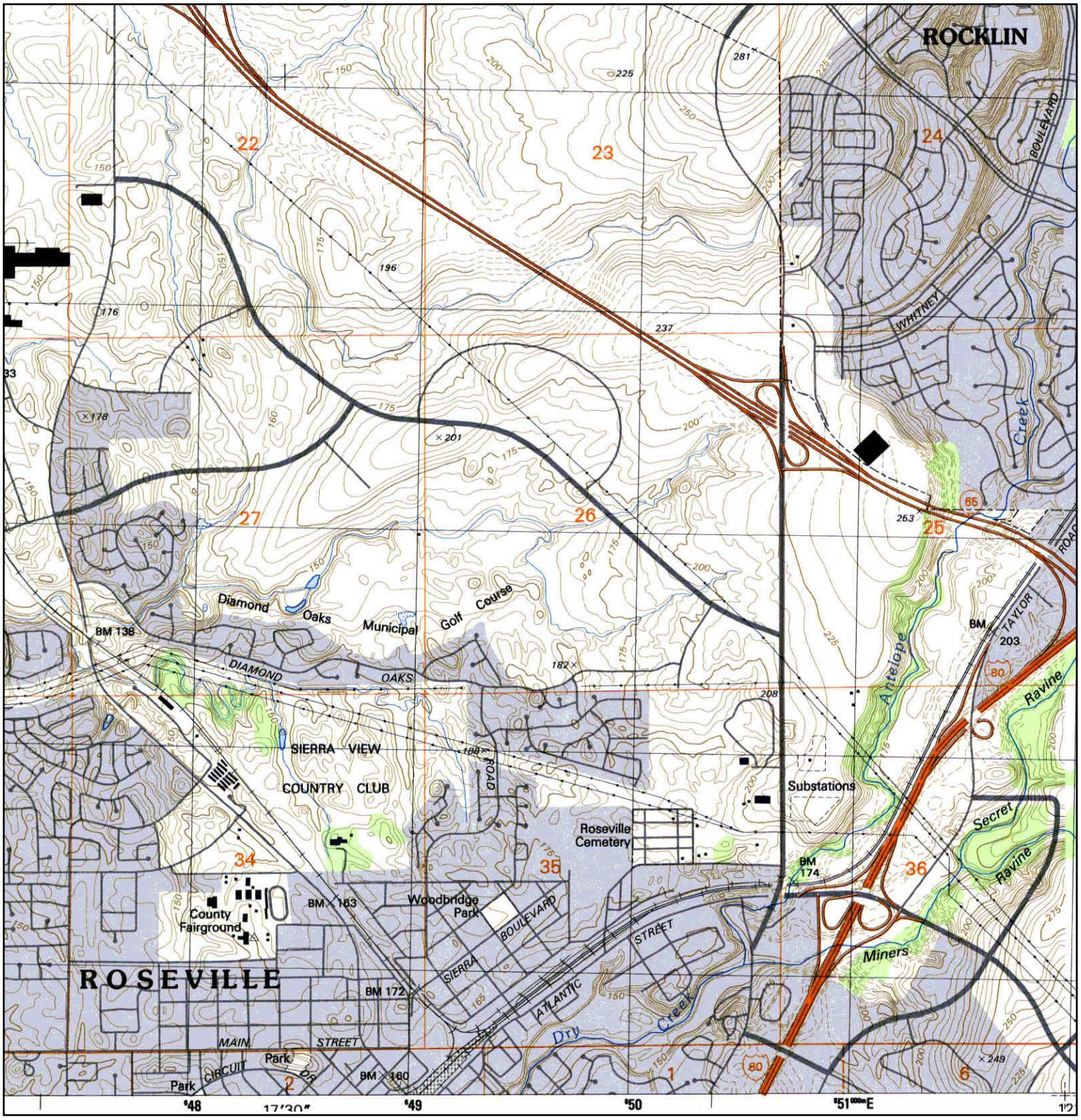
N	TARGET QUAD NAME: ROSEVILLE MAP YEAR: 1992 SERIES: 7.5 SCALE: 1:24000	SITE NAME: SR 65 HOV ADDRESS: SR 65 and Lincoln Boulevard Lincoln, CA 95648 LAT/LONG: 38.8421 / -121.2996	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3664215.4 RESEARCH DATE: 07/15/2013

Historical Topographic Map



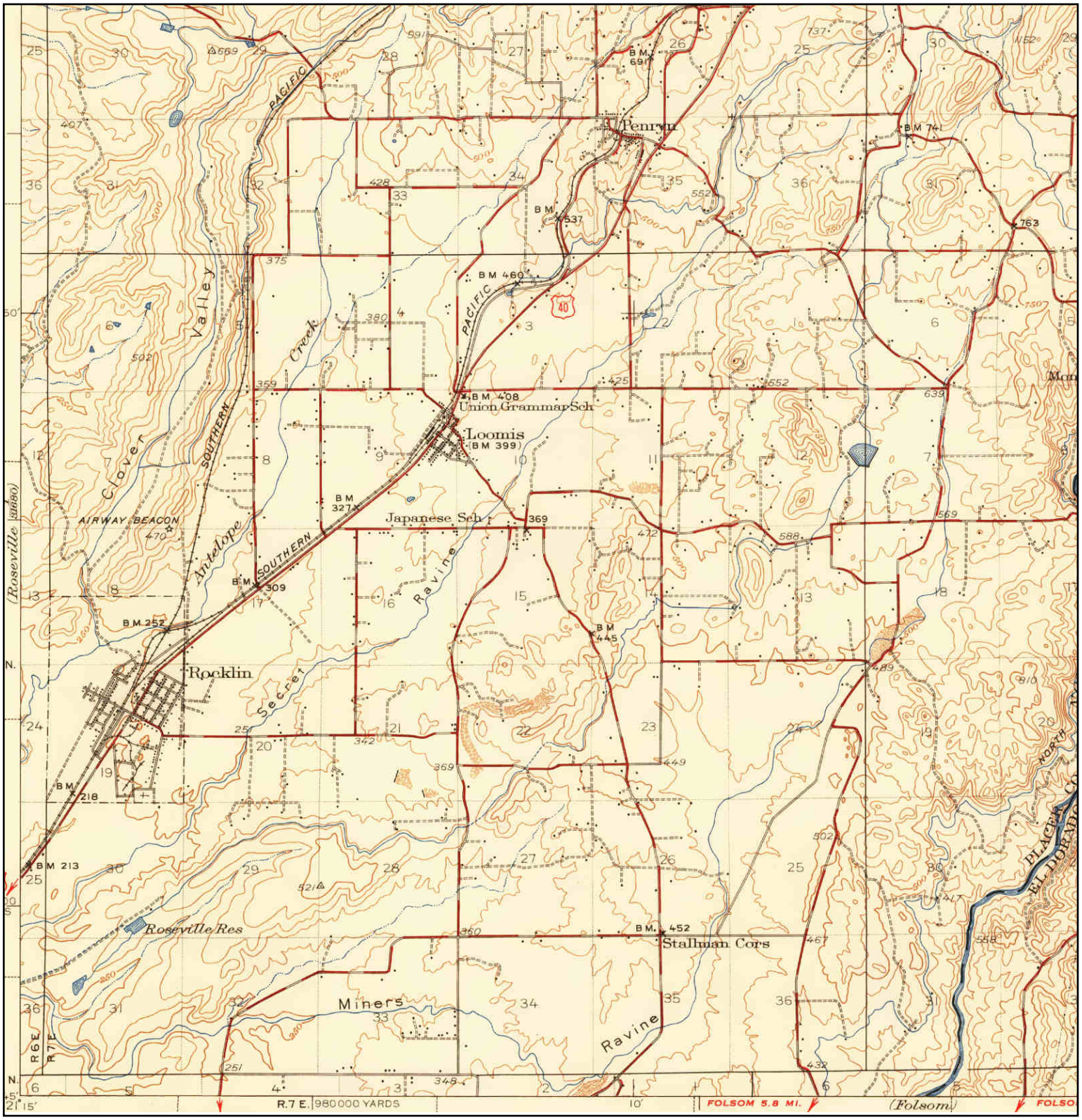
N	TARGET QUAD NAME: ROSEVILLE MAP YEAR: 1981 PHOTOREVISED FROM :1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: I-80/SR-65 Interchange ADDRESS: Interstate 80/State Route 65 Roseville, CA 95678 LAT/LONG: 38.7689 / -121.2523	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3596071.4 RESEARCH DATE: 05/03/2013

Historical Topographic Map



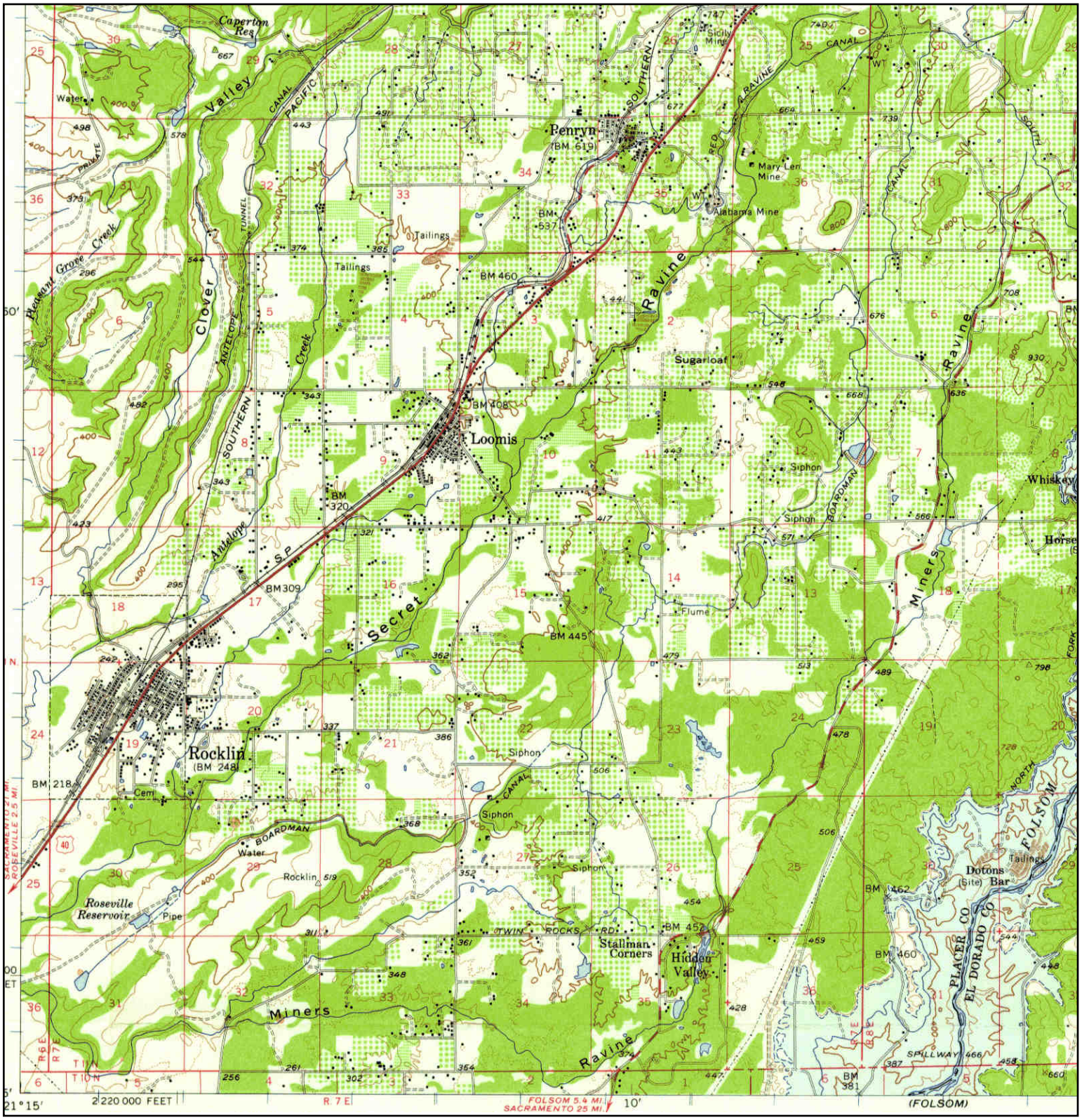
N	TARGET QUAD NAME: ROSEVILLE MAP YEAR: 1992 SERIES: 7.5 SCALE: 1:24000	SITE NAME: I-80/SR-65 Interchange ADDRESS: Interstate 80/State Route 65 Roseville, CA 95678 LAT/LONG: 38.7689 / -121.2523	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3596071.4 RESEARCH DATE: 05/03/2013

Historical Topographic Map



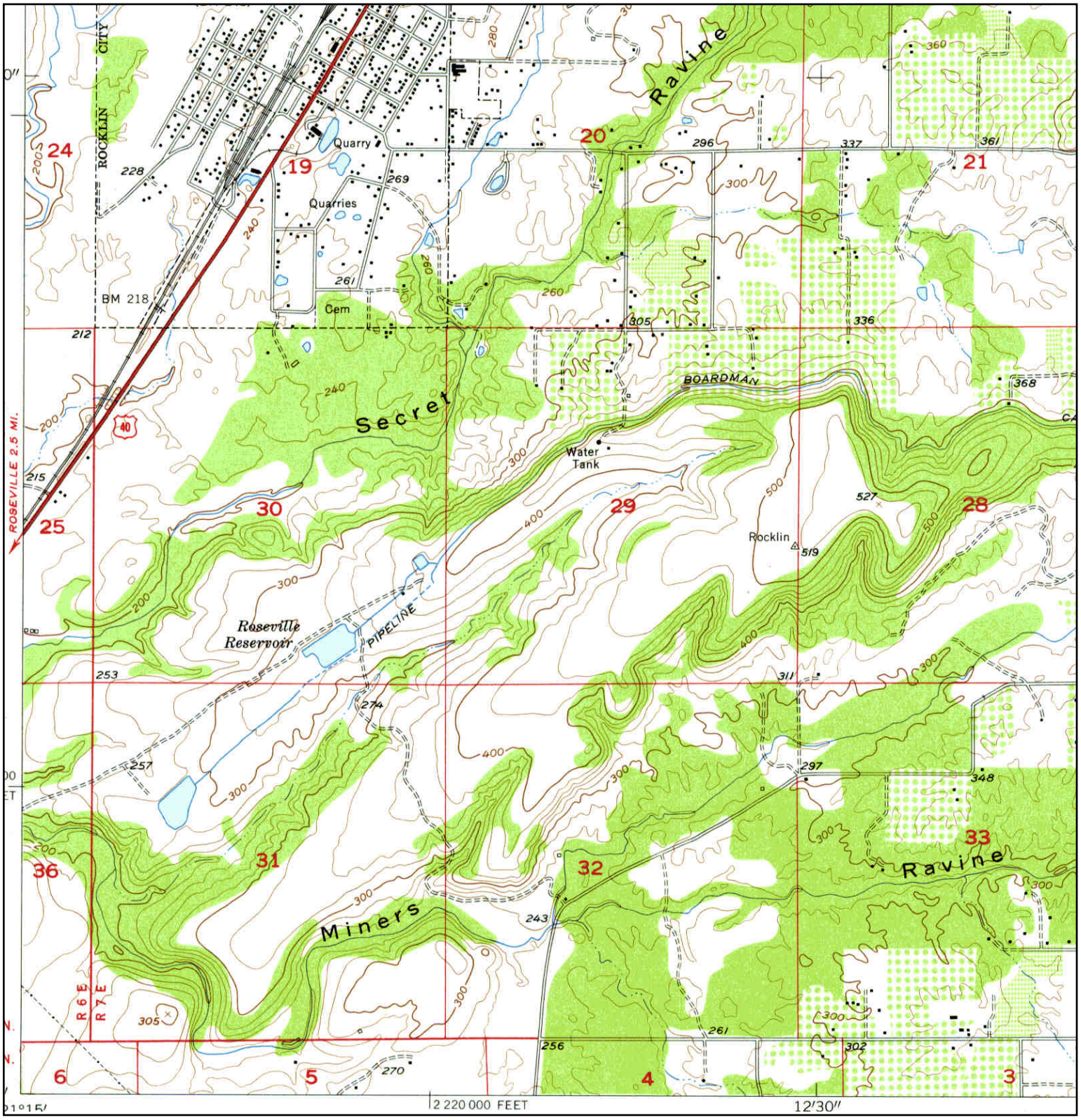
N	ADJOINING QUAD NAME: AUBURN MAP YEAR: 1947 SERIES: 15 SCALE: 1:62500	SITE NAME: I-80/SR-65 Interchange ADDRESS: Interstate 80/State Route 65 Roseville, CA 95678 LAT/LONG: 38.7689 / -121.2523	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3596071.4 RESEARCH DATE: 05/03/2013

Historical Topographic Map



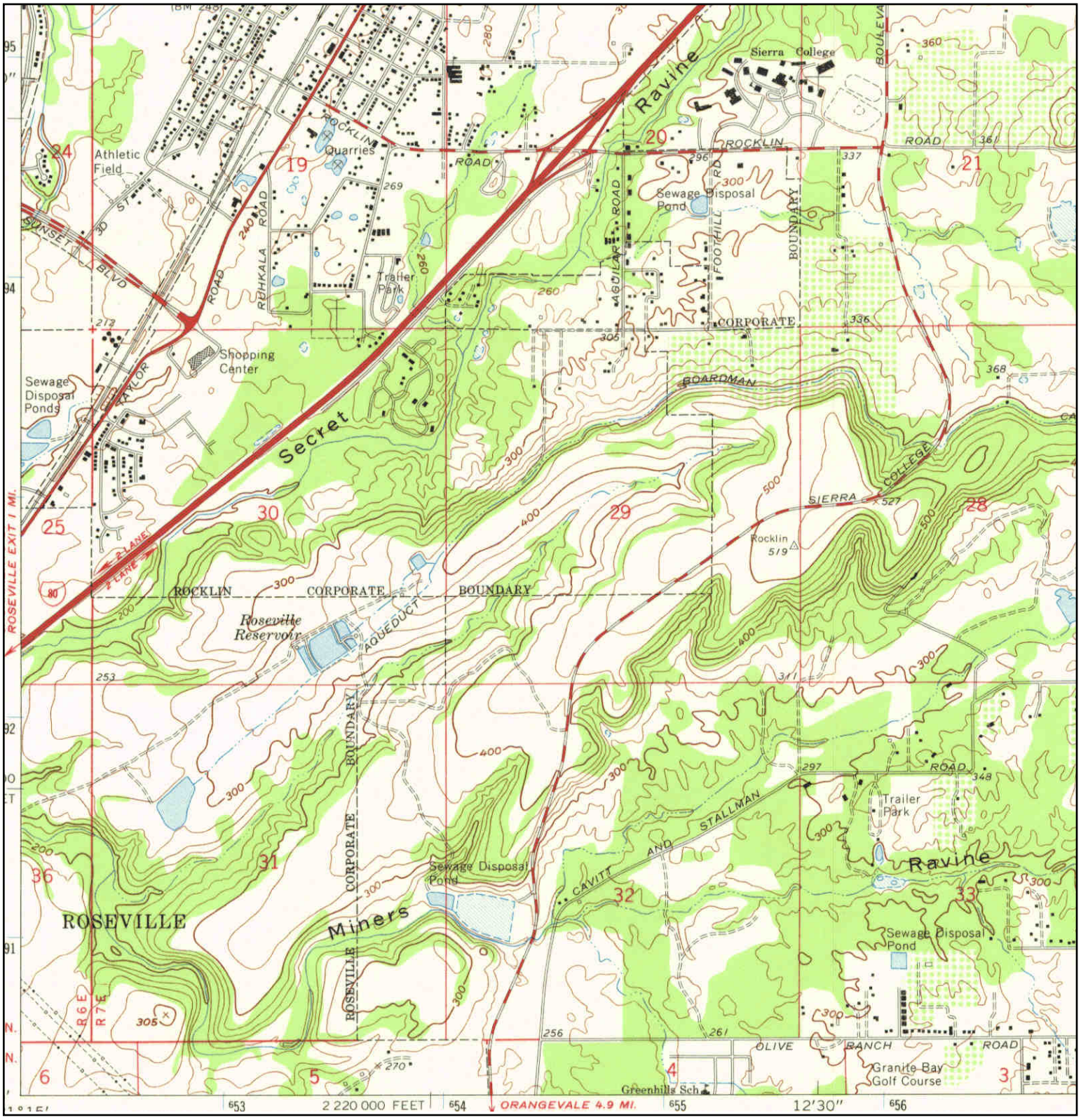
N	ADJOINING QUAD NAME: AUBURN MAP YEAR: 1954 SERIES: 15 SCALE: 1:62500	SITE NAME: I-80/SR-65 Interchange ADDRESS: Interstate 80/State Route 65 Roseville, CA 95678 LAT/LONG: 38.7689 / -121.2523	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3596071.4 RESEARCH DATE: 05/03/2013

Historical Topographic Map



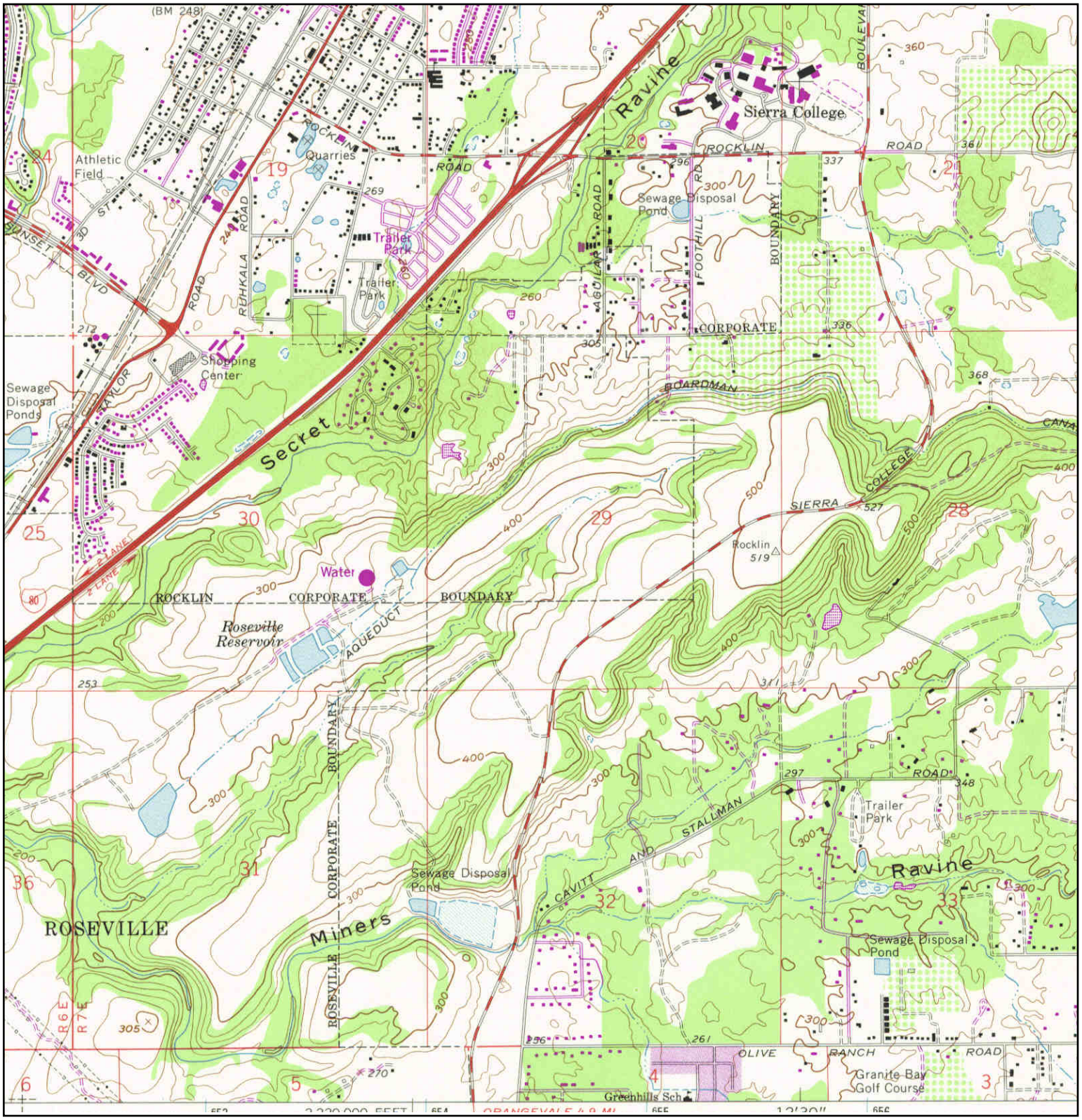
N	ADJOINING QUAD		SITE NAME:	I-80/SR-65 Interchange	CLIENT: Blackburn Consulting
	NAME:	ROCKLIN	ADDRESS:	Interstate 80/State Route 65	CONTACT: Laura Long
	MAP YEAR:	1954		Roseville, CA 95678	INQUIRY#: 3596071.4
	SERIES:	7.5	LAT/LONG:	38.7689 / -121.2523	RESEARCH DATE: 05/03/2013
	SCALE:	1:24000			

Historical Topographic Map



N	ADJOINING QUAD		SITE NAME:	I-80/SR-65 Interchange	CLIENT: Blackburn Consulting
	NAME:	ROCKLIN	ADDRESS:	Interstate 80/State Route 65	CONTACT: Laura Long
	MAP YEAR:	1967		Roseville, CA 95678	INQUIRY#: 3596071.4
	SERIES:	7.5	LAT/LONG:	38.7689 / -121.2523	RESEARCH DATE: 05/03/2013
	SCALE:	1:24000			

Historical Topographic Map



N	ADJOINING QUAD NAME: ROCKLIN MAP YEAR: 1981 PHOTOREVISED FROM :1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: I-80/SR-65 Interchange ADDRESS: Interstate 80/State Route 65 Roseville, CA 95678 LAT/LONG: 38.7689 / -121.2523	CLIENT: Blackburn Consulting CONTACT: Laura Long INQUIRY#: 3596071.4 RESEARCH DATE: 05/03/2013

APPENDIX C

EDR Report

SR 65 HOV
SR 65 and Lincoln Boulevard
Lincoln, CA 95648

Inquiry Number: 4009322.1s
July 18, 2014

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

SR 65 AND LINCOLN BOULEVARD
LINCOLN, CA 95648

COORDINATES

Latitude (North):	38.8421000 - 38° 50' 31.56''
Longitude (West):	121.2996000 - 121° 17' 58.56''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	647575.8
UTM Y (Meters):	4300420.5
Elevation:	142 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	38121-G3 ROSEVILLE, CA
Most Recent Revision:	1992

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20120706, 20120705
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL---------- National Priority List

EXECUTIVE SUMMARY

Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ---------- Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ---------- CERCLIS No Further Remedial Action Planned

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls
LUCIS ---------- Land Use Control Information System

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

SLIC ---------- Statewide SLIC Cases
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

INDIAN UST ---------- Underground Storage Tanks on Indian Land
FEMA UST ---------- Underground Storage Tank Listing

State and tribal voluntary cleanup sites

INDIAN VCP ---------- Voluntary Cleanup Priority Listing

VCP ---------- Voluntary Cleanup Program Properties

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
ODI ---------- Open Dump Inventory
SWRCY ---------- Recycler Database
HAULERS ---------- Registered Waste Tire Haulers Listing
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
WMUDS/SWAT ---------- Waste Management Unit Database

Local Lists of Hazardous waste / Contaminated Sites

US CDL ---------- Clandestine Drug Labs
HIST Cal-Sites ---------- Historical Calsites Database
SCH ---------- School Property Evaluation Program
Toxic Pits ---------- Toxic Pits Cleanup Act Sites
CDL ---------- Clandestine Drug Labs
US HIST CDL ---------- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST ---------- Facility Inventory Database
HIST UST ---------- Hazardous Substance Storage Container Database

Local Land Records

LIENS 2 ---------- CERCLA Lien Information
LIENS ---------- Environmental Liens Listing
DEED ---------- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---------- Hazardous Materials Information Reporting System
CHMIRS ---------- California Hazardous Material Incident Report System
LDS ---------- Land Disposal Sites Listing
MCS ---------- Military Cleanup Sites Listing
SPILLS 90 ---------- SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ---------- RCRA - Non Generators / No Longer Regulated
DOT OPS ---------- Incident and Accident Data
DOD ---------- Department of Defense Sites
FUDS ---------- Formerly Used Defense Sites
CONSENT ---------- Superfund (CERCLA) Consent Decrees
ROD ---------- Records Of Decision
UMTRA ---------- Uranium Mill Tailings Sites

US MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
RMP	Risk Management Plans
CA BOND EXP. PLAN	Bond Expenditure Plan
UIC	UIC Listing
NPDES	NPDES Permits Listing
CUPA Listings	CUPA Resources List
Notify 65	Proposition 65 Records
DRYCLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
ENF	Enforcement Action Listing
HAZNET	Facility and Manifest Data
EMI	Emissions Inventory Data
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US AIRS	Aerometric Information Retrieval System Facility Subsystem
PRP	Potentially Responsible Parties
2020 COR ACTION	2020 Corrective Action Program List
LEAD SMELTERS	Lead Smelter Sites
EPA WATCH LIST	EPA WATCH LIST
PROC	Certified Processors Database
Financial Assurance	Financial Assurance Information Listing
PCB TRANSFORMER	PCB Transformer Registration Database
US FIN ASSUR	Financial Assurance Information
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
HWT	Registered Hazardous Waste Transporter Database
COAL ASH DOE	Steam-Electric Plant Operation Data
MWMP	Medical Waste Management Program Listing
WDS	Waste Discharge System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR US Hist Auto Stat	EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners	EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LUST	Recovered Government Archive Leaking Underground Storage Tank

EXECUTIVE SUMMARY

RGA LF..... Recovered Government Archive Solid Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA CORRACTS facilities list

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 03/11/2014 has revealed that there is 1 CORRACTS site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
FORMICA CORP	***3500 CINCINNATI AVE***	***SSW 1/2 - 1 (0.649 mi.)***	***F21***	***56***

Federal RCRA generators list

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 03/11/2014 has revealed that there are 2 RCRA-SQG sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
HERMAN MILLER INC	***333 SUNSET BLVD***	***S 0 - 1/8 (0.121 mi.)***	***C5***	***12***
MAINTENANCE WAREHOUSE	***1111 TINKER RD***	***S 1/8 - 1/4 (0.212 mi.)***	***D11***	***16***

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 06/05/2014 has revealed that there are 4 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CBS ROSEVILLE INDUSTRIAL IMPRO	***8250 INDUSTRIAL AVE***	***S 1/2 - 1 (0.733 mi.)***	***22***	***73***
Status: Certified O&M - Land Use Restrictions Only				

Lower Elevation	Address	Direction / Distance	Map ID	Page
HEWLETT PACKARD	***3625 CINCINNATI AVE***	***SSW 1/2 - 1 (0.643 mi.)***	***19***	***46***
Status: Refer: Other Agency				
FORMICA CORP	***3500 CINCINNATI AVE***	***SSW 1/2 - 1 (0.649 mi.)***	***F21***	***56***
Status: Refer: RWQCB				
Status: No Further Action				
FOOTHILLS SUBSTATION	***8000 FOOTHILLS BLVD***	***SSW 1/2 - 1 (0.929 mi.)***	***23***	***82***
Status: Inactive - Needs Evaluation				

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 06/16/2014 has revealed that there is 1 LUST site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TWELVE BRIDGES GOLF COURSE	***TWELVE BRIDGES RD***	***NNE 1/4 - 1/2 (0.467 mi.)***	***18***	***46***

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 06/16/2014 has revealed that there is 1 UST

site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
GAP, INC. (THE)	***695 MENLO DR***	***S 0 - 1/8 (0.089 mi.)***	***A1***	***8***

AST: A listing of aboveground storage tank petroleum storage tank locations.

A review of the AST list, as provided by EDR, and dated 08/01/2009 has revealed that there is 1 AST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
GAP INC. - ON LINE ORDERING AN	3830 ATHERTON ROAD	S 1/8 - 1/4 (0.230 mi.)	E14	20

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Registered Storage Tanks

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there is 1 SWEEPS UST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
GAP, INC. (THE)	***695 MENLO DR***	***S 0 - 1/8 (0.089 mi.)***	***A1***	***8***

Other Ascertainable Records

Cortese: The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

A review of the Cortese list, as provided by EDR, and dated 03/31/2014 has revealed that there is 1 Cortese site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
THUNDER VALLEY CASINO WWTP	***1200 ATHENS AVENUE***	***WSW 1/4 - 1/2 (0.383 mi.)***	***17***	***21***

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there is 1 HIST CORTESE site within approximately 0.5 miles of the target property.

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TWELVE BRIDGES GOLF COURSE	***TWELVE BRIDGES RD***	***NNE 1/4 - 1/2 (0.467 mi.)***	***18***	***46***

CA PLACER CO. MS: Placer County Master List of Facilities includes Aboveground Hazardous Material tanks, Underground Storage tanks, Site Clean-up sites.

A review of the CA PLACER CO. MS list, as provided by EDR, and dated 06/09/2014 has revealed that there are 14 CA PLACER CO. MS sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
GAP, INC. (THE)	***695 MENLO DR***	***S 0 - 1/8 (0.089 mi.)***	***A1***	***8***
GAP, INC	3900 ATHERTON DR	S 0 - 1/8 (0.102 mi.)	B2	9
MENLO ROCKLIN PROPERTIES, LLC	655 MENLO DR 200	S 0 - 1/8 (0.108 mi.)	A3	9
WILLIAM JESSUP UNIVERSITY	***333 SUNSET AVE***	***S 0 - 1/8 (0.121 mi.)***	***C4***	***9***
017-300-072-000	1091 TINKER WAY	S 1/8 - 1/4 (0.142 mi.)	D6	14
AKTIS CORPORATION	3845 ATHERTON RD 1	S 1/8 - 1/4 (0.166 mi.)	E7	15
PRECISION METAL FABRICATORS	575 MENLO DR 1	S 1/8 - 1/4 (0.184 mi.)	B8	15
TRANSNATIONAL PRINTING SERVICE	575 MENLO DR 4	S 1/8 - 1/4 (0.184 mi.)	B9	15
CANNON WATER TECHNOLOGY	233 TECHNOLOGY WAY 9	S 1/8 - 1/4 (0.203 mi.)	10	16
MAINTENANCE WAREHOUSE	***1111 TINKER RD***	***S 1/8 - 1/4 (0.212 mi.)***	***D11***	***16***
GOLDEN EAGLE DISTRIBUTING CORP	1251 TINKER RD	S 1/8 - 1/4 (0.213 mi.)	D12	18
GAP INC	***3830 ATHERTON DR***	***S 1/8 - 1/4 (0.230 mi.)***	***E13***	***18***
GEOCHEMICAL SERVICES, INC	3805 ATHERTON RD 6	S 1/8 - 1/4 (0.236 mi.)	E15	20
CHRISTY MANUFACTURING CORPORAT	3805 ATHERTON RD STE 10	S 1/8 - 1/4 (0.236 mi.)	E16	20

HWP: Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

A review of the HWP list, as provided by EDR, and dated 05/27/2014 has revealed that there is 1 HWP site within approximately 1 mile of the target property.

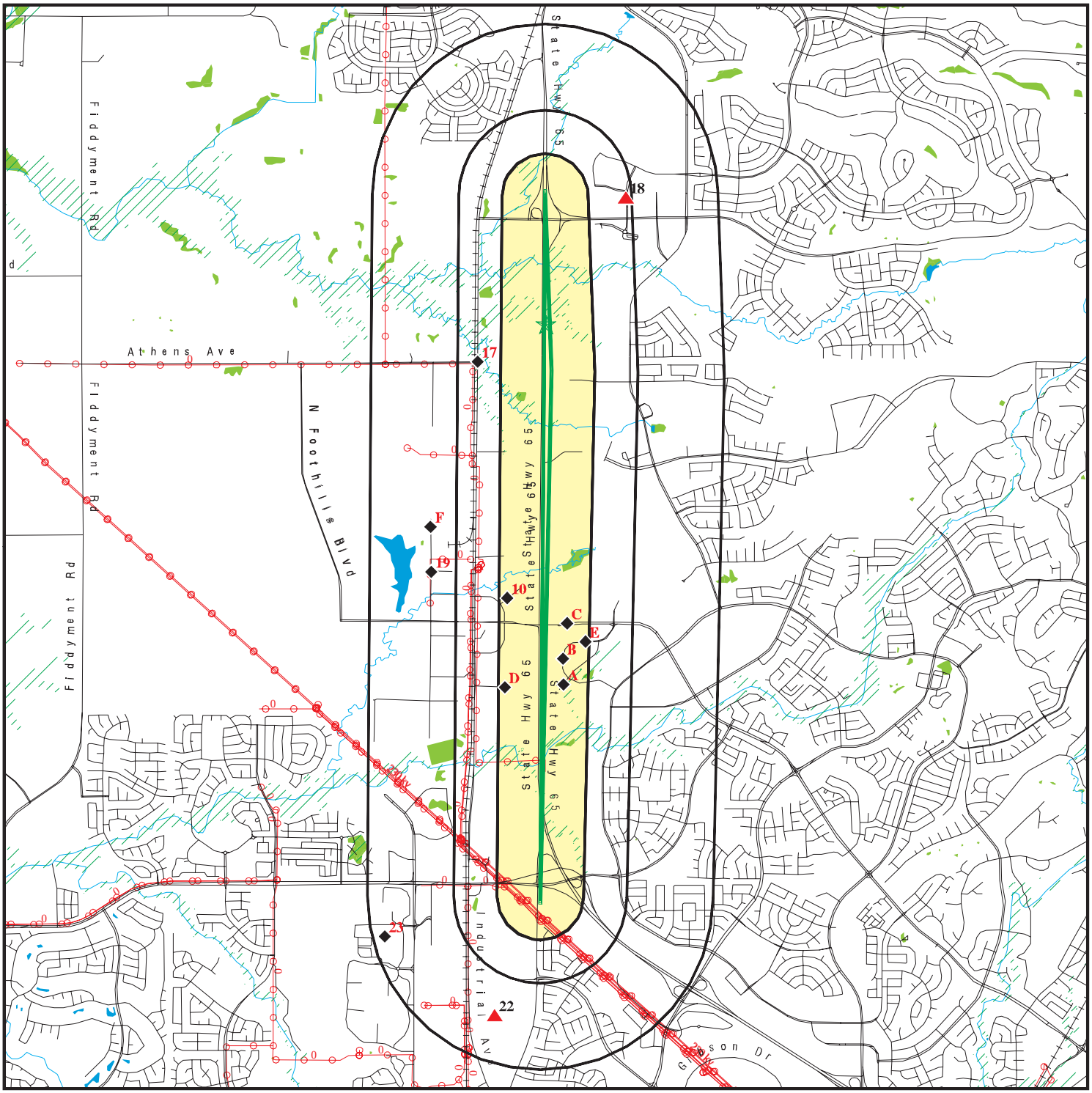
Lower Elevation	Address	Direction / Distance	Map ID	Page
FORMICA CORPORATION	***3500 CINCINNATI AVE***	***SSW 1/2 - 1 (0.649 mi.)***	***F20***	***47***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 20 records.

Site Name	Database(s)
LINCOLN SMALL LOG SAWMILL	HIST UST,SWEEPS UST
GLADDING MCBEAN	TOXIC
THUNDER MOUNTAIN TRAIN WRECK SITE	CERCLIS
VALLEY VIEW MINE	CERCLIS
CAMP FAR WEST LAKE	AST
LINCOLN SAWMILL AND PLANER	AST
A & A CONCRETE	AST
KIEWIT PACIFIC	AST
CAL TRANS WHITMORE	AST
TRMT OF PETROLEUM CONTAM. SOIL	WMUDS/SWAT
ALPHA EXPLOSIVES	WMUDS/SWAT
LOWE'S OF LINCOLN #2499	MS PLACER,HAZNET
ENERGY 2001	FINDS,RCRA-SQG
CVS PHARMACY NO 9535	RCRA-LQG
SAFEWAY STORE NO 1761	RCRA-NLR
BOHEMIA, INC.	BEP
NICHOLAS TURKEY BREEDING FARM CLOS	MS PLACER
FIBREWOOD CORPORATION	MS PLACER
GLADDING MCBEAN & CO	MINES
RMC PACIFIC MATERIALS	MINES

overview MAP - 4009322.1s



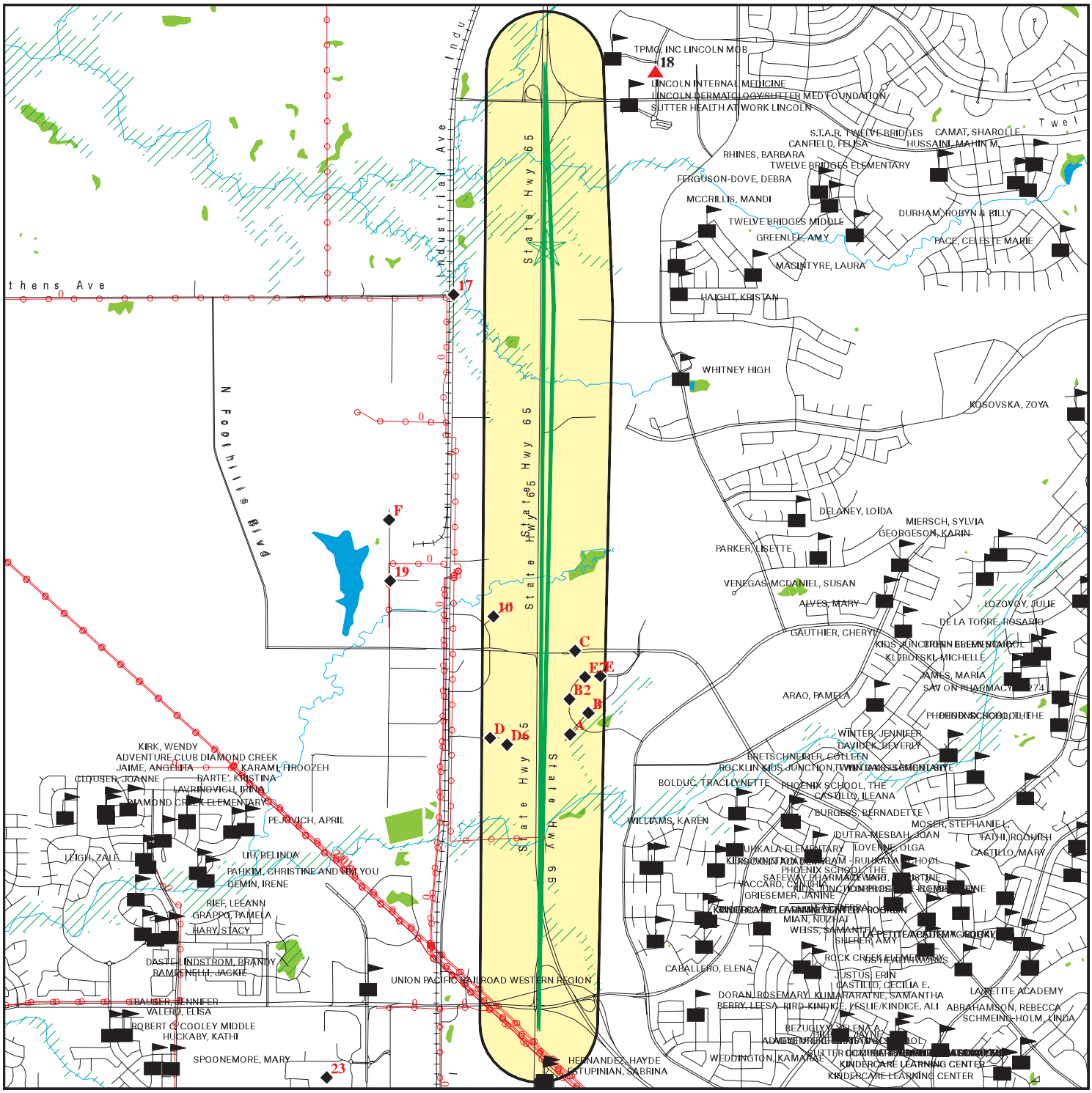
0 3/4 1 1/2 3 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: SR 65 HOV	CLIENT: Blackburn Consulting
ADDRESS: SR 65 and Lincoln Boulevard Lincoln CA 95648	CONTACT: Laura Long INQUIRY #: 4009322.1s
LAT/LONG: 38.8421 / 121.2996	DATE: July 18, 2014 7:59 pm

detail MAP - 4009322.1s



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

National Wetland Inventory

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	SR 65 HOV	CLIENT:	Blackburn Consulting
ADDRESS:	SR 65 and Lincoln Boulevard Lincoln CA 95648	CONTACT:	Laura Long
LAT/LONG:	38.8421 / 121.2996	INQUIRY #:	4009322.1s
		DATE:	July 18, 2014 8:01 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	1	NR	1
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		1	1	NR	NR	NR	2
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	4	NR	4
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	1	NR	NR	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SLIC	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		1	0	NR	NR	NR	1
AST	0.250		0	1	NR	NR	NR	1
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
SWEEPS UST	0.250		1	0	NR	NR	NR	1
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
LIENS	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
Cortese	0.500		0	0	1	NR	NR	1
HIST CORTESE	0.500		0	0	1	NR	NR	1
CA PLACER CO. MS	0.250		4	10	NR	NR	NR	14
CUPA Listings	0.250		0	0	NR	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
HWP	1.000		0	0	0	1	NR	1
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
HWT	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		0	0	NR	NR	NR	0
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LUST	TP		NR	NR	NR	NR	NR	0
RGA LF	TP		NR	NR	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
South
< 1/8
0.089 mi.
468 ft.

GAP, INC. (THE)
695 MENLO DR
ROCKLIN, CA 95765

Site 1 of 2 in cluster A

UST
CA PLACER CO. MS
SWEEPS UST

EDR ID Number: **U003786063**
EPA ID Number: **N/A**

Relative:
Lower

Actual:
136 ft.

UST:
Facility ID: FA0002333
Latitude: 38.8153882
Longitude: -121.2973882
Permitting Agency: PLACER COUNTY

PLACER CO. MS:
Facility ID: FA0002333
Facility Status: Active
Program Element Code: 2301
Program: UNDERGROUND STORAGE TANK - 1 TANK
Record Num: PR0003431
District Code: 18

Facility ID: FA0002333
Facility Status: Active
Program Element Code: 2111
Program: AS/US HAZMAT-NO WASTE <20,000/MONTH
Record Num: PR0003432
District Code: 18

Facility ID: FA0002333
Facility Status: Closed
Program Element Code: 2268
Program: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR
Record Num: PR0009601
District Code: 18

SWEEPS UST:
Status: Active
Comp Number: 2333
Number: 1
Board Of Equalization: 44-035477
Referral Date: 03-14-94
Action Date: 03-14-94
Created Date: 03-14-94
Owner Tank Id: TYCTK44-035477
SWRCB Tank Id: 31-000-002333-000001
Tank Status: A
Capacity: 9500
Active Date: 10-03-93
Tank Use: PETROLEUM
STG: P
Content: PETROLEUM
Number Of Tanks: 1

B2 **GAP, INC** **CA PLACER CO. MS** **S109518635**
South **3900 ATHERTON DR** **N/A**
< 1/8 **ROCKLIN, CA 95765**
0.102 mi.
536 ft. **Site 1 of 3 in cluster B**

Relative:
Lower

Actual:
130 ft.

PLACER CO. MS:

Facility ID:	FA0006392
Facility Status:	Closed
Program Element Code:	2106
Program:	HAZMAT - ABOVE GROUND WITH WASTE
Record Num:	PR0008462
District Code:	18

Facility ID:	FA0006392
Facility Status:	Closed
Program Element Code:	2268
Program:	CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR
Record Num:	PR0009600
District Code:	18

A3 **MENLO ROCKLIN PROPERTIES, LLC** **CA PLACER CO. MS** **S103366720**
South **655 MENLO DR 200** **N/A**
< 1/8 **ROCKLIN, CA 95765**
0.108 mi.
570 ft. **Site 2 of 2 in cluster A**

Relative:
Lower

Actual:
122 ft.

PLACER CO. MS:

Facility ID:	FA0003780
Facility Status:	Closed
Program Element Code:	2105
Program:	HAZMAT BUSINESS PLAN
Record Num:	PR0005674
District Code:	18

C4 **WILLIAM JESSUP UNIVERSITY** **NPDES** **S110504334**
South **333 SUNSET AVE** **CA PLACER CO. MS** **N/A**
< 1/8 **ROCKLIN, CA 95765** **EMI**
0.121 mi.
641 ft. **Site 1 of 2 in cluster C**

Relative:
Lower

Actual:
136 ft.

NPDES:

Npdes Number:	CAS000002
Facility Status:	Terminated
Agency Id:	0
Region:	5S
Regulatory Measure Id:	347917
Order No:	2009-0009-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	5S31C352435
Program Type:	Construction
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	07/07/2008
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	08/16/2011
Discharge Name:	William Jessup University
Discharge Address:	333 Sunset Boulevard

WILLIAM JESSUP UNIVERSITY (Continued) **S110504334**

Discharge City: Rocklin
Discharge State: California
Discharge Zip: 95765

PLACER CO. MS:
Facility ID: FA0001831
Facility Status: Closed
Program Element Code: 2106
Program: HAZMAT - ABOVE GROUND WITH WASTE
Record Num: PR0002603
District Code: 18

Facility ID: FA0001831
Facility Status: Closed
Program Element Code: 2270
Program: SMALL QUANTITY GENERATOR
Record Num: PR0007004
District Code: 18

EMI:
Year: 2008
County Code: 31
Air Basin: SV
Facility ID: 2425
Air District Name: PLA
SIC Code: 8221
Air District Name: PLACER COUNTY APCD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: .0071056371387967787
Reactive Organic Gases Tons/Yr: .003
Carbon Monoxide Emissions Tons/Yr: .047
NOX - Oxides of Nitrogen Tons/Yr: .056
SOX - Oxides of Sulphur Tons/Yr: .0003
Particulate Matter Tons/Yr: .004
Part. Matter 10 Micrometers & Smllr Tons/Yr: .004

Year: 2009
County Code: 31
Air Basin: SV
Facility ID: 2425
Air District Name: PLA
SIC Code: 8221
Air District Name: PLACER COUNTY APCD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 8.9999999999999993E-3
Reactive Organic Gases Tons/Yr: 3.7399999999999998E-3
Carbon Monoxide Emissions Tons/Yr: 5.7119999999999997E-2
NOX - Oxides of Nitrogen Tons/Yr: 6.8000000000000005E-2
SOX - Oxides of Sulphur Tons/Yr: 0.000408
Particulate Matter Tons/Yr: 5.1679999999999999E-3
Part. Matter 10 Micrometers & Smllr Tons/Yr: 5.0000000000000001E-3

Year: 2010
County Code: 31

WILLIAM JESSUP UNIVERSITY (Continued) **S110504334**

Air Basin:	SV
Facility ID:	2425
Air District Name:	PLA
SIC Code:	8221
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.1072951207958299E-2
Reactive Organic Gases Tons/Yr:	4.6750000000000003E-3
Carbon Monoxide Emissions Tons/Yr:	7.1400000000000005E-2
NOX - Oxides of Nitrogen Tons/Yr:	8.5000000000000006E-2
SOX - Oxides of Sulphur Tons/Yr:	5.1000000000000004E-4
Particulate Matter Tons/Yr:	6.4599999999999996E-3
Part. Matter 10 Micrometers & Smllr Tons/Yr:	6.4599999999999996E-3

Year:	2011
County Code:	31
Air Basin:	SV
Facility ID:	2425
Air District Name:	PLA
SIC Code:	8221
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.011072951208
Reactive Organic Gases Tons/Yr:	0.004675
Carbon Monoxide Emissions Tons/Yr:	0.0714
NOX - Oxides of Nitrogen Tons/Yr:	0.085
SOX - Oxides of Sulphur Tons/Yr:	0.00051
Particulate Matter Tons/Yr:	0.00646
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.00646

Year:	2012
County Code:	31
Air Basin:	SV
Facility ID:	2425
Air District Name:	PLA
SIC Code:	8221
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.011072951208
Reactive Organic Gases Tons/Yr:	0.004675
Carbon Monoxide Emissions Tons/Yr:	0.0714
NOX - Oxides of Nitrogen Tons/Yr:	0.085
SOX - Oxides of Sulphur Tons/Yr:	0.00051
Particulate Matter Tons/Yr:	0.00646
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.00646

C5 **HERMAN MILLER INC** **RCRA-SQG** **1000686112**
South **333 SUNSET BLVD** **FINDS** **CAD983633371**
< 1/8 **ROCKLIN, CA** **HAZNET**
0.121 mi.
641 ft. **Site 2 of 2 in cluster C**

Relative:
Lower

Actual:
136 ft.

RCRA-SQG:

Date form received by agency:	04/23/1992
Facility name:	HERMAN MILLER INC
Facility address:	333 SUNSET BLVD ROCKLIN, CA 95677
EPA ID:	CAD983633371
Contact:	ALLEN YUHL
Contact address:	333 SUNSET BLVD ROCKLIN, CA 95677
Contact country:	US
Contact telephone:	(916) 624-2448
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	HERMAN MILLER INC
Owner/operator address:	8500 BYRON RD ZEELAND, MI 49464
Owner/operator country:	Not reported
Owner/operator telephone:	(616) 772-3300
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Violation Status: No violations found

FINDS:

Registry ID: 110002874300

HERMAN MILLER INC (Continued) **1000686112**

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZNET:

Year:	2001
Gepaid:	CAD983633371
Contact:	EVELYN CROSBY-YUHL-ENV COORD
Telephone:	9166324260
Mailing Name:	Not reported
Mailing Address:	333 SUNSET BLVD
Mailing City,St,Zip:	ROCKLIN, CA 957653707
Gen County:	Not reported
TSD EPA ID:	CAD980884183
TSD County:	Not reported
Waste Category:	Adhesives
Disposal Method:	Disposal, Other
Tons:	0.62
Facility County:	Placer

Year:	2001
Gepaid:	CAD983633371
Contact:	EVELYN CROSBY-YUHL-ENV COORD
Telephone:	9166324260
Mailing Name:	Not reported
Mailing Address:	333 SUNSET BLVD
Mailing City,St,Zip:	ROCKLIN, CA 957653707
Gen County:	Not reported
TSD EPA ID:	CAD980884183
TSD County:	Not reported
Waste Category:	Unspecified sludge waste
Disposal Method:	Disposal, Other
Tons:	1.18
Facility County:	Placer

Year:	2001
Gepaid:	CAD983633371
Contact:	EVELYN CROSBY-YUHL-ENV COORD
Telephone:	9166324260
Mailing Name:	Not reported
Mailing Address:	333 SUNSET BLVD
Mailing City,St,Zip:	ROCKLIN, CA 957653707
Gen County:	Not reported
TSD EPA ID:	CAD028409019
TSD County:	Not reported
Waste Category:	Halogenated solvents (chloroforms, methyl chloride, perchloroethylene, etc)
Disposal Method:	Transfer Station
Tons:	0.1
Facility County:	Placer

Year: 2001

HERMAN MILLER INC (Continued) **1000686112**

Gepaid:	CAD983633371
Contact:	EVELYN CROSBY-YUHL-ENV COORD
Telephone:	9166324260
Mailing Name:	Not reported
Mailing Address:	333 SUNSET BLVD
Mailing City,St,Zip:	ROCKLIN, CA 957653707
Gen County:	Not reported
TSD EPA ID:	CAD028409019
TSD County:	Not reported
Waste Category:	Halogenated solvents (chloroforms, methyl chloride, perchloroethylene, etc)
Disposal Method:	Transfer Station
Tons:	0.1
Facility County:	Placer

Year:	2001
Gepaid:	CAD983633371
Contact:	EVELYN CROSBY-YUHL-ENV COORD
Telephone:	9166324260
Mailing Name:	Not reported
Mailing Address:	333 SUNSET BLVD
Mailing City,St,Zip:	ROCKLIN, CA 957653707
Gen County:	Not reported
TSD EPA ID:	CAD028409019
TSD County:	Not reported
Waste Category:	Halogenated solvents (chloroforms, methyl chloride, perchloroethylene, etc)
Disposal Method:	Transfer Station
Tons:	0.1
Facility County:	Placer

Click this hyperlink while viewing on your computer to access
49 additional CA_HAZNET: record(s) in the EDR Site Report.

D6 **017-300-072-000** **CA PLACER CO. MS** **S103880067**
South **1091 TINKER WAY** **N/A**
1/8-1/4 **ROCKLIN, CA 95677**
0.142 mi.
749 ft. **Site 1 of 3 in cluster D**

Relative:
Lower

Actual:
132 ft.

PLACER CO. MS:

Facility ID:	FA0004277
Facility Status:	Closed
Program Element Code:	2105
Program:	HAZMAT BUSINESS PLAN
Record Num:	PR0007282
District Code:	22

E7 **AKTIS CORPORATION** **CA PLACER CO. MS** **S109518420**
South **3845 ATHERTON RD 1** **N/A**
1/8-1/4 **ROCKLIN, CA 95765**
0.166 mi.
874 ft. **Site 1 of 5 in cluster E**

Relative:
Lower

Actual:
129 ft.

PLACER CO. MS:
Facility ID: FA0002001
Facility Status: Closed
Program Element Code: 2105
Program: HAZMAT BUSINESS PLAN
Record Num: PR0002784
District Code: 18

B8 **PRECISION METAL FABRICATORS** **CA PLACER CO. MS** **S105708788**
South **575 MENLO DR 1** **N/A**
1/8-1/4 **ROCKLIN, CA 95765**
0.184 mi.
970 ft. **Site 2 of 3 in cluster B**

Relative:
Lower

Actual:
123 ft.

PLACER CO. MS:
Facility ID: FA0001794
Facility Status: Closed
Program Element Code: 2105
Program: HAZMAT BUSINESS PLAN
Record Num: PR0002565
District Code: 18

Facility ID: FA0008305
Facility Status: Closed
Program Element Code: 2106
Program: HAZMAT - ABOVE GROUND WITH WASTE
Record Num: PR0009117
District Code: 18

Facility ID: FA0008305
Facility Status: Closed
Program Element Code: 2268
Program: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR
Record Num: PR0009317
District Code: 18

B9 **TRANSNATIONAL PRINTING SERVICE** **CA PLACER CO. MS** **S111012680**
South **575 MENLO DR 4** **N/A**
1/8-1/4 **ROCKLIN, CA 95765**
0.184 mi.
970 ft. **Site 3 of 3 in cluster B**

Relative:
Lower

Actual:
123 ft.

PLACER CO. MS:
Facility ID: FA0002528
Facility Status: Closed
Program Element Code: 2106
Program: HAZMAT - ABOVE GROUND WITH WASTE
Record Num: PR0003750
District Code: 18

10
South
1/8-1/4
0.203 mi.
1073 ft.

CANNON WATER TECHNOLOGY
233 TECHNOLOGY WAY 9
ROCKLIN, CA 95765

CA PLACER CO. MS **S110496665**
N/A

Relative:
Lower

Actual:
130 ft.

PLACER CO. MS:

Facility ID:	FA0017894
Facility Status:	Active
Program Element Code:	2105
Program:	HAZMAT BUSINESS PLAN
Record Num:	PR0014954
District Code:	18

D11
South
1/8-1/4
0.212 mi.
1118 ft.

MAINTENANCE WAREHOUSE
1111 TINKER RD
ROCKLIN, CA
Site 2 of 3 in cluster D

RCRA-SQG **1004675989**
FINDS **CAR000079632**
CA PLACER CO. MS

Relative:
Lower

Actual:
131 ft.

RCRA-SQG:

Date form received by agency:	08/01/2000
Facility name:	MAINTENANCE WAREHOUSE
Facility address:	1111 TINKER RD ROCKLIN, CA 95765
EPA ID:	CAR000079632
Mailing address:	1905 ASTON AVE CARLSBAD, CA 92008
Contact:	PETER KRUCKER
Contact address:	1905 ASTON AVE CARLSBAD, CA 92008
Contact country:	US
Contact telephone:	(800) 451-8346
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	MAINTENANCE WAREHOUSE
Owner/operator address:	5505 MOREHOUSE DR STE 100 SAN DIEGO, CA 92121
Owner/operator country:	Not reported
Owner/operator telephone:	(858) 831-2000
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No

MAINTENANCE WAREHOUSE (Continued) **1004675989**

Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Hazardous Waste Summary:

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Violation Status: No violations found

FINDS:

Registry ID: 110002941390

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

PLACER CO. MS:

Facility ID:	FA0004314
Facility Status:	Closed
Program Element Code:	2105
Program:	HAZMAT BUSINESS PLAN
Record Num:	PR0007362
District Code:	22

D12 **GOLDEN EAGLE DISTRIBUTING CORP** **CA PLACER CO. MS** **S109518616**
South **1251 TINKER RD** **N/A**
1/8-1/4 **ROCKLIN, CA 95765**
0.213 mi.
1127 ft. **Site 3 of 3 in cluster D**

Relative:
Lower

Actual:
135 ft.

PLACER CO. MS:

Facility ID:	FA0004276
Facility Status:	Closed
Program Element Code:	2105
Program:	HAZMAT BUSINESS PLAN
Record Num:	PR0007278
District Code:	18

E13 **GAP INC** **CA PLACER CO. MS** **S110502343**
South **3830 ATHERTON DR** **EMI** **N/A**
1/8-1/4 **ROCKLIN, CA 95765**
0.230 mi.
1217 ft. **Site 2 of 5 in cluster E**

Relative:
Lower

Actual:
135 ft.

PLACER CO. MS:

Facility ID:	FA0004323
Facility Status:	Active
Program Element Code:	2105
Program:	HAZMAT BUSINESS PLAN
Record Num:	PR0007381
District Code:	18

Facility ID:	FA0004323
Facility Status:	Closed
Program Element Code:	2268
Program:	CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR
Record Num:	PR0009599
District Code:	18

EMI:

Year:	2008
County Code:	31
Air Basin:	SV
Facility ID:	898
Air District Name:	PLA
SIC Code:	5651
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.0314420939404804589
Reactive Organic Gases Tons/Yr:	.0263076
Carbon Monoxide Emissions Tons/Yr:	.0605872
NOX - Oxides of Nitrogen Tons/Yr:	.1339296
SOX - Oxides of Sulphur Tons/Yr:	.0151468
Particulate Matter Tons/Yr:	.0179696721311475409
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.0175384

Year:	2009
County Code:	31
Air Basin:	SV
Facility ID:	898
Air District Name:	PLA
SIC Code:	5651

GAP INC (Continued) **S110502343**

Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2.9999999999999999E-2
Reactive Organic Gases Tons/Yr:	0.0263076
Carbon Monoxide Emissions Tons/Yr:	6.0587200000000001E-2
NOX - Oxides of Nitrogen Tons/Yr:	0.13392960000000001
SOX - Oxides of Sulphur Tons/Yr:	0.0151468
Particulate Matter Tons/Yr:	1.7999999999999999E-2
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1.7538399999999999E-2

Year:	2010
County Code:	31
Air Basin:	SV
Facility ID:	898
Air District Name:	PLA
SIC Code:	5651
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	6.4655910123102595E-2
Reactive Organic Gases Tons/Yr:	5.4097600000000003E-2
Carbon Monoxide Emissions Tons/Yr:	0.1124672
NOX - Oxides of Nitrogen Tons/Yr:	0.26176959999999999
SOX - Oxides of Sulphur Tons/Yr:	2.8116800000000001E-2
Particulate Matter Tons/Yr:	0.0301213114754098
Part. Matter 10 Micrometers & Smllr Tons/Yr:	2.9398400000000002E-2

Year:	2011
County Code:	31
Air Basin:	SV
Facility ID:	898
Air District Name:	PLA
SIC Code:	5651
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.064655910123
Reactive Organic Gases Tons/Yr:	0.0540976
Carbon Monoxide Emissions Tons/Yr:	0.1124672
NOX - Oxides of Nitrogen Tons/Yr:	0.2617696
SOX - Oxides of Sulphur Tons/Yr:	0.0281168
Particulate Matter Tons/Yr:	0.030121311475
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.0293984

Year:	2012
County Code:	31
Air Basin:	SV
Facility ID:	898
Air District Name:	PLA
SIC Code:	5651
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.064655910123
Reactive Organic Gases Tons/Yr:	0.0540976
Carbon Monoxide Emissions Tons/Yr:	0.1124672

GAP INC (Continued) **S110502343**

NOX - Oxides of Nitrogen Tons/Yr: 0.2617696
SOX - Oxides of Sulphur Tons/Yr: 0.0281168
Particulate Matter Tons/Yr: 0.030121311475
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0.0293984

E14 **GAP INC. - ON LINE ORDERING AND CUSTOMER SERVICE** **AST** **A100271611**
South **3830 ATHERTON ROAD** **N/A**
1/8-1/4 **ROCKLIN, CA 95765**
0.230 mi.
1217 ft. **Site 3 of 5 in cluster E**

Relative:
Lower

Actual:
135 ft.

AST:
Owner: GAP INC. - TECHNICAL CENTER
Total Gallons: 4,000
Certified Unified Program Agencies: Placer

E15 **GEOCHEMICAL SERVICES, INC** **CA PLACER CO. MS** **S109518315**
South **3805 ATHERTON RD 6** **N/A**
1/8-1/4 **ROCKLIN, CA 95765**
0.236 mi.
1247 ft. **Site 4 of 5 in cluster E**

Relative:
Lower

Actual:
135 ft.

PLACER CO. MS:
Facility ID: FA0001667
Facility Status: Closed
Program Element Code: 2106
Program: HAZMAT - ABOVE GROUND WITH WASTE
Record Num: PR0002434
District Code: 18

E16 **CHRISTY MANUFACTURING CORPORATION** **CA PLACER CO. MS** **S110168900**
South **3805 ATHERTON RD STE 101** **N/A**
1/8-1/4 **ROCKLIN, CA 95765**
0.236 mi.
1247 ft. **Site 5 of 5 in cluster E**

Relative:
Lower

Actual:
135 ft.

PLACER CO. MS:
Facility ID: FA0017587
Facility Status: Active
Program Element Code: 2105
Program: HAZMAT BUSINESS PLAN
Record Num: PR0013639
District Code: 18

Facility ID: FA0017587
Facility Status: Closed
Program Element Code: 2268
Program: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR
Record Num: PR0013640
District Code: 18

17
WSW
1/4-1/2
0.383 mi.
2020 ft.

THUNDER VALLEY CASINO WWTP
1200 ATHENS AVENUE
LINCOLN, CA 95648

NPDES **S106571359**
Cortese **N/A**
ENF
WDS

Relative:
Lower

Actual:
122 ft.

NPDES:

Npdes Number:	CA0084697
Facility Status:	Active
Agency Id:	485093
Region:	5S
Regulatory Measure Id:	373269
Order No:	R5-2010-0005
Regulatory Measure Type:	NPDES Permits
Place Id:	206730
WDID:	5A31NP00001
Program Type:	NPDMUNIOTH
Adoption Date Of Regulatory Measure:	01/28/2010
Effective Date Of Regulatory Measure:	03/19/2010
Expiration Date Of Regulatory Measure:	01/01/2015
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	United Auburn Indian Community
Discharge Address:	10720 Indian Hill Road
Discharge City:	Auburn
Discharge State:	CA
Discharge Zip:	95603-9403

CORTESE:

Region:	CORTESE
Envirostor Id:	Not reported
Site/Facility Type:	Not reported
Cleanup Status:	Not reported
Status Date:	Not reported
Site Code:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	CORTESE
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	Not reported
WID Id:	Not reported
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported

ENF:

Region:	5S
Facility Id:	206730
Agency Name:	Not reported
Place Type:	All Other
Place Subtype:	Dredge/Fill Site
Facility Type:	Municipal/Domestic
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	38.839044999999

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Place Longitude:	-121.307402
SIC Code 1:	1522
SIC Desc 1:	General Contractors-Residential Buildings, Other Than Single-Family
SIC Code 2:	7011
SIC Desc 2:	Hotels and Motels
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	Not reported
Program Category1:	Not reported
Program Category2:	NPDESWW
# Of Programs:	Not reported
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	255804
Region:	5S
Order / Resolution Number:	R5-2005-0033

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Enforcement Action Type:	Cease and Desist Order
Effective Date:	03/17/2005
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	12/06/2012
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	CDO R5-2005-0033 for United Auburn Indian Community
Description:	Cease and Desist Order issued in conjunction with NPDES permit that contained effluent limitations for aluminum, atrazine, boron, fluoride, MBAS, nitrate, EC, sulfate, arsenic, total trihalomethanes, persistent chlorinated hydrocarbon pesticides, ammonia
Program:	NPDESWW
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0
Region:	5S
Facility Id:	206730
Agency Name:	United Auburn Indian Community
Place Type:	All Other
Place Subtype:	Dredge/Fill Site
Facility Type:	Municipal/Domestic
Agency Type:	Other
# Of Agencies:	1
Place Latitude:	38.839044999999
Place Longitude:	-121.307402
SIC Code 1:	1522
SIC Desc 1:	General Contractors-Residential Buildings, Other Than Single-Family
SIC Code 2:	7011
SIC Desc 2:	Hotels and Motels
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.10000000
Threat To Water Quality:	2
Complexity:	B
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Program:	NPDMUNIOTH
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A31NP00001
Reg Measure Id:	373269
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2010-0005
Npdes# CA#:	CA0084697
Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	01/13/2014
Effective Date:	03/19/2010
Expiration/Review Date:	01/01/2015
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	396057
Region:	5S
Order / Resolution Number:	Not reported
Enforcement Action Type:	Notice of Violation
Effective Date:	04/30/2014
Adoption/Issuance Date:	04/30/2014
Achieve Date:	Not reported
Termination Date:	04/30/2014
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV 04/30/2014 for United Auburn Indian Community
Description:	Not reported
Program:	NPDMUNIOTH
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0
Region:	5S
Facility Id:	206730

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Agency Name:	United Auburn Indian Community
Place Type:	All Other
Place Subtype:	Dredge/Fill Site
Facility Type:	Municipal/Domestic
Agency Type:	Other
# Of Agencies:	1
Place Latitude:	38.839044999999
Place Longitude:	-121.307402
SIC Code 1:	1522
SIC Desc 1:	General Contractors-Residential Buildings, Other Than Single-Family
SIC Code 2:	7011
SIC Desc 2:	Hotels and Motels
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.10000000
Threat To Water Quality:	2
Complexity:	B
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDMUNIOTH
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A31NP00001
Reg Measure Id:	373269
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2010-0005
Npdes# CA#:	CA0084697
Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	01/13/2014
Effective Date:	03/19/2010
Expiration/Review Date:	01/01/2015
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	392710
Region:	5S
Order / Resolution Number:	Not reported
Enforcement Action Type:	Notice of Violation
Effective Date:	08/12/2013
Adoption/Issuance Date:	08/12/2013
Achieve Date:	Not reported
Termination Date:	08/12/2013
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV 08/30/2013 for United Auburn Indian Community
Description:	Not reported
Program:	NPDMUNIOTH
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	5S
Facility Id:	206730
Agency Name:	United Auburn Indian Community
Place Type:	All Other
Place Subtype:	Dredge/Fill Site
Facility Type:	Municipal/Domestic
Agency Type:	Other
# Of Agencies:	1
Place Latitude:	38.839044999999
Place Longitude:	-121.307402
SIC Code 1:	1522
SIC Desc 1:	General Contractors-Residential Buildings, Other Than Single-Family
SIC Code 2:	7011
SIC Desc 2:	Hotels and Motels
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.10000000
Threat To Water Quality:	2
Complexity:	B
Pretreatment:	Not reported
Facility Waste Type:	Not reported

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDMUNIOTH
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A31NP00001
Reg Measure Id:	373269
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2010-0005
Npdes# CA#:	CA0084697
Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	01/13/2014
Effective Date:	03/19/2010
Expiration/Review Date:	01/01/2015
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	392709
Region:	5S
Order / Resolution Number:	Not reported
Enforcement Action Type:	Notice of Violation
Effective Date:	08/12/2013
Adoption/Issuance Date:	08/12/2013
Achieve Date:	Not reported
Termination Date:	08/12/2013
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV 08/12/2013 for United Auburn Indian Community
Description:	Not reported
Program:	NPDMUNIOTH
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Region:	5S
Facility Id:	206730
Agency Name:	United Auburn Indian Community
Place Type:	All Other
Place Subtype:	Dredge/Fill Site
Facility Type:	Municipal/Domestic
Agency Type:	Other
# Of Agencies:	1
Place Latitude:	38.839044999999
Place Longitude:	-121.307402
SIC Code 1:	1522
SIC Desc 1:	General Contractors-Residential Buildings, Other Than Single-Family
SIC Code 2:	7011
SIC Desc 2:	Hotels and Motels
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.10000000
Threat To Water Quality:	2
Complexity:	B
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDMUNIOTH
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A31NP00001
Reg Measure Id:	373269
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2010-0005
Npdes# CA#:	CA0084697
Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	01/13/2014
Effective Date:	03/19/2010
Expiration/Review Date:	01/01/2015
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	386767
Region:	5S
Order / Resolution Number:	Not reported
Enforcement Action Type:	Notice of Violation
Effective Date:	07/31/2012
Adoption/Issuance Date:	07/31/2012
Achieve Date:	Not reported
Termination Date:	07/31/2012
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV 07/31/2012 for United Auburn Indian Community, Auburn Rancheria Casino WWTP
Description:	During the monitoring periods June 2012 and Second Quarter 2012 the discharge violated the limitations contained in the WDRs.
Program:	NPDMUNIOTH
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	5S
Facility Id:	206730
Agency Name:	United Auburn Indian Community
Place Type:	All Other
Place Subtype:	Dredge/Fill Site
Facility Type:	Municipal/Domestic
Agency Type:	Other
# Of Agencies:	1
Place Latitude:	38.839044999999
Place Longitude:	-121.307402
SIC Code 1:	1522
SIC Desc 1:	General Contractors-Residential Buildings, Other Than Single-Family
SIC Code 2:	7011
SIC Desc 2:	Hotels and Motels
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Design Flow:	0.10000000
Threat To Water Quality:	2
Complexity:	B
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDMUNIOTH
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A31NP00001
Reg Measure Id:	373269
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2010-0005
Npdes# CA#:	CA0084697
Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	01/13/2014
Effective Date:	03/19/2010
Expiration/Review Date:	01/01/2015
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	386611
Region:	5S
Order / Resolution Number:	Not reported
Enforcement Action Type:	Notice of Violation
Effective Date:	07/20/2012
Adoption/Issuance Date:	07/20/2012
Achieve Date:	Not reported
Termination Date:	07/20/2012
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV 07/20/2012 for United Auburn Indian Community, Auburn Rancheria Casino WWTP
Description:	During the monitoring period May 2012 the discharge violated the limitations contained in the WDRs.
Program:	NPDMUNIOTH
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0
Region:	5S
Facility Id:	206730
Agency Name:	United Auburn Indian Community
Place Type:	All Other
Place Subtype:	Dredge/Fill Site
Facility Type:	Municipal/Domestic
Agency Type:	Other
# Of Agencies:	1
Place Latitude:	38.839044999999
Place Longitude:	-121.307402
SIC Code 1:	1522
SIC Desc 1:	General Contractors-Residential Buildings, Other Than Single-Family
SIC Code 2:	7011
SIC Desc 2:	Hotels and Motels
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.10000000
Threat To Water Quality:	2
Complexity:	B
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDMUNIOTH
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A31NP00001
Reg Measure Id:	373269
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2010-0005
Npdes# CA#:	CA0084697
Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Active

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Status Date:	01/13/2014
Effective Date:	03/19/2010
Expiration/Review Date:	01/01/2015
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	385933
Region:	5S
Order / Resolution Number:	Not reported
Enforcement Action Type:	Notice of Violation
Effective Date:	06/27/2012
Adoption/Issuance Date:	06/27/2012
Achieve Date:	Not reported
Termination Date:	06/27/2012
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV 06/27/2012 for United Auburn Indian Community, Auburn Rancheria Casino WWTP
Description:	During the monitoring period April 2012 the discharge violated the limitations contained in the WDRs.
Program:	NPDMUNIOTH
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	5S
Facility Id:	206730
Agency Name:	United Auburn Indian Community
Place Type:	All Other
Place Subtype:	Dredge/Fill Site
Facility Type:	Municipal/Domestic
Agency Type:	Other
# Of Agencies:	1
Place Latitude:	38.839044999999
Place Longitude:	-121.307402
SIC Code 1:	1522
SIC Desc 1:	General Contractors-Residential Buildings, Other Than Single-Family
SIC Code 2:	7011
SIC Desc 2:	Hotels and Motels
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.10000000
Threat To Water Quality:	2
Complexity:	B
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDMUNIOTH
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A31NP00001
Reg Measure Id:	373269
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2010-0005
Npdes# CA#:	CA0084697
Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	01/13/2014
Effective Date:	03/19/2010
Expiration/Review Date:	01/01/2015
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	385196
Region:	5S
Order / Resolution Number:	Not reported
Enforcement Action Type:	Notice of Violation
Effective Date:	05/09/2012
Adoption/Issuance Date:	05/09/2012
Achieve Date:	Not reported
Termination Date:	05/09/2012
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Title:	NOV 05/09/2012 for United Auburn Indian Community, Auburn Rancheria Casino WWTP
Description:	During the monitoring period March 2012 the discharge violated the limitations contained in the WDRs.
Program:	NPDMUNIOTH
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0
Region:	5S
Facility Id:	206730
Agency Name:	United Auburn Indian Community
Place Type:	All Other
Place Subtype:	Dredge/Fill Site
Facility Type:	Municipal/Domestic
Agency Type:	Other
# Of Agencies:	1
Place Latitude:	38.839044999999
Place Longitude:	-121.307402
SIC Code 1:	1522
SIC Desc 1:	General Contractors-Residential Buildings, Other Than Single-Family
SIC Code 2:	7011
SIC Desc 2:	Hotels and Motels
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.10000000
Threat To Water Quality:	2
Complexity:	B
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDMUNIOTH
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A31NP00001
Reg Measure Id:	373269
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2010-0005
Npdes# CA#:	CA0084697

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	01/13/2014
Effective Date:	03/19/2010
Expiration/Review Date:	01/01/2015
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	383564
Region:	5S
Order / Resolution Number:	Not reported
Enforcement Action Type:	Notice of Violation
Effective Date:	02/23/2012
Adoption/Issuance Date:	02/23/2012
Achieve Date:	Not reported
Termination Date:	02/23/2012
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV 02/23/2012 for United Auburn Indian Community, Auburn Rancheria Casino WWTP
Description:	During the monitoring period December 2011 the discharge violated the limitations contained in the WDRs.
Program:	NPDMUNIOTH
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	5S
Facility Id:	206730
Agency Name:	United Auburn Indian Community
Place Type:	All Other
Place Subtype:	Dredge/Fill Site
Facility Type:	Municipal/Domestic
Agency Type:	Other
# Of Agencies:	1
Place Latitude:	38.839044999999
Place Longitude:	-121.307402

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

SIC Code 1:	1522
SIC Desc 1:	General Contractors-Residential Buildings, Other Than Single-Family
SIC Code 2:	7011
SIC Desc 2:	Hotels and Motels
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.10000000
Threat To Water Quality:	2
Complexity:	B
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDMUNIOTH
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A31NP00001
Reg Measure Id:	373269
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2010-0005
Npdes# CA#:	CA0084697
Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	01/13/2014
Effective Date:	03/19/2010
Expiration/Review Date:	01/01/2015
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	383074
Region:	5S
Order / Resolution Number:	Not reported
Enforcement Action Type:	Notice of Violation

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Effective Date:	01/24/2012
Adoption/Issuance Date:	01/24/2012
Achieve Date:	Not reported
Termination Date:	01/24/2012
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV 01/24/2012 for United Auburn Indian Community, Auburn Rancheria Casino WWTP
Description:	During the monitoring periods October 2011 and November 2011 the discharge violated the limitations contained in the WDRs.
Program:	NPDMUNIOTH
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	5S
Facility Id:	206730
Agency Name:	United Auburn Indian Community
Place Type:	All Other
Place Subtype:	Dredge/Fill Site
Facility Type:	Municipal/Domestic
Agency Type:	Other
# Of Agencies:	1
Place Latitude:	38.839044999999
Place Longitude:	-121.307402
SIC Code 1:	1522
SIC Desc 1:	General Contractors-Residential Buildings, Other Than Single-Family
SIC Code 2:	7011
SIC Desc 2:	Hotels and Motels
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.10000000
Threat To Water Quality:	2
Complexity:	B
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDMUNIOTH
Program Category1:	NPDESWW

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A31NP00001
Reg Measure Id:	373269
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2010-0005
Npdes# CA#:	CA0084697
Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	01/13/2014
Effective Date:	03/19/2010
Expiration/Review Date:	01/01/2015
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	382609
Region:	5S
Order / Resolution Number:	Not reported
Enforcement Action Type:	Notice of Violation
Effective Date:	12/23/2011
Adoption/Issuance Date:	12/23/2011
Achieve Date:	Not reported
Termination Date:	12/23/2011
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV 12/23/2011 for United Auburn Indian Community, Auburn Rancheria Casino WWTP
Description:	During the monitoring periods July 2011, August 2011, and September 2011 the discharge violated the limitation contained in the WDRs.
Program:	NPDMUNIOTH
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0
Region:	5S

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Facility Id:	206730
Agency Name:	United Auburn Indian Community
Place Type:	All Other
Place Subtype:	Dredge/Fill Site
Facility Type:	Municipal/Domestic
Agency Type:	Other
# Of Agencies:	1
Place Latitude:	38.839044999999
Place Longitude:	-121.307402
SIC Code 1:	1522
SIC Desc 1:	General Contractors-Residential Buildings, Other Than Single-Family
SIC Code 2:	7011
SIC Desc 2:	Hotels and Motels
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.10000000
Threat To Water Quality:	2
Complexity:	B
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDMUNIOTH
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A31NP00001
Reg Measure Id:	373269
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2010-0005
Npdes# CA#:	CA0084697
Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	01/13/2014
Effective Date:	03/19/2010
Expiration/Review Date:	01/01/2015
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	381344
Region:	5S
Order / Resolution Number:	Not reported
Enforcement Action Type:	Notice of Violation
Effective Date:	09/07/2011
Adoption/Issuance Date:	09/07/2011
Achieve Date:	Not reported
Termination Date:	09/07/2011
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV 09/07/2011 for United Auburn Indian Community, Auburn Rancheria Casino WWTP
Description:	Not reported
Program:	NPDMUNIOTH
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	5S
Facility Id:	206730
Agency Name:	United Auburn Indian Community
Place Type:	All Other
Place Subtype:	Dredge/Fill Site
Facility Type:	Municipal/Domestic
Agency Type:	Other
# Of Agencies:	1
Place Latitude:	38.839044999999
Place Longitude:	-121.307402
SIC Code 1:	1522
SIC Desc 1:	General Contractors-Residential Buildings, Other Than Single-Family
SIC Code 2:	7011
SIC Desc 2:	Hotels and Motels
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.10000000
Threat To Water Quality:	2
Complexity:	B

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDMUNIOTH
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A31NP00001
Reg Measure Id:	373269
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2010-0005
Npdes# CA#:	CA0084697
Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	01/13/2014
Effective Date:	03/19/2010
Expiration/Review Date:	01/01/2015
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	378868
Region:	5S
Order / Resolution Number:	Not reported
Enforcement Action Type:	Notice of Violation
Effective Date:	04/25/2011
Adoption/Issuance Date:	04/25/2011
Achieve Date:	Not reported
Termination Date:	04/25/2011
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV 04/25/2011 for United Auburn Indian Comm, Auburn Rancheria Casino WWTP
Description:	pH samples taken more than once per day, but only one result reported. Discharger is required by the WDR to report all sample analyses.
Program:	NPDMUNIOTH
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0
Region:	5S
Facility Id:	206730
Agency Name:	United Auburn Indian Community
Place Type:	All Other
Place Subtype:	Dredge/Fill Site
Facility Type:	Municipal/Domestic
Agency Type:	Other
# Of Agencies:	1
Place Latitude:	38.839044999999
Place Longitude:	-121.307402
SIC Code 1:	1522
SIC Desc 1:	General Contractors-Residential Buildings, Other Than Single-Family
SIC Code 2:	7011
SIC Desc 2:	Hotels and Motels
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.10000000
Threat To Water Quality:	2
Complexity:	B
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDMUNIOTH
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A31NP00001
Reg Measure Id:	373269
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2010-0005
Npdes# CA#:	CA0084697
Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	01/13/2014
Effective Date:	03/19/2010

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Expiration/Review Date:	01/01/2015
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	373270
Region:	5S
Order / Resolution Number:	R5-2010-0006
Enforcement Action Type:	Time Schedule Order
Effective Date:	01/28/2010
Adoption/Issuance Date:	01/28/2010
Achieve Date:	Not reported
Termination Date:	Not reported
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Active
Title:	TSO R5-2010-0006 for United Auburn Indian Comm, Auburn Rancheria Casino WWTP
Description:	The Discharger shall comply with the following time schedule to ensure compliance with cadmium, lead, and zinc effluent limitations at Discharge Point No. 001 at section IV.A.1.a and IV.A.2.a, contained in WDR Order No. R5-2010-0005
Program:	NPDMUNIOTH
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	5S
Facility Id:	206730
Agency Name:	United Auburn Indian Community
Place Type:	All Other
Place Subtype:	Dredge/Fill Site
Facility Type:	Municipal/Domestic
Agency Type:	Other
# Of Agencies:	1
Place Latitude:	38.839044999999
Place Longitude:	-121.307402
SIC Code 1:	1522
SIC Desc 1:	General Contractors-Residential Buildings, Other Than Single-Family
SIC Code 2:	7011
SIC Desc 2:	Hotels and Motels
SIC Code 3:	Not reported
SIC Desc 3:	Not reported

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.10000000
Threat To Water Quality:	2
Complexity:	B
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDMUNIOTH
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A31NP00001
Reg Measure Id:	133346
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2005-0032
Npdes# CA#:	CA0084697
Major-Minor:	Minor
Npdes Type:	MUN
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	2000
Status:	Historical
Status Date:	01/31/2014
Effective Date:	03/23/2005
Expiration/Review Date:	03/23/2010
Termination Date:	03/18/2010
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	308419
Region:	5S
Order / Resolution Number:	R5-2006-0502
Enforcement Action Type:	Admin Civil Liability
Effective Date:	03/07/2006
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	12/31/2011
ACL Issuance Date:	03/07/2006
EPL Issuance Date:	Not reported

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

Status:	Historical
Title:	MMPC R5-2006-0502 for United Auburn Indian Community
Description:	MMP Complaint originally issued in the amount of $435,000 for non-discretionary mandatory minimum penalties for the effluent limitation violations, which have occurred at Thunder Valley Casino's wastewater treatment plant since June 2003. 3/30/07 Settlement agreement reduces liability to $150,000 and complete a SEP at a cost no less than $150,000. SEP - John D Vincent Vernal Pool Preserve Enhancement Plan.
Program:	NPDESWW
Latest Milestone Completion Date:	2011-12-31
# Of Programs1:	1
Total Assessment Amount:	300000
Initial Assessed Amount:	435000
Liability $ Amount:	150000
Project $ Amount:	0
Liability $ Paid:	150000
Project $ Completed:	0
Total $ Paid/Completed Amount:	300000

CA WDS:

Facility ID:	Sacramento River 31NP00001
Facility Type:	Municipal/Domestic - Facility that treats sewage or a mixture of predominantly sewage and other waste from districts, municipalities, communities, hospitals, schools, and publicly or privately owned systems (excluding individual subsurface leaching systems disposing of less than 1,000 gallons per day).
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CA0084697 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion:	0
Facility Telephone:	9166633720
Facility Contact:	JESSICA TAVARES
Agency Name:	UNITED AUBURN INDIAN COMMUNITY
Agency Address:	1200 ATHENS AVENUE
Agency City,St,Zip:	LINCOLN 95648
Agency Contact:	SCOTT GARAWITZ
Agency Telephone:	9166633720
Agency Type:	Government Agency Combination (City-County, County-State, etc.)
SIC Code:	7011
SIC Code 2:	Not reported
Primary Waste Type:	Not reported
Primary Waste:	Not reported
Waste Type2:	Not reported
Waste2:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	Not reported
POTW:	Not reported
Treat To Water:	Moderate Threat to Water Quality. A violation could have a major adverse impact on receiving biota, can cause aesthetic impairment to a significant human population, or render unusable a potential domestic

THUNDER VALLEY CASINO WWTP (Continued) **S106571359**

or municipal water supply. Awsthetic impairment would include nuisance from a waste treatment facility.

Complexity: Category B - Any facility having a physical, chemical, or biological waste treatment system (except for septic systems with subsurface disposal), or any Class II or III disposal site, or facilities without treatment systems that are complex, such as marinas with petroleum products, solid wastes, and sewage pump out facilities.

18
NNE
1/4-1/2
0.467 mi.
2466 ft.

TWELVE BRIDGES GOLF COURSE
TWELVE BRIDGES RD
LINCOLN, CA 95648

HIST CORTESE **S102439342**
LUST **N/A**

Relative:
Higher

Actual:
181 ft.

HIST CORTESE:
Region: CORTESE
Facility County Code: 31
Reg By: LTNKA
Reg Id: 310296

LUST REG 5:
Region: 5
Status: Case Closed
Case Number: 310296
Case Type: Soil only
Substance: GASOLINE
Staff Initials: PRS
Lead Agency: Regional
Program: LUST
MTBE Code: 9

19
SSW
1/2-1
0.643 mi.
3395 ft.

HEWLETT PACKARD
3625 CINCINNATI AVE
ROCKLIN, CA 95677

CA PLACER CO. MS **S105513027**
ENVIROSTOR **N/A**

Relative:
Lower

Actual:
135 ft.

PLACER CO. MS:
Facility ID: FA0003865
Facility Status: Closed
Program Element Code: 2303
Program: UNDERGROUND STORAGE TANKS - 3 TANKS
Record Num: PR0005807
District Code: 18

Facility ID: FA0006974
Facility Status: Closed
Program Element Code: 2105
Program: HAZMAT BUSINESS PLAN
Record Num: PR0008746
District Code: 18

ENVIROSTOR:
Facility ID: 31360001
Status: Refer: Other Agency

HEWLETT PACKARD (Continued) **S105513027**

Status Date:	11/16/1994
Site Code:	Not reported
Site Type:	Historical
Site Type Detailed:	* Historical
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Referred - Not Assigned
Division Branch:	Cleanup Sacramento
Assembly:	06
Senate:	04
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	38.82105
Longitude:	-121.3108
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	* UNSPECIFIED AQUEOUS SOLUTION * UNSPECIFIED SLUDGE WASTE
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CATO80014483
Alias Type:	EPA Identification Number
Alias Name:	31360001
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Discovery
Completed Date:	09/23/1981
Comments:	FACILITY IDENTIFIED CHAMBER OF COMMERCE DIRECTORY.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

F20 **FORMICA CORPORATION** **CA FID UST** **S101589719**
SSW **3500 CINCINNATI AVE** **SWEEPS UST** **N/A**
1/2-1 **ROCKLIN, CA 95677** **ENF**
0.649 mi. **HWP**
3429 ft. **Site 1 of 2 in cluster F**

Relative:
Lower

Actual:
136 ft.

CA FID UST:

Facility ID:	31000138
Regulated By:	UTNKA
Regulated ID:	00000846
Cortese Code:	Not reported
SIC Code:	Not reported

FORMICA CORPORATION (Continued) **S101589719**

Facility Phone: 9166453301
Mail To: Not reported
Mailing Address: P O BOX
Mailing Address 2: Not reported
Mailing City,St,Zip: ROCKLIN 95677
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

SWEEPS UST:
Status: Active
Comp Number: 846
Number: 9
Board Of Equalization: Not reported
Referral Date: 02-24-93
Action Date: 02-24-93
Created Date: 02-29-88
Owner Tank Id: 1
SWRCB Tank Id: 31-000-000846-000001
Tank Status: A
Capacity: 12000
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: DIESEL
Number Of Tanks: 5

Status: Active
Comp Number: 846
Number: 9
Board Of Equalization: Not reported
Referral Date: 02-24-93
Action Date: 02-24-93
Created Date: 02-29-88
Owner Tank Id: 2
SWRCB Tank Id: 31-000-000846-000002
Tank Status: A
Capacity: 12000
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: DIESEL
Number Of Tanks: Not reported

Status: Active
Comp Number: 846
Number: 9
Board Of Equalization: Not reported
Referral Date: 02-24-93
Action Date: 02-24-93
Created Date: 02-29-88
Owner Tank Id: 3
SWRCB Tank Id: 31-000-000846-000003

FORMICA CORPORATION (Continued) **S101589719**

Tank Status: A
Capacity: 12000
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: DIESEL
Number Of Tanks: Not reported

Status: Active
Comp Number: 846
Number: 9
Board Of Equalization: Not reported
Referral Date: 02-24-93
Action Date: 02-24-93
Created Date: 02-29-88
Owner Tank Id: 4
SWRCB Tank Id: 31-000-000846-000004
Tank Status: A
Capacity: 12000
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: DIESEL
Number Of Tanks: Not reported

Status: Active
Comp Number: 846
Number: 9
Board Of Equalization: Not reported
Referral Date: 02-24-93
Action Date: 02-24-93
Created Date: 02-29-88
Owner Tank Id: 5
SWRCB Tank Id: 31-000-000846-000005
Tank Status: A
Capacity: 50000
Active Date: 07-01-85
Tank Use: UNKNOWN
STG: P
Content: Not reported
Number Of Tanks: Not reported

ENF:
Region: 5S
Facility Id: 256968
Agency Name: Formica Corp
Place Type: Facility
Place Subtype: Not reported
Facility Type: Industrial
Agency Type: Privately-Owned Business
Of Agencies: 1
Place Latitude: 38.825257999999
Place Longitude: -121.311966
SIC Code 1: Not reported
SIC Desc 1: Not reported
SIC Code 2: Not reported
SIC Desc 2: Not reported

FORMICA CORPORATION (Continued) **S101589719**

SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	1
Threat To Water Quality:	1
Complexity:	B
Pretreatment:	N - POTW does not have EPA approved pretreatment prog.
Facility Waste Type:	Cooling water: Noncontact
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDESWW
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A312001001
Reg Measure Id:	303307
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2005-0055
Npdes# CA#:	CA0004057
Major-Minor:	Minor
Npdes Type:	OTH
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	05/21/2009
Effective Date:	04/29/2005
Expiration/Review Date:	04/29/2010
Termination Date:	04/23/2009
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	364731
Region:	5S
Order / Resolution Number:	Not reported
Enforcement Action Type:	Notice of Violation
Effective Date:	10/31/2008
Adoption/Issuance Date:	10/31/2008
Achieve Date:	Not reported
Termination Date:	10/31/2008

FORMICA CORPORATION (Continued) **S101589719**

ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV 10/31/2008 for Formica Corp, Sierra Plant
Description:	NOV issued because several progress reports required by the NPDES permit and CDO were not submitted. Formica closed the facility and permanently ceased discharging to surface water 6/5/07 and therefore the NPDES Permit and CDO are no longer necessary.
Program:	NPDESWW
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	5S
Facility Id:	256968
Agency Name:	Formica Corp
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	38.825257999999
Place Longitude:	-121.311966
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	1
Threat To Water Quality:	1
Complexity:	B
Pretreatment:	N - POTW does not have EPA approved pretreatment prog.
Facility Waste Type:	Cooling water: Noncontact
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDESWW
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A312001001

FORMICA CORPORATION (Continued) **S101589719**

Reg Measure Id:	303307
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2005-0055
Npdes# CA#:	CA0004057
Major-Minor:	Minor
Npdes Type:	OTH
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	05/21/2009
Effective Date:	04/29/2005
Expiration/Review Date:	04/29/2010
Termination Date:	04/23/2009
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	344799
Region:	5S
Order / Resolution Number:	R5-2008-0520
Enforcement Action Type:	Admin Civil Liability
Effective Date:	05/05/2008
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	05/28/2008
ACL Issuance Date:	05/05/2008
EPL Issuance Date:	Not reported
Status:	Historical
Title:	MMP Complaint R5-2008-0520 for Formica Corp, Sierra Plant
Description:	MMP Complaint issued in the amount of $6,000. The discharger committed 6 Group I serious, 20 non-serious (8 subject to MMP) effluent violations from 1/1/00 to 12/31/07. MMP amount $42,000 however discharger claims protection from MMPs for viols that accured before bankruptcy was entered on 6/10/04. Thus, discharger assessed MMPs for 2 violations.
Program:	NPDESWW
Latest Milestone Completion Date:	2008-05-28
# Of Programs1:	1
Total Assessment Amount:	6000
Initial Assessed Amount:	6000
Liability $ Amount:	6000
Project $ Amount:	0
Liability $ Paid:	6000
Project $ Completed:	0
Total $ Paid/Completed Amount:	6000
Region:	5S

FORMICA CORPORATION (Continued) **S101589719**

Facility Id:	256968
Agency Name:	Formica Corp
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	38.825257999999
Place Longitude:	-121.311966
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	1
Threat To Water Quality:	1
Complexity:	B
Pretreatment:	N - POTW does not have EPA approved pretreatment prog.
Facility Waste Type:	Cooling water: Noncontact
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDESWW
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	5A312001001
Reg Measure Id:	303307
Reg Measure Type:	NPDES Permits
Region:	5S
Order #:	R5-2005-0055
Npdes# CA#:	CA0004057
Major-Minor:	Minor
Npdes Type:	OTH
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	05/21/2009
Effective Date:	04/29/2005
Expiration/Review Date:	04/29/2010
Termination Date:	04/23/2009
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported

FORMICA CORPORATION (Continued) **S101589719**

WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	307990
Region:	5S
Order / Resolution Number:	R5-2005-0056
Enforcement Action Type:	Cease and Desist Order
Effective Date:	04/29/2005
Adoption/Issuance Date:	04/29/2005
Achieve Date:	Not reported
Termination Date:	04/24/2009
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	CDO R5-2005-0056 for FORMICA CORPORATION
Description:	Compliance with CDO exempts Discharger from mandatory minimum penalties for violations of tl chlorine residual Effluent Limitation through 8/1/05, aluminum, iron, total trihalomethanes, persistent chlorinated hydrocarbon pesticides, naphthalene, and manganese Effluent Limitations through 6/1/07, or through 4/29/10 if regulatory requirements or unexpected equipment issues require maintenance of the discharge beyond 6/1/07, in accordance with California Water Code (CWC) Section 13385 (j)(3).
Program:	NPDESWW
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

HWP:

EPA Id:	CAD000415455
Cleanup Status:	CLOSED
Latitude:	38.82147
Longitude:	-121.3111
Facility Type:	Historical - Non-Operating
Facility Size:	Not reported
Team:	Not reported
Supervisor:	Not reported
Site Code:	Not reported
Assembly District:	6
Senate District:	4
Public Information Officer:	Not reported

Activities:

EPA Id:	CAD000415455
Facility Type:	Historical - Non-Operating
Unit Names:	CONTAIN1
Event Description:	New Operating Permit - CALL-IN LETTER ISSUED
Actual Date:	06/14/1988

FORMICA CORPORATION (Continued) **S101589719**

EPA Id: CAD000415455
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1
Event Description: New Operating Permit - FINAL PERMIT (EXPIRES)
Actual Date: 09/12/1988

EPA Id: CAD000415455
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1
Event Description: New Operating Permit - FINAL PERMIT
Actual Date: 09/12/1983

EPA Id: CAD000415455
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1
Event Description: New Operating Permit - PERMIT TERMINATED - TERMINATION APPROVED
Actual Date: 09/23/1988

EPA Id: CAD000415455
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1
Event Description: New Operating Permit - PUBLIC COMMENT (BEGIN)
Actual Date: 05/01/1983

EPA Id: CAD000415455
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1
Event Description: New Operating Permit - APPLICATION PART B RECEIVED
Actual Date: 12/09/1982

EPA Id: CAD000415455
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1
Event Description: New Operating Permit - APPLICATION PART A RECEIVED
Actual Date: 11/19/1980

EPA Id: CAD000415455
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1
Event Description: New Operating Permit - PERMIT TERMINATED - TERMINATION RECEIVED
Actual Date: 07/20/1988

EPA Id: CAD000415455
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1
Event Description: New Operating Permit - TECHNICAL COMPLETE LETTER
Actual Date: 04/04/1983

Closure:
EPA Id: CAD000415455
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1
Event Description: Closure Final - RECEIVE CLOSURE CERTIFICATION
Actual Date: 09/21/1988

EPA Id: CAD000415455
Facility Type: Historical - Non-Operating

FORMICA CORPORATION (Continued) **S101589719**

Unit Names: CONTAIN1
Event Description: Closure Final - ISSUE CLOSURE VERIFICATION
Actual Date: 12/05/1988

Alias:
EPA Id: CAD000415455
Facility Type: Historical - Non-Operating
Alias Type: Envirostor ID Number
Alias: 31300003

F21 **FORMICA CORP** **RCRA-TSDF** **1000299404**
SSW **3500 CINCINNATI AVE** **CERC-NFRAP** **CAD000415455**
1/2-1 **SUNSET WHITNEY RANCH, CA 95677** **CORRACTS**
0.649 mi. **RCRA-SQG**
3429 ft. **Site 2 of 2 in cluster F** **HIST CORTESE**
LUST
Relative: **SLIC**
Lower **HIST UST**
CA PLACER CO. MS
Actual: **CHMIRS**
136 ft. **VCP**
EMI
ENVIROSTOR

RCRA-TSDF:
Date form received by agency: 09/01/1996
Facility name: FORMICA CORP
Facility address: 3500 CINCINNATI AVE
SUNSET WHITNEY RANCH, CA 95677
EPA ID: CAD000415455
Mailing address: PO BOX 519
SUNSET WHITNEY RANCH, CA 95677
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: Not reported
Contact telephone: Not reported
Contact email: Not reported
EPA Region: 09
Land type: Facility is not located on Indian land. Additional information is not known.
Classification: TSDF
Description: Handler is engaged in the treatment, storage or disposal of hazardous waste

Owner/Operator Summary:
Owner/operator name: FORMICA CORPORATION
Owner/operator address: P O BOX 519
CITY NOT REPORTED, CA 99999
Owner/operator country: Not reported
Owner/operator telephone: (916) 645-3301
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: FORMICA CORPORATION

FORMICA CORP (Continued) **1000299404**

Owner/operator address: P O BOX 519
SUNSET WHITNEY RANCH, CA 95677
Owner/operator country: Not reported
Owner/operator telephone: (916) 645-3301
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 09/01/1996
Facility name: FORMICA CORP
Classification: Small Quantity Generator

Date form received by agency: 02/25/1992
Facility name: FORMICA CORP
Classification: Large Quantity Generator

Date form received by agency: 08/01/1980
Facility name: FORMICA CORP
Classification: Large Quantity Generator

Corrective Action Summary:
Event date: 09/01/1989
Event: CA049PA

Event date: 04/23/1990
Event: CA Prioritization, Facility or area was assigned a low corrective action priority.

Event date: 04/23/1990
Event: CA049RE

Event date: 04/23/1990
Event: CA074LO

Facility Has Received Notices of Violations:
Regulation violated: Not reported

FORMICA CORP (Continued) **1000299404**

Area of violation: TSD - Financial Requirements
Date violation determined: 08/04/1988
Date achieved compliance: 12/05/1988
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/20/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 08/15/1988
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/04/1988
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 12/05/1988
Evaluation lead agency: State

Evaluation date: 10/06/1986
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/12/1985
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/29/1985
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

CERC-NFRAP:
Site ID: 0903277
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:
Contact Sequence ID: 13286556.00000
Person ID: 13003854.00000

Contact Sequence ID: 13292151.00000
Person ID: 13003858.00000

FORMICA CORP (Continued) **1000299404**

Contact Sequence ID: 13298009.00000
Person ID: 13004003.00000

CERCLIS-NFRAP Assessment History:
Action: DISCOVERY
Date Started: / /
Date Completed: 01/01/88
Priority Level: Not reported

Action: ARCHIVE SITE
Date Started: / /
Date Completed: 04/04/90
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: / /
Date Completed: 04/04/90
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

CORRACTS:

EPA ID: CAD000415455
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19900423
Action: CA075LO - CA Prioritization, Facility or area was assigned a low corrective action priority
NAICS Code(s): 325211 326113 326199
Plastics Material and Resin Manufacturing
Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

HIST CORTESE:
Region: CORTESE
Facility County Code: 31
Reg By: LTNKA
Reg Id: 310173

LUST:
Region: STATE
Global Id: T0606100141
Latitude: 38.82356
Longitude: -121.312245
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 04/15/1996
Lead Agency: PLACER COUNTY
Case Worker: Not reported
Local Agency: PLACER COUNTY
RB Case Number: 310173
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Soil

FORMICA CORP (Continued) **1000299404**

Potential Contaminants of Concern: Diesel
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0606100141
Contact Type: Regional Board Caseworker
Contact Name: PAUL SANDERS
Organization Name: CENTRAL VALLEY RWQCB (REGION 5S)
Address: 11020 SUN CENTER DRIVE #200
City: RANCHO CORDOVA
Email: psanders@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0606100141
Contact Type: Local Agency Caseworker
Contact Name: WEST BOURGAULT
Organization Name: PLACER COUNTY
Address: 3091 County Center Drive, Suite 180
City: AUBURN
Email: wbourgau@placer.ca.gov
Phone Number: Not reported

Status History:
Global Id: T0606100141
Status: Completed - Case Closed
Status Date: 04/15/1996

Global Id: T0606100141
Status: Open - Case Begin Date
Status Date: 12/20/1991

Regulatory Activities:
Global Id: T0606100141
Action Type: Other
Date: 01/01/1950
Action: Leak Reported

LUST REG 5:
Region: 5
Status: Case Closed
Case Number: 310173
Case Type: Soil only
Substance: DIESEL
Staff Initials: PRS
Lead Agency: Local
Program: LUST
MTBE Code: N/A

SLIC:
Region: STATE
Facility Status: **Completed - Case Closed**
Status Date: 09/22/2009
Global Id: SL0606103517

FORMICA CORP (Continued) **1000299404**

Lead Agency:	CENTRAL VALLEY RWQCB (REGION 5S)
Lead Agency Case Number:	Not reported
Latitude:	38.821923
Longitude:	-121.313576
Case Type:	Cleanup Program Site
Case Worker:	RPC
Local Agency:	Not reported
RB Case Number:	Not reported
File Location:	Not reported
Potential Media Affected:	Soil
Potential Contaminants of Concern:	* Volatile Organic Compounds (VOC), * Metals
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

HIST UST:

Region:	STATE
Facility ID:	00000000846
Facility Type:	Other
Other Type:	MANUFACTURING
Total Tanks:	0005
Contact Name:	EDWARD J. MORRA-PLANT MGR.
Telephone:	9166453301
Owner Name:	AMERICAN CYANAMID COMPANY
Owner Address:	ONE CYANAMID PLAZA
Owner City,St,Zip:	WAYNE, NJ 07470

Tank Num:	001
Container Num:	1
Year Installed:	1965
Tank Capacity:	00012000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Tank Construction:	0.250 inches
Leak Detection:	None

Tank Num:	002
Container Num:	2
Year Installed:	1965
Tank Capacity:	00012000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Tank Construction:	0.250 inches
Leak Detection:	None

Tank Num:	003
Container Num:	3
Year Installed:	Not reported
Tank Capacity:	00012000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Tank Construction:	0.250 inches
Leak Detection:	None

Tank Num:	004
Container Num:	4
Year Installed:	1973

FORMICA CORP (Continued) **1000299404**

Tank Capacity: 00012000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction: 0.250 inches
Leak Detection: None

Tank Num: 005
Container Num: 5
Year Installed: 1974
Tank Capacity: 00050000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Tank Construction: 0.375 inches
Leak Detection: None

PLACER CO. MS:
Facility ID: FA0001936
Facility Status: Closed
Program Element Code: 2302
Program: UNDERGROUND STORAGE TANKS - 2 TANKS
Record Num: PR0002714
District Code: 18

Facility ID: FA0001936
Facility Status: Closed
Program Element Code: 2106
Program: HAZMAT - ABOVE GROUND WITH WASTE
Record Num: PR0002715
District Code: 18

Facility ID: FA0001936
Facility Status: Closed
Program Element Code: 2275
Program: LARGE QUANTITY GENERATOR
Record Num: PR0006782
District Code: 18

CHMIRS:
OES Incident Number: 02-6488
OES notification: 11/27/2002
OES Date: Not reported
OES Time: Not reported
Incident Date: Not reported
Date Completed: Not reported
Property Use: Not reported
Agency Id Number: Not reported
Agency Incident Number: Not reported
Time Notified: Not reported
Time Completed: Not reported
Surrounding Area: Not reported
Estimated Temperature: Not reported
Property Management: Not reported
Special Studies 1: Not reported
Special Studies 2: Not reported
Special Studies 3: Not reported
Special Studies 4: Not reported

FORMICA CORP (Continued) **1000299404**

Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Unknown
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2002
Agency:	NRC
Incident Date:	10/25/200212:00:00 AM
Admin Agency:	Placer County Health Department
Amount:	Not reported
Contained:	Unknown
Site Type:	Other
E Date:	Not reported
Substance:	PCB
Quantity Released:	Not reported
BBLS:	0
Cups:	0
CUFT:	0
Gallons:	0.000000
Grams:	0
Pounds:	0
Liters:	0
Ounces:	0
Pints:	0
Quarts:	0
Sheen:	0
Tons:	0
Unknown:	2
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
Description:	HISTORIC SPILL: per NRC; The caller stated that PCB capacitors are missing.

FORMICA CORP (Continued) **1000299404**

VCP:

Facility ID:	60001397
Site Type:	Voluntary Cleanup
Site Type Detail:	Voluntary Cleanup
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	211.8
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP, PLACER COUNTY
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Dean Wright
Supervisor:	Steven Becker
Division Branch:	Cleanup San Joaquin
Site Code:	102111
Assembly:	06
Senate:	04
Special Programs Code:	Voluntary Cleanup Program
Status:	No Further Action
Status Date:	09/29/2011
Restricted Use:	NO
Funding:	Responsible Party
Lat/Long:	38.82503 / -121.3106
APN:	NONE SPECIFIED
Past Use:	ABOVE GROUND STORAGE TANKS, MANUFACTURING - OTHER
Potential COC:	30024, 30025, 3002502, 30193, 30195, 30295, 30451
Confirmed COC:	30024-NO,30025-NO,30295-NO,30193-NO,30195-NO,3002502-NO,30451-NO
Potential Description:	SOIL
Alias Name:	102111
Alias Type:	Project Code (Site Code)
Alias Name:	60001397
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Voluntary Cleanup Agreement
Completed Date:	06/07/2011
Comments:	Final VCA Amendment 1 completed.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Voluntary Cleanup Agreement
Completed Date:	05/19/2011
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	No Further Action Letter
Completed Date:	09/28/2011
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Characterization Report
Completed Date:	05/25/2011
Comments:	Not reported

FORMICA CORP (Continued) **1000299404**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Characterization Workplan
Completed Date:	06/08/2011
Comments:	Work plan approved.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Characterization Report
Completed Date:	09/28/2011
Comments:	Report accepted with no comments. No Further Action letter sent on 9/28/2011.

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

EMI:

Year:	1990
County Code:	31
Air Basin:	SV
Facility ID:	5
Air District Name:	PLA
SIC Code:	3083
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	283
Reactive Organic Gases Tons/Yr:	282
Carbon Monoxide Emissions Tons/Yr:	2
NOX - Oxides of Nitrogen Tons/Yr:	22
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	5
Part. Matter 10 Micrometers & Smllr Tons/Yr:	4

Year:	1993
County Code:	31
Air Basin:	SV
Facility ID:	5
Air District Name:	PLA
SIC Code:	3083
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	678
Reactive Organic Gases Tons/Yr:	678
Carbon Monoxide Emissions Tons/Yr:	5
NOX - Oxides of Nitrogen Tons/Yr:	41
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	7
Part. Matter 10 Micrometers & Smllr Tons/Yr:	7

FORMICA CORP (Continued) **1000299404**

Year:	1995
County Code:	31
Air Basin:	SV
Facility ID:	5
Air District Name:	PLA
SIC Code:	3083
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	678
Reactive Organic Gases Tons/Yr:	678
Carbon Monoxide Emissions Tons/Yr:	5
NOX - Oxides of Nitrogen Tons/Yr:	41
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	7
Part. Matter 10 Micrometers & Smllr Tons/Yr:	7

Year:	1996
County Code:	31
Air Basin:	SV
Facility ID:	5
Air District Name:	PLA
SIC Code:	3083
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	678
Reactive Organic Gases Tons/Yr:	678
Carbon Monoxide Emissions Tons/Yr:	5
NOX - Oxides of Nitrogen Tons/Yr:	41
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	7
Part. Matter 10 Micrometers & Smllr Tons/Yr:	7

Year:	1997
County Code:	31
Air Basin:	SV
Facility ID:	5
Air District Name:	PLA
SIC Code:	3083
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	678
Reactive Organic Gases Tons/Yr:	678
Carbon Monoxide Emissions Tons/Yr:	5
NOX - Oxides of Nitrogen Tons/Yr:	41
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	7
Part. Matter 10 Micrometers & Smllr Tons/Yr:	7

Year:	1998
County Code:	31
Air Basin:	SV
Facility ID:	5
Air District Name:	PLA
SIC Code:	3083

FORMICA CORP (Continued) **1000299404**

Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	678
Reactive Organic Gases Tons/Yr:	678
Carbon Monoxide Emissions Tons/Yr:	5
NOX - Oxides of Nitrogen Tons/Yr:	41
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	7
Part. Matter 10 Micrometers & Smllr Tons/Yr:	7

Year:	1999
County Code:	31
Air Basin:	SV
Facility ID:	5
Air District Name:	PLA
SIC Code:	3083
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	57
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	9
Part. Matter 10 Micrometers & Smllr Tons/Yr:	9

Year:	2000
County Code:	31
Air Basin:	SV
Facility ID:	5
Air District Name:	PLA
SIC Code:	3083
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	57
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	9
Part. Matter 10 Micrometers & Smllr Tons/Yr:	9

Year:	2001
County Code:	31
Air Basin:	SV
Facility ID:	5
Air District Name:	PLA
SIC Code:	3083
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	3

FORMICA CORP (Continued) **1000299404**

NOX - Oxides of Nitrogen Tons/Yr:	57
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	9
Part. Matter 10 Micrometers & Smllr Tons/Yr:	9
Year:	2002
County Code:	31
Air Basin:	SV
Facility ID:	5
Air District Name:	PLA
SIC Code:	3083
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	61
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	9
Part. Matter 10 Micrometers & Smllr Tons/Yr:	9
Year:	2003
County Code:	31
Air Basin:	SV
Facility ID:	5
Air District Name:	PLA
SIC Code:	3083
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	57
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	9
Part. Matter 10 Micrometers & Smllr Tons/Yr:	7
Year:	2004
County Code:	31
Air Basin:	SV
Facility ID:	5
Air District Name:	PLA
SIC Code:	3083
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.6592227
Reactive Organic Gases Tons/Yr:	1.3435433
Carbon Monoxide Emissions Tons/Yr:	2.326677
NOX - Oxides of Nitrogen Tons/Yr:	53.7551807
SOX - Oxides of Sulphur Tons/Yr:	0.0649306
Particulate Matter Tons/Yr:	8.7758348
Part. Matter 10 Micrometers & Smllr Tons/Yr:	7.1002614
Year:	2005

FORMICA CORP (Continued) **1000299404**

County Code:	31
Air Basin:	SV
Facility ID:	5
Air District Name:	PLA
SIC Code:	3083
Air District Name:	PLACER COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.3112227
Reactive Organic Gases Tons/Yr:	.9207164
Carbon Monoxide Emissions Tons/Yr:	2.5710207
NOX - Oxides of Nitrogen Tons/Yr:	66.4161162
SOX - Oxides of Sulphur Tons/Yr:	.0761102
Particulate Matter Tons/Yr:	9.771
Part. Matter 10 Micrometers & Smllr Tons/Yr:	8.2744419

ENVIROSTOR:

Facility ID:	31300003
Status:	Refer: RWQCB
Status Date:	09/15/1989
Site Code:	Not reported
Site Type:	Evaluation
Site Type Detailed:	Evaluation
Acres:	1
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Referred - Not Assigned
Division Branch:	Cleanup Sacramento
Assembly:	06
Senate:	04
Special Program:	* CERC2
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	38.82190
Longitude:	-121.3133
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	* UNSPECIFIED SLUDGE WASTE
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CAD000415455
Alias Type:	EPA Identification Number
Alias Name:	SL0606103517
Alias Type:	GeoTracker Global ID
Alias Name:	T0606100141
Alias Type:	GeoTracker Global ID
Alias Name:	31300003
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Assessment Report
Completed Date:	09/15/1989

FORMICA CORP (Continued) **1000299404**

Comments: Preliminary Assessment submitted to EPA - NFA for EPA. Referral to RWQCB recommended.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 02/05/1987
Comments: Site Screening Done: Abandoned Site Program (ASP) concerns need to be addressed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 09/18/1981
Comments: Facility Identified: Chamber of Commerce Directory. Questionnaire sent.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Facility ID: 60001397
Status: No Further Action
Status Date: 09/29/2011
Site Code: 102111
Site Type: Voluntary Cleanup
Site Type Detailed: Voluntary Cleanup
Acres: 211.8
NPL: NO
Regulatory Agencies: SMBRP, PLACER COUNTY
Lead Agency: SMBRP
Program Manager: Dean Wright
Supervisor: Steven Becker
Division Branch: Cleanup San Joaquin
Assembly: 06
Senate: 04
Special Program: Voluntary Cleanup Program
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 38.82503
Longitude: -121.3106
APN: NONE SPECIFIED
Past Use: ABOVE GROUND STORAGE TANKS, MANUFACTURING - OTHER
Potential COC: TPH-diesel TPH-gas TPH-MOTOR OIL 1,2-Dichloroethane (EDC 1,2-Dichloroethylene (cis Formaldehyde Phenol
Confirmed COC: 30024-NO 30025-NO 30295-NO 30193-NO 30195-NO 3002502-NO 30451-NO
Potential Description: SOIL
Alias Name: 102111
Alias Type: Project Code (Site Code)
Alias Name: 60001397

FORMICA CORP (Continued) **1000299404**

Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 06/07/2011
Comments: Final VCA Amendment 1 completed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 05/19/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: No Further Action Letter
Completed Date: 09/28/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 05/25/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Workplan
Completed Date: 06/08/2011
Comments: Work plan approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 09/28/2011
Comments: Report accepted with no comments. No Further Action letter sent on 9/28/2011.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Facility ID: 80001300
Status: No Further Action
Status Date: 09/29/2011
Site Code: Not reported
Site Type: Corrective Action
Site Type Detailed: Corrective Action
Acres: 0
NPL: NO

FORMICA CORP (Continued) **1000299404**

Regulatory Agencies: SMBRP
Lead Agency: WM
Program Manager: Not reported
Supervisor: * Unknown
Division Branch: Cleanup Sacramento
Assembly: 06
Senate: 04
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 38.82147
Longitude: -121.3111
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CAD000415455
Alias Type: EPA Identification Number
Alias Name: 31300003
Alias Type: Envirostor ID Number
Alias Name: 80001300
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 09/01/1989
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 04/23/1990
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 01/20/2010
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

22
South
1/2-1
0.733 mi.
3872 ft.

Relative:
Higher

Actual:
151 ft.

CBS ROSEVILLE INDUSTRIAL IMPROVEMENT
8250 INDUSTRIAL AVE
ROSEVILLE, CA 95678

NPDES **S103963687**
HIST CORTESE **N/A**
CHMIRS
DEED
VCP
ENVIROSTOR

NPDES:

Npdes Number:	CAS000002
Facility Status:	Terminated
Agency Id:	0
Region:	5S
Regulatory Measure Id:	329759
Order No:	2009-0009-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	5S31C348523
Program Type:	Construction
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	08/20/2007
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	10/25/2012
Discharge Name:	COASTAL PARTNERS LLC KMS CP LP
Discharge Address:	3001 DOUGLAS BLVD
Discharge City:	ROSEVILLE
Discharge State:	California
Discharge Zip:	95661

HIST CORTESE:

Region:	CORTESE
Facility County Code:	31
Reg By:	CALSI
Reg Id:	31320001

CHMIRS:

OES Incident Number:	'08-7605
OES notification:	10/21/2008
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported

CBS ROSEVILLE INDUSTRIAL IMPROVEMENT (Continued) **S103963687**

Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Road
Cleanup By:	Unknown
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Cu.Ft.
Other:	Not reported
Date/Time:	1209
Year:	2008
Agency:	Roseville Fire Dept
Incident Date:	10/21/2008
Admin Agency:	Roseville Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Natural Gas
Quantity Released:	100,000
BBLS:	Not reported
Cups:	Not reported
CUFT:	Not reported
Gallons:	Not reported
Grams:	Not reported
Pounds:	Not reported
Liters:	Not reported
Ounces:	Not reported
Pints:	Not reported
Quarts:	Not reported
Sheen:	Not reported
Tons:	Not reported
Unknown:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
Description:	Caller states a backhoe struck a four inch line and put an inch and a half hole in the line. Caller states substance released for approximately one hour. Caller states PG&E repaired the line. Caller states there was a shelter in-place while the release occurred. . Caller states the shelter in-place was lifted at 1310 Hrs when the release was secured.

CBS ROSEVILLE INDUSTRIAL IMPROVEMENT (Continued) **S103963687**

DEED:

Area:	PROJECT WIDE
Sub Area:	Not reported
Site Type:	VOLUNTARY CLEANUP
Status:	CERTIFIED O&M - LAND USE RESTRICTIONS ONLY
Agency:	Not reported
Covenant Uploaded:	Not reported
Deed Date(s):	10/17/2000
EDR Link ID:	31320001

VCP:

Facility ID:	31320001
Site Type:	Voluntary Cleanup
Site Type Detail:	Voluntary Cleanup
Site Mgmt. Req.:	DAY, HOS, LUC, EX, NOWN, HS, RES
Acres:	5.5
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	MBR
Lead Agency Description:	Not reported
Project Manager:	Steven Ross
Supervisor:	William Beckman
Division Branch:	Cleanup Sacramento
Site Code:	100894
Assembly:	06
Senate:	04
Special Programs Code:	Voluntary Cleanup Program
Status:	Certified O&M - Land Use Restrictions Only
Status Date:	11/30/2000
Restricted Use:	YES
Funding:	Responsible Party
Lat/Long:	38.78389 / -121.3018
APN:	017-121-007-000, 360070001000, 360070009000, 360070010000, 360070011000, 360070012000, 360070013000, 360070014000, 360070015000, 360070016000, 360070017000, 360070018000, 360070019000, 360070020000, 360070021000, 360070022000, 360070023000
Past Use:	MANUFACTURING - CERAMICS
Potential COC:	30013
Confirmed COC:	30013
Potential Description:	SOIL
Alias Name:	017-121-007-000
Alias Type:	APN
Alias Name:	360070001000
Alias Type:	APN
Alias Name:	360070009000
Alias Type:	APN
Alias Name:	360070010000
Alias Type:	APN
Alias Name:	360070011000
Alias Type:	APN
Alias Name:	360070012000
Alias Type:	APN
Alias Name:	360070013000
Alias Type:	APN
Alias Name:	360070014000
Alias Type:	APN

CBS ROSEVILLE INDUSTRIAL IMPROVEMENT (Continued) **S103963687**

Alias Name:	360070015000
Alias Type:	APN
Alias Name:	360070016000
Alias Type:	APN
Alias Name:	360070017000
Alias Type:	APN
Alias Name:	360070018000
Alias Type:	APN
Alias Name:	360070019000
Alias Type:	APN
Alias Name:	360070020000
Alias Type:	APN
Alias Name:	360070021000
Alias Type:	APN
Alias Name:	360070022000
Alias Type:	APN
Alias Name:	360070023000
Alias Type:	APN
Alias Name:	CAD980637425
Alias Type:	EPA Identification Number
Alias Name:	110008264207
Alias Type:	EPA (FRS #)
Alias Name:	100894
Alias Type:	Project Code (Site Code)
Alias Name:	31320001
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Correspondence
Completed Date:	11/30/2000
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Land Use Restriction - Site Inspection/Visit
Completed Date:	03/17/2009
Comments:	A site visit was performed to review whether conditions have changed on the 2+ acre restricted parcel of the property subject to a land use covenant. Current work on this parcel performed under an approved work plan.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	11/30/2000
Comments:	A Preliminary Endangerment Assessment was completed on 11/30/00. No further action is recommended for the site.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	06/30/1987
Comments:	Site Screening done. Preliminary Assessment done under RCRA.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported

CBS ROSEVILLE INDUSTRIAL IMPROVEMENT (Continued) **S103963687**

Completed Document Type: Soils Management Plan
Completed Date: 04/09/2008
Comments: The final Soil Management and Health & Safety plans are approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement Termination Notification
Completed Date: 07/24/2013
Comments: VCA termination for convenience notice effective in 30 days.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 10/17/2000
Comments: A Covenant to Restrict Use of Property was recorded on October 17, 2000 with the Placer County Recorder. The property restricted is 2.652 acres and represents a portion of the site. Lead contaminated soils remain in the vicinity of the pond areas. The deed restriction identifies restrictions for the owner of the land regarding uses of the property.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Consultation
Completed Date: 12/31/1997
Comments: Comments were sent to Proponent describing deficiencies in the site investigation and remediation fulfilling DTSC's obligation under the VCA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 08/21/2007
Comments: A Voluntary Cleanup Agreement was sent for the project proponent to prepare a soils management plan and health and safety plan. Upon approval, the project proponent will implement appropriate measures to assure proper work practices on deed restricted property.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 12/22/2010
Comments: LUC inspection completed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 02/16/1999
Comments: A Chapter 6.5 agreement was completed for continuing work with the PEA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 07/17/1997
Comments: A Voluntary Cleanup Agreement was signed with a private party to review existing information regarding onsite investigation and

CBS ROSEVILLE INDUSTRIAL IMPROVEMENT (Continued) **S103963687**

remediation of contamination.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 10/12/1983
Comments: Facility identified from ERRIS

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 11/10/1981
Comments: Facility drive-by. Two inactive ponds observed. One active pond observed. Sludge ponds suspected of lead and other heavy metals from sample collected.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 03/28/2008
Comments: No observed activities contrary to the conditions set forth in the land use Covenant.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ENVIROSTOR:
Facility ID: 31320001
Status: Certified O&M - Land Use Restrictions Only
Status Date: 11/30/2000
Site Code: 100894
Site Type: Voluntary Cleanup
Site Type Detailed: Voluntary Cleanup
Acres: 5.5
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: MBR
Program Manager: Steven Ross
Supervisor: William Beckman
Division Branch: Cleanup Sacramento
Assembly: 06
Senate: 04
Special Program: Voluntary Cleanup Program
Restricted Use: YES
Site Mgmt Req: DAY, HOS, LUC, EX, NOWN, HS, RES
Funding: Responsible Party
Latitude: 38.78389
Longitude: -121.3018
APN: 017-121-007-000, 360070001000, 360070009000, 360070010000, 360070011000, 360070012000, 360070013000, 360070014000, 360070015000,

CBS ROSEVILLE INDUSTRIAL IMPROVEMENT (Continued) **S103963687**

360070016000, 360070017000, 360070018000, 360070019000, 360070020000, 360070021000, 360070022000, 360070023000
Past Use: MANUFACTURING - CERAMICS
Potential COC: Lead
Confirmed COC: Lead
Potential Description: SOIL
Alias Name: 017-121-007-000
Alias Type: APN
Alias Name: 360070001000
Alias Type: APN
Alias Name: 360070009000
Alias Type: APN
Alias Name: 360070010000
Alias Type: APN
Alias Name: 360070011000
Alias Type: APN
Alias Name: 360070012000
Alias Type: APN
Alias Name: 360070013000
Alias Type: APN
Alias Name: 360070014000
Alias Type: APN
Alias Name: 360070015000
Alias Type: APN
Alias Name: 360070016000
Alias Type: APN
Alias Name: 360070017000
Alias Type: APN
Alias Name: 360070018000
Alias Type: APN
Alias Name: 360070019000
Alias Type: APN
Alias Name: 360070020000
Alias Type: APN
Alias Name: 360070021000
Alias Type: APN
Alias Name: 360070022000
Alias Type: APN
Alias Name: 360070023000
Alias Type: APN
Alias Name: CAD980637425
Alias Type: EPA Identification Number
Alias Name: 110008264207
Alias Type: EPA (FRS #)
Alias Name: 100894
Alias Type: Project Code (Site Code)
Alias Name: 31320001
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 11/30/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

CBS ROSEVILLE INDUSTRIAL IMPROVEMENT (Continued) **S103963687**

Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 03/17/2009
Comments: A site visit was performed to review whether conditions have changed on the 2+ acre restricted parcel of the property subject to a land use covenant. Current work on this parcel performed under an approved work plan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 11/30/2000
Comments: A Preliminary Endangerment Assessment was completed on 11/30/00. No further action is recommended for the site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 06/30/1987
Comments: Site Screening done. Preliminary Assessment done under RCRA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Soils Management Plan
Completed Date: 04/09/2008
Comments: The final Soil Management and Health & Safety plans are approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement Termination Notification
Completed Date: 07/24/2013
Comments: VCA termination for convenience notice effective in 30 days.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 10/17/2000
Comments: A Covenant to Restrict Use of Property was recorded on October 17, 2000 with the Placer County Recorder. The property restricted is 2.652 acres and represents a portion of the site. Lead contaminated soils remain in the vicinity of the pond areas. The deed restriction identifies restrictions for the owner of the land regarding uses of the property.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Consultation
Completed Date: 12/31/1997
Comments: Comments were sent to Proponent describing deficiencies in the site investigation and remediation fulfilling DTSC's obligation under the VCA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 08/21/2007
Comments: A Voluntary Cleanup Agreement was sent for the project proponent to prepare a soils management plan and health and safety plan. Upon

CBS ROSEVILLE INDUSTRIAL IMPROVEMENT (Continued) **S103963687**

approval, the project proponent will implement appropriate measures to assure proper work practices on deed restricted property.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 12/22/2010
Comments: LUC inspection completed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 02/16/1999
Comments: A Chapter 6.5 agreement was completed for continuing work with the PEA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 07/17/1997
Comments: A Voluntary Cleanup Agreement was signed with a private party to review existing information regarding onsite investigation and remediation of contamination.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 10/12/1983
Comments: Facility identified from ERRIS

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 11/10/1981
Comments: Facility drive-by. Two inactive ponds observed. One active pond observed. Sludge ponds suspected of lead and other heavy metals from sample collected.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 03/28/2008
Comments: No observed activities contrary to the conditions set forth in the land use Covenant.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

23
SSW
1/2-1
0.929 mi.
4903 ft.

Relative:
Lower

Actual:
132 ft.

FOOTHILLS SUBSTATION
8000 FOOTHILLS BLVD
ROSEVILLE, CA

Database(s): RCRA-SQG, FINDS, NPDES, CA FID UST, SLIC, HIST UST, AST, SWEEPS UST, CHMIRS, ENVIROSTOR, WDS

EDR ID Number: 1000281840
EPA ID Number: CAT080014483

RCRA-SQG:

Date form received by agency:	03/04/1999
Facility name:	HEWLETT-PACKARD ROSEVILLE DIVISION
Site name:	HEWLETT-PACKARD/ROSEVILLE SITE
Facility address:	8000 FOOTHILLS BLVD. ROSEVILLE, CA 957475609
EPA ID:	CAT080014483
Contact:	RICHARD BOULDT
Contact address:	Not reported Not reported
Contact country:	Not reported
Contact telephone:	(916) 785-4233
Contact email:	Not reported
EPA Region:	09
Land type:	Facility is not located on Indian land. Additional information is not known.
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Historical Generators:

Date form received by agency:	01/29/1998
Facility name:	HEWLETT-PACKARD ROSEVILLE DIVISION
Classification:	Small Quantity Generator

Date form received by agency:	01/29/1998
Facility name:	HEWLETT-PACKARD ROSEVILLE DIVISION

FOOTHILLS SUBSTATION (Continued) **1000281840**

Classification: Large Quantity Generator

Date form received by agency: 09/01/1996
Facility name: HEWLETT-PACKARD ROSEVILLE DIVISION
Classification: Large Quantity Generator

Date form received by agency: 02/22/1996
Facility name: HEWLETT-PACKARD ROSEVILLE DIVISION
Site name: HEWLETT-PACKARD COMPANY
Classification: Large Quantity Generator

Date form received by agency: 03/18/1994
Facility name: HEWLETT-PACKARD ROSEVILLE DIVISION
Site name: HEWLETT PACKARD ROSEVILLE SITE
Classification: Large Quantity Generator

Date form received by agency: 02/26/1992
Facility name: HEWLETT-PACKARD ROSEVILLE DIVISION
Site name: HEWLETT-PACKARD/ROSEVILLE DIV
Classification: Large Quantity Generator

Date form received by agency: 11/21/1980
Facility name: HEWLETT-PACKARD ROSEVILLE DIVISION
Classification: Large Quantity Generator

Date form received by agency: 11/21/1980
Facility name: HEWLETT-PACKARD ROSEVILLE DIVISION
Classification: Large Quantity Generator

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 09/10/1986
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/06/1986
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 10/05/1984
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

FINDS:

Registry ID: 110055738135

Environmental Interest/Information System

FOOTHILLS SUBSTATION (Continued) **1000281840**

NPDES:

Npdes Number:	CAS000002
Facility Status:	Terminated
Agency Id:	0
Region:	5S
Regulatory Measure Id:	422266
Order No:	2009-0009-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	5S31C362788
Program Type:	Construction
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	01/11/2012
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	05/09/2012
Discharge Name:	Hewlett Packard
Discharge Address:	8000 Foothills Blvd
Discharge City:	Roseville
Discharge State:	California
Discharge Zip:	95747

Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0
Region:	5S
Regulatory Measure Id:	199186
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	5S31I003707
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	04/06/1992
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Hewlett Packard - Roseville
Discharge Address:	8000 Foothills Blvd
Discharge City:	Roseville
Discharge State:	California
Discharge Zip:	95747

CA FID UST:

Facility ID:	31000009
Regulated By:	UTNKA
Regulated ID:	00016490
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	9167868000
Mail To:	Not reported
Mailing Address:	8000 FOOTHILLS BLVD
Mailing Address 2:	Not reported
Mailing City,St,Zip:	ROSEVILLE 95678
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported

FOOTHILLS SUBSTATION (Continued) **1000281840**

EPA ID: Not reported
Comments: Not reported
Status: Active

SLIC:
Region: STATE
Facility Status: **Completed - Case Closed**
Status Date: 08/18/2008
Global Id: SL0606154383
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5S)
Lead Agency Case Number: Not reported
Latitude: 38.785173
Longitude: -121.313775
Case Type: Cleanup Program Site
Case Worker: AST
Local Agency: Not reported
RB Case Number: Not reported
File Location: Regional Board
Potential Media Affected: Soil
Potential Contaminants of Concern: Polynuclear aromatic hydrocarbons (PAHs)
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

HIST UST:
Region: STATE
Facility ID: 00000016490
Facility Type: Other
Other Type: MANUFACTUR
Total Tanks: 0003
Contact Name: M.A.NELSON
Telephone: 9167868000
Owner Name: HEWLETT PACKARD
Owner Address: 3000 HANOVER STREET
Owner City,St,Zip: PALO ALTO, CA 94304

Tank Num: 001
Container Num: R3-D
Year Installed: 1981
Tank Capacity: 00012000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction: Not reported
Leak Detection: Not reported

Tank Num: 002
Container Num: R3-G
Year Installed: 1981
Tank Capacity: 00008000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: Not reported
Leak Detection: Not reported

Tank Num: 003
Container Num: RB-G

FOOTHILLS SUBSTATION (Continued) **1000281840**

Year Installed: 1980
Tank Capacity: 00001000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: Not reported
Leak Detection: None

AST:
Owner: HEWLETT PACKARD
Total Gallons: 5,760
Certified Unified Program Agencies: Roseville

SWEEPS UST:
Status: Active
Comp Number: 16490
Number: 9
Board Of Equalization: 44-017392
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 02-29-88
Owner Tank Id: R3-D
SWRCB Tank Id: 31-015-016490-000001
Tank Status: A
Capacity: 12000
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: DIESEL
Number Of Tanks: 3

Status: Active
Comp Number: 16490
Number: 9
Board Of Equalization: 44-017392
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 02-29-88
Owner Tank Id: R3-G
SWRCB Tank Id: 31-015-016490-000002
Tank Status: A
Capacity: 8000
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Active
Comp Number: 16490
Number: 9
Board Of Equalization: 44-017392
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 02-29-88
Owner Tank Id: RB-G
SWRCB Tank Id: 31-015-016490-000003

FOOTHILLS SUBSTATION (Continued) **1000281840**

Tank Status:	A
Capacity:	1000
Active Date:	07-01-85
Tank Use:	M.V. FUEL
STG:	P
Content:	REG UNLEADED
Number Of Tanks:	Not reported

CHMIRS:

OES Incident Number:	98-0920	
OES notification:	02/22/1998	
OES Date:	Not reported	
OES Time:	Not reported	
Incident Date:	Not reported	
Date Completed:	**Not reported**	
Property Use:	Not reported	
Agency Id Number:	Not reported	
Agency Incident Number:	Not reported	
Time Notified:	Not reported	
Time Completed:	Not reported	
Surrounding Area:	Not reported	
Estimated Temperature:	Not reported	
Property Management:	Not reported	
Special Studies 1:	Not reported	
Special Studies 2:	Not reported	
Special Studies 3:	Not reported	
Special Studies 4:	Not reported	
Special Studies 5:	Not reported	
Special Studies 6:	Not reported	
More Than Two Substances Involved?:		Not reported
Resp Agncy Personel # Of Decontaminated:		Not reported
Responding Agency Personel # Of Injuries:		Not reported
Responding Agency Personel # Of Fatalities:		Not reported
Others Number Of Decontaminated:		Not reported
Others Number Of Injuries:		Not reported
Others Number Of Fatalities:		Not reported
Vehicle Make/year:	Not reported	
Vehicle License Number:	Not reported	
Vehicle State:	Not reported	
Vehicle Id Number:	Not reported	
CA/DOT/PUC/ICC Number:	Not reported	
Company Name:	Not reported	
Reporting Officer Name/ID:	Not reported	
Report Date:	Not reported	
Comments:	Not reported	
Facility Telephone:	Not reported	
Waterway Involved:	No	
Waterway:	Not reported	
Spill Site:	Not reported	
Cleanup By:	Unknown	
Containment:	Not reported	
What Happened:	Not reported	
Type:	Not reported	
Measure:	Not reported	
Other:	Not reported	
Date/Time:	Not reported	
Year:	1998	

FOOTHILLS SUBSTATION (Continued) **1000281840**

Agency:	Roseville Fire
Incident Date:	2/22/199812:00:00 AM
Admin Agency:	Roseville Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Industrial Plant
E Date:	Not reported
Substance:	Unknown
Quantity Released:	Not reported
BBLS:	0
Cups:	0
CUFT:	0
Gallons:	0.000000
Grams:	0
Pounds:	0
Liters:	0
Ounces:	0
Pints:	0
Quarts:	0
Sheen:	0
Tons:	0
Unknown:	0
Evacuations:	0
Number of Injuries:	18
Number of Fatalities:	0
Description:	Large cases of computer chassis opened, releasing white powder substance which caused burning eyes, rash on arms, face neck and back and itching in same areas
OES Incident Number:	05-5684
OES notification:	09/30/2005
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported

FOOTHILLS SUBSTATION (Continued) **1000281840**

Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Unknown
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2005
Agency:	Roseville Fire
Incident Date:	9/30/200512:00:00 AM
Admin Agency:	Roseville Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Other
E Date:	Not reported
Substance:	Freon
Quantity Released:	Not reported
BBLS:	0
Cups:	0
CUFT:	0
Gallons:	0.000000
Grams:	0
Pounds:	0
Liters:	0
Ounces:	0
Pints:	0
Quarts:	0
Sheen:	0
Tons:	0
Unknown:	0
Evacuations:	50
Number of Injuries:	1
Number of Fatalities:	0
Description:	A maintenance worker was working on an air conditioning system and was overcome by a vapor release. Release has been stopped and subject is being decontaminated for transport to hospital.

ENVIROSTOR:

Facility ID:	71003536
Status:	Inactive - Needs Evaluation
Status Date:	Not reported
Site Code:	Not reported
Site Type:	Tiered Permit
Site Type Detailed:	Tiered Permit
Acres:	Not reported

FOOTHILLS SUBSTATION (Continued) **1000281840**

NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: Not reported
Division Branch: Cleanup Sacramento
Assembly: 06
Senate: 04
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 38.78800
Longitude: -121.3213
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CAT080014483
Alias Type: EPA Identification Number
Alias Name: 110000899029
Alias Type: EPA (FRS #)
Alias Name: 71003536
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

CA WDS:
Facility ID: 5S 31I003707
Facility Type: Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number: CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion: 0
Facility Telephone: 9167854233

FOOTHILLS SUBSTATION (Continued) **1000281840**

Facility Contact:	RICHARD BOULDT
Agency Name:	HEWLETT PACKARD CO
Agency Address:	8000 Foothills Blvd
Agency City,St,Zip:	Roseville 957475200
Agency Contact:	RICHARD BOULDT
Agency Telephone:	9167854233
Agency Type:	Private
SIC Code:	0
SIC Code 2:	Not reported
Primary Waste Type:	Not reported
Primary Waste:	Not reported
Waste Type2:	Not reported
Waste2:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	Not reported
POTW:	Not reported
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity:	Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

Count: 20 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
LINCOLN	1004677533	ENERGY 2001	3901 ATHENS AVE		FINDS,RCRA-SQG
LINCOLN	1006932059	VALLEY VIEW MINE	2020 WALAGA SPRINGS DRIVE		CERCLIS
LINCOLN	1007211144	THUNDER MOUNTAIN TRAIN WRECK SITE	NEAR TO INDUSTRIAL AVE		CERCLIS
LINCOLN	1014950721	SAFEWAY STORE NO 1761	405 S HWY 65	95648	RCRA-NLR
LINCOLN	1015740286	CVS PHARMACY NO 9535	63 LINCOLN BLVD	95648	RCRA-LQG
LINCOLN	A100184377	KIEWIT PACIFIC	SOUTH OF 12 BRIDGES DR	95648	AST
LINCOLN	A100338389	LINCOLN SAWMILL AND PLANER	1445 N HWY 65	95648	AST
	A100339830	CAL TRANS WHITMORE	4 MILES EAST OF BAXTER		AST
LINCOLN	A100339904	CAMP FAR WEST LAKE	9300 MC COURTNEY	95648	AST
LINCOLN	A100339977	A & A CONCRETE	2930 LEVOS CT	95648	AST
	M300002441	GLADDING MCBEAN & CO	LINCOLN PIT		MINES
	M300003127	RMC PACIFIC MATERIALS	PATTERSON SAND & GRAVEL - SHER		MINES
LINCOLN	S100833486	BOHEMIA, INC.	HIGHWAY 65	95648	BEP
LINCOLN	S100925127	GLADDING MCBEAN	PLACER COUNTY	95648	TOXIC
LINCOLN CA	S103442075	TRMT OF PETROLEUM CONTAM. SOIL	HWY 65	95648	WMUDS/SWAT
LINCOLN CA	S104384457	ALPHA EXPLOSIVES	E. OF HWY 65, N. OF WISE RD	95648	WMUDS/SWAT
LINCOLN	S109518376	NICHOLAS TURKEY BREEDING FARM CLOS	UNIT NEWCASTLE HWY 1895	95648	MS PLACER
ROCKLIN	S109518507	FIBREWOOD CORPORATION	SUNSET & HWY BLVD 65	95765	MS PLACER
LINCOLN	S113150003	LOWE'S OF LINCOLN #2499	535 S HIGHWAY 65	95648	MS PLACER,HAZNET
LINCOLN	U001613217	LINCOLN SMALL LOG SAWMILL	HIGHWAY 65	95648	HIST UST,SWEEPS UST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 01/28/2014
Number of Days to Update: 78

Source: EPA
Telephone: N/A
Last EDR Contact: 07/08/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 01/28/2014
Number of Days to Update: 78

Source: EPA
Telephone: N/A
Last EDR Contact: 07/08/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 01/28/2014
Number of Days to Update: 78

Source: EPA
Telephone: N/A
Last EDR Contact: 07/08/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/29/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 05/31/2013
Date Data Arrived at EDR: 07/08/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 151

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/08/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/29/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/11/2014
Date Data Arrived at EDR: 03/13/2014
Date Made Active in Reports: 04/09/2014
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 07/02/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/11/2014
Date Data Arrived at EDR: 03/13/2014
Date Made Active in Reports: 04/09/2014
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/02/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/11/2014
Date Data Arrived at EDR: 03/13/2014
Date Made Active in Reports: 04/09/2014
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/02/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/11/2014
Date Data Arrived at EDR: 03/13/2014
Date Made Active in Reports: 04/09/2014
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/02/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/11/2014
Date Data Arrived at EDR: 03/13/2014
Date Made Active in Reports: 04/09/2014
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/02/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/19/2014
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 07/15/2014
Number of Days to Update: 116

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/05/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/19/2014
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 07/15/2014
Number of Days to Update: 116

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/05/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2014
Date Data Arrived at EDR: 05/30/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 18

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/19/2014
Next Scheduled EDR Contact: 09/01/2014
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/30/2013
Date Data Arrived at EDR: 10/01/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 66

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 07/03/2014
Next Scheduled EDR Contact: 07/14/2014
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 06/05/2014
Date Data Arrived at EDR: 06/06/2014
Date Made Active in Reports: 07/09/2014
Number of Days to Update: 33

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/06/2014
Next Scheduled EDR Contact: 08/18/2014
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 06/05/2014
Date Data Arrived at EDR: 06/06/2014
Date Made Active in Reports: 07/09/2014
Number of Days to Update: 33

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/06/2014
Next Scheduled EDR Contact: 08/18/2014
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/19/2014
Date Data Arrived at EDR: 05/20/2014
Date Made Active in Reports: 05/22/2014
Number of Days to Update: 2

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/20/2014
Next Scheduled EDR Contact: 09/01/2014
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 06/16/2014
Date Data Arrived at EDR: 06/17/2014
Date Made Active in Reports: 07/10/2014
Number of Days to Update: 23

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/17/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 06/16/2014
Date Data Arrived at EDR: 06/17/2014
Date Made Active in Reports: 07/11/2014
Number of Days to Update: 24

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/17/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/14/2014
Date Data Arrived at EDR: 05/15/2014
Date Made Active in Reports: 07/15/2014
Number of Days to Update: 61

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 02/21/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/24/2014
Date Data Arrived at EDR: 04/25/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 53

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/22/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 184

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 05/02/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/27/2012
Date Data Arrived at EDR: 08/28/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 49

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 03/01/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/06/2013
Date Data Arrived at EDR: 11/07/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 29

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 05/12/2014
Date Data Arrived at EDR: 05/12/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 36
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/28/2014
Date Data Arrived at EDR: 05/01/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 47
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Varies

State and tribal registered storage tank lists

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/16/2014
Date Data Arrived at EDR: 06/17/2014
Date Made Active in Reports: 07/10/2014
Number of Days to Update: 23
Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/17/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21
Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 07/01/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 01/27/2014
Number of Days to Update: 271
Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 05/02/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/24/2014
Date Data Arrived at EDR: 04/25/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 53
Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/22/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 05/12/2014
Date Data Arrived at EDR: 05/12/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 36

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/14/2014
Date Data Arrived at EDR: 05/15/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 33

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/28/2014
Date Data Arrived at EDR: 05/01/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 47

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/07/2014
Date Data Arrived at EDR: 05/09/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 39

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 05/12/2014
Date Data Arrived at EDR: 05/14/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 34

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/04/2014
Date Data Arrived at EDR: 04/08/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 70

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Quarterly

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/08/2014
Next Scheduled EDR Contact: 10/27/2014
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 03/20/2014
Date Data Arrived at EDR: 04/01/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 77
Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 07/01/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 06/05/2014
Date Data Arrived at EDR: 06/06/2014
Date Made Active in Reports: 07/09/2014
Number of Days to Update: 33
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/06/2014
Next Scheduled EDR Contact: 08/18/2014
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/20/2014
Date Data Arrived at EDR: 03/20/2014
Date Made Active in Reports: 04/09/2014
Number of Days to Update: 20
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 07/03/2014
Next Scheduled EDR Contact: 10/06/2014
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137
Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39
Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 06/16/2014
Date Data Arrived at EDR: 06/17/2014
Date Made Active in Reports: 07/11/2014
Number of Days to Update: 24
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/17/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 02/20/2014
Date Made Active in Reports: 03/27/2014
Number of Days to Update: 35
Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 05/19/2014
Next Scheduled EDR Contact: 09/01/2014
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52
Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 05/02/2014
Next Scheduled EDR Contact: 08/18/2014
Data Release Frequency: Varies

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30
Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 05/07/2014
Next Scheduled EDR Contact: 08/25/2014
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/28/2014
Date Data Arrived at EDR: 06/20/2014
Date Made Active in Reports: 07/15/2014
Number of Days to Update: 25

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 06/04/2014
Next Scheduled EDR Contact: 09/15/2014
Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 06/05/2014
Date Data Arrived at EDR: 06/06/2014
Date Made Active in Reports: 07/09/2014
Number of Days to Update: 33

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/06/2014
Next Scheduled EDR Contact: 08/18/2014
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/28/2014
Date Made Active in Reports: 03/20/2014
Number of Days to Update: 20

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 07/14/2014
Next Scheduled EDR Contact: 10/27/2014
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/28/2014
Date Data Arrived at EDR: 06/20/2014
Date Made Active in Reports: 07/15/2014
Number of Days to Update: 25

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 06/04/2014
Next Scheduled EDR Contact: 09/15/2014
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 06/02/2014
Next Scheduled EDR Contact: 09/15/2014
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Varies

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 05/05/2014
Date Data Arrived at EDR: 05/06/2014
Date Made Active in Reports: 05/19/2014
Number of Days to Update: 13

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/09/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 06/09/2014
Date Data Arrived at EDR: 06/11/2014
Date Made Active in Reports: 07/09/2014
Number of Days to Update: 28

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 06/11/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/31/2014
Date Data Arrived at EDR: 04/01/2014
Date Made Active in Reports: 07/15/2014
Number of Days to Update: 105

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 07/01/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 02/04/2014
Date Data Arrived at EDR: 04/29/2014
Date Made Active in Reports: 05/09/2014
Number of Days to Update: 10

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 04/29/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 06/16/2014
Date Data Arrived at EDR: 06/17/2014
Date Made Active in Reports: 07/10/2014
Number of Days to Update: 23

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/17/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 06/16/2014
Date Data Arrived at EDR: 06/17/2014
Date Made Active in Reports: 07/10/2014
Number of Days to Update: 23

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/17/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/11/2014
Date Data Arrived at EDR: 03/13/2014
Date Made Active in Reports: 04/09/2014
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/02/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/06/2014
Next Scheduled EDR Contact: 08/18/2014
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/18/2014
Next Scheduled EDR Contact: 07/28/2014
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 02/28/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 55

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 06/04/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 01/24/2014
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 31

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 06/30/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/10/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/25/2014
Next Scheduled EDR Contact: 06/09/2014
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 01/30/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 07/15/2014
Number of Days to Update: 132

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 06/06/2014
Next Scheduled EDR Contact: 09/15/2014
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/31/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 44

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/30/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/25/2014
Next Scheduled EDR Contact: 10/06/2014
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 05/22/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 05/22/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/29/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 05/06/2014
Date Data Arrived at EDR: 05/16/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 10/09/2014
Next Scheduled EDR Contact: 10/27/2014
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2013
Date Data Arrived at EDR: 07/17/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 107

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/18/2014
Next Scheduled EDR Contact: 07/28/2014
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/22/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 91

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 06/05/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/08/2014
Date Data Arrived at EDR: 04/09/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/10/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/18/2013
Date Data Arrived at EDR: 02/27/2014
Date Made Active in Reports: 03/12/2014
Number of Days to Update: 13

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 06/13/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/01/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/30/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 01/15/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 06/20/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 05/19/2014
Date Data Arrived at EDR: 05/20/2014
Date Made Active in Reports: 05/28/2014
Number of Days to Update: 8
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/20/2014
Next Scheduled EDR Contact: 09/01/2014
Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 03/31/2014
Date Data Arrived at EDR: 04/02/2014
Date Made Active in Reports: 04/29/2014
Number of Days to Update: 27
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 07/01/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 06/17/2014
Next Scheduled EDR Contact: 10/06/2014
Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 35
Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 06/09/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Annually

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 06/25/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 05/30/2014
Date Data Arrived at EDR: 05/30/2014
Date Made Active in Reports: 07/07/2014
Number of Days to Update: 38

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 07/16/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 41

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/18/2014
Next Scheduled EDR Contact: 07/28/2014
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 03/25/2014
Date Made Active in Reports: 04/28/2014
Number of Days to Update: 34

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/26/2014
Next Scheduled EDR Contact: 10/06/2014
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/18/2014
Next Scheduled EDR Contact: 07/28/2014
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 04/21/2014
Next Scheduled EDR Contact: 08/04/2014
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 05/05/2014
Date Data Arrived at EDR: 05/14/2014
Date Made Active in Reports: 05/22/2014
Number of Days to Update: 8

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/19/2014
Date Data Arrived at EDR: 05/20/2014
Date Made Active in Reports: 05/22/2014
Number of Days to Update: 2

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/19/2014
Next Scheduled EDR Contact: 09/01/2014
Data Release Frequency: Varies

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 05/16/2014
Next Scheduled EDR Contact: 08/25/2014
Data Release Frequency: Quarterly

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/29/2013
Date Data Arrived at EDR: 02/14/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 07/01/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 05/02/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Varies

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 04/15/2013
Date Data Arrived at EDR: 07/03/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 72

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 07/01/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 11/11/2011
Date Data Arrived at EDR: 05/18/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/16/2014
Next Scheduled EDR Contact: 08/25/2014
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010
Date Data Arrived at EDR: 01/03/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/11/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 02/25/2014
Date Data Arrived at EDR: 02/27/2014
Date Made Active in Reports: 04/09/2014
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 05/16/2014
Next Scheduled EDR Contact: 09/01/2014
Data Release Frequency: Quarterly

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/23/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 30

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/25/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Annually

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/23/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 30

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/25/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Annually

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/22/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 05/27/2014
Date Data Arrived at EDR: 05/28/2014
Date Made Active in Reports: 07/07/2014
Number of Days to Update: 40
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/28/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/14/2014
Date Data Arrived at EDR: 04/15/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 9
Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/15/2014
Next Scheduled EDR Contact: 10/27/2014
Data Release Frequency: Quarterly

COAL ASH DOE: Sleam-Electric Plan Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 04/18/2014
Next Scheduled EDR Contact: 07/28/2014
Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/23/2014
Date Data Arrived at EDR: 06/13/2014
Date Made Active in Reports: 07/09/2014
Number of Days to Update: 26
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 06/09/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands
Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339
Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/18/2014
Next Scheduled EDR Contact: 07/28/2014
Data Release Frequency: N/A

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 06/16/2014
Date Data Arrived at EDR: 06/17/2014
Date Made Active in Reports: 07/10/2014
Number of Days to Update: 23
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/17/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 04/22/2014
Date Data Arrived at EDR: 04/24/2014
Date Made Active in Reports: 05/09/2014
Number of Days to Update: 15

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/30/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 04/22/2014
Date Data Arrived at EDR: 04/24/2014
Date Made Active in Reports: 05/12/2014
Number of Days to Update: 18

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/30/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 03/24/2014
Date Data Arrived at EDR: 03/24/2014
Date Made Active in Reports: 04/30/2014
Number of Days to Update: 37

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 06/19/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 20

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 07/08/2014
Next Scheduled EDR Contact: 10/27/2014
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 04/03/2014
Date Made Active in Reports: 04/29/2014
Number of Days to Update: 26

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/26/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/11/2014
Date Data Arrived at EDR: 06/13/2014
Date Made Active in Reports: 07/07/2014
Number of Days to Update: 24

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 05/30/2014
Next Scheduled EDR Contact: 08/25/2014
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 02/24/2014
Date Data Arrived at EDR: 02/25/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 21

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 05/05/2014
Next Scheduled EDR Contact: 08/18/2014
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 05/05/2014
Date Data Arrived at EDR: 05/06/2014
Date Made Active in Reports: 05/13/2014
Number of Days to Update: 7

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 05/05/2014
Next Scheduled EDR Contact: 08/18/2014
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 05/29/2014
Date Data Arrived at EDR: 05/30/2014
Date Made Active in Reports: 07/07/2014
Number of Days to Update: 38

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 05/05/2014
Next Scheduled EDR Contact: 08/18/2014
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 03/31/2014
Date Data Arrived at EDR: 04/15/2014
Date Made Active in Reports: 05/01/2014
Number of Days to Update: 16

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 07/11/2014
Next Scheduled EDR Contact: 10/27/2014
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 06/09/2014
Date Data Arrived at EDR: 06/11/2014
Date Made Active in Reports: 07/07/2014
Number of Days to Update: 26

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 05/22/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 04/28/2014
Date Data Arrived at EDR: 04/30/2014
Date Made Active in Reports: 05/13/2014
Number of Days to Update: 13

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 05/22/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 08/31/2010
Date Data Arrived at EDR: 09/01/2010
Date Made Active in Reports: 09/30/2010
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 05/12/2014
Next Scheduled EDR Contact: 08/25/2014
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/28/2014
Date Data Arrived at EDR: 05/30/2014
Date Made Active in Reports: 06/20/2014
Number of Days to Update: 21

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/27/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 04/22/2014
Date Data Arrived at EDR: 04/24/2014
Date Made Active in Reports: 05/13/2014
Number of Days to Update: 19

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/21/2014
Next Scheduled EDR Contact: 08/04/2014
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 06/19/2014
Next Scheduled EDR Contact: 10/06/2014
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 03/31/2014
Date Data Arrived at EDR: 06/06/2014
Date Made Active in Reports: 07/17/2014
Number of Days to Update: 41

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 07/10/2014
Next Scheduled EDR Contact: 10/27/2014
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/21/2014
Date Data Arrived at EDR: 04/22/2014
Date Made Active in Reports: 05/19/2014
Number of Days to Update: 27

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/22/2014
Next Scheduled EDR Contact: 08/04/2014
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/17/2014
Next Scheduled EDR Contact: 08/04/2014
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/07/2014
Date Data Arrived at EDR: 02/25/2014
Date Made Active in Reports: 03/25/2014
Number of Days to Update: 28

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 07/16/2014
Next Scheduled EDR Contact: 11/03/2014
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 04/23/2014
Date Data Arrived at EDR: 04/25/2014
Date Made Active in Reports: 05/22/2014
Number of Days to Update: 27

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/21/2014
Next Scheduled EDR Contact: 08/04/2014
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 02/25/2014
Date Data Arrived at EDR: 02/27/2014
Date Made Active in Reports: 04/14/2014
Number of Days to Update: 46

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/13/2014
Date Data Arrived at EDR: 03/27/2014
Date Made Active in Reports: 04/28/2014
Number of Days to Update: 32

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 07/11/2014
Next Scheduled EDR Contact: 10/27/2014
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 06/09/2014
Date Data Arrived at EDR: 06/11/2014
Date Made Active in Reports: 06/27/2014
Number of Days to Update: 16

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/02/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 01/03/2014
Date Data Arrived at EDR: 01/09/2014
Date Made Active in Reports: 02/12/2014
Number of Days to Update: 34

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 07/02/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 05/27/2014
Date Data Arrived at EDR: 05/29/2014
Date Made Active in Reports: 06/24/2014
Number of Days to Update: 26

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 05/27/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 06/09/2014
Date Data Arrived at EDR: 06/13/2014
Date Made Active in Reports: 06/27/2014
Number of Days to Update: 14

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 06/02/2014
Next Scheduled EDR Contact: 09/15/2014
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/09/2014
Date Data Arrived at EDR: 06/11/2014
Date Made Active in Reports: 07/09/2014
Number of Days to Update: 28

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 05/22/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/30/2014
Next Scheduled EDR Contact: 09/15/2014
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/30/2014
Next Scheduled EDR Contact: 09/15/2014
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 11/06/2013
Date Data Arrived at EDR: 11/07/2013
Date Made Active in Reports: 12/04/2013
Number of Days to Update: 27

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 05/13/2014
Next Scheduled EDR Contact: 08/18/2014
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 05/01/2014
Date Data Arrived at EDR: 05/15/2014
Date Made Active in Reports: 05/22/2014
Number of Days to Update: 7

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/07/2014
Next Scheduled EDR Contact: 08/28/2014
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/01/2014
Date Data Arrived at EDR: 05/15/2014
Date Made Active in Reports: 05/28/2014
Number of Days to Update: 13

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/07/2014
Next Scheduled EDR Contact: 08/25/2014
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 05/01/2014
Date Data Arrived at EDR: 05/14/2014
Date Made Active in Reports: 05/21/2014
Number of Days to Update: 7

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/07/2014
Next Scheduled EDR Contact: 08/25/2014
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 06/09/2014
Date Data Arrived at EDR: 06/10/2014
Date Made Active in Reports: 07/09/2014
Number of Days to Update: 29
Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 06/09/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/15/2014
Date Data Arrived at EDR: 04/17/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 7
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/23/2014
Next Scheduled EDR Contact: 10/06/2014
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 04/15/2014
Date Data Arrived at EDR: 04/17/2014
Date Made Active in Reports: 05/09/2014
Number of Days to Update: 22
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/23/2014
Next Scheduled EDR Contact: 10/06/2014
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/06/2014
Date Data Arrived at EDR: 04/08/2014
Date Made Active in Reports: 04/29/2014
Number of Days to Update: 21
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/11/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/06/2014
Date Data Arrived at EDR: 04/08/2014
Date Made Active in Reports: 04/29/2014
Number of Days to Update: 21
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/08/2014
Next Scheduled EDR Contact: 10/20/2014
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 05/30/2014
Date Data Arrived at EDR: 05/30/2014
Date Made Active in Reports: 07/07/2014
Number of Days to Update: 38

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 05/12/2014
Next Scheduled EDR Contact: 08/25/2014
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/09/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2013
Date Data Arrived at EDR: 11/19/2013
Date Made Active in Reports: 12/31/2013
Number of Days to Update: 42

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 06/04/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 05/09/2014
Next Scheduled EDR Contact: 08/25/2014
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 05/09/2014
Next Scheduled EDR Contact: 08/25/2014
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/20/2014
Date Data Arrived at EDR: 06/23/2014
Date Made Active in Reports: 07/11/2014
Number of Days to Update: 18

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 06/19/2014
Next Scheduled EDR Contact: 10/06/2014
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/11/2014
Date Data Arrived at EDR: 06/13/2014
Date Made Active in Reports: 07/09/2014
Number of Days to Update: 26

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 06/09/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 04/03/2014
Date Data Arrived at EDR: 04/04/2014
Date Made Active in Reports: 05/01/2014
Number of Days to Update: 27

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/16/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 06/16/2014
Date Data Arrived at EDR: 06/19/2014
Date Made Active in Reports: 07/10/2014
Number of Days to Update: 21

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/13/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/22/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 06/02/2014
Date Data Arrived at EDR: 06/03/2014
Date Made Active in Reports: 06/23/2014
Number of Days to Update: 20

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 06/02/2014
Next Scheduled EDR Contact: 09/15/2014
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 06/02/2014
Next Scheduled EDR Contact: 09/15/2014
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 05/12/2014
Date Data Arrived at EDR: 05/19/2014
Date Made Active in Reports: 05/28/2014
Number of Days to Update: 9

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 05/12/2014
Next Scheduled EDR Contact: 08/25/2014
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 05/27/2014
Date Data Arrived at EDR: 05/28/2014
Date Made Active in Reports: 06/20/2014
Number of Days to Update: 23

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/27/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/10/2014
Date Data Arrived at EDR: 06/12/2014
Date Made Active in Reports: 06/20/2014
Number of Days to Update: 8

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/22/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 04/25/2014
Date Data Arrived at EDR: 04/01/2014
Date Made Active in Reports: 04/28/2014
Number of Days to Update: 27

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/13/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/25/2014
Date Data Arrived at EDR: 04/01/2014
Date Made Active in Reports: 05/05/2014
Number of Days to Update: 34

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/13/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 01/02/2014
Date Made Active in Reports: 02/11/2014
Number of Days to Update: 40

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 06/26/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 04/03/2014
Date Made Active in Reports: 04/28/2014
Number of Days to Update: 25

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/26/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 06/09/2014
Date Data Arrived at EDR: 06/11/2014
Date Made Active in Reports: 07/17/2014
Number of Days to Update: 36

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 06/09/2014
Next Scheduled EDR Contact: 09/22/2014
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 05/16/2014
Date Data Arrived at EDR: 05/16/2014
Date Made Active in Reports: 06/13/2014
Number of Days to Update: 28

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 04/28/2014
Date Data Arrived at EDR: 05/20/2014
Date Made Active in Reports: 05/27/2014
Number of Days to Update: 7

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/16/2014
Next Scheduled EDR Contact: 09/01/2014
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 07/01/2014
Next Scheduled EDR Contact: 10/13/2014
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/16/2014
Next Scheduled EDR Contact: 09/01/2014
Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 04/28/2014
Date Data Arrived at EDR: 04/30/2014
Date Made Active in Reports: 05/19/2014
Number of Days to Update: 19

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/28/2014
Next Scheduled EDR Contact: 08/11/2014
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 05/27/2014
Date Data Arrived at EDR: 06/17/2014
Date Made Active in Reports: 07/11/2014
Number of Days to Update: 24

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/16/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 04/08/2014
Date Made Active in Reports: 05/05/2014
Number of Days to Update: 27

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 06/19/2014
Next Scheduled EDR Contact: 10/06/2014
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 05/19/2014
Date Data Arrived at EDR: 05/22/2014
Date Made Active in Reports: 06/19/2014
Number of Days to Update: 28

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 05/19/2014
Next Scheduled EDR Contact: 08/18/2014
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/23/2014
Next Scheduled EDR Contact: 09/01/2014
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/17/2014
Next Scheduled EDR Contact: 10/27/2014
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 05/01/2014
Date Data Arrived at EDR: 05/07/2014
Date Made Active in Reports: 06/10/2014
Number of Days to Update: 34

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/07/2014
Next Scheduled EDR Contact: 08/18/2014
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 07/24/2013
Date Made Active in Reports: 08/19/2013
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/21/2014
Next Scheduled EDR Contact: 08/04/2014
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 08/05/2013
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/27/2014
Next Scheduled EDR Contact: 09/08/2014
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 08/09/2013
Date Made Active in Reports: 09/27/2013
Number of Days to Update: 49

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/16/2014
Next Scheduled EDR Contact: 09/29/2014
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: Rextag Strategies Corp.
Telephone: (281) 769-2247
U.S. Electric Transmission and Power Plants Systems Digital GIS Data

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

SR 65 HOV
SR 65 AND LINCOLN BOULEVARD
LINCOLN, CA 95648

TARGET PROPERTY COORDINATES

Latitude (North):	38.8421 - 38° 50' 31.56''
Longitude (West):	121.2996 - 121° 17' 58.56''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	647575.8
UTM Y (Meters):	4300420.5
Elevation:	142 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	38121-G3 ROSEVILLE, CA
Most Recent Revision:	1992

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

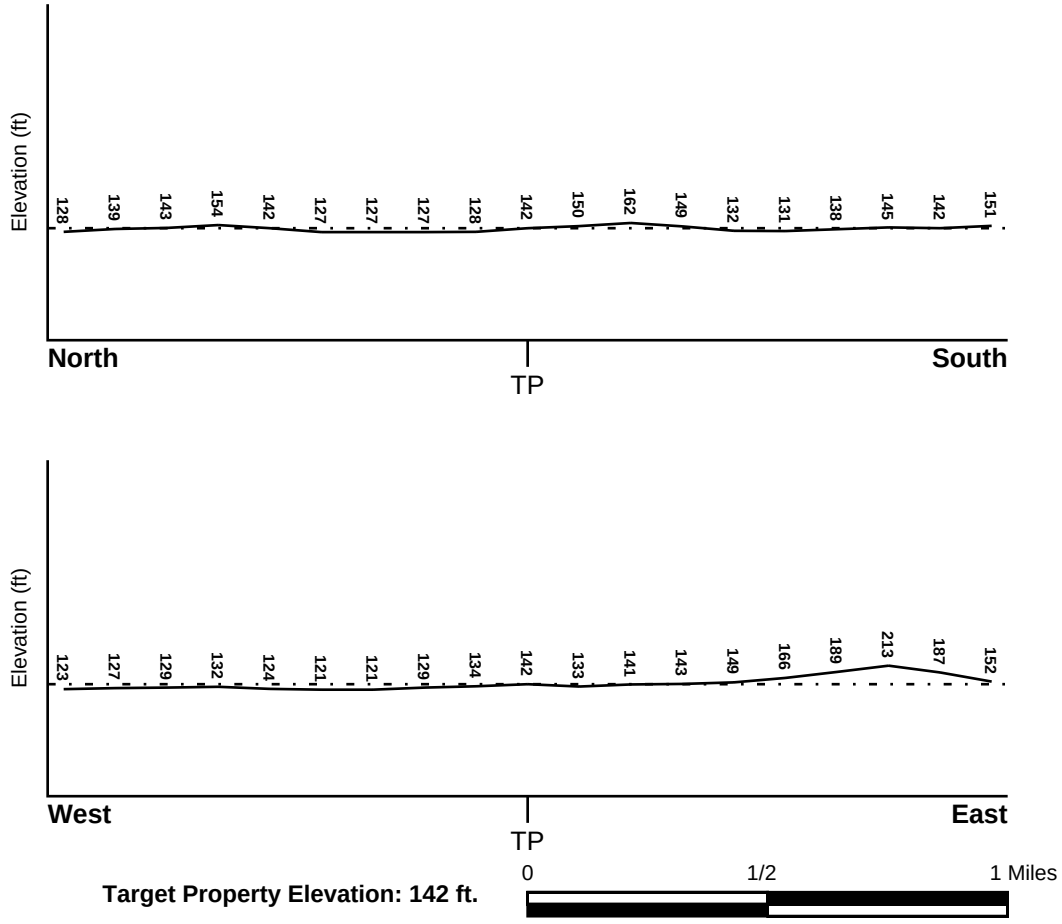
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NNW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
PLACER, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 0602390411C - FEMA Q3 Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
ROSEVILLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

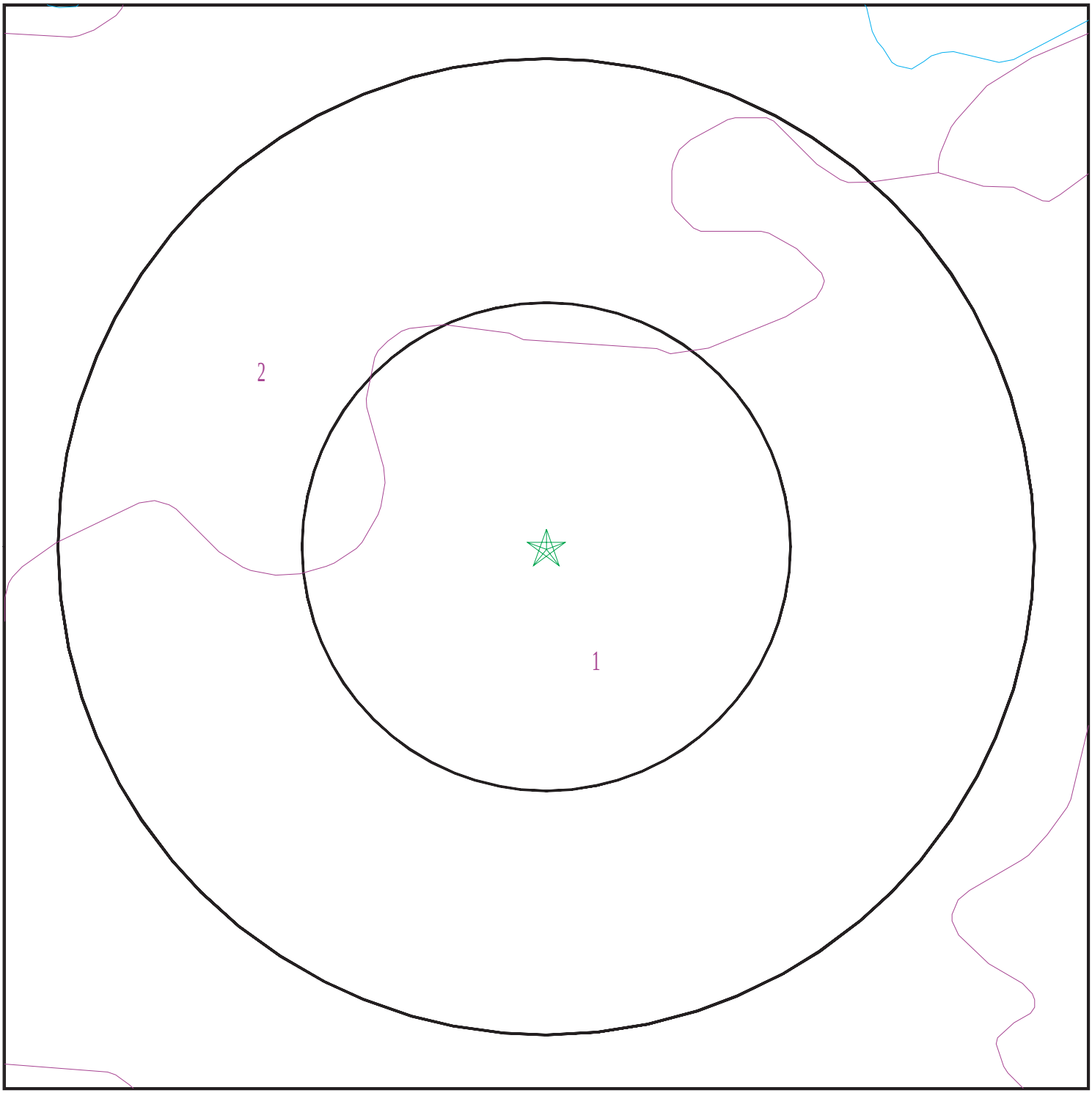
Era:	Cenozoic
System:	Tertiary
Series:	Pliocene
Code:	Tpc *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Continental Deposits

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4009322.1s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	SR 65 HOV	CLIENT:	Blackburn Consulting
ADDRESS:	SR 65 and Lincoln Boulevard Lincoln CA 95648	CONTACT:	Laura Long
LAT/LONG:	38.8421 / 121.2996	INQUIRY #:	4009322.1s
		DATE:	July 18, 2014 8:01 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: EXCHEQUER

Soil Surface Texture: very stony loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 28 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	very stony loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 5.6
2	11 inches	14 inches	unweathered bedrock	Not reported	Not reported	Max: 141 Min: 0.07	Max: Min:

Soil Map ID: 2

Soil Component Name: ALAMO

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 7.8 Min: 6.1
2	9 inches	37 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 8.4 Min: 6.1
3	37 inches	40 inches	indurated	Not reported	Not reported	Max: 0.01 Min: 0	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

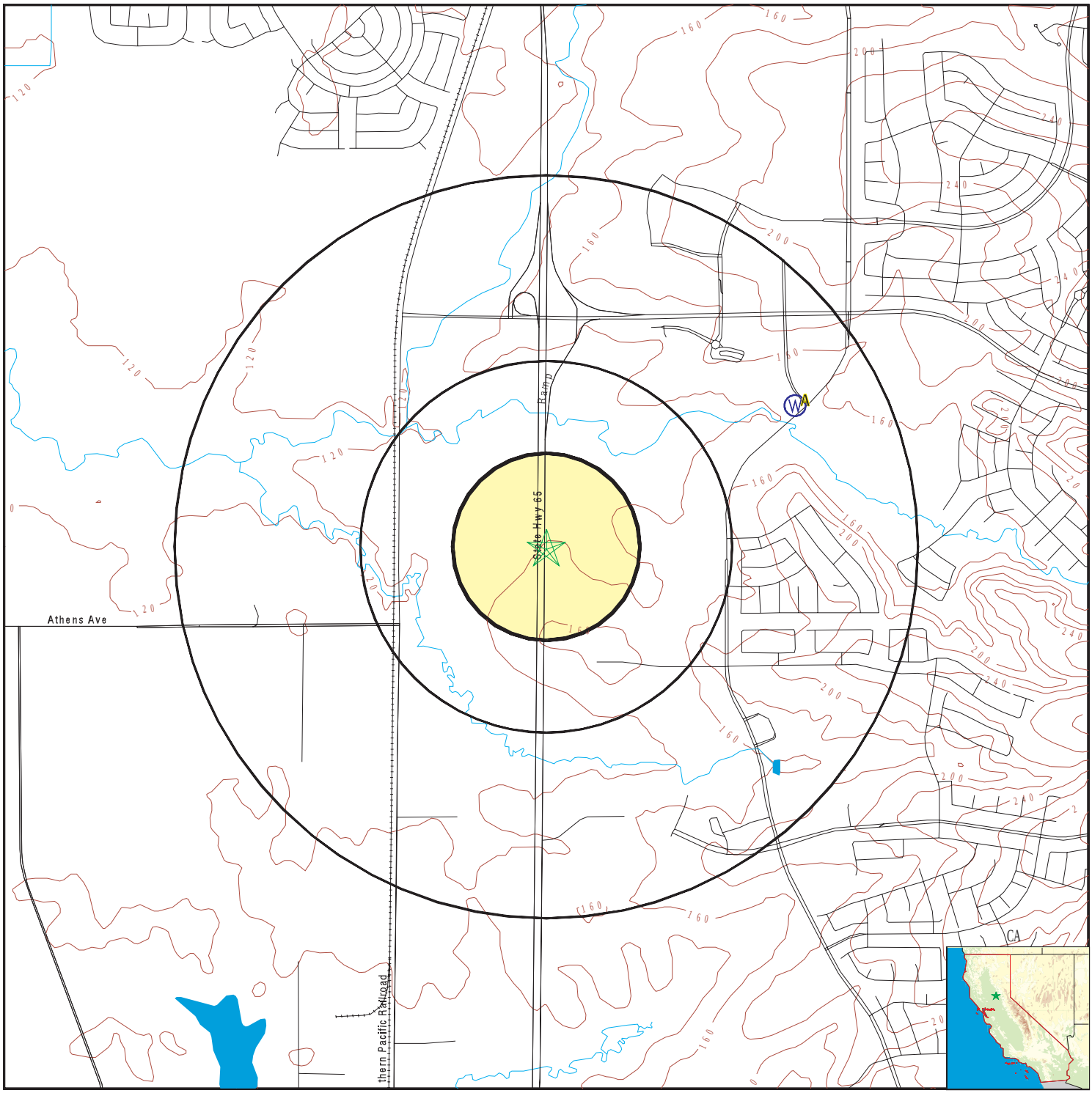
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	CADW50000032588	1/2 - 1 Mile ENE
A2	CADW50000032589	1/2 - 1 Mile ENE

PHYSICAL SETTING SOURCE MAP - 4009322.1s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	SR 65 HOV	CLIENT:	Blackburn Consulting
ADDRESS:	SR 65 and Lincoln Boulevard Lincoln CA 95648	CONTACT:	Laura Long
		INQUIRY #:	4009322.1s
LAT/LONG:	38.8421 / 121.2996	DATE:	July 18, 2014 8:01 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
A1 **ENE** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**CADW50000032588**

Latitude :	38.847609		
Longitude :	121.287189		
Site code:	388476N1212872W001	Casgem sta:	Not Reported
Local well:	WPMW-3A	Casgem s 1:	Observation
County id:	31		
Basin cd:	5-21.64	Basin desc:	North American
Org unit n:	North Central Region Office	Site id:	CADW50000032588

A2 **ENE** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**CADW50000032589**

Latitude :	38.847609		
Longitude :	121.287187		
Site code:	388476N1212872W002	Casgem sta:	Not Reported
Local well:	WPMW-3B	Casgem s 1:	Observation
County id:	31		
Basin cd:	5-21.64	Basin desc:	North American
Org unit n:	North Central Region Office	Site id:	CADW50000032589

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
95648	14	0

Federal EPA Radon Zone for PLACER County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 95648

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.000 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

APPENDIX D

Site Photographs


Photo 1 SR65 at Pleasant Grove Blvd.


Photo 3 SR65 at Pleasant Grove Blvd.


Photo 2 SR65 north of Pleasant Grove Blvd


Photo 4 Sound wall south of Pleasant Grove Blvd


Photo 5 East side of SR65 at Pleasant Grove (Walmart)


Photo 7 South of Lincoln Blvd.


Photo 6 Park and Ride south of Lincoln Blvd.


Photo 8 East of SR65 at Twelve Bridges


Photo 9 SR65 at Lincoln Blvd


Photo 11 on-ramp at Twelve Bridges


Photo 10 East of SR65 south of Twelve Bridges


Photo 12 Creek between Twelve Bridges and Sunset

Photo 13 Creek between Twelve Bridges and Sunset

Photo 15 Sunset Boulevard off-ramp

Photo 14 Utility yard south of Sunset

Photo16 Cyber Way south of Sunset

Photo 17 Cyber Way south of Sunset Blvd


Photo 19 Arizona Tile north of Blue Oaks Blvd


Photo 18 between Sunset and Blue Oaks Blvds


Photo 20 between Sunset and Blue Oaks Blvds


Photo 21 Railroad car at HB Fuller


Photo 23 North of SB SR65 Blue Rock exit


Photo 22 Looking east towards HB Fuller


Photo 24 North of SB SR65 Blue Oaks exit

Photo 25 East side of HB Fuller

Photo 27 West side of Gap Inc.

Photo 26 HB Fuller

Photo 28 Open space between Gap, Inc. and SR65

Photo 29 Drainage behind Gap, Inc.

ATTACHMENT 1

Hazardous Materials Survey Report (Entek 2014)

ENTEK
CONSULTING GROUP, INC.
4200 Rocklin Road, Suite 7, Rocklin, CA 95677 Phone (916) 632-6800 Fax (916) 632-6812 www.entekgroup.com

HAZARDOUS MATERIALS SURVEY
FINAL REPORT

CLIENT

Blackburn Consulting
2491 Boatman Avenue
West Sacramento, CA 95691

CONTACT

Ms. Laura Long
Environmental Engineer

SURVEY ADDRESS

SR 65 Capacity & Operational Improvements Project
Pleasant Grove Creek Bridges
Bridge #19-0136L & 19-0136R
(Northbound & Southbound Bridges)

PREPARED BY

Cory Sanders
Project Manager
CAC #03-3332
Entek Consulting Group, Inc.
4200 Rocklin Road; Suite 7
Rocklin, CA 95677

Entek Project #14-3202

Revised
September 19, 2014

ENTEK

TABLE OF CONTENTS

Executive Summary

The United States Environmental Protection Agency, National Emission Standards for Hazardous Air Pollutants (US EPA NESHAP), 40 CFR Part 61 - Nov. 20, 1990, requires an owner or operator of a demolition or renovation project to thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos-containing materials (ACM) prior to the commencement of that project.

This survey report was requested by Ms. Laura Long, Environmental Engineer with Blackburn Consulting.

The purpose of the survey was to comply with US EPA NESHAP requirements to determine if asbestos containing materials are present which may be impacted during the SR 65 Capacity and Operational Improvements Project, which includes the Pleasant Grove Creek Bridges (northbound & southbound).

This is a summary of the report. The report must be read in its entirety, and the reader must review all the detailed information provided in the body of the report prior to making any interpretations, or conclusions pertaining to the information. Any conclusions made by the reader about the information provided in the body of this report which are contradictory or not included in this report are the responsibility of the reader.

Asbestos

On July 30 and September 17, 2014, Entek Consulting Group, Inc. (Entek) conducted an asbestos survey of the Pleasant Grove Creek Bridges which are constructed entirely of concrete with metal railings which are supported by pressure treated wood posts and concrete.

The results of testing for asbestos during this survey indicate asbestos is not present in the concrete which comprises the bridge decks nor the supporting columns beneath the bridges. The metal railings, pressure treated wood posts and the metal hardware used to fasten the railings to the posts are not considered suspect for containing asbestos.

Lead

Entek did not observe existing paints or coatings associated with the Pleasant Grove Creek Bridges that would require sampling. It is my understanding based on our conversation in the field on July 30, 2014, Cal/Trans already presumes the road striping to contain lead in their project documents. Therefore, Entek did not perform sampling for lead during this survey.

Introduction

This report presents results of an asbestos and lead survey performed by Entek which included the Northbound and Southbound Pleasant Grove Creek Bridges, as part of the SR65 Capacity and Operational Improvements Projects.

I conducted this survey on July 30 and September 17, 2014. I am a US EPA Asbestos Hazard Emergency Response Act (AHERA)-Accredited Building Inspector, a Cal/OSHA Certified Asbestos Consultant (CAC) and a California Department of Public Health (CDPH)-Accredited Lead Inspector/Assessor.

This report was prepared for Ms. Laura Long, Environmental Engineer with Blackburn Consulting.

Structure Description

The Pleasant Grove Creek Bridges are concrete structures which are supported by several cylindrical concrete support columns. There are metal railings on the west and east sides of the bridge which are fastened to concrete with various hardware. The railings are fastened to pressure treated wood posts approaching the bridges.

Asbestos Inspection and Sample Collection Protocols

Entek included all specific designated bridge components which are going to be impacted as part of the upcoming improvements project.

Entek did not use any demolition methods to look within the bridge decks during this investigation. Entek did include all observable suspect materials associated with the bridges.

Bulk samples of the concrete components were collected with a hammer and chisel.

Approximate locations of all samples collected during this inspection are indicated on the photographs attached to this report.

Miscellaneous materials were collected from each homogenous area in a manner sufficient to determine whether the material is or is not ACM as required in 40 CFR Part 763, Asbestos-Containing Materials in Schools; Final Rule and Notice, published October 30, 1987.

Asbestos Bulk Sample Results

Concrete was the only material observed which is considered “suspect” under US EPA guidelines. Under current US EPA guidelines for conducting building inspections for ACM, all "suspect" materials must be assumed to contain asbestos until otherwise determined by laboratory testing.

The samples of concrete suspected of containing asbestos were submitted to Asbestech, a laboratory located in Carmichael, California. These samples were subsequently analyzed by polarized light microscopy (PLM) with dispersion staining. Asbestech is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for this analysis.

US EPA NESHAP uses the terms RACM, CAT-I, & CAT-II when identifying materials which contain asbestos in amounts greater than 1%. Cal/OSHA uses the term ACCM which indicates a manufactured construction material contains greater than 0.1% asbestos by weight by the PLM method. This definition can be found in Title 8, 1529.

A total of eight bulk samples of concrete were collected during this survey. None of the samples were determined to contain asbestos. Results of the analyses are listed in the following table:

Suspect Materials Found NOT TO Contain Asbestos
Pleasant Grove Creek Bridge
Bridge #19-0136L & 19-0136R
(northbound & southbound)

Sample ID#	Suspect Material	Asbestos Content	Location
ECG-14-3202-01A	Concrete	None Detected	Southbound; Collected from underside of bridge deck at east side
ECG-14-3202-02A	Concrete	None Detected	Southbound; Collected from edge of bridge deck at west side
ECG-14-3202-03A	Concrete	None Detected	Southbound; Collected from bumper that railing rests on at west side
ECG-14-3202-04A	Concrete	None Detected	Southbound; Collected from northwest most support column beneath bridge
ECG-14-3202-05A	Concrete	None Detected	Northbound; Collected from underside of bridge deck at east side
ECG-14-3202-06A	Concrete	None Detected	Northbound; Collected from edge of bridge deck at east side
ECG-14-3202-07A	Concrete	None Detected	Northbound; Collected from edge of bridge deck at west side
ECG-14-3202-08A	Concrete	None Detected	Northbound; Collected from southeast most support column beneath bridge

Any building materials which are considered “suspect” for containing asbestos which have not been identified in this report must be assumed to contain asbestos in amounts >1% until properly investigated and/or tested.

Materials commonly excluded from being suspected for containing asbestos include, but are not limited to: unwrapped pink and yellow fiberglass insulating materials or products, foam insulation, wood, metal, plastic, and glass. All other types of building materials or coatings on the materials listed above are commonly listed as "suspect" and must be tested prior to impact by a Contractor. Work impacting these untested or newly discovered materials must cease until an investigation can be completed.

Asbestos Regulatory Requirements

US EPA

The property included in this survey report is located in Placer County. The US EPA NESHAP asbestos regulation is jointly enforced by US EPA Region lX and CARB in this county.

A demolition is the wrecking, taking out, or burning of any load supporting structural member. A renovation is everything else. 10 day written notification to the California Air Resources Board (CARB), is required prior to the performance of any demolition project regardless of asbestos being present or not. This notification would also apply to any renovation project which involves the wrecking, taking out, or burning of any load bearing structural member.

Although no asbestos was found during this survey, written notification to CARB may be required 10 business days in advance of the project, if the project meets the definition of demolition as described above.

Cal/OSHA

Disturbance of any ACM or ACCM could generate airborne asbestos fibers and would be regulated by Cal/OSHA. Cal/OSHA worker health and safety regulations apply during any disturbance of ACM or ACCM by a person while in the employ of another. This is true regardless of friability or quantity disturbed.

Since the materials to be impacted as part of this project do not contain asbestos, Cal/OSHA asbestos regulations do not apply.

Limitations

Entek did not perform any destructive sampling to look within the bridge decks. As a result, it may be possible for materials to be hidden in these areas which are not included in this report. If any new materials not listed as having been sampled, or listed as assumed for containing asbestos in this report are discovered, the new material must be assumed to contain asbestos until properly inspected and tested for asbestos content.

Entek's policy is to retain a full copy of these written documents for three (3) years once the file is closed and final billed. At the end of the three (3) year period the written files will be destroyed without further notice. It is suggested copies of the file(s) are maintained as per Blackburn Consulting policy.

In an effort to help our environment, Entek has adopted a "green" policy and will be providing only this electronic copy of the report and its attachments for your use. However, if you would like a hard copy of this report, Entek will be happy to mail one upon request.

Thank you for choosing Entek for your environmental needs. Please contact me at (916) 632-6800 or by email to csanders@entekgroup.com if you have any questions regarding this report.

Prepared by:

Cory Sanders
Project Manager
CAC #03332
CDPH #15131

Appendices:

A. Asbestos Related Documents
B. Laboratory and Personnel Certifications

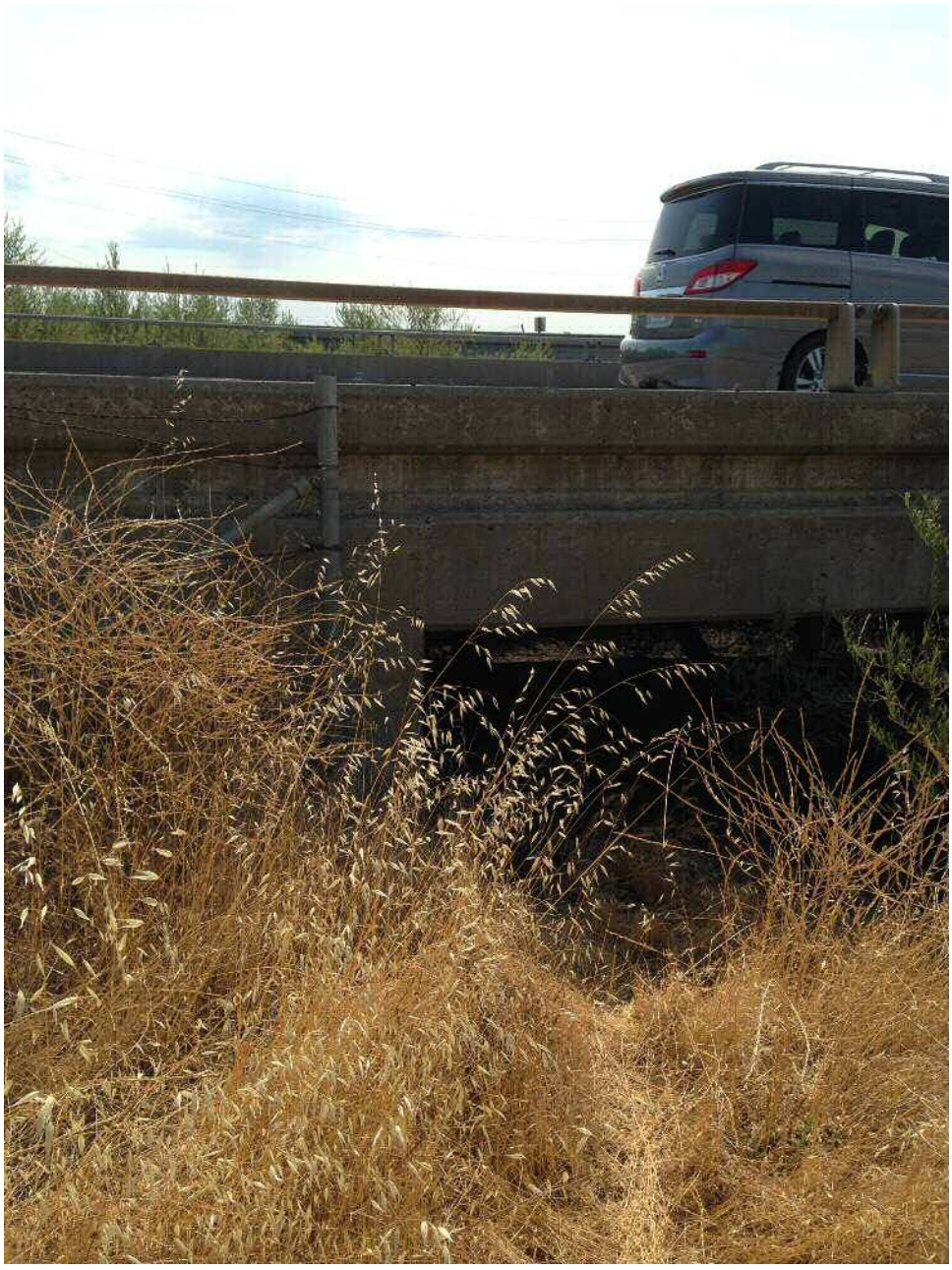
Pleasant Grove Creek Bridge
Bridge Number 19-0136L & 19-0136R
SR65 Capacity & Operational Improvements Project
Date Photos Taken: July 30, 2014

Pleasant Grove Creek Bridge

Pleasant Grove Creek Bridge
Bridge Number 19-0136L & 19-0136R
SR65 Capacity & Operational Improvements Project
Date Photos Taken: July 30, 2014

Underside of bridge deck and support columns

Pleasant Grove Creek Bridge
Bridge Number 19-0136L & 19-0136R
SR65 Capacity & Operational Improvements Project
Date Photos Taken: July 30, 2014



West edge of bridge

Pleasant Grove Creek Bridge
Bridge Number 19-0136L & 19-0136R
SR65 Capacity & Operational Improvements Project
Date Photos Taken: July 30, 2014

Bridge railing support along bridge

Pleasant Grove Creek Bridge
Bridge Number 19-0136L & 19-0136R
SR65 Capacity & Operational Improvements Project
Date Photos Taken: July 30, 2014

Railing support along roadway

APPENDIX A

ASBESTOS RELATED DOCUMENTS

- Bulk Asbestos Analysis Reports From Asbestech
- Bulk Asbestos Material Analysis Request Forms for Entek
- Asbestos Bulk Sample Locations

ASBESTECH
6825 Fair Oaks Blvd., Suite 103
Carmichael, California 95608
Tel.(916) 481-8902 Fax (916) 481-3975

Client:
Entek Consulting Group, Inc.
4200 Rocklin Rd., Suite 7
Rocklin, CA 95677

Job:
14-3202 Blackburn Consulting
Pleasant Grove Creek Bridge
SR 65 Capacity & Operational Improvements Project
BCI# 2602.2

BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 60834
Date/Time Collected: 7/30/14
Date Received: 7/31/14

NVLAP Lab Code 101442-0
DOHS # 1153
Date Analyzed: 8/1/14

Sample No.	*Color/Description*	*% Type Asbestos*	*Other Materials*
ECG-14-3202-01A	Gray concrete, underneath side of bridge at east side	NONE DETECTED	Granular Mins.
02A	Gray concrete, edge of bridge at west side	NONE DETECTED	Granular Mins.
03A	Gray concrete, bumper that railing sits on, west side at north end	NONE DETECTED	Granular Mins.
04A	Gray concrete, NW most support pillar beneath bridge	NONE DETECTED	Granular Mins.

NVLAP LAB CODE 101442-0 LAB DIRECTOR: TOM CONLON ANALYST: JIM JUNGLES

60834

ENTEK

BULK ASBESTOS MATERIAL *Analysis Request Form for* ***Entek Consulting Group, Inc.***

4200 ROCKLIN ROAD, STE. 7
ROCKLIN, CA 95677
(916) 632-6800
FAX (916) 632-6812

Date of Sampling: July 30, 2014

Lab: Asbestech

Job Number: 14-3202

Turnaround Time: 8/1/14 at 2:00pm

Client Name: Placer County

Collected by: Cory Sanders

Site Address: Pleasant Grove Creek Bridge SR 65 Capacity & Operational Improvements Project, BCI #2602.2

ANALYSIS REQUESTED: Asbestos by PLM with Dispersion Staining

Special Instruction: Stop Analysis upon first positive result (>1%) for sample in a series. Please email results to the office and to **csanders@entekgroup.com**

SAMPLE #	MATERIAL DESCRIPTION/LOCATION
ECG-14-3202-01A	Concrete, Underneath Side of Bridge at East Side
ECG-14-3202-02A	Concrete, Edge of Bridge at West Side
ECG-14-3202-03A	Concrete, Bumper that Railing Sits On, West Side at North End
ECG-14-3202-04A	Concrete, Northwest Most Support Pillar, Beneath Bridge

C:\Entek\Clients\Blackburn Consulting\14-3202\Asb Bulk Req Pleasant Grove Bridge 7-30-14.wpd

Delivered by: _____ **Date:** 7/31/14 **Time:** 0920

Received by: _____ **Date:** 7/31/14 **Time:** 920

ASBESTECH
6825 Fair Oaks Blvd., Suite 103
Carmichael, California 95608
Tel.(916) 481-8902 Fax (916) 481-3975

Client:
Entek Consulting Group, Inc.
4200 Rocklin Rd., Suite 7
Rocklin, CA 95677

Job:
14-3202 Blackburn Consulting
Pleasant Grove Bridge
Roseville, Ca

BULK ASBESTOS ANALYSIS REPORT

LAB JOB # 61037
Date/Time Collected: 9/17/14
Date Received: 9/17/14

NVLAP Lab Code 101442-0
DOHS # 1153
Date Analyzed: 9/18/14

Sample No.	*Color/Description*	*% Type Asbestos*	*Other Materials*
ECG-14-3202-05A	Gray concrete, north bound bridge underneath	NONE DETECTED	Granular Mins.
06A	Gray concrete, north bound bridge E edge	NONE DETECTED	Granular Mins.
07A	Gray concrete, north bound bridge W edge	NONE DETECTED	Granular Mins.
08A	Gray concrete, north bound bridge SE pillar	NONE DETECTED	Granular Mins.

NVLAP LAB CODE 101442-0 LAB DIRECTOR: TOM CONLON ANALYST: JIM JUNGLES Jim Jungles

BULK SAMPLE - ANALYSIS REQUEST

61037

P.O. NUMBER

ASBESTECH
6825 FAIR OAKS BLVD.,STE 103
CARMICHAEL, CA 95608
TEL. (916) 481-8902 FAX (916) 481-3975

NAME OF COMPANY	SAMPLE COLLECTED BY	DATE COLLECTED
Entek	Cory Sanders	9-17-14

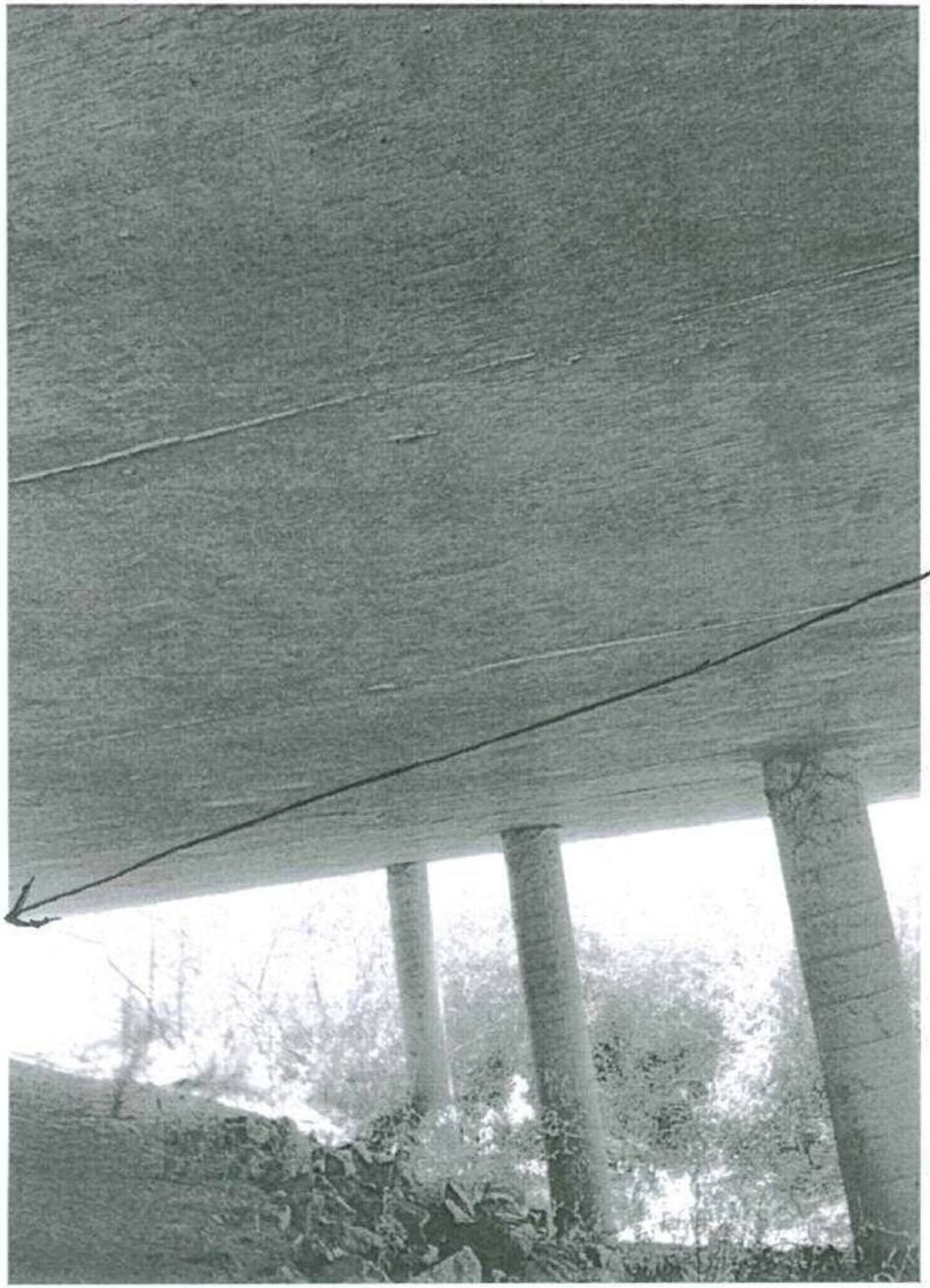
MAILING ADDRESS	SPECIAL INSTRUCTIONS/TURNAROUND TIME
4200 Rocklin Rd #7 Rocklin CA 95677	9-18-14 12pm
TELEPHONE NO: 916-632-6800	JOB ID#: 14-3202 Blackburn Consulting
	JOB SITE: Pleasant Grove Bridge - Roseville, CA

☑ PLM ASBESTOS ☐ POINT COUNT ☐ CARB 435 ☐ TEM ASBESTOS ☐ AA LEAD PAINT ☐ AA LEAD SOIL/TTLC ☐ LEAD STLC ☐ LEAD TCLP

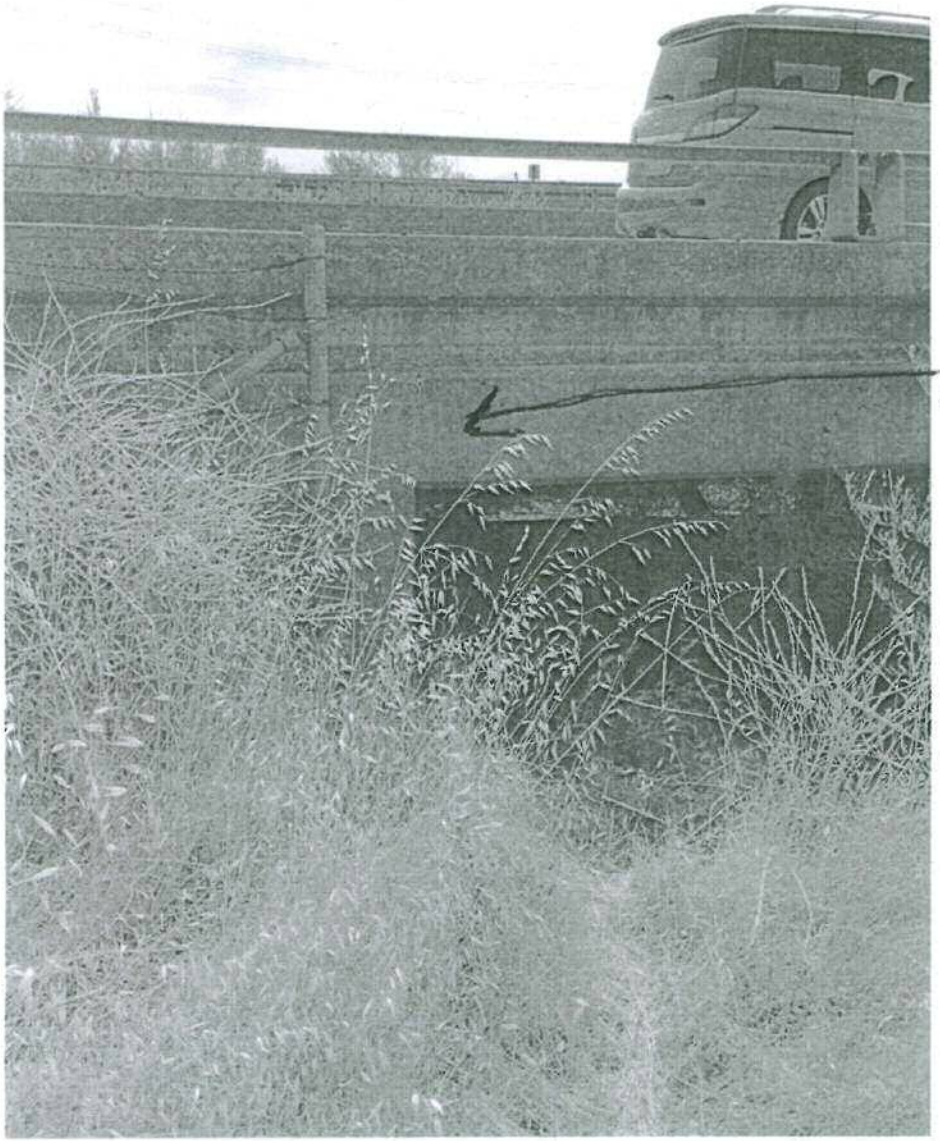
SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE LOCATION
05A	Concrete	North Bound Bridge, Underneath
06A	Concrete	North Bound Bridge, E. Edge
07A	Concrete	North Bound Bridge, W. Edge
08A	Concrete	North Bound Bridge, S.E. Pillar

CHAIN OF CUSTODY

RELINQUISHED BY: [signature]	RELINQUISHED BY:	RELINQUISHED BY:
DATE/TIME: 9-17-14 1pm	DATE/TIME:	DATE/TIME:
RECEIVED BY: [signature]	RECEIVED BY:	RECEIVED BY:
DATE/TIME: 9/17/14 1	DATE/TIME:	DATE/TIME:

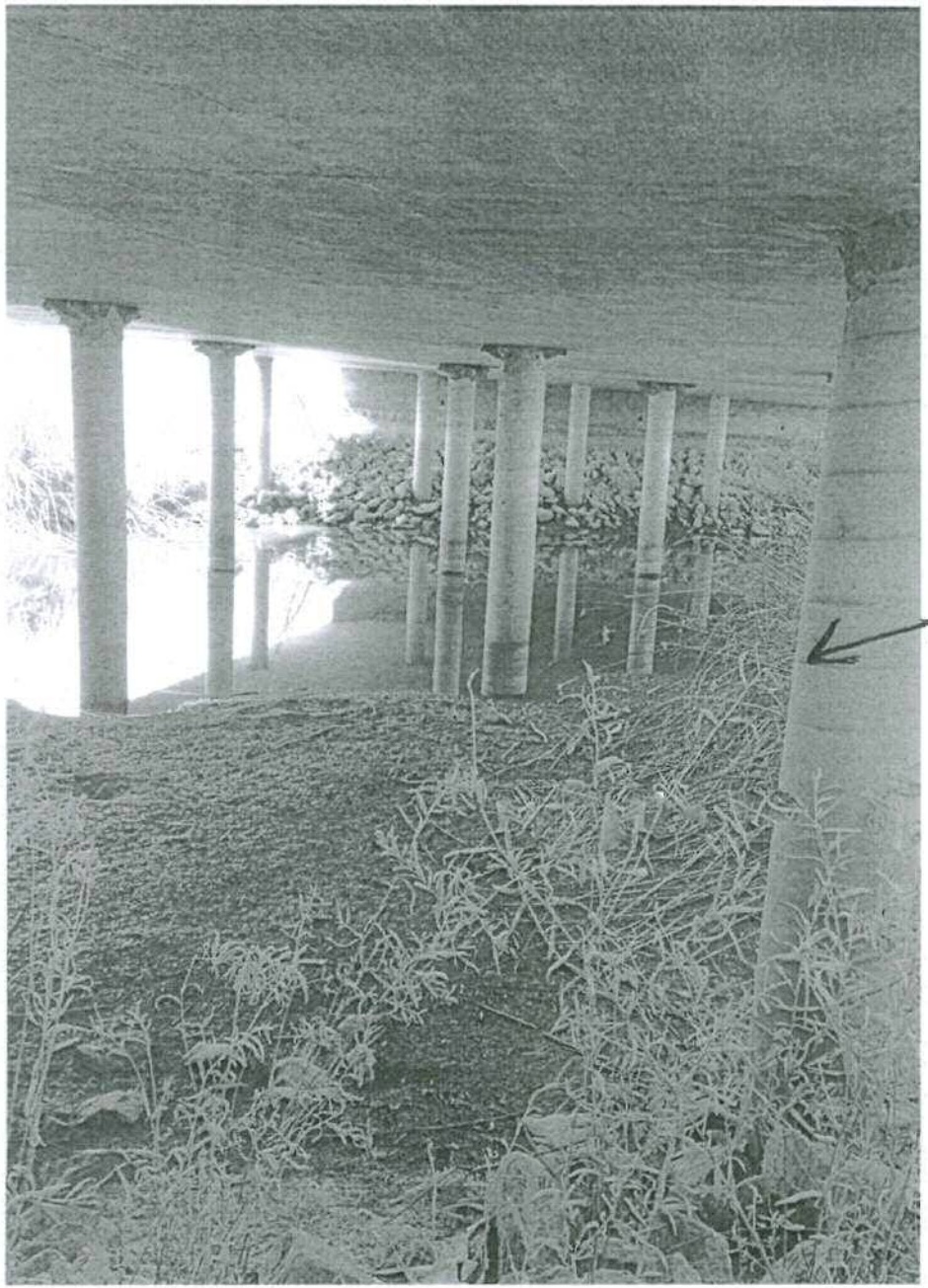


ECG-14-3202-01A

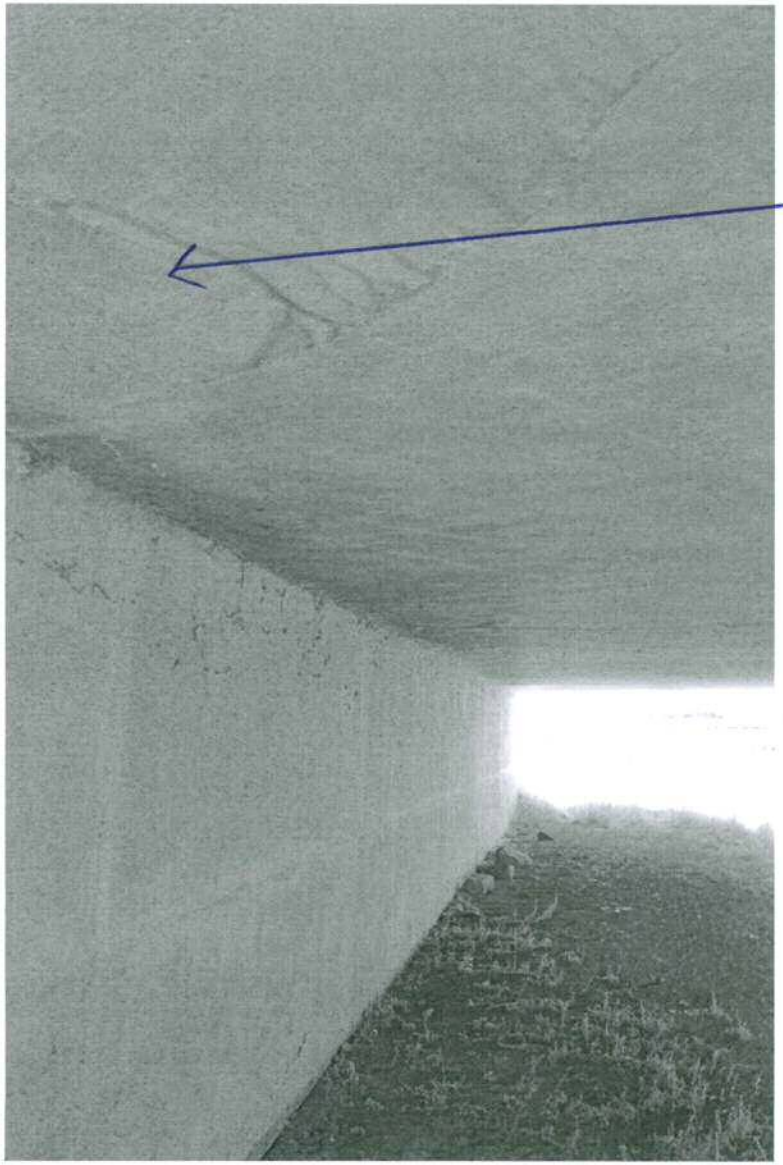


EC4-14-3202-02A

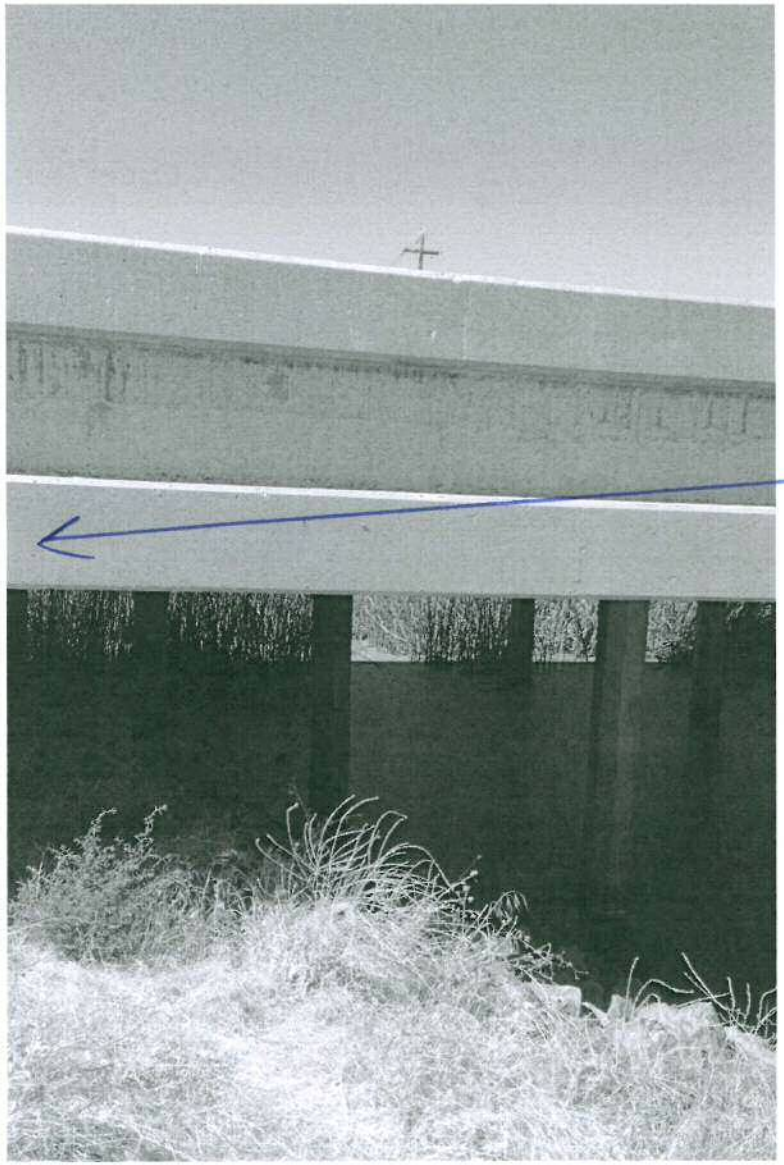
ECG-14-3202-03A



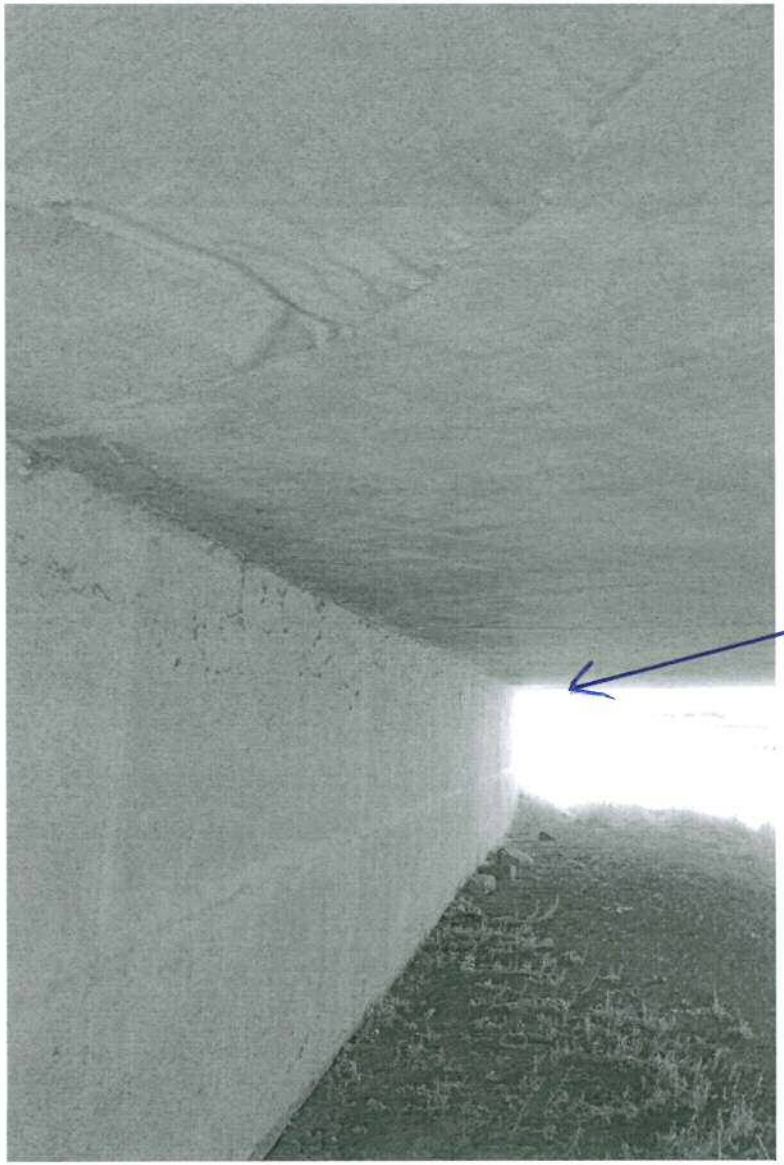
ECG-14-3202-04A



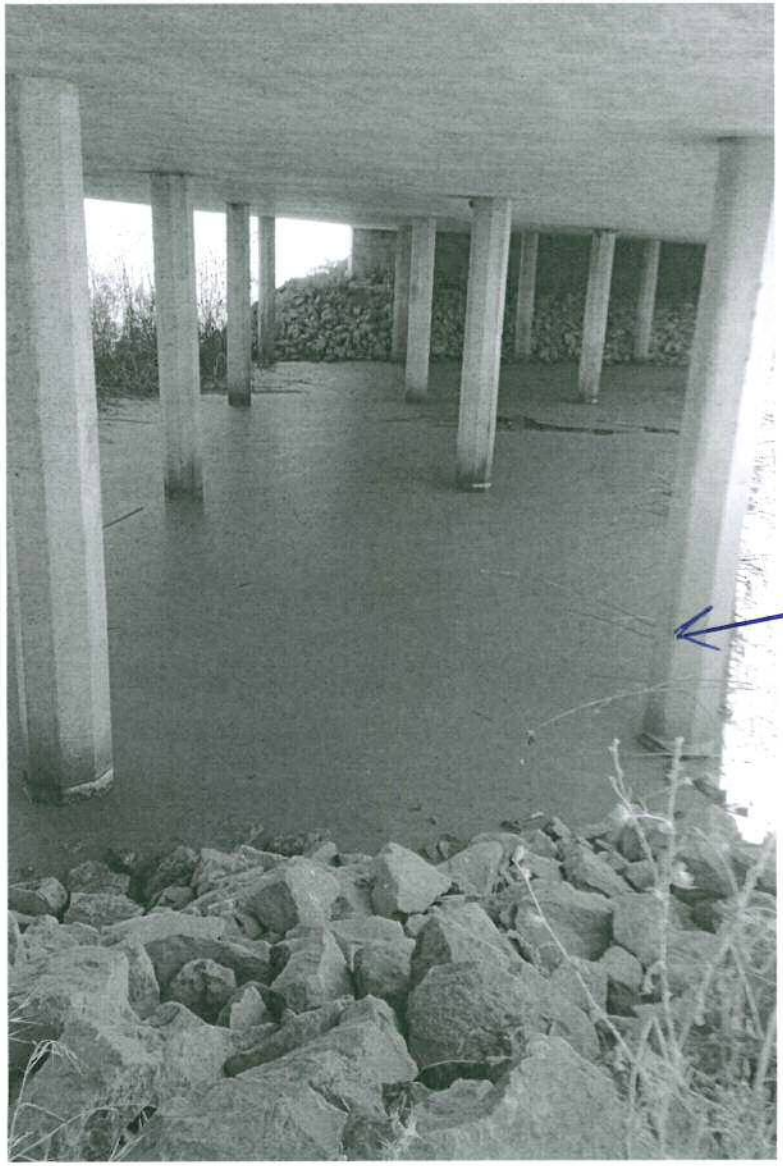
ECG-14-3202-05A



ECG-14-3202-06A



ECG-14-3202-07A



ECG-14-3202-08A

APPENDIX B

BACK UP DOCUMENTATION

- Inspector Accreditations and Certifications
- Laboratory and Personnel Certifications

State of California Department of Public Health

Lead-Related Construction Certificate

Certificate Type	Expiration Date
Inspector/Assessor	03/02/2015
Project Monitor	03/02/2015

Cory R. Sanders

ID #: 15131

State of California
Division of Occupational Safety and Health

Certified Asbestos Consultant

Cory R Sanders

Name

Certification No. 03-3332

Expires on 04/23/15

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101442-0

ASBESTECH

Carmichael, CA

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

BULK ASBESTOS FIBER ANALYSIS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2014-07-01 through 2015-06-30

Effective dates

DEPARTMENT OF COMMERCE * UNITED STATES OF AMERICA *

For the National Institute of Standards and Technology

NVLAP-01C (REV. 2009-01-28)

NVLAP® National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

ASBESTECH
6825 Fair Oaks Blvd., Suite 103
Carmichael, CA 95608
Mr. Tommy Conlon
Phone: 916-481-8902 Fax: 916-481-3975
E-Mail: asbestech@sbcglobal.net
URL: http://www.asbestechlab.com

BULK ASBESTOS FIBER ANALYSIS (PLM) **NVLAP LAB CODE 101442-0**

NVLAP Code	*Designation / Description*
18/A01	EPA 600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

2014-07-01 through 2015-06-30
Effective dates

For the National Institute of Standards and Technology

CALIFORNIA DEPARTMENT OF PUBLIC HEALTH
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Accredited Fields of Testing

Asbestech
6825 Fair Oaks Boulevard, Suite 103
Carmichael, CA 95608
Phone: (916) 481-8902

Certificate No.: **1153**
Renew Date: **3/31/2016**

Field of Testing: 114 - Inorganic Chemistry of Hazardous Waste			
114.130	001	Lead	EPA 7420
Field of Testing: 115 - Extraction Test of Hazardous Waste			
115.021	001	TCLP Inorganics	EPA 1311
115.030	001	Waste Extraction Test (WET)	CCR Chapter11, Article 5, Appendix II
Field of Testing: 121 - Bulk Asbestos Analysis of Hazardous Waste			
121.010	001	Bulk Asbestos	EPA 600/M4-82-020

As of 9/17/2014 , this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

Attachment K
Transportation Management Plan Checklist and Data Sheet

To be added with Final Project Report

Attachment L
Landscape Architecture Assessment Sheet (DRAFT)

NORTH REGION
LANDSCAPE ARCHITECTURE ASSESSMENT SHEET REQUEST FORM
03-LAND-0001 (Rev. 1/12)

TO: Jeff Pietrzak **FROM:** Lauren Proctor/CH2M **Telephone number:** (916) 286-0332 **Unit / Senior TE Name:** N/A **Project Manager:** Rodney Murphy	Send Request to the following Landscape or Engineering Services Branch in your city: •Eureka - Engineering Services (Ron Flory) •Redding - Engineering Services (Ron Flory) •Marysville - Landscape Architecture (Jeff Pietrzak)
Project Milestones: ☐ PID ☒ PAED ☐ PS&E ☐ Other _____	**What is the approximate project cost range?(+/-)** **$**53.5M

Funding Source	**CO / RTE / KP / PM**	**EA**	**Date Requested**	**Date Needed**
☐ Minor A ☐ STIP ☒ Other ☐ SHOPP ☒ Local	PLA/65/R6.2-R12.8	03-1F1700	8/31/2016	10/1/2016

PROJECT DESCRIPTION:
The California Department of Transportation (Caltrans), in cooperation with the Placer County Transportation Planning Agency (PCTPA), Placer County, and the Cities of Roseville, Rocklin, and Lincoln, proposes to widen State Route (SR) 65 from north of Galleria Boulevard/Stanford Ranch Road to Lincoln Boulevard. The project is needed to relieve traffic operation and safety issues stemming from recurring morning and evening peak-period demand that exceeds the current design capacity along SR 65. The additional mainline capacity will accommodate future growth along the corridor.

DESIGN INFORMATION FOR CONSTRUCTION, MAINTENANCE SAFETY and CONTEXT SENSITIVITY
Does the project involve any of the following? Mark all boxes that best apply.

☒ Vegetation removal	☒ Soil disturbance	☐ Bike routes	☐ Construction easements
☐ Irrigation removal	☒ Gore paving	☐ Bus stops	☒ Access gates/fencing
☐ Stream channel work	☒ Median barriers	☒ Structures work	☒ Roadway widening
☒ New planting	☐ Retaining walls	☐ Park and ride	☒ Excavating/embankment work
☐ Weed/litter pockets	☐ Sound walls	☐ Irrig. water availability	☒ Contractor staging area
☐ Maintenance safety	☒ Rock slope protection	☒ Electrical availability	☐ Off-pavement detour
☒ Contour grading	☒ Drainage/culverts	☐ Reclaimed water	☐ Construction access roads
☐ Other _____			

Will the project affect or be influenced by any of the following?

☐ Main street	☐ Pedestrian circulation	☒ Interagency involvement	☒ Structures
☐ Historic importance	☒ City/county compliance	☒ Cooperative agreements	☒ Overhead utility
☐ Parks & Rec. areas	☐ Community stakeholders	☐ Public use areas	☐ Billboard adjacency
☐ Scenic vistas	☐ Neighboring sensitivity	☐ Tree removal	☒ Aesthetic treatments
☐ Other			

NOTE: *Director's policy #22 CONTEXT SENSITIVE SOLUTIONS, 11-29-01 ensures that all projects incorporate solutions using innovative approaches that integrate and balance community, aesthetic, historic and environmental values with transportation safety, maintenance and performance goal*

ATTACH THE FOLLOWING AVAILABLE DOCUMENTS:

☒ Preliminary Plans – Layouts	☒ Typical Cross Sections	☐ Photos/Video	☐ Aerials with limits of RW
☒ Location Map	☐ Photos		

For assistance in filling out this form contact your local Landscape Architecture or Engineering Services Branch Chief.

Attachment M
Risk Register

Project Risk Register

	DIST- EA 03-1F1700					Project Name: SR65 C&O Improvements			Project Manager: Matt Brogan						Date Created:	Last Updated:
						Co - Rte - PM: PLA-65-6.5-12.8			Telephone: (916) 381-9100							
ITEM	ID #	Status	Threat / Opport-unity	Category	Date Risk Identified	Risk Description	Root Causes	Primary Objective	Overall Risk Rating	Cost/Time Impact Value	Risk Owner	Risk Trigger	Strategy	Response Actions w/ Pros & Cons	Adjusted Cost/Time Impact Value	WBS Item	Status Date and Review Comments
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
1	03-1F1700-01	Retired	**Threat**	ENV	05/08/12	Delays in obtaining PTEs cold cause delay in environmental Studies.	complexity and Interface	TIME	Probablility 2=Low (10-19%) **Med** Impact 4 =Med		Env/RW	PTEs are not received on schedule.	AVOID	Work with R/W to ensure that any needed PTE are required as soon as possible.		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	01/26/15 Necessary PTEs have been obtained.
2	03-1F1700-02	Retired	**Threat**	ENV	05/08/12	Delay in obtaining detailed mapping and other needed design information could cause in delay in Environmental Studies.	Complexity and Interface	TIME	Probablility 3=Med (20-39%) **Med** Impact 4 =Med		Env/Design	A delay in the completion of detailed mapping will cause a delay in the initiation of some of the environmental studies,	AVOID	Work with Design to ensure that the ESR has all needed information.		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	5/19/2016. Detailed mapping and design info obtained.
3	03-1F1700-03	Active	**Threat**	ENV	05/08/12	Delays in the completion of consultant work (Biology, Archaeology, etc.)	Complexity and Interface	TIME	Probablility 3=Med (20-39%) **Med** Impact 4 =Med		Env/PM	Tasks are not completed on schedule.	AVOID	Work with consultants to ensure that tasks are completed on time. Require submission of regular progress reports. Ensure that needed information is provided to consultants in a timely fashion.		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	5/19/2016. No status change.
4	03-1F1700-04	Retired	**Threat**	ENV	05/08/12	A second season of biological surveys is required.	Requirement	TIME	Probablility 2=Low (10-19%) **Low** Impact 2 =Low		Env/PM	It is determined that a second season of biological surveys are required.	AVOID	Work with appropriate resources agencies to ensure that no species with special survey protocols are expected to be found within the ESL. Begin surveys early so that additional time remains for additional surveys.		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	5/19/2016. Biological surveys completes in one season.
5	03-1F1700-05	Retired	**Threat**	ENV	05/08/12	Noise Mitigation Requirements	complexity and Interface	COST	Probablility 3=Med (20-39%) **Med** Impact 4 =Med		Env/PM	Result of noise study is that soundwalls are necessary.	ACCEPT	Work with Design to make sure any required mitigation strategies are added to the project.		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	5/19/2016. Noise study completed; no mitigation required.
6	03-1F1700-06	Retired	**Threat**	ENV	05/08/12	Archaeological Resources within the project limits.	Requirement	TIME	Probablility 2=Low (10-19%) **Low** Impact 2 =Low		Env/Design/PM	Field Survey Locate Sites within APE.	MITIGATE	Communicate early with key Caltrans and County members to effect a common understanding of the scope of the project.		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	5/19/2016. Field survey did not locate resources within project limits.
7	03-1F1700-07	Active	**Threat**	ENV	05/08/12	Bats and swallows may nest under or within structures designated to be widened.	Requirement	TIME	Probablility 3=Med (20-39%) **Med** Impact 4 =Med		Env/Design/PM	Exclusionary devices are not installed prior to construction	AVOID	Work with Design and PM to ensure that exclusionary devices are installed prior to construction.		235 MITIGATE ENVIRONMENTAL IMPACTS AND CLEAN UP HAZARDOUS WASTE	1/26/2015. No status change.

Approved by:_____
date

Project Risk Register

	DIST- EA 03-1F1700					Project Name: SR65 C&O Improvements			Project Manager: Matt Brogan						Date Created:	Last Updated:
						Co - Rte - PM: PLA-65-6.5-12.8			Telephone: (916) 381-9100							
ITEM	ID #	Status	Threat / Opport-unity	Category	Date Risk Identified	Risk Description	Root Causes	Primary Objective	Overall Risk Rating	Cost/Time Impact Value	Risk Owner	Risk Trigger	Strategy	Response Actions w/ Pros & Cons	Adjusted Cost/Time Impact Value	WBS Item	Status Date and Review Comments
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
8	03-1F1700-08	Active	**Threat**	ENV	05/08/12	Migratory birds may nest in the project area.	Requirement	TIME	Probablility 3=Med (20-39%) **Med** Impact 4 =Med		Env/Design/PM	Vegetation is not removed the year prior to construction	AVOID	Work with Design and PM to ensure that vegetation removal is completed or mitigation measures are in place the year before construction.		235 MITIGATE ENVIRONMENTAL IMPACTS AND CLEAN UP HAZARDOUS WASTE	1/26/2015. No status change.
9	03-1F1700-09	Active	**Threat**	ENV	05/08/12	Design changes require additional Environmental analysis.	complexity and Interface	SCOPE	Probablility 3=Med (20-39%) **Med** Impact 4 =Med		Env/Design	Changes to project scope	AVOID	Communicate possible changes to Project Management as soon as possible.		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	5/19/2016. No status change.
10	03-1F1700-10	Active	**Threat**	ENV	05/08/12	Public Controversy/Opposition	complexity and Interface	SCOPE	Probablility 3=Med (20-39%) **Med** Impact 4 =Med		Env/Design	Public Controversy/Opposition	ACCEPT	Work with other functional units to ensure that there is an adequate public outreach/public involvement strategy. Ensure QA/QC review are done.		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	5/19/2016. No status change.
11	03-1F1700-11	Active	**Threat**	ENV	05/08/12	Delays in obtaining necessary approvals and/or permits from the resource agencies.	complexity and Interface	TIME	Probablility 3=Med (20-39%) **Med** Impact 4 =Med		ENV/PM	Delays in obtaining approvals and/or permits	AVOID	Work with Resource Agencies to ensure that all needed information has been provided. Keep in constant contact with Resource Agencies to ensure that approvals and/or permits are on schedule.		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	5/19/2016. No status change.
12	03-1F1700-12	Active	**Threat**	DESIGN	05/08/12	Utility Conflicts	complexity and Interface	COST	Probablility 2=Low (10-19%) **Med** Impact 4 =Med		Design/RW	Survey works confirms location and clearance requirements for public utilities.	MITIGATE	Add cost to relocate utility.		200 UTILITY RELOCATION	5/19/2016. No status change.
13	03-1F1700-13	Active	**Threat**	DESIGN	05/08/12	Design Exceptions	Requirement	SCOPE	Probablility 2=Low (10-19%) **Med** Impact 4 =Med		Design/PM	HQ Design Coordinator does not approve Design Exceptions to HDM.	ACCEPT	Adjust scope to meet the satisfaction of the HQ Design Coordinator.		180 PREPARE AND APPROVE PROJECT REPORT AND FINAL ENVIRONMENTAL DOCUMENT	5/19/2016. Design exceptions submitted for Caltrans review.
14	03-1F1700-14	Active	**Threat**	DESIGN	05/08/12	Stormwater treatment requirements become more stringent.	complexity and Interface	COST	Probablility 3=Med (20-39%) **Med** Impact 4 =Med		Design/PM	Permanent BMPs are required for increase impervious surface areas.	ACCEPT	Communicate with Stormwater Coordinator to ensure that any potential changes in regulation are anticipated and addressed properly.		180 PREPARE AND APPROVE PROJECT REPORT AND FINAL ENVIRONMENTAL DOCUMENT	1/26/2015. No status change.

Approved by:_____
date

Project Risk Register

	DIST- EA 03-1F1700					Project Name: SR65 C&O Improvements			Project Manager: Matt Brogan							Date Created:	Last Updated:
						Co - Rte - PM: PLA-65-6.5-12.8			Telephone: (916) 381-9100								
ITEM	ID #	Status	Threat / Opport-unity	Category	Date Risk Identified	Risk Description	Root Causes	Primary Objective	Overall Risk Rating	Cost/Time Impact Value	Risk Owner	Risk Trigger	Strategy	Response Actions w/ Pros & Cons	Adjusted Cost/Time Impact Value	WBS Item	Status Date and Review Comments
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
15	03-1F1700-15	Active	**Threat**	DESIGN	05/08/12	Terminus of HOV lanes on SR65.	complexity and Interface	SCOPE	Probablility 3=Med (20-39%) **Med** Impact 4 =Med		Design/PM	The risk occurs if the HOV lanes are not in place.	MITIGATE	Need to confirm with the schedule of 80/65 interchange project. If HOV lanes are not going in prior to this project then the termination of the HOV lanes will change.		180 PREPARE AND APPROVE PROJECT REPORT AND FINAL ENVIRONMENTAL DOCUMENT	5/19/2016. No status change.
16	03-1F1700-16	Retired	**Threat**	R/W	05/08/12	Condemnation of property required.	complexity and Interface	TIME	Probablility 2=Low (10-19%) **High** Impact 8 =High		R/W/PM	The risk occurs when design exception of nonstandard side slope is not approved and R/W take is required.	ACCEPT	Need to work with HQ Design Coordinator to ger the design exception approved.		195 RIGHT OF WAY PROPERTY MANAGEMENT AND EXCESS LAND	5/19/2016. Right of Way acquisition not required for project.
17	03-1F1700-17	Active	**Threat**	DESIGN	05/08/12	Coordinate project with other state/city/county projects.	complexity and Interface	TIME	Probablility 3=Med (20-39%) **Low** Impact 2 =Low		Design/PM	Unknown project impacts from other projects.	ACCEPT	Revise design as necessary to match any changes during the final design.		185 PREPARE BASE MAPS AND PLAN SHEETS	5/19/2016. No status change.
18	03-1F1700-18	Active	**Threat**	DESIGN	08/16/12	Extend auxiliary/transition lane southward to the I-80 on both sides of SR65.	complexity and Interface	SCOPE	Probablility 2=Low (10-19%) **Med** Impact 4 =Med		Traffic/Design/PM	The risk occurs if the I-80/SR65 interchange project does not include the auxiliary/transition lanes from the I-80 to post mile 6.5	MITIGATE	Need to confirm with the scope of I-80/SR65 project. If auxiliary/transition lanes are not going to be a part that project, then this project will need to do a Project Change request to change the limits of		180 PREPARE AND APPROVE PROJECT REPORT AND FINAL ENVIRONMENTAL DOCUMENT	5/19/2016. The latest I-80/SR65 IC preferred alternative provides aux lanes on SR65 till Galleria Blvd IC.
19	03-1F1700-19	Retired	**Threat**	DES	01/26/15	Acceess to adjacent properties is necessary to resolve constructability requirements.	complexity and Interface	COST	Probablility 3=Med (20-39%) **Med** Impact 4 =Med		Design/RW	Not enough R/W or TCE are maintained for the project constructability consideraton	AVOID	Identify early in the planning for project constructability.		195 RIGHT OF WAY PROPERTY MANAGEMENT AND EXCESS LAND	5/19/2016. Right of Way acquisition not required for project.
20	03-1F1700-20	Retired	**Threat**	ENV	01/26/15	Hazardous materials in existing bridges; lead paint, contaminated soil, asbestos bearings and shims.	complexity and Interface	TIME	Probablility 2=Low (10-19%) **Med** Impact 4 =Med		Env/Design	Hazardous materials are discovered during bridge widening activities.	MITIGATE	Include mitigation measures to handle haradous materials in the environmental document.		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	5/19/2016. ADL Assessment concludes excavated soil is not hazardous; testing/field observation did not detect lead paint/asbestos in bridge.

Approved by:_____
date