10 – CAL – 4 – PM R10.3/R16.4
EA 10-0E5300 – ID 1000000025 – PPNO -3067
Program Code 20.XX.075.600 (RIP Highway Projects)
December 2016

Project Report

For Project Approval

On Route 4

Between Bonanza Mine Way

And Stockton Road

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

JAIME LUPO, *CHIEF CENTRAL REGION, RIGHT OF WAY*

APPROVAL RECOMMENDED:

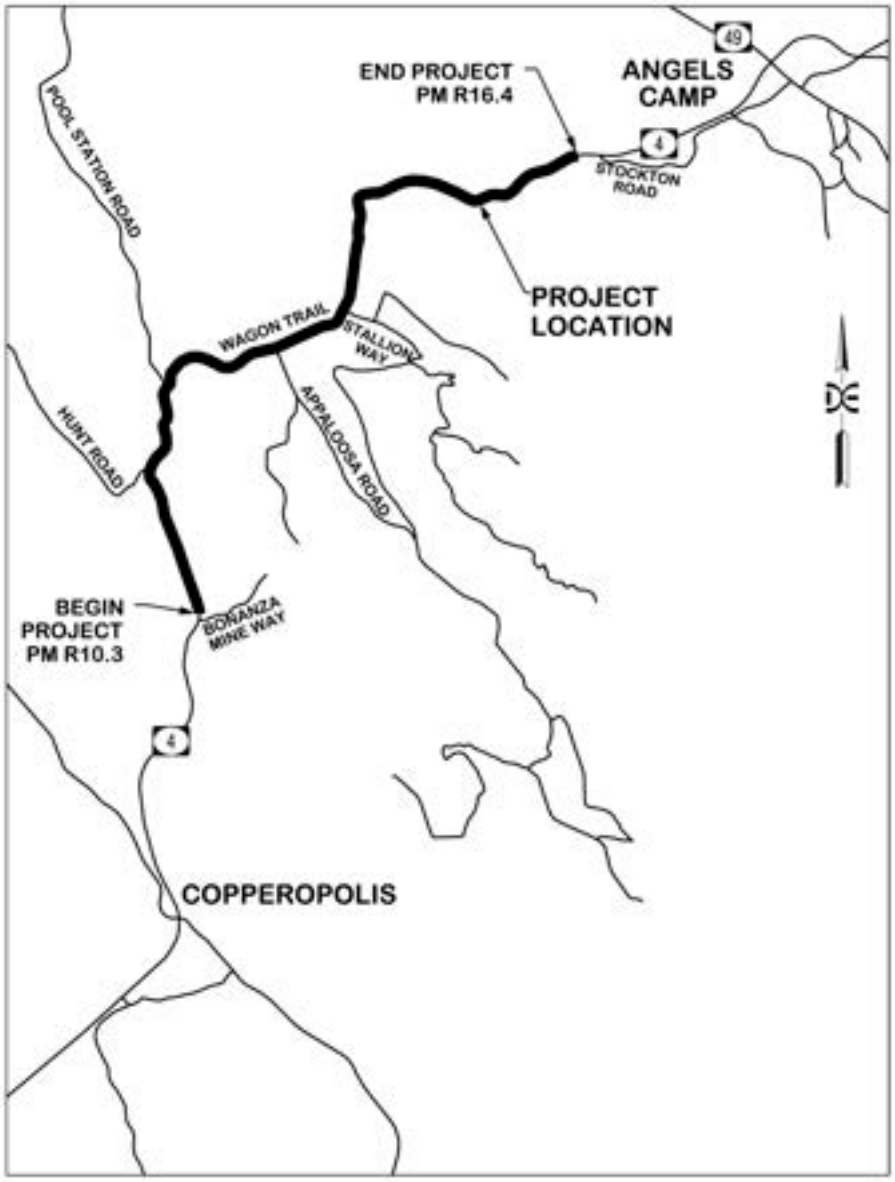
GRACE MAGSAYO, *PROJECT MANAGER*

PROJECT APPROVED:

For DENNIS T. AGAR, *DISTRICT DIRECTOR*

1/10/2017
DATE

Vicinity Map



In CALAVERAS COUNTY from APPROXIMATELY 2.6 MILES EAST of COPPEROPOLIS (NEAR BONANZA MINE WAY) to APPROXIMATELY 1.6 MILES WEST of the STATE ROUTE 4/49 JUNCTION (NEAR STOCKTON ROAD)

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.

REGISTERED CIVIL ENGINEER

12/21/16
DATE

REGISTERED PROFESSIONAL ENGINEER
Juann Ramos
No. 61931
Exp. 09/30/17
CIVIL
STATE OF CALIFORNIA

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1. INTRODUCTION

The California Department of Transportation (Caltrans) and Calaveras County (County) propose to improve a segment of State Route 4 (SR 4) from approximately 2.6 miles east of Copperopolis (near Bonanza Mine Way) to approximately 1.6 miles west of the State Route 4/49 Junction (near Stockton Road). The SR 4 Wagon Trail Realignment Project is approximately 6 miles in length, and is located in Calaveras County, California. Caltrans is the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) lead agency. **Attachment A** provides a map of the project vicinity. This project has been assigned a Project Development Category 1.

Three viable alternatives have been selected for consideration. The two Build Alternatives, Alternative 1 and Alternative 2, realign SR 4 to improve safety and traffic operations within the project area. The No Build Alternative proposes to maintain the existing SR 4 alignment. Build Alternative 2 has been selected as the Preferred Alternative. The project alternative layouts are illustrated in **Attachment B** and are described in more detail in the "Alternatives" section of this Project Report (PR).

The total estimated capital cost for the Preferred Alternative, Build Alternative 2, escalated for the year of construction (year 2020), is $ $73,650,000, which includes right of way and construction costs.

Project Limits	10 – Calaveras – 4 – PM R10.3/R16.4	
Number of Alternatives	3	
	Current Cost Estimate:	**Escalated Cost Estimate (year 2020):**
Capital Outlay Support*	$19,176,000	$20,954,000
Capital Outlay Construction	$66,435,000	$72,595,000
Capital Outlay Right of Way	$965,000	$1,055,000
Funding Source	Unfunded	
Funding Year	2016	
Type of Facility	Access Controlled Expressway	
Number of Structures	6	
Environmental Determination or Document	CEQA Initial Study/Mitigated Negative Declaration NEPA Environmental Assessment with Finding of No Significant Impact	
Legal Description	Wagon Trail Realignment Project	
Project Development Category	1	

*Includes right of way support costs

2. RECOMMENDATION

It is recommended that the project be approved using Build Alternative 2 as the preferred alternative, as included with this Project Report, and that the project proceed to the design phase. In compliance with environmental requirements, an

Initial Study/Mitigated Negative Declaration (IS/MND) under the California Environmental Quality Act (CEQA) and an Environmental Assessment (EA) with a Finding of No Significant Impact (FONSI) under the National Environmental Policy Act (NEPA) were prepared and approved for the project. The affected local agencies have been consulted regarding the project, their input considered, and are in general accord with the proposed plan.

3. BACKGROUND

A. PROJECT HISTORY

In the early 1960s, the Division of Highways began studies to upgrade the segment of SR 4 between the San Joaquin/Stanislaus County line and the junction of SR 49 in Angels Camp. A freeway route from Post Mile R10.0 to Post Mile R21.4 was adopted in 1963. Freeway agreements covering the highway from Post Mile R10.0 to Post Mile R21.4 were executed in 1969.

In January 1985, the California Transportation Commission passed Resolution HRA 85-9 that included the designation of the new segment of SR 4 as a Controlled Access Highway.

In 1989, Caltrans started construction to widen and realign a 0.6-mile segment of SR 4 east of Copperopolis, from Post Mile R9.9 to Post Mile R10.5. The project upgraded this segment to a 40-foot standard two-lane limited access highway and was completed in 1991.

In April 2001, Caltrans prepared a Project Study Report – Project Development Support (PSR-PDS) document for the Wagon Trail Project that identified a need to make improvements to the roadway to improve safety operations. As noted in the PSR-PDS, this project was intended to relieve current and future congestion and enhance safety, as well as improve system continuity.

Additionally, other projects within the project area have been recently completed or are currently under development, including:

- Pool Station Road Intersection (EA 10-0A010, PM 14.5/14.9) – Realign and widen SR 4. Project completed in 2012.
- Calaveras Rubberized Hot Mix Asphalt (RHMA) Overlay (EA 10-0X390; PM R0.0/R21.1) – Rubberized hot mix asphalt overlay of SR 4. Ready to List January 2015
- SR 4 Hunt Road Slope Repair (EA 10-0Y180; PM 14.0/14.5) – Along eastbound SR 4 from Hunt Road to 0.2 miles west of Pool Station Road. Currently in PA&ED phase with planned delivery in 2018/2019.

The current Post Mile Log for SR 4 has not been recently updated to reflect route realignments made by many of the projects listed above. The existing physical post miles along SR 4 within the project area based on the current SR 4 Post Mile Log correspond to PM 12.66 to PM 19.10, and therefore these post miles were used as the basis for environmental and engineering studies for this report. After completion of

the Wagon Trail Realignment project, SR 4 will be adjusted to accommodate all of the route realignments, giving the project post miles of PM R10.3 to R16.4.

B. COMMUNITY INTERACTION

Public participation for this project has been accomplished through a variety of formal and informal meetings and other project outreach. The following public meetings and workshops have been held:

TABLE 1: Public Outreach Summary

Outreach	Date	Goal
Workshop #1	Nov. 19, 2009	Discuss potential corridors; Identify project issues; Explore opportunities; Document community values; Discuss project constraints
Workshop #2	May 25, 2010	Review refined project alternatives; Back-check with community values; Discuss new community concerns
Workshop #3	Sept. 9, 2010	Review Draft Project Alternatives; Back-check community values; Discuss alignments that would be carried forward through the environmental process
Property Owner Meeting	May 26, 2011	Introduce new Calaveras Council of Governments Executive Director; Answer questions related to the project; Answer questions related to the request by Caltrans and Calaveras Council of Governments to secure right-of-entry onto property
Project Update Meeting	Dec. 15,2011	Introduce the project feasibility analysis and the two identified alternatives
Workshop #4	April 10, 2013	Present final roadway alignments
Open House Public Meeting	Oct. 24, 2013	Provide a project status update, obtain input on the project concept alignments, and address public concern/obtain public comment.
Public Hearing	Oct. 8, 2015	Present the project to interested members of the community and solicit comments on the environmental document

Additional meetings/discussions with sixteen property owners took place between August 2013 and January 2014 to obtain input and discuss owner-specific questions and concerns.

A public hearing was held on October 8, 2015, during which representatives from the County, Caltrans, Calaveras Council of Governments (CCOG), and Dokken Engineering presented the project to interested members of the local community. Additionally, notices placed in the newspaper informed the public of the availability of the environmental document for review during the circulation period. Nineteen (19) comments/letters/emails were received during the circulation period from

September 25, 2015 to October 24, 2015. These comments were included and addressed in the final IS/MND and EA.

Controversy associated with the acquisition of private property is expected. The Project Development Team (PDT), including representatives from Caltrans, Calaveras County, and the CCOG, will initiate communication and coordination with the property owners. Right of way acquisition will occur after the completion of environmental clearance.

C. EXISTING FACILITY

SR 4 is a major inter-regional west/east route through Calaveras County, a region that has among the highest percentage growth rate in the state. The highway begins near Hercules in Contra Costa County and ends at Route 89, south of Markleeville in Alpine County. This route is utilized primarily by commuters who live in Calaveras County and work in the Central Valley, as well as by recreational users. SR 4 is the primary access route to Calaveras Big Trees State Park and to ski resorts in Alpine County. Additionally, SR 4 is a main route for logging trucks and other heavy vehicles providing goods movement through the County. SR 4, within the project limits, is a two-lane west/east highway.

The majority of SR 4 within the project area does not meet current design standards. The existing pavement width varies from 20 to 25 feet, including shoulder widths that vary from 0 to 4 feet. Access to SR 4 is currently uncontrolled; vehicles are able to enter or exit the facility from connecting private driveways, commercial driveways, city streets and County roads. The terrain within the project area is characterized by rolling hills.

Within the project area, side-street stop controlled intersections are located at Hunt Road, Pool Station Road, Appaloosa Road, and Stallion Way.

A project completed by Caltrans in 2012 improved SR 4 at the intersection of Pool Station Road. The project realigned the intersection to provide increased sight distance, and improved SR 4 to include standard lane widths and shoulders. Additionally, the project added a left-turn pocket for eastbound SR 4 traffic. The overall project length was approximately 0.3 miles.

4. PURPOSE AND NEED

A. PROBLEM, DEFICIENCIES, JUSTIFICATION

The purpose of the SR 4 Wagon Trail Realignment Project is to:

- Enhance safety;
- Improve sight distance; and
- Limit access to SR 4.

The proposed project is needed due to the narrow lanes and no adjacent shoulders that exist within the project area. The horizontal and vertical alignments follow the existing rolling topography, resulting in numerous curves and limited sight distance. The width and geometry of the roadway, combined with the high traffic volumes,

increases the number of accidents throughout the project. Currently, there is uncontrolled access to SR 4.

B. REGIONAL AND SYSTEM PLANNING

Identify Systems

SR 4 is a west/east highway beginning at Interstate 80 in Contra Costa County and ending at State Route 89 Alpine County. Within Calaveras County, SR 4 is functionally classified as a Minor Arterial. Through the County, SR 4 is not part of the Federal Freeway and Expressway System, the National Highway System (NHS), or the Strategic Highway Corridor Network of National Defense (STRAHNET); however, the route is considered Regionally Significant and is on the Interregional Road System (IRRS), although not designated as a high emphasis or focus route. SR 4 is on the State Transportation Assistance Act (STAA) network, although is listed as an Advisory Route through the project area. Additionally, SR 4 within the County is identified as accessible to bicycles.

State Planning

The Transportation Concept Report for SR 4 (January 2014) includes segments through Calaveras County; however, the TCR indicates that planning for the portion of SR 4 that runs through the County is addressed through the SR 4 Corridor System Management Plan (CSMP). The CSMP (October 2008) states that the concept facility and ultimate transportation corridor (UTC) through the study area is a four-lane expressway. The SR 4 Wagon Trail Realignment project is included in the CSMP.

Regional Planning

The SR 4 Wagon Trail Realignment project is listed in the CCOG 2012 Calaveras County Regional Transportation Plan (RTP), submitted on October 3, 2012. The project is also listed in the CCOG 2012 Regional Transportation Improvement Program (RTIP). The current description in the RTIP and RTP is consistent with the proposed build alternatives. Updates to the project description and programmed funding in the RTP and RTIP will occur with the completion of the Project Report and Environmental Document.

Local Planning

The Calaveras County General Plan (December 1996) includes SR 4 in the list of State Highways within the County. No planned improvements to SR 4 are identified in the General Plan. The Calaveras County Bicycle Master Plan (October 2007) identifies that SR 4 through the project area is planned as a Class III Bike Route.

Transit Operator Planning

The project segment of SR 4 is currently served by Bus Route 5 operated by Calaveras Transit. Route 5 runs from Copperopolis to Angels Camp with five scheduled stops at the O'Byrnes Ferry Road Chevron, Copper Library, Copper Cove

at Little John Road, Cooper Town Squire, and State Route 49 at Demarest Transfer Stop.

C. TRAFFIC

Current and Forecasted Traffic

The Final Traffic Operations Analysis Report (TOAR), approved in March 2014, forecasts traffic volumes and operations analysis within the project area.

Traffic counts for this project were collected in February 2013 for both the morning (AM) and evening (PM) peak period at each of the four study intersections within the project area: SR 4/Hunt Road, SR 4/Pool Station Road, SR/Appaloosa Road, and SR/Stallion Way. The volume results of the one-day count were adjusted (increased) to be consistent with the total roadway volume from the 2011 Traffic Volumes on California State Highways for SR 4 PM 8.143. Therefore, existing AM and PM peak hour volumes represent peak month – peak hour volumes. Construction Year 2020 and Design Year 2040 travel demand forecasts also represent peak month – peak hour volumes.

Future volume forecasts for the Year 2020 and Year 2040 for the project alternatives were developed consistent with the methodologies presented in the approved TOAR. It was assumed that the vehicle mix for existing conditions (truck percentages) would be the same for the future and existing conditions

Intersection Traffic Operations

Caltrans considers level of service (LOS) D as the minimum standard for intersections within the Caltrans right of way. **Table 2** shows that the studied intersections within the SR 4 Wagon Trail Realignment project area currently operate at acceptable LOS A conditions for all movements during both the AM and PM peak hours with very short delays.

TABLE 2: Intersection Analysis
Existing Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. SR 4/ Hunt Road	Side-Street Stop	EB LT = 1.8 EB TH = 1.5 WB TH = 1.6 WB RT = 0.5 SB LT = 6.0 SB RT = 3.2 Entire = 1.6	LOS A LOS A LOS A LOS A LOS A LOS A LOS A	EB LT = 2.2 EB TH = 1.4 WB TH = 2.0 WB RT = 0.7 SB LT = 6.8 SB RT = 3.9 Entire = 1.8	LOS A LOS A LOS A LOS A LOS A LOS A LOS A
2. SR 4/Pool Station Road	Side-Street Stop	EB LT = 2.2 EB TH = 1.4 WB TH = 4.4 WB RT = 2.7 SB LT = 7.4 SB RT = 6.3 Entire = 2.9	LOS A LOS A LOS A LOS A LOS A LOS A LOS A	EB LT = 2.6 EB TH = 1.3 WB TH = 5.2 WB RT = 3.0 SB LT = 8.2 SB RT = 7.2 Entire = 3.8	LOS A LOS A LOS A LOS A LOS A LOS A LOS A
3. SR 4/ Appaloosa Road	Side-Street Stop	EB TH = 1.9 EB RT = 0.6 WB LT = 3.5 WB TH = 3.6 NB LT = 6.7 NB RT = 3.5 Entire = 2.7	LOS A LOS A LOS A LOS A LOS A LOS A LOS A	EB TH = 1.9 EB RT = 0.6 WB LT = 5.1 WB TH = 5.2 NB LT = 7.6 NB RT = 3.2 Entire = 3.7	LOS A LOS A LOS A LOS A LOS A LOS A LOS A
4. SR 4/ Stallion Way	Side-Street Stop	EB TH = 4.4 EB RT = 3.4 WB LT = 3.3 WB TH = 2.6 NB LT = 6.6 NB RT = 3.8 Entire = 3.7	LOS A LOS A LOS A LOS A LOS A LOS A LOS A	EB TH = 4.2 EB RT = 3.3 WB LT = 4.2 WB TH = 3.9 NB LT = 8.1 NB RT = 3.1 Entire = 4.0	LOS A LOS A LOS A LOS A LOS A LOS A LOS A

Table 3 shows the study intersections under Design Year 2040 No Build conditions. All of the 28 movements will continue to operate at acceptable LOS D conditions or better during the morning peak hour. The following key movements will marginally degrade during the AM peak hour:

- The southbound left-turn movement from Hunt Road to eastbound SR 4 marginally declines from acceptable LOS A to acceptable LOS C conditions;
- The southbound left-turn movement from Pool Station Road to eastbound SR 4 marginally declines from acceptable LOS A to acceptable LOS D conditions;

- The southbound right-turn movement from Pool Station Road to westbound SR 4 marginally declines from acceptable LOS A to acceptable LOS B conditions;
- The northbound left-turn movement from Appaloosa Road to westbound SR 4 marginally declines from acceptable LOS A to acceptable LOS B conditions; and
- The northbound left-turn movement from Stallion Road to westbound SR 4 marginally declines from acceptable LOS A to acceptable LOS B conditions.

During the evening peak hour, 27 of the 28 movements will continue to operate at acceptable LOS D conditions or better. The following key movements will marginally degrade during the PM peak hour:

- The southbound left-turn movement from Hunt Road to eastbound SR 4 marginally declines from acceptable LOS A to acceptable LOS C conditions;
- The southbound left-turn movement from Pool Station Road to eastbound SR 4 marginally declines from acceptable LOS A to unacceptable LOS E conditions;
- The southbound right-turn movement from Pool Station Road to westbound SR 4 marginally declines from acceptable LOS A to acceptable LOS C conditions;
- The northbound left-turn movement from Appaloosa Road to westbound SR 4 marginally declines from acceptable LOS A to acceptable LOS B conditions; and
- The northbound left-turn movement from Stallion Road to westbound SR 4 marginally declines from acceptable LOS A to acceptable LOS C conditions.

Under the Design Year 2040 No Build conditions, none of the four study intersections that are currently side-street stop controlled intersections meet AM or PM peak hour signal warrants.

TABLE 3: Intersection Analysis
Design Year 2040 No Build Alternative Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. SR 4/ Hunt Road	Side-Street Stop	EB LT = 5.1 EB TH = 3.2 WB TH = 2.6 WB RT = 0.9 SB LT = 18.0 SB RT = 7.0 Entire = 3.5	LOS A LOS A LOS A LOS A LOS C LOS A LOS A	EB LT = 6.8 EB TH = 3.1 WB TH = 3.1 WB RT = 1.3 SB LT = 21.8 SB RT = 9.1 Entire = 3.6	LOS A LOS A LOS A LOS A LOS C LOS A LOS A
2. SR 4/Pool Station Road	Side-Street Stop	EB LT = 7.1 EB TH = 2.1 WB TH = 7.0 WB RT = 4.0 SB LT = 28.8 SB RT = 10.6 Entire = 5.9	LOS A LOS A LOS A LOS A LOS D LOS B LOS A	EB LT = 9.9 EB TH = 1.9 WB TH = 7.7 WB RT = 4.4 **SB LT = 39.5** SB RT = 20.5 Entire = 8.3	LOS A LOS A LOS A LOS A **LOS E** LOS C LOS A
3. SR 4/ Appaloosa Road	Side-Street Stop	EB TH = 2.6 EB RT = 1.0 WB LT = 6.8 WB TH = 5.5 NB LT = 12.2 NB RT = 7.1 Entire = 4.1	LOS A LOS A LOS A LOS A LOS B LOS A LOS A	EB TH = 2.7 EB RT = 0.9 WB LT = 9.1 WB TH = 7.1 NB LT = 16.8 NB RT = 6.8 Entire = 5.4	LOS A LOS A LOS A LOS A LOS C LOS A LOS A
4. SR 4/ Stallion Way	Side-Street Stop	EB TH = 5.7 EB RT = 4.2 WB LT = 7.0 WB TH = 4.4 NB LT = 13.5 NB RT = 8.0 Entire = 5.4	LOS A LOS A LOS A LOS A LOS B LOS A LOS A	EB TH = 5.6 EB RT = 4.1 WB LT = 7.1 WB TH = 5.8 NB LT = 15.2 NB RT = 5.2 Entire = 5.7	LOS A LOS A LOS A LOS A LOS C LOS A LOS A

Bolded cells represent average delay and LOS that exceeds Caltrans LOS D standard

Table 4 shows the study intersections under Design Year 2040 with the Build Alternatives conditions. As part of the realignment project, several driveways east of Stallion Way with direct access to SR 4 will be consolidated. This consolidated driveway location was included in the Design Year 2040 with the Build Alternatives analysis as a study intersection.

TABLE 4: Intersection Analysis
Design Year 2040 with Build Alternatives Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. SR 4/ Hunt Road	Side-Street Stop	EB LT = 3.3 EB TH = 2.3 WB TH = 2.3 WB RT = 0.7 SB LT = 20.2 SB RT = 7.1 Entire = 3.0	LOS A LOS A LOS A LOS A LOS C LOS A LOS A	EB LT = 7.2 EB TH = 2.0 WB TH = 2.9 WB RT = 1.0 SB LT = 24.6 SB RT = 11.4 Entire = 3.2	LOS A LOS A LOS A LOS A LOS C LOS B LOS A
2. SR 4/Pool Station Road	Side-Street Stop	EB LT = 6.4 EB TH = 2.1 WB TH = 6.5 WB RT = 3.9 SB LT = 29.3 SB RT = 10.8 Entire = 5.7	LOS A LOS A LOS A LOS A LOS D LOS B LOS A	EB LT = 8.4 EB TH = 1.9 WB TH = 7.4 WB RT = 4.4 *SB LT = 29.6* SB RT = 17.3 Entire = 7.4	LOS A LOS A LOS A LOS A *LOS D* LOS C LOS A
3. SR 4/ Appaloosa Road	Side-Street Stop	EB TH = 2.6 EB RT = 1.0 WB LT = 6.6 WB TH = 4.4 NB LT = 13.3 NB RT = 8.3 Entire = 3.7	LOS A LOS A LOS A LOS A LOS B LOS A LOS A	EB TH = 2.7 EB RT = 0.9 WB LT = 7.5 WB TH = 5.1 *NB LT = 14.5* NB RT = 6.7 Entire = 4.3	LOS A LOS A LOS A LOS A *LOS B* LOS A LOS A
4. SR 4/ Stallion Way	Side-Street Stop	EB TH = 5.8 EB RT = 4.4 WB LT = 5.5 WB TH = 2.1 NB LT = 14.3 NB RT = 7.8 Entire = 4.6	LOS A LOS A LOS A LOS A LOS B LOS A LOS A	EB TH = 5.5 EB RT = 3.9 WB LT = 4.4 WB TH = 2.5 *NB LT = 15.0* NB RT = 5.8 Entire = 4.0	LOS A LOS A LOS A LOS A *LOS B* LOS A LOS A
5. SR 4/ Consolidated Driveway	Side-Street Stop	EB LT = 0.0 EB TH = 2.6 EB RT = 0.0 WB LT = 0.0 WB TH = 2.6 WB RT = 1.7 NB LT = 13.8 SB LT = 0.0 SB RT = 3.2 Entire = 2.6	LOS A LOS A LOS A LOS A LOS A LOS A LOS B LOS A LOS A LOS A	EB LT = 3.7 EB TH = 2.5 EB RT = 0.9 WB LT = 0.0 WB TH = 3.3 WB RT = 2.4 NB LT = 12.8 SB LT = 0.0 SB RT = 2.4 Entire = 3.0	LOS A LOS A LOS A LOS A LOS A LOS A LOS B LOS A LOS A LOS A

Bolded cells represent average delay and LOS that exceeds Caltrans LOS D standard
Italicized and underlined cells represent LOS improved when compared to No Build conditions

When comparing Design Year 2040 with the Build Alternatives to the with No Build Alternative conditions, the results show that all 28 movements will continue to operate at acceptable LOS D conditions or better during the AM peak hour conditions. During PM peak hour conditions, all 28 of the movements will also operate at acceptable LOS D conditions or better. **Table 4** shows that as a direct result of the SR 4 Wagon Trail Realignment project, the following movements will improve:

- The southbound left-turn movement from Pool Station Road to eastbound SR 4 will improve from unacceptable LOS E with average delays of 39.5 seconds to acceptable LOS D with average delays of 29.6 seconds;
- The northbound left-turn movement from Appaloosa road to westbound SR 4 will marginally improve from acceptable LOS C with average delays of 16.8 seconds to acceptable LOS B with average delays of 14.5 seconds; and
- The northbound left-turn movement from Stallion Road to westbound SR 4 will marginally improve from acceptable LOS C with average delays of 15.2 seconds to acceptable LOS B with average delays of 15.0 seconds.

At the new SR 4/Consolidated Driveway intersection, the results show that all 10 movements will operate at acceptable LOS A and LOS B conditions during both AM and PM peak hours.

Under the Design Year 2040 with the Build Alternatives conditions, none of the four study intersections that are currently side-street stop controlled intersections meet AM or PM peak hour signal warrants.

Network Performance

As part of the TOAR, a network performance analysis was conducted to evaluate measures of effectiveness of the proposed project on the corridor. The network performance results and average travel speeds in **Table 5** set the baseline conditions for existing AM and PM peak hour conditions.

TABLE 5: Total Network Performance
Existing Conditions

Measure of Effectiveness	AM Peak Hour	PM Peak Hour
Total Vehicles Hours of Delay	7.0 VHD	8.4 VHD
Total Stops	163 Stops	149 Stops
Average Delay per Vehicle	32.9 Seconds	35.9 Seconds
Vehicle Miles of Travel	4,408 VMT	4,878 VMT
Vehicle Hours Travelled	90.4 VHT	100.7 VHT
Total Fuel Consumption	126.3 gallons	139.3 gallons
Total Vehicle Emissions	2,400 lbs	2,647 lbs
EB SR 4 – PM 12.66to Hunt Road	52 MPH – LOS A	52 MPH – LOS A
EB SR 4 – Hunt Road to Pool Station Road	51 MPH – LOS A	51 MPH – LOS A
EB SR 4 – Pool Station Road to Appaloosa Road	50 MPH – LOS A	50 MPH – LOS A
EB SR 4 – Appaloosa Road to Stallion Way	49 MPH – LOS A	49 MPH – LOS A
EB SR 4 – Stallion Way to PM 19.10	49 MPH – LOS A	50 MPH – LOS A
EB SR 4 PM 12.66 to PM 19.10	50.1 MPH – LOS A	50.5 MPH – LOS A
WB SR 4 – PM 19.10 to Stallion Way	52 MPH – LOS A	51 MPH – LOS A
WB SR 4 – Stallion Way to Appaloosa Road	50 MPH – LOS A	49 MPH – LOS A
WB SR 4 – Appaloosa Road to Pool Station Road	50 MPH – LOS A	49 MPH – LOS A
WB SR 4 – Pool Station Road to Hunt Road	50 MPH – LOS A	49 MPH – LOS A
WB SR 4 – Hunt Road to PM 12.66	49 MPH – LOS A	48 MPH – LOS A
WB SR 4 – PM 19.10 to PM 12.66	50.6 MPH – LOS A	49.6 MPH – LOS A

The network performance results and average travel speeds in **Table 6** set the baseline conditions for the Design Year 2040 No Build Alternative AM and PM peak hour conditions.

TABLE 6: Total Network Performance
Design Year 2040 No Build Alternative Conditions

Measure of Effectiveness	AM Peak Hour	PM Peak Hour
Total Vehicles Hours of Delay	20.5 VHD	24.3 VHD
Total Stops	496 Stops	548 Stops
Average Delay per Vehicle	45.0 Seconds	49.6 Seconds
Vehicle Miles of Travel	8,883 VMT	9,570 VMT
Vehicle Hours Travelled	190.2 VHT	207.1 VHT
Total Fuel Consumption	255.3 gallons	275.1 gallons
Total Vehicle Emissions	4,851 lbs	5,227 lbs
EB SR 4 – PM 12.66 to Hunt Road	50 MPH – LOS A	50 MPH – LOS A
EB SR 4 – Hunt Road to Pool Station Road	48 MPH – LOS A	49 MPH – LOS A
EB SR 4 – Pool Station Road to Appaloosa Road	49 MPH – LOS A	49 MPH – LOS A
EB SR 4 – Appaloosa Road to Stallion Way	48 MPH – LOS A	48 MPH – LOS A
EB SR 4 – Stallion Way to PM 19.10	48 MPH – LOS A	49 MPH – LOS A
EB SR 4 PM 12.66 to PM 19.10	48.6 MPH – LOS A	49.1 MPH – LOS A
WB SR 4 – PM 19.10 to Stallion Way	50 MPH – LOS A	49 MPH – LOS A
WB SR 4 – Stallion Way to Appaloosa Road	48 MPH – LOS A	46 MPH – LOS B
WB SR 4 – Appaloosa Road to Pool Station Road	48 MPH – LOS A	47 MPH – LOS A
WB SR 4 – Pool Station Road to Hunt Road	47 MPH – LOS A	46 MPH – LOS B
WB SR 4 – Hunt Road to PM 12.66	48 MPH – LOS A	47 MPH – LOS A
WB SR 4 – PM 19.10 to PM 12.66	48.7 MPH – LOS A	47.7 MPH – LOS A

Table 7 shows the network performance results and average travel speeds for the Design Year 2040 with Build Alternatives AM and PM peak hour conditions.

TABLE 7: Total Network Performance
Design Year 2040 with Build Alternatives Conditions

Measure of Effectiveness	AM Peak Hour	PM Peak Hour
Total Vehicles Hours of Delay	18.6 VHD (-9.3%)	21.4 VHD (-11.9%)
Total Stops	479 Stops (-3.4%)	503 Stops (-8.2%)
Average Delay per Vehicle	41.1 Seconds (-8.7%)	44.4 Seconds (-10.5%)
Vehicle Miles of Travel	8,210 VMT (-7.6%)	8,837 VMT (-7.7%)
Vehicle Hours Travelled	176.3 VHT (-7.6%)	191.4 VHT (-7.6%)
Total Fuel Consumption	236.8 gallons (-7.2%)	253.9 gallons (-7.7%)
Total Vehicle Emissions	4,500 lbs (-7.2%)	4,824 lbs (-7.7%)
EB SR 4 – PM 12.66 to Hunt Road	50 MPH – LOS A (No Change)	51 MPH – LOS A (+1.0 MPH)
EB SR 4 – Hunt Road to Pool Station Road	49 MPH – LOS A (+1.0 MPH)	49 MPH – LOS A (No Change)
EB SR 4 – Pool Station Road to Appaloosa Road	49 MPH – LOS A (No Change)	49 MPH – LOS A (No Change)
EB SR 4 – Appaloosa Road to Stallion Way	47 MPH – LOS A (-1.0 MPH)	48 MPH – LOS A (No Change)
EB SR 4 – Stallion Way to PM 19.10	48 MPH – LOS A (No Change)	49 MPH – LOS A (No Change)
EB SR 4 PM 12.66 to PM 19.10	48.6 MPH – LOS A (+0.1 MPH)	49.4 MPH – LOS A (+0.3 MPH)
WB SR 4 – PM 19.10 to Stallion Way	51 MPH – LOS A (+1.0 MPH)	50 MPH – LOS A (+1.0 MPH)
WB SR 4 – Stallion Way to Appaloosa Road	49 MPH – LOS A (+1.0 MPH)	*48 MPH – LOS A* (+2.0 MPH)
WB SR 4 – Appaloosa Road to Pool Station Road	48 MPH – LOS A (No Change)	47 MPH – LOS A (No Change)
WB SR 4 – Pool Station Road to Hunt Road	47 MPH – LOS A (No Change)	46 MPH – LOS B (No Change)
WB SR 4 – Hunt Road to PM 12.66	48 MPH – LOS A (No Change)	47 MPH – LOS A (No Change)
WB SR 4 – PM 19.10 to PM 12.66	49.2 MPH – LOS A (+0.5 MPH)	48.2 MPH – LOS A (+0.5 MPH)

Italicized and underlined cells represent LOS improved when compared to No Build conditions

Accident Rates

An accident analysis was performed based on the Traffic Accident Surveillance and Analysis System (TASAS) records on file at Caltrans for the segment of SR 4 from PM R10.3 to PM R19.4; however, no records were reviewed from PM 14.5 to PM 14.8 within the limits of the recently completed Pool Station Road intersection improvements (November 2012). Several geometric deficiencies were corrected with the intersection improvements and therefore potential causes of accidents at that location for the date range analyzed may no longer be applicable. The TASAS accident data reviewed was from January 1, 2010 to December 31, 2012, and is summarized in **Table 8**.

TABLE 8: TASAS Accident Rates from PM R10.3 to PM R19.4 (January 2010 to December 2012)

Segment	Actual			Statewide Average		
	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total
PM R10.3 to PM R14.5	0.00	1.04	1.59	0.032	0.73	1.46
PM R14.8 to PM R19.4	0.034	0.51	1.16	0.033	0.74	1.48

An analysis of the accident data indicates that the actual fatal plus injury and total accident rates for the first portion of the project area (PM R10.3 to PM R14.5 at approximately Pool Station Road) is higher than the statewide average for similar types of facilities. East of Pool Station Road, the total actual accident rate is lower than the total statewide average for similar facilities; however, the actual fatality rate for this segment is higher than average.

There were 57 accidents recorded total, most of which occurred along horizontal curves of the existing roadway and 20 took place in wet conditions. A majority of the accidents analyzed, 50 of 57, are categorized as “Hit Object” or “Overturning”, 35 and 15 respectively. Of the 35 “Hit Object” accidents, 20 struck the cut slope or embankment and 4 went over the embankment. Other objects hit included drainage ditches, fences, and trees.

It is anticipated that the improvements proposed by the Build Alternatives will reduce the collisions/accidents currently experienced in the project area.

5. ALTERNATIVES

A. VIABLE ALTERNATIVES

This PR studies three alternatives, including two build alternatives and a no build alternative.

Build Alternatives: Alternative 1 and Alternative 2 (Preferred Alternative)

The Build Alternatives, Alternative 1 and Alternative 2, both realign the existing SR 4 between Bonanza Mine Way to the west and just west of Stockton Road to the east.

Alternatives 1 and 2 will provide two 12-foot lanes, two 8-foot shoulders, and turn pockets at road intersections, as appropriate. This typical section is consistent with a Two-Lane Expressway, as defined the by Caltrans Highway Design Manual (HDM), Chapter 300. The existing access points for road intersections and driveways will be combined to avoid conflicts with merging and through traffic by utilizing frontage roads and collector streets.

Both build alternatives will provide a complete street facility that will allow for the mobility of all users, including vehicles, bicyclists, pedestrians, truckers and transit vehicles. Features included in the build alternatives that create a complete street for users other than vehicles are wide shoulders for use by bicyclists and pedestrians, widened turn around bulbs for use by transit buses, and geometrics that adequately accommodate large trucks. Additionally, the project will complete a widened and safer facility between Copperopolis and Angels Camp, creating a seamless and interconnected roadway between the two destinations.

Alternative 1 and 2 realign large portions of the existing highway in order to obtain standard roadway curvature and sight distances. Due to the topographic variations within the project area, these realignments require large amounts of earthwork, including cut and fill slopes.

Both build alternatives will provide for the conveyance of cross drainage at existing water crossing. These conveyance facilities include the construction of drainage pipes, culverts and bridges.

Based on the traffic results discussed previously in Section 4, the Build Alternatives will provide acceptable levels of service at all of the project study intersections as well as along the corridor segments. In addition, it is anticipated that the improvements proposed by the Build Alternatives will reduce collisions currently experienced in the project area.

Build Alternative 1 Proposed Engineering Features

Alternative 1 requires reconfiguration of intersections and portions of the adjoining roads to conform to the proposed project. These intersections include Hunt Road, Pool Station Road, Appaloosa Road, and Stallion Way.

The total length of Alternative 1 is approximately 5.6 miles, which reduces the length of travel for this segment of highway by approximately 0.8 miles (approximately 6.4 miles existing).

Conceptual geometrics and typical sections for Alternative 1 are included in **Attachment C**. Bridge Advance Planning Studies for Alternative 1 structures are include in **Attachment E**.

Build Alternative 2 (Preferred Alternative) Proposed Engineering Features

Alternative 2 requires reconfiguration of intersections and portions of the adjoining roads to conform to the proposed project. These intersections include: Hunt Road, Appaloosa Road and Stallion Way. Alternative 2 utilizes and conforms to the recent improvements at the intersection of SR 4 and Pool Station Road.

The total length of Alternative 2 is approximately 5.9 miles, which reduces the length of travel for this segment of highway by approximately 0.5 miles (approximately 6.4 miles existing).

Conceptual geometrics and typical sections for Alternative 2 are included in **Attachment D**. Bridge Advance Planning Studies for Alternative 2 structures are include in **Attachment F**.

Nonstandard Advisory Design Features

The following advisory design exception for the Build Alternative 2 (Preferred Alternative) was approved by Caltrans on June 30, 2016:

- (Advisory) Embankment (Fill) Slopes (HDM 304.1): Fill slopes along portions of SR 4 will be 2:1 instead of the standard 4:1. Flatter slopes would significantly increase the impacts to private property and sensitive environmental resources in select locations. Guardrail will be placed at locations where embankment fill heights are greater than 12 feet per the Caltrans Traffic Manual, Chapter 7, Figure 7-1.

Park and Ride Facilities

Future park and ride facilities are planned to be located west of the project area in Copperopolis, and east of the project area Angels Camp. The proposed improvements with the Build Alternatives will not impact these future park and ride facilities.

Utility and Other Owner Involvement

The following is a list of the existing utilities within the study area:

- AT&T
- Pacific Gas and Electric
- Calaveras Telephone Company
- Northern California Power Agency

The Build Alternatives will require potholing to determine if the underground utilities within the project limits will require relocation. In the event underground utilities do conflict with the proposed improvements or new underground drainage facilities, the utilities will have to be relocated to provide the required utility clearances. Overhead utility lines in conflict with the proposed improvements will also have to be relocated. In particular, Build Alternative 1 will impact a Pacific Gas and Electric (PG&E) overhead electric transmission line. The impacts will require relocation of large transmission towers. Coordination with utility companies regarding design, timing of relocation, and obtaining required right of way and easements will be completed during the final design phase of the project.

In order to determine the agency responsible for the costs involved with the design and construction of the utility relocations, research will be done to determine ownership and prior rights. After the determination of ownership and prior rights for each utility in the area, a "determination of liability" will be established in order to allocate funds appropriately for the design and relocation of the affected utilities.

Costs associated with utility relocations are included in the Right of Way Data Sheets included in **Attachment J**.

Railroad Involvement

No railroad facilities are located in or near the project area.

Highway Planting

Existing vegetation within the project area is primarily grassland with low brush and woodland areas that typically include a variety of oak trees, pine trees, and other miscellaneous tree varieties. Within Caltrans right of way, the minimum level of landscaping will be permanent erosion control re-vegetation on all exposed slopes and other disturbed areas. Plant species used as part of the re-vegetation will use only native varieties. Maintenance costs associated with permanent re-vegetation after the completion of construction is the responsibility of Caltrans.

Erosion Control

Costs for erosion control have been included in the project cost estimate. Erosion control plans will be prepared during the Plans, Specifications, and Estimate (PS&E) phase. See **Attachment G** for the Storm Water Data Report signature page.

Permanent erosion control will be applied to all disturbed soil areas. Within Caltrans right of way, the minimum level of permanent erosion control will be re-vegetation on all exposed slopes and other disturbed areas. Large 2:1 cut and embankment slopes will receive additional erosion control methods to prevent erosion prior to slope establishment. Standard construction site Best Management Practices (BMPs) will be utilized to prevent erosion and storm water impacts during construction. Slopes steeper than 4:1 will require an erosion control plan to be approved by the district Landscape Architect.

To comply with Caltrans' MS4 Permit (Order No. 2012-001-DWQ), effective July 1, 2013, Caltrans developed the Statewide Storm Water Management Plan to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The plan outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. Projects may be grandfathered in and might be exempt from the Caltrans Statewide hydromodification requirements if the Project Initiation Document (PID) was signed prior to July 1, 2013. The proposed project is not subject to the hydromodification requirements in the MS4 permit as the PID was signed prior to July 1, 2013. The proposed project is exempt from hydromodification requirements and rapid assessment of stream stability is not anticipated.

Noise Barriers

A Noise Study Report was prepared for the Build Alternatives and the No Build Alternative to identify the change in traffic noise levels that would occur with the highway realignment, and to consider noise levels due to construction activities associated with the project improvements. For the purpose of this analysis, the existing and future noise environments have been evaluated. Predicted noise levels

were compared to the applicable Caltrans/FHWA noise abatement criteria (NAC). The analysis was performed in accordance with the guidelines of the Caltrans Traffic Noise Analysis Protocol.

Based on the results of the noise analysis, it was found that predicted noise levels for the Design Year under the Build Alternatives are expected to increase up to 5 decibels (dB) over Design Year No Build Alternative noise levels. Although evaluated receivers would experience an increase in Design Year Build Alternatives noise levels, the increases do not cause noise levels to approach or exceed their respective NAC Activity Category criterion. Noise levels from existing to Build Alternative conditions are expected to increase up to 8 dB. The increase in noise levels from existing to Build Alternative conditions is due to the doubling of traffic volumes from existing to No Build conditions, with further traffic volume increases occurring under Build Alternatives conditions. Further, the new segment of roadway will bring traffic closer to existing sensitive receiver locations. However, the increases do not cause substantial increase, or cause noise levels to approach or exceed their respective NAC Activity criterion. Therefore, a noise abatement evaluation was not required.

Non-motorized and Pedestrian Features

The Build Alternatives include construction of 8-foot shoulders, consistent with Caltrans standards, which provide space for use of bicycles.

Needed Roadway Rehabilitation and Upgrading

All portions of the roadway for the Build Alternatives will include the construction of new full structural section, including locations where the proposed alignment uses the same alignment as the existing SR 4. The recently constructed Pool Station Road intersection will not be modified for Build Alternative 1.

Needed Structure Rehabilitation and Upgrading

The existing structures within the project area include small bridges and box culverts. As part of the project improvements, these existing bridges and box culverts will be reconstructed. See **Attachment E** for the Build Alternative 1 Bridge Advance Planning Studies and **Attachment F** for the Build Alternative 2 Bridge Advance Planning Studies.

Cost Estimates

For a complete estimate of construction costs for the Build Alternatives, see **Attachment H** and **Attachment I** for Alternative 1 and Alternative 2, respectively. To determine the most cost effective paving solution for the pavement life span, a Life Cycle Cost Analysis (LCCA) was prepared for the Build Alternatives prior to completion of the Final Project Report. The LCCA compared the cost benefits between using Hot Mix Asphalt versus Rubberized Hot Mix Asphalt. Rubberized Hot Mix Asphalt was determined to be the preferred pavement alternative at this time.

A summary of the costs for Build Alternative 1 is as follows:

Build Alternative 1

Roadway Items	$ 73,279,000
Structure Items	$ 6,000,000
Subtotal Construction Costs	$ 79,279,000
Right of Way Items	$ 3,875,000
Build Alternative 1 Total Project Capital Outlay Costs	$ 83,154,000

A summary of the costs for Build Alternative 2 is as follows:

Build Alternative 2

Roadway Items	$ 60,195,000
Structure Items	$ 6,240,000
Subtotal Construction Costs	$ 66,435,000
Right of Way Items	$ 965,000
Build Alternative 2 Total Project Capital Outlay Costs	$ 67,400,000

Right of Way Data

The Build Alternatives will require the acquisition of private property to accommodate the roadway realignment and project improvements. Temporary construction easements will also be required for construction of the realignment roadway, as well for the reconstruction of private driveways and access roads. Portions of the existing state owned highway right of way no longer utilized by the roadway alignment will be relinquished to either Calaveras County or the adjacent property owners (to be determined during PS&E). Additionally, portions of the existing SR 4 within the project area may be under prescriptive rights. Further research of the existing highway right of way will be completed during PS&E. See **Attachment J** for the Right of Way Data Sheets.

Effects of Projects Funded by Others on State Highway

The improvement and realignment of SR 4 within the project area will have a beneficial effect on the entire SR 4 corridor. Traffic operations will be improved with the construction of turn pockets by moving turning vehicles out of the through lanes, allowing traffic to more efficiently move through the area. Additionally, the improved geometrics will improve safety of the roadway.

No Build Alternative

This alternative proposes to maintain the existing SR 4 alignment. Corridor capacity and operational improvements will not be implemented. Traffic mitigation to address increased demand will not be implemented. In the Design Year, traffic operations at all of the SR 4 roadway segments and intersections would experience lower levels of service. The project layout exhibit for the No Build Alternative is included in **Attachment B**.

B. REJECTED ALTERNATIVES

Numerous alignments were preliminary considered based on guiding criteria, including environmental impact, use of existing roadway improvements and right of way, property acquisition needs, ease of project staging/phasing, and minimizing earthwork cut and fill slopes.

A third, northerly alignment was preliminarily evaluated. It was eliminated from further consideration due to the following:

- The northern alignment did not maximize the use of the existing roadway improvements and right of way, including the newly improved Pool Station Road intersection, and therefore would have had a greater footprint of disturbance. Because more of the northern alignment crossed undisturbed areas, longer roads and driveways to maintain access to existing roads and properties would have been required, creating a higher potential for impact to cultural and other sensitive natural habitats;
- Because the northern alignment did not maximize the use of existing right of way, it required a large amount of property acquisition, creating a higher project cost;
- The northern alignment was found not to be well suited to staged construction/phasing due to its infrequent use and connectivity to the existing alignment. Due to the large overall project cost of approximately $90,000,000, phasing will likely be required as funding becomes available, potentially making the northern alignment difficult to fund.

6. CONSIDERATIONS REQUIRING DISCUSSION

A. HAZARDOUS WASTE

Initial Site Assessment

An Initial Site Assessment (ISA) for the project was approved in February 2014. The ISA evaluated whether the proposed project could be affected by any recorded or visible hazardous waste materials. Development of the ISA report entailed a governmental records search, select agency interviews, aerial photography and topographic map review, and visual site survey.

The following potential Recognized Environmental Conditions (RECs) were identified:

- The project site is located in a region where Naturally Occurring Asbestos (NOA) is documented to occur, and earthen material excavated from portions of the project site will likely include NOA-containing rock and soil.
- The project area is located in a mining region with potential for elevated levels of naturally occurring metals. Elevated aerially deposited lead (ADL) levels associated with historical leaded gasoline emissions may also be present in shallow soil in the unpaved shoulders of the existing SR 4 alignment. In addition, heavy metals may be present in burn ash deposits observed adjacent to SR 4 near the southern end of the project area.
- Paint samples collected from the West Branch Cherokee Creek Bridge contained total and soluble lead concentrations above California and Federal hazardous waste levels.

Based on the above-mentioned RECs, the ISA recommended additional field testing for the presence of NOA, ADL, and other heavy metals.

Soil sampling and laboratory testing was performed in October 2014. The results of the analytical testing, presented in the *Aerially Deposited Lead, Metals, and Naturally Occurring Asbestos Site Investigation Report*, did not identify hazardous waste impacts from metals (including ADL) and NOA. Excess soil generated from the areas investigated (with the exception of exposed NOA-containing bedrock near Pool Station Road) should be suitable for offsite and onsite reuse or disposal as non-hazardous soil to an accepting property/disposal facility.

Unknown Hazards

As is the case for any project that proposes excavation, the potential exists for unknown hazardous contamination to be revealed during project construction. The Caltrans Unknown Hazards Procedures will be followed for any previously unknown hazardous waste or material encountered during construction.

B. VALUE ANALYSIS

A Value Analysis (VA) Study will be completed for this project as part of the PS&E phase of the project. However, during the development of the two Build Alternatives, several Value Analysis strategies were used as part of the alternative development process, including utilizing existing right of way as means to minimize right of way costs, minimizing costs associated with significant earthwork, alignment adjustments to minimize or eliminate structures, utilizing steeper embankment slopes in isolated locations, and avoidance of sensitive environmental resources.

C. RESOURCE CONSERVATION

Energy conserving features of the project include street and intersection improvements that reduce vehicle delay times and move traffic more efficiently. Rubberized Hot Mix Asphalt is also being utilized as an energy-conserving feature of the project.

Effort will be made to recycle any pavement removed during construction as fill or sub-base as is acceptable per the structural design by the geotechnical engineer during the PS&E phase.

D. RIGHT OF WAY ISSUES

Right of Way Required

Right of way acquisitions are required for the Build Alternatives. Acquisitions are required along the entire road length, even in locations where the proposed alignment is utilizing existing right of way. This is because a minimum of 150 feet of right of way width is required for new construction of a 2-lane highway based on Caltrans standards. Design exceptions for embankment side slopes are required to minimize impacts to the properties and environmentally sensitive areas in some locations. Temporary construction easements will also be required for construction of the realignment roadway, as well for the reconstruction of private driveways and access roads. Portions of the existing state owned highway right of way no longer utilized by the roadway alignment will be relinquished to either Calaveras County or the adjacent property owners (to be determined during PS&E). Additionally, portions of the existing SR 4 within the project area may be under prescriptive rights. Further research of the existing highway right of way will be completed during PS&E.

Build Alternative 1 will require approximately 158 acres of private property acquisition, and 24 acres of temporary construction easement. Build Alternative 2 will require approximately 129 acres of private property acquisition, and 26 acres of temporary construction easement. Right of Way Data Sheets are included in **Attachment J**.

Relocation Impact Studies

While right of way impacts are associated with the Build Alternatives, these impacts will not result in the displacement of any existing residences or businesses. Therefore, a Draft Relocation Impact Study (DRIS) is not required because no persons or businesses would be displaced.

Airspace Lease Areas

The proposed project will have no effect on the navigable airspace of any airport.

E. ENVIRONMENTAL ISSUES

Caltrans is the California Environmental Quality Act (CEQA) Lead Agency and the National Environmental Policy Act (NEPA) Lead Agency for this project.

In compliance with CEQA, an Initial Study (IS)/Mitigated Negative Declaration (MND) has been prepared for this project in accordance with Caltrans environmental procedures and State environmental laws and regulations. The attached IS/MND is the appropriate document for the proposal (see **Attachment P**). In compliance with NEPA, an Environmental Assessment (EA) has been prepared and is anticipated to lead to a Finding of No Significant Impact (FONSI).

Various environmental technical reports have been prepared to support the IS/MND and EA/FONSI, including an *Archaeological Survey Report, Historic Property Survey Report, Historic Resources Evaluation Report, Air Quality Report, Community Impact Assessment, Noise Study Report, Paleontological Identification Report, Natural Environment Study, Water Quality Assessment,* and *Visual Impact Assessment.* In addition, various engineering technical reports were prepared to support the Environmental Document including a *Traffic Operations Analysis Report, Aerially Deposited Lead Study, Bridge Advance Planning Study, Preliminary Material Report, Location Hydraulic Study, Summary Floodplain Encroachment Report, Storm Water Data Report, Preliminary Drainage Report,* and *Hazardous Waste Initial Site Assessment.*

The IS/MND discusses the proposed project's potential to impact the human, physical and biological environment. Specifically, the IS/MND analyzes land use and planning, agricultural resources, population and housing, recreation, public services, utilities and service systems, transportation/traffic, aesthetics, hydrology and water quality, geology and soils, mineral resources, cultural resources, hazards and hazardous materials, air quality, noise, and biological resources. Potential project impacts under CEQA are identified in the IS/MND, along with the associated avoidance, minimization and /or mitigation measures. The IS/MND and the technical studies for the proposed project support the EA under NEPA.

If the scope of work, including utility relocation requirements or project limits, changes prior to completion of the preliminary engineering (PA&ED phase), during the final design (PS&E phase), and/or during the construction phase, an Environmental Re-Evaluation will be required to confirm the IS/MND and EA environmental documentation for CEQA and NEPA remain appropriate and complete. An Environmental Certification will be required at the end of the PS&E phase, and a Certificate of Compliance will be required following completion of construction of the project.

Cultural Resources

Historical resources are considered under CEQA, as well as California Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources. PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet the National Register of Historic Places listing criteria. It further specifically requires Caltrans to inventory state-owned structures in its rights-of-way.

A Historic Property Survey Report/Archaeological Survey Report/Historic Resources Evaluation Report (HPSR/ASR/HRER) was prepared to identify potential significant cultural resources, consisting of historic properties, within the Area of Potential Effects (APE). The APE for the proposed project consists of approximately 797 acres and encompasses all proposed project construction activities for both of the Build Alternatives. The APE includes areas of removal of existing pavement, potential staging areas, utility relocation, drainage facilities, vegetation clearing, re-planting areas, temporary construction easements, permanent right of way acquisition, and, at a minimum, a 100-foot wide buffer around all anticipated cut and fill limits.

As part of this project, record searches, supplemental records searches, and pedestrian field surveys were conducted to identify resources within the APE. In addition, 32 archaeological investigations have been undertaken within the study area prior to this project that included field surveys and Phase II test excavations. As a result, one hundred percent of the current APE has been surveyed since 1981, with many portions of the APE being repeatedly surveyed over the last 32 years.

The record search disclosed 78 previously recorded cultural resources within the project study area. Twenty-nine of those resources fall within the current APE. They include nine prehistoric resources, 17 historic resources, and three multi-component resources (those containing both historic and prehistoric resources). In addition, the pedestrian survey identified two previously unknown historic cultural resources within the APE, resulting in a total of 31 cultural resources within the APE.

Of the 31 cultural resources located within the APE:

- Six will be evaluated in a phased effort (upon selection of a build alternative).
- Three were determined not to be eligible for listing in the National Register of Historic Places as part of this project (and the State Historic Preservation Officer has concurred with this determination).
- Three have been previously determined to be eligible for listing in the National Register and that determination is still valid.
- Two cultural resources have been previously determined not eligible for listing in the National Register and that determination is still valid.
- Thirteen cultural resources are assumed eligible for this project only and will be avoided or protected through establishment of an Environmentally Sensitive Area.
- Four resources are exempt from further review pursuant to the Section 106 Programmatic Agreement between Caltrans and the State Historic Preservation Officer.

After circulation of the NEPA Draft Environmental Assessment, Build Alternative 2 was selected as the preferred alternative. As previously stated, due to access constraints, a phased approach is needed to complete cultural resource identification efforts, evaluation of potential historic properties, application of the National Historic Preservation Act (NHPA) Section 106 Criteria of Adverse Effect, and determination of Adverse Effect resolution for the project. The phased approach would be initiated upon acquiring access to the parcels required to construct Build Alternative 2. Although additional cultural resource identification efforts are needed to completely identify all impacted historic properties within the project footprint, Caltrans determined that Build Alternative 2 would have an adverse effect to at least two known historic properties.

When a project requires a phased approach to achieve compliance with Section 106 of the NHPA, the exact procedures and stipulations required to complete the phased approach are outlined in a Programmatic Agreement. The procedures and stipulations

required to complete the phased approach for Build Alternative 2 are detailed in the *Programmatic Agreement Between the California Department of Transportation and the California State Historic Preservation Officer Regarding the State Route 4/Wagon Trail Realignment Project, Calaveras County, California* (Wagon Trail PA). Caltrans consulted with the State Historic Preservation Officer (SHPO), local Native American tribal governments, and the Calaveras County Department of Public Works on the appropriateness of the procedures detailed in the Wagon Trail PA. After receiving and addressing comments, the Wagon Trail PA was executed on March 30, 2016. Stipulations include conducting additional pedestrian archaeological surveys, Extended Phase I Identification efforts, Phase II Testing, Phase III Data Recovery Efforts, and additional cultural resource reporting efforts prior to construction of the project. Additional stipulations and measures required for project compliance with Section 106 of the NHPA/NEPA can be found in the executed Wagon Trail PA. The Wagon Trail PA will expire on March 30, 2021 or upon completion of the project. If the terms are not satisfactorily fulfilled at that time, Caltrans District 10, in coordination with the Caltrans Cultural Services Office (CSO), shall consult with the signatories and concurring parties listed in the Wagon Trail PA to either extend it or reconsider its terms. Reconsideration may include continuing with the Wagon Trail PA as originally executed, amending the Wagon Trail PA, or terminating the agreement.

The March 30, 2016 executed *Programmatic Agreement Between the California Department of Transportation and the California State Historic Preservation Officer Regarding the State Route 4/Wagon Trail Realignment Project, Calaveras County, California* details the necessary measures required to complete Section 106 compliance for the project and ensure that no significant impacts to cultural resources are anticipated permanently or during construction.

Biological Resources

Oak Woodlands

A primary biological concern associated with the proposed project is impacts to native mixed oak woodland areas. Native mixed oak woodlands are well established and dominated by blue oak and interior live oaks within the Biological Study Area. The Biological Study Area is estimated to contain approximately 4,000 oak trees and contain approximately 340 acres of oak woodland habitat.

While the project has been designed to minimize impacts, both Build Alternatives would have permanent and temporary impacts to native oak woodlands. Permanently impacted areas are those along the roadway alignments requiring tree removal. The temporary impacted areas are those requiring cut/fill and would be used for access roadways and staging areas. These impacts are considered temporary due to the restoration and natural re-vegetation of native oak trees after the completion of construction. Oak mitigation may take place on-site or off-site. The approximate impacts by the project alternative are shown in **Table 9**.

TABLE 9: Native Mixed Oak Woodland Impacts

Build Alternative	Permanent Impacts (acres)	Temporary Impacts (acres)	Estimated Number of Oak Trees
Alternative 1	58	2	1,147
Alternative 2	46	5	965

Oak tree mitigation varies from 1:1 (for trees with a diameter at breast height [dbh] up to 15 inches) to 3:1 (for trees with a dbh greater than 31 inches). Based on these ratios, the total replanting estimated for Alternative 1 is 1,594 and for Alternative 2 is 1,341.

Wetlands and Other Waters

Both Build Alternatives would result in permanent and temporary impacts to Waters of the U.S. and Waters of the State due to cut/fill limits and new pavement.

Within the project area, four creeks with six associated tributaries were classified as Water of the U.S. A total of approximately 5.7 miles and 3.65 acres of jurisdictional creeks/tributaries reside within the project area.

A total of 54 wetlands were also observed. Forty-seven of these wetlands were associated with jurisdictional features and presented the required wetland vegetation, hydric soils, and inundation qualifications. Approximately 4.29 acres of jurisdictional wetlands are within the project area.

TABLE 10: Anticipated Impacts to Creeks

Build Alternative	Waters of the U.S		Waters of the State*	
	Temporary Impacts (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)	Permanent Impacts (acres)
Alternative 1	0.32	0.61	1.06	1.87
Alternative 2	0.27	0.40	1.12	2.95

*Waters of the State include Waters of the U.S. impacts plus any additional impacts to foothill riparian features.

TABLE 11: Anticipated Impacts to Wetland Features

Build Alternative	Waters of the U.S		Waters of the State*	
	Temporary Impacts (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)	Permanent Impacts (acres)
Alternative 1	0.89	0.83	0.89	0.83
Alternative 2	0.69	0.80	0.69	0.80

*Waters of the State include Waters of the U.S. impacts plus any additional impacts to foothill riparian features.

Impacts to jurisdictional waters will be mitigated at a 1:1 ratio for temporary impacts and a 2:1 ratio for permanent impacts or as determined appropriate by permitting agencies. Exact mitigation ratios and locations will be consistent with permit requirements.

Plant and Animal Species

Within the project limits there is potential for five special status plant species and six special status animal species to occur. Red Hills soaproot (*Chlorogalum grandiflorum*), Mariposa cryptantha (*Cryptantha mariposae*), forked hare-leaf (*Lagophylla dichotoma*), Congdon's lomatium (*Lomatium congdonii*) foothill yellow-legged frog (FYLF) (*Rana boylii*), western pond turtle (*Actinemys marmorata*) and western red bat (*Lasiurus blossevillii*) were not observed; however, these species have potential to occur within the project area due to the presence of potentially suitable habitat.

The Tuolumne button-celery (*Eryngium pinnatisectum*) (a California Native Plant Society [CNPS] sensitive plant species) was found to occur in two locales within the BSA. Both Build Alternatives would result in permanent impact to Tuolumne button-celery habitat. A single individual Tuolumne button-celery would be directly affected by Alternative 1. Alternative 2 would avoid all known Tuolumne button-celery specimen.

Threatened and Endangered Species

Focused plant surveys did not result in observations of Chinese Camp brodiaea (Brodiaea pallida). The closest recorded occurrence of Chinese Camp brodiaea is approximately 4 miles to the south at the confluence of Black Creek and New Melones Lake. While the species was not observed, the project site contains potential habitat. Pre-construction surveys will be conducted on parcels that had restricted access. Section 7 consultation was conducted with the U.S. Fish and Wildlife Service and a Biological Opinion was issued on November 29, 2016 with a may affect, but not likely to adversely affect determination for Chinese Camp brodiaea.

Elderberry shrubs (Sambucus nigra ssp. caerulea), obligate hosts for Valley Elderberry Longhorn Beetle (VELB) (Desmocerus californicus dimorphus), were identified within the project area. However, USFWS decided that the project is located above the elevation range of VELB. The project is located between 1,140 and 1,905 feet above sea level, approximately 640 feet above the elevation limit of the species. The species is presumed absent and no further consultation or surveys are required.

Habitat Assessments and protocol surveys for the federally listed California red-legged frog (CRLF) (Rana draytonii), California tiger salamander (CTS) (Ambystoma californiense), vernal pool tadpole shrimp (Lepidurus packardi) and vernal pool tadpole fairy shrimp (Branchinecta lynchi) were conducted within the project area. Caltrans determined that the project would have no effect on CTS or vernal pool

tadpole shrimp/fairy shrimp. Formal Section 7 Consultation was conducted with the U.S. Fish and Wildlife Service for CRLF the Alternative 2. The Biological Opinion was issued November 29, 2016. USFWS determined that the project may affect and is likely to adversely affect CRLF. A total of 795 acres of CRLF dispersal habitat exists within the BSA. Of the 795 acres, Alternative 2 will temporarily impact 78 acres and permanently impact 95 acres. USFWS determined that compensatory mitigation was necessary. The project's mitigation plan includes placing a grazing easement on off-site lands approved by USFWS. The off-site grazing easement will be within Calaveras County and within designated CRLF Critical Habitat.

The project will have no effect on VELB, CTS, vernal pool tadpole shrimp, and vernal pool fairy shrimp. With the proposed minimization, avoidance, and mitigation measures, the project will have less than a significant impact on the Chinese Camp brodiaea and CRLF.

Climate Change

The project will not add traffic capacity or change traffic flow. Modeling using CT-EMFAC 2011 indicates the Build Alternatives (Alternatives 1 and 2) and No-Build Alternative would have similar CO_2 emissions in the Design Year, 2040. CO_2 emissions for the alternatives are summarized in Table 12.

TABLE 12: Estimated CO_2 Emissions

Existing/Baseline	No-Build Alternative	Build Alternatives (Alternative 1 and 2)
16.97 tons/year	42.60 tons/year	42.24 tons/year
Source: CT-EMFAC 2011 and traffic data from Traffic Operations Analysis (2014)		

These CO_2 emissions estimates are only useful for comparison between alternatives. The numbers are not necessarily an accurate reflection of what the true CO_2 emissions would be because CO_2 emissions depend on other factors that are not part of the model, such as the fuel mix (EMFAC model emission rates are only for direct engine-out CO_2 emissions, not full fuel cycle; fuel cycle emission rates can vary dramatically depending on the amount of additives like ethanol and the source of the fuel components), rate of acceleration, and the aerodynamics and efficiency of the vehicles.

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction greenhouse gas emissions include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in design and by implementing better traffic management during construction phases.

Also, with innovations such as longer pavement life, improved traffic management plans, and changes in materials, the greenhouse gas emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

F. AIR QUALITY CONFORMITY

The proposed project is located in the Mountain Counties Air Basin. The Calaveras County Air Pollution Control District is the agency responsible for monitoring and regulating air pollutant emissions from stationary, area, and indirect sources within Calaveras County. The District also has responsibility for monitoring air quality and setting and enforcing limits for source emissions. The California Air Resources Board (CARB) is the agency with the legal responsibility for regulating mobile source emissions. The District is precluded from such activities under State law. The Calaveras County Air Pollution Control District is the agency responsible for regional air quality plans under the state and federal Clean Air Acts. The current regional clean air plan addresses ozone and particles of 10 micrometers or smaller (PM_{10}) and identifies strategies for progressive reduction in emissions of ozone precursors and particulate matter.

Under National Ambient Air Quality Standards, Calaveras County is in non-attainment for 8-hour ozone and attainment or unclassified for other Federal criteria pollutants. Under California Ambient Air Quality Standards, Calaveras County is in non-attainment for ozone and PM_{10}. It is in attainment or unclassified for other State criteria pollutants.

Regional Conformity

The project is exempt from regional (40 Code of Federal Regulation 93.127) conformity requirements since it does not add through-lanes and is only comprised of "changes in vertical and horizontal alignment." Separate listing of the project in the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP), and their regional conformity analyses is not necessary. The project would not interfere with timely implementation of Transportation Control Measures identified in the applicable State Implantation Plan and regional conformity analysis.

Project-Level Conformity

Calaveras County is a carbon monoxide (CO) attainment area. In CO attainment areas, only projects that are likely to worsen air quality necessitate further analysis. Projects that worsen air quality are defined as those that significantly increase the percentage of vehicles in cold state mode, those that significantly increase traffic volumes, and those that worsen traffic flow. These criteria are evaluated when comparing Build and No Build scenarios. The determination of project-level CO impacts was carried out according to the Local Analysis flowchart that was provided in the CO Protocol document. Based on the answers, the flowchart concludes with "Project satisfactory, no further analysis is need."

The project is not located in a PM_{10} and particles of 2.5 micrometers and smaller ($PM_{2.5}$) Federal nonattainment area. Calaveras County is unclassified for PM_{10} and

$PM_{2.5}$ under Federal criteria. As a result, PM_{10} and $PM_{2.5}$ conformity analysis is not required.

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other construction related activities. Emissions from construction equipment also are expected and would include carbon monoxide (CO), nitrogen oxide (NOx), volatile organic compounds (VOCs), directly-emitted particulate matter (PM_{10} and $PM_{2.5}$), and toxic air contaminants such as diesel exhaust particulate matter. Ozone is a regional pollutant that is derived from NOx and VOCs in the presence of sunlight and heat.

Construction activities will not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 Cod of Federal Regulation 93.123(c)(5)).

G. TITLE VI CONSIDERATIONS

Title VI of the Civil Rights Act requires that no person be excluded from, denied the benefits of, or otherwise be subjected to discrimination under any program or activity receiving federal aid because of race, color, religion, national origin, gender, age, or handicap. Caltrans and FHWA policies demonstrate commitment to this requirement. The proposed Build Alternatives will provide standard shoulders along SR 4 that can accommodate bicycle traffic.

7. OTHER CONSIDERATIONS AS APPROPRIATE

Public Hearing Process

A Notice of Intent (NOI) to Adopt a Mitigated Negative Declaration/Initial Study/Environmental Assessment and Announcement of Public Hearing was published in the *Calaveras Enterprise* on September 25, 2015 and filed with the Calaveras County Clerk to announce the availability of the Draft IS/MND and EA. Documents were placed in local public places for easy accessibility. The review and comment period was from September 25, 2015 to October 24, 2015.

On October 8, 2015, a public hearing was held at Bret Harte Union High School in the City of Angels Camp to give the public an opportunity to provide input and comments on the proposed project and the environmental document. The general tenor of the public was of acceptance for the project with a common preference for the Build Alternative 2. No design changes resulted from the comments received.

Route Matters

The proposed build alternatives for the SR 4 Wagon Trail Realignment project will realign portions of the existing highway. A new route adoption is not required; however, modifications to the existing controlled access highway agreement will be required due to the alignment revision. The project has been assigned a Project Development Category 1.

Agricultural Resources

The project will be converting portions of parcels under the Williams Act contract to public use. All of the Williamson Act-affected parcels are designated as Williamson Act Non-Prime Agriculture Land. For each alternative, portions of parcels currently under Williamson Act contracts would be acquired for right-of-way purposes. Alternative 1 would affect 7 parcels for a total conversion of approximately 114.2 acres of Williamson Act land. Alternative 2 would affect 5 parcels for a total conversion of approximately 75.6 acres of Williamson Act land. Williamson Act land parcels will need to be adjusted to reflect the project's impacts to the parcel boundaries. Construction activities for Alternatives 1 and 2 would not have a substantial impact on use of the lands for agriculture. Agricultural activities may continue taking place because access to these neighboring parcels would be maintained throughout construction.

Floodplain Encroachment

Each of the two Build Alternatives would cross Black Creek, Nassau Creek, Waterman Creek, and Cherokee Creek and their associated tributaries. At each channel crossing, the proposed project would encroach on the floodplain of the waterways. Potential encroachments at the creek crossings would be minor and are not expected to create a risk associated with the project for the following reasons:

- A combination of culverts, bridges, and detention facilities would be used to reduce existing flooding upstream of the highway and to maintain/reduce flows downstream of the highway. As a result, the project would not result in property damage upstream and downstream of the facility caused by flooding,
- The culverts and bridges used to convey these creeks under the highway would be sized to prevent overtopping of the roadway for up to a 100-year storm frequency. Therefore, the potential for damage or loss of the proposed facility due to flooding and the potential for interruption of traffic due to flooding are not substantial.
- The addition of adequately sized culverts/bridges and detention facilities would reduce the instances of flooding in the vicinity of the project area. As a result, there is no potential for loss of service during the service life of the facility as a result of flooding.

Measures to minimize impacts would be included as part of the project implementation. Temporary impacts due to construction activity would be minimized through the implementation of construction Best Management Practices included in the Storm Water Pollution Prevention Plan and any additional measures specified in the regulatory permits obtained for this project.

Permits

Encroachment permits and permits to enter private property have been obtained from Caltrans and property owners to perform surveys, geotechnical borings and environmental studies. A separate encroachment permit will be required for construction activities within the State right of way.

The following approvals and permits will be required for project construction:

TABLE 13: Construction Permits and Approvals

Agency	Permit/Approval	Status
United States Army Corp of Engineering	Section 404 Permit	Application to be submitted before construction during final design
Regional Water Quality Control Board	Section 401 Permit	Application to be submitted before construction during final design
California Department of Fish and Wildlife	Section 1602 Streambed Alteration Agreement	Application to be submitted before construction during final design
United States Fish and Wildlife Service	Formal Section 7 Consultation for California Red-Legged Frog and Chinese Camp brodiaea	Biological Opinion obtained from USFWS November 29, 2016
State Historic Preservation Office	Section 106 Compliance Wagon Trail Programmatic Agreement	State Historic Preservation Officer letter received December 17, 2014 Executed March 30, 2016
Calaveras County Air Pollution Control District	National Emissions Standards of Hazardous Air Pollutants (NESHAP) Notification	10 days before renovation or demolition.

Cooperative Agreements

A Cooperative Agreement for this project was entered into by CCOG and Caltrans in May 2008 for PA&ED activities. The agreement is included as **Attachment K**. The CCOG is acting as the sponsor for each of the components with Caltrans acting as the reviewing agency for all work performed within the existing and proposed SHS right of way. The CCOG is responsible for all capital outlay and staffing costs, except for the cost of Caltrans quality assurance of environmental, design and right of way activities. The cooperative agreement establishes Caltrans as the Lead Agency for CEQA and NEPA.

A separate Cooperative Agreement will be required to cover responsibilities and funding for the subsequent phases of the project.

Other Agreements

A Maintenance and Construction Agreement will be required for the construction phase of the project. Modifications to the existing Freeway Agreement are needed due to alignment revisions. A new Highway Maintenance Agreement will also be required for the project.

Transportation Management Plan for Use during Construction

Preceding final roadway design approval, a final Transportation Management Plan (TMP) will be prepared to reduce potential construction-related traffic conflicts, detours, and delays. The following measures are recommended by the TMP:

- Utilize public information strategies such as brochures, mailers, media releases and notifying impacted groups,
- Utilize traveler information strategies such as changeable message signs, internet, and bicycle community information,
- Implement incident management including Construction Zone Enhanced Enforcement Program (COZEEP) provided by the California Highway Patrol, traffic surveillance stations, and a Transportation Management Center, and
- Apply construction strategies such as project staging, night work, lane closures and traffic control devices.

Transit and non-motorized routes will not be affected and therefore will not need detour plans. The appropriate method and route of creating detours will be determined by the PDT during the PS&E phase of the project. Preliminary TMP Data Sheets have been prepared and are included in **Attachment L**.

Utilities

Alternatives 1 and 2 would relocate electric and telephone facilities with minimal disruption to service. Utility companies involved in the proposed project include PG&E, Northern California Power Agency (NCPA), Calaveras Telephone Company (CALTEL), and AT&T. Details regarding utility relocation may be modified and refined during the final design phase of the proposed project. To minimize interruptions of service to utility customers, a series of coordination letters shall be sent to all impacted utility companies to identify utilities within the proposed project.

Stage Construction

A preliminary staging concept plan for the Build Alternatives have been developed and included in **Attachment M** and **Attachment N** for Alternative 1 and Alternative 2, respectively. Construction constraints include the need for maintaining traffic on the existing roadway and significant grade differences between existing and proposed improvements. Multiple temporary detours are required to construct the project to accommodate these constraints. The main features of the preliminary staging concept for the Build Alternatives are:

Stage 1A

- Construct majority of new roadway
- Construct temporary detours

Stage 1B

- Shift traffic to first detour set, construct the resultant gaps
- Construct the resultant gaps

Stage 2

- Shift traffic to second detour set
- Construct the resultant gaps

Traffic shifts/conforms between stages will use short-term lane closures/ flagging.

Accommodation of Oversize Loads

Within the project area, SR 4 is a STAA truck route; however, it is listed as an Advisory Route. No structures will be constructed above SR 4 limiting the height of trucks through the project area.

Graffiti Control

The proposed project is not located in an urban or graffiti prone area; therefore, graffiti control is not necessary for this project.

8. FUNDING/PROGRAMMING

It has been determined that this project is eligible for federal-aid funding.

Capital Outlay Support and Project Estimates

TABLE 14: Programmed Funds

Funding Source	Fiscal Year Estimate								Required Funds	Unfunded Need
RTIP-NH	Prior	14/15	15/16	16/17	17/18	18/19	Future	Total		
Component	In thousands of dollars ($1,000)									
PA&ED Support	$2,101							$2,101	$2,101	$0
PS&E Support			$1,390					$1,390	$6,742	$5,352
Right-of-Way Support								$0	$263	$263
Construction Support								$0	$9,970	$9,970
Right-of-Way				$1,310				$1,310	$1,310	$0
Construction					$5,325			$5,325	$66,435	$61,110
Total (Current)	$2,101	$0	$1,390	$1,310	$5,325	$0	$0	$10,126	$86,821	$76,695
Total (Escalated)	$2,101	$0	$1,390	$1,310	$5,325	$0	$0	$10,126	$92,981	$82,855

9. SCHEDULE

The following project milestone schedule is proposed for programming purposes:

Project Milestone		Date
Program Project	M015	September 2007
Begin Environmental	M020	February 2009
Circulate DPR and DED Externally	M120	September 2015
PA&ED	M200	December 2016
Right of Way Requirements	M224	October 2017
Regular Right of Way	M225	January 2018
PS&E to DOE	M377	December 2019
Right of Way Certification	M410	January 2020
Ready to List	M460	March 2020
Award	M495	May 2020
Approve Contract	M500	July 2020
Contract Acceptance	M600	December 2021
End of Project	M800	April 2024
Final Project Closeout	M900	May 2026

10. RISKS

A Risk Register (**Attachment O)** has been developed to identify potential project risks and their impact to the project. The Risk Register will continue to be updated during PS&E by the project team as risk elements change.

11. EXTERNAL AGENCY COORDINATION

This project is eligible for federal-aid funding and is considered to be a Delegated Project under the current Joint Stewardship and Oversight Agreement (Agreement) between Caltrans and FHWA, dated May 2015. It is not considered a "Project of Division Interest" or "Project of Corporate Interest". However, should any future situation/circumstance that will potentially classify the project as a Project of Division Interest arise, Caltrans shall notify FHWA and reassess this project using the Project of Division Interest selection criteria outlined in the Agreement.

Coordination will be needed with the following agencies to obtain the necessary environmental permits:

- California Department of Fish and Wildlife: Section 1602 Streambed Alteration Agreement

- U.S. Army Corps of Engineers: Nationwide Permit Number 14, Section 404 of the Clean Water Act
- Central Valley Regional Water Quality Control Board: Water quality certification under Section 401 of the Clean Water Act
- United States Fish and Wildlife Service: Formal Section 7 Consultation for California Red-Legged Frog and Chinese Camp brodiaea
- State Historic Preservation Office: Section 106 Compliance
- Calaveras County Air Pollution Control District: National Emissions Standards of Hazardous Air Pollutants (NESHAP) Notification

12. PROJECT REVIEWS

Constructability Review (January 2015)
Caltrans District Design Oversight – Mason Leung
Caltrans District Hydraulics Engineer – James Yan
Caltrans District Right of Way Project Delivery Coordinator – Anthony Dorn
Caltrans District NPDES Coordinator – Ethan Heilman
Caltrans Traffic Operations – Ahmad Sahibzada
Caltrans Structures – Reza Erfanian
Caltrans Environmental – Juan Torres
Caltrans Design Coordinator – Paul Gennaro
Caltrans HQ Design Reviewer – Antonette Clarke

13. PROJECT PERSONNEL

Grace Magsayo Caltrans, District 10 1976 E. Charter Way Stockton, CA 95205	Caltrans Project Manager	(209) 948-7976
Jeff Crovitz Calaveras County 891 Mountain Ranch Road San Andreas, CA 95249	County Project Manager	(209) 754-6401
Matt Satow Drake Haglan & Associates 11060 White Rock Road, Suite 200 Rancho Cordova, CA 95670	County Project Administrator	(916) 363-4210
Pamela Dalcin-Walling Dokken Engineering 110 Blue Ravine Road, Suite 200 Folsom, CA 95630	Dokken Engineering Project Manager	(916) 858-0642
Juann Ramos Dokken Engineering 110 Blue Ravine Road, #200 Folsom, CA 95630	Project Engineer	(916) 858-0642
Namat Hosseinion Dokken Engineering 110 Blue Ravine Road, #200 Folsom, CA 95630	Environmental Manager	(916) 858-0642

14. LIST OF ATTACHMENTS

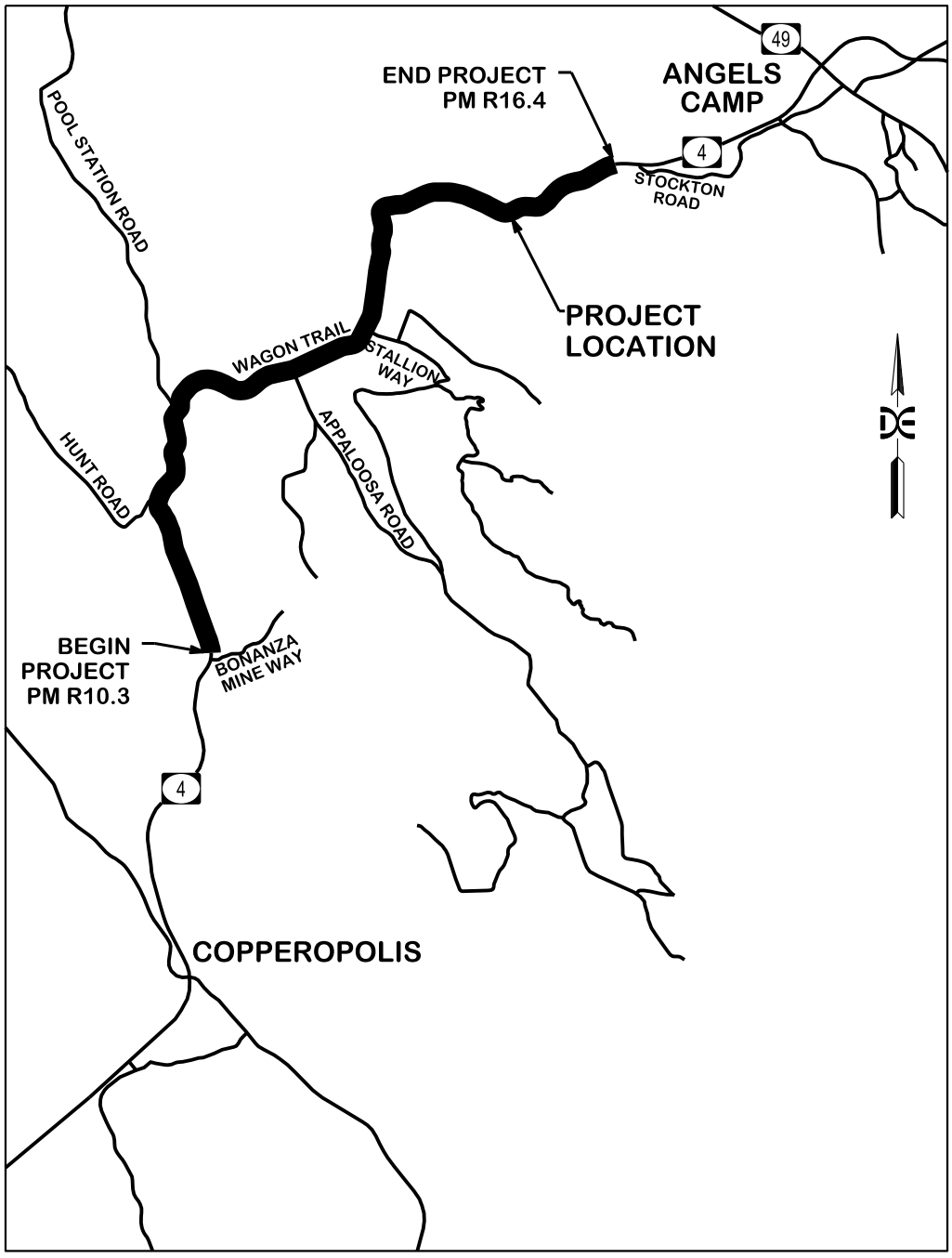
A. Vicinity Map (1 page)
B. Alternative Plan View Exhibits (2 pages)
C. Build Alternative 1 Geometrics and Typical Sections (4 pages)
D. Build Alternative 2 (Preferred Alternative) Geometrics and Typical Sections (4 pages)
E. Build Alternative 1 Bridge Advance Planning Studies (6 pages)
F. Build Alternative 2 (Preferred Alternative) Bridge Advance Planning Studies (6 pages)
G. Storm Water Data Report (SWDR) Signature Page (1 page)
H. Build Alternative 1 Project Cost Estimate (8 pages)
I. Build Alternative 2 (Preferred Alternative) Project Cost Estimate (8 pages)
J. Right of Way Data Sheets and Right of Way Requirements Map (22 pages)
K. Cooperative Agreement (29 pages)
L. Preliminary Transportation Management Plan (TMP) Data Sheets (5 pages)
M. Build Alternative 1 Construction Staging Exhibit (3 pages)
N. Build Alternative 2 (Preferred Alternative) Construction Staging Exhibit (3 pages)
O. Risk Register (1 page)
P. Environmental Document (484 pages)

Attachment A:

Vicinity Map

VICINITY MAP

HIGHWAY IMPROVEMENTS ON ROUTE 4 WAGON TRAIL IN CALAVERAS COUNTY



DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200 FOLSOM,CA. 916-858-0642

VICINITY MAP

NO SCALE

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Attachment B:

Alternative Plan View Exhibits

STATE ROUTE 4
WAGON TRAIL REALIGNMENT
ALTERNATIVE 1

SCALE 1"=2000'

DATE: MARCH 2015

PROJECT PARTNERS

Caltrans

DOKKEN

POOL STATION ROAD IMPROVEMENTS

POOL STATION ROAD

MATCH INTERSECTION IMPROVEMENTS

POOL STATION ROAD

HUNT ROAD

BEGIN CONSTRUCTION

TO COPPEROPOLIS

BONANZA MINE WAY

APPALOOSA ROAD

STALLION WAY

GELDING ROAD

TO ANGELS CAMP

END CONSTRUCTION

STOCKTON ROAD

4

LEGEND:

- EXISTING RIGHT-OF-WAY/PROPERTY LINES
- EXISTING STATE ROUTE 4 ALIGNMENT
- PROPOSED ALIGNMENT

STATE ROUTE 4
WAGON TRAIL REALIGNMENT
ALTERNATIVE 2

SCALE 1"=2000'

DATE: MARCH 2015

PROJECT PARTNERS

Caltrans

DOKKEN

POOL STATION ROAD IMPROVEMENTS

POOL STATION ROAD

MATCH INTERSECTION IMPROVEMENTS

POOL STATION ROAD

HUNT ROAD

APPALOOSA ROAD

STALLION WAY

GELDING ROAD

BEGIN CONSTRUCTION

TO COPPEROPOLIS

BONANZA MINE WAY

TO ANGELS CAMP

END CONSTRUCTION

STOCKTON ROAD

LEGEND:

EXISTING RIGHT-OF-WAY/PROPERTY LINES

EXISTING STATE ROUTE 4 ALIGNMENT

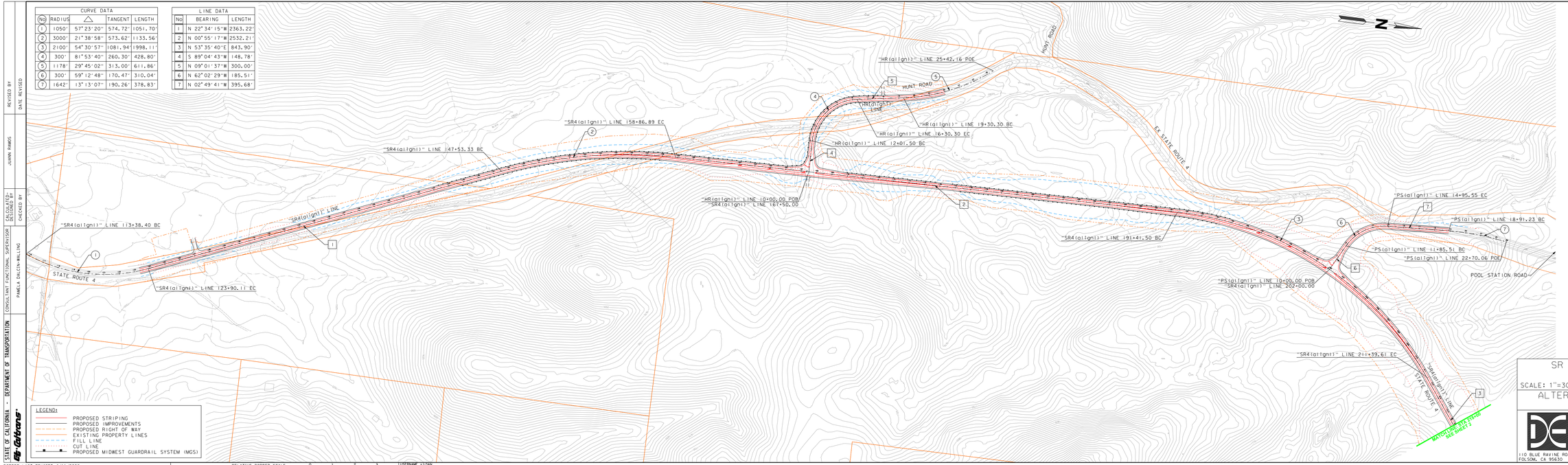
PROPOSED ALIGNMENT

Attachment C:

Build Alternative 1 Geometrics and Typical Sections

CURVE DATA				
No	RADIUS	△	TANGENT	LENGTH
1	1050'	57°23'20"	574.72'	1051.70'
2	3000'	21°38'58"	573.62'	1133.56'
3	2100'	54°30'57"	1081.94'	1998.11'
4	300'	81°53'40"	260.30'	428.80'
5	1178'	29°45'02"	313.00'	611.86'
6	300'	59°12'48"	170.47'	310.04'
7	1642'	13°13'07"	190.26'	378.83'

LINE DATA		
No	BEARING	LENGTH
1	N 22°34'15"W	2363.22'
2	N 00°55'17"W	2532.21'
3	N 53°35'40"E	843.90'
4	S 89°04'43"W	148.78'
5	N 09°01'37"W	300.00'
6	N 62°02'29"W	185.51'
7	N 02°49'41"W	395.68'



LEGEND:

- PROPOSED STRIPING
- PROPOSED IMPROVEMENTS
- PROPOSED RIGHT OF WAY
- EXISTING PROPERTY LINES
- FILL LINE
- CUT LINE
- PROPOSED MIDWEST GUARDRAIL SYSTEM (MGS)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Cal	4	PM R10.3/R16.4	1	3

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER JUANN RAMOS No. C61931 Exp. 9/30/14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

PREPARED FOR: COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

PREPARED BY: DOKKEN ENGINEERING
110 BLUE RAVINE ROAD
SUITE 200
FOLSOM CA 95630

SR 4 / WAGON TRAIL REALIGNMENT

SCALE: 1"=300' MARCH 2015

ALTERNATIVE 1 GEOMETRICS PAGE 1

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(916) 858-0642

LAST REVISION DATE PLOTTED => 12/5/2016
TIME PLOTTED => 4:05:09 PM
DOCUMENT NUMBER 00-00-00

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: PAMELA DALCIN-WALLING
CALCULATED-DESIGNED BY: JUANN RAMOS
CHECKED BY
REVISED BY
DATE REVISED

BORDER LAST REVISED 4/11/2008

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CU 00000

EA 000000

CURVE DATA				
No	RADIUS	△	TANGENT	LENGTH
1	2100'	20°12'38"	374.27'	740.75'
2	2100'	24°37'55"	458.49'	902.81'
3	2100'	15°58'27"	294.65'	585.48'
4	2800'	57°57'53"	1550.94'	2832.69'
5	2100'	60°11'50"	1217.26'	2206.35'
6	100'	06°20'52"	5.55'	11.08'

LINE DATA		
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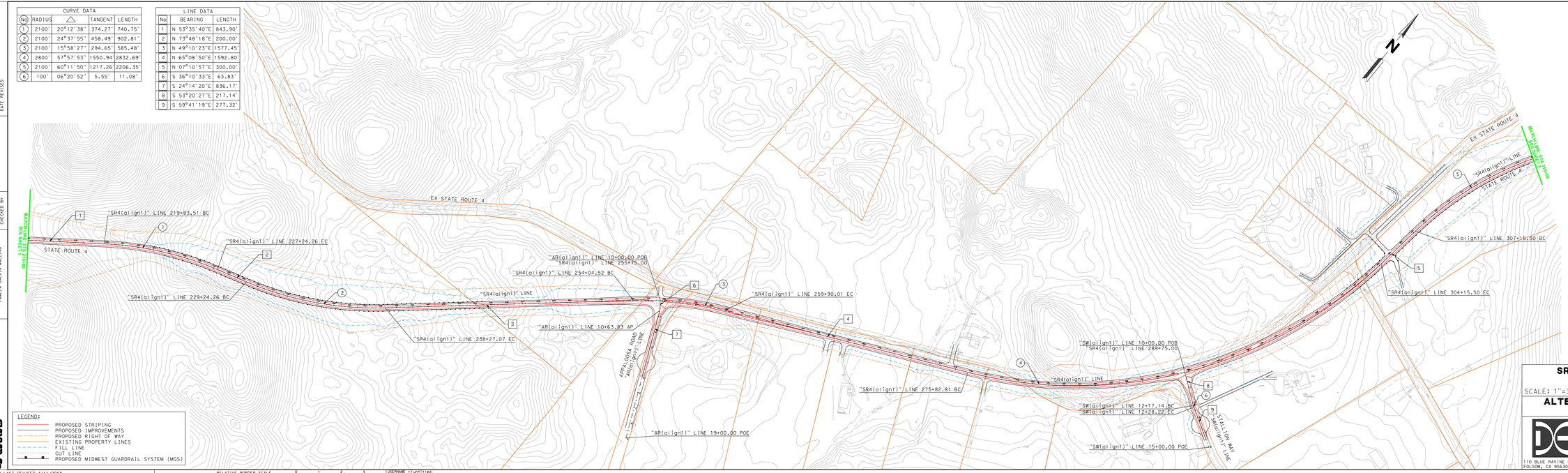
1	N 53°35'40"E	843.90'
2	N 73°48'18"E	200.00'
3	N 49°10'23"E	1577.45'
4	N 65°08'50"E	1592.80'
5	N 07°10'57"E	300.00'
6	S 36°10'33"E	63.83'
7	S 24°14'20"E	836.17'
8	S 53°20'27"E	217.14'
9	S 59°41'19"E	277.32'



LEGEND:

- PROPOSED STRIPING
- PROPOSED IMPROVEMENTS
- PROPOSED RIGHT OF WAY
- EXISTING PROPERTY LINES
- FILL LINE
- CUT LINE
- PROPOSED MIDWEST GUARDRAIL SYSTEM (MGS)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Cal	4	PM R10.3/R16.4	2	3

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER JUANN RAMOS No. C61931 Exp. 9/30/17 CIVIL STATE OF CALIFORNIA

PREPARED FOR: COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

PREPARED BY: DOKKEN ENGINEERING
110 BLUE RAVINE ROAD
SUITE 200
FOLSOM CA 95630

SR 4 / WAGON TRAIL REALIGNMENT

SCALE: 1"=300' MARCH 2015

ALTERNATIVE 1 GEOMETRICS PAGE 2

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: PAMELA DALCIN-WALLING
CALCULATED-DESIGNED BY: JUANN RAMOS
CHECKED BY:
REVISED BY:
DATE REVISED:

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

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CURVE DATA				
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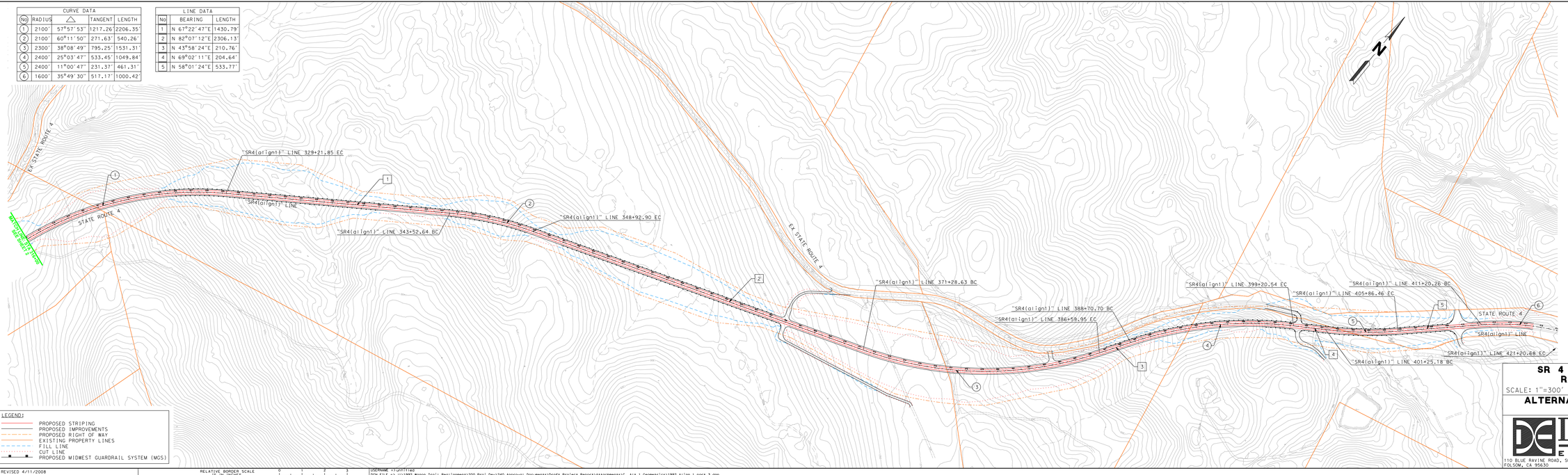
1	2100'	57°57'53"	1217.26	2206.35
2	2100'	60°11'50"	271.63	540.26
3	2300'	38°08'49"	795.25	1531.31
4	2400'	25°03'47"	533.45	1049.84
5	2400'	11°00'47"	231.37	461.31
6	1600'	35°49'30"	517.17	1000.42

LINE DATA		
No	BEARING	LENGTH
1	N 67°22'47"E	1430.79
2	N 82°07'12"E	2306.13
3	N 43°58'24"E	210.76
4	N 69°02'11"E	204.64
5	N 58°01'24"E	533.77



LEGEND:
- PROPOSED STRIPING
- PROPOSED IMPROVEMENTS
- PROPOSED RIGHT OF WAY
- EXISTING PROPERTY LINES
- FILL LINE
- CUT LINE
- PROPOSED MIDWEST GUARDRAIL SYSTEM (MGS)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Cal	4	PM R10.3/R16.4	3	3

REGISTERED CIVIL ENGINEER — DATE

JUAN RAMOS No. C61931 Exp 6/30/15 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

PREPARED FOR: COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

PREPARED BY: DOKKEN ENGINEERING
110 BLUE RAVINE ROAD
SUITE 200
FOLSOM CA 95630

SR 4 / WAGON TRAIL REALIGNMENT

SCALE: 1"=300' MARCH 2015

ALTERNATIVE 1 GEOMETRICS PAGE 3

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630
(916) 858-0642

DATE PLOTTED => 3/23/2015
TIME PLOTTED => 11:21AM

STATE OF CALIFORNIA — DEPARTMENT OF TRANSPORTATION

REVISED BY	DATE REVISED
JUAN RAMOS	
CALCULATED-DESIGNED BY	CHECKED BY
PAMELA DALCIN-WILLING	

CONSULTANT FUNCTIONAL SUPERVISOR

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

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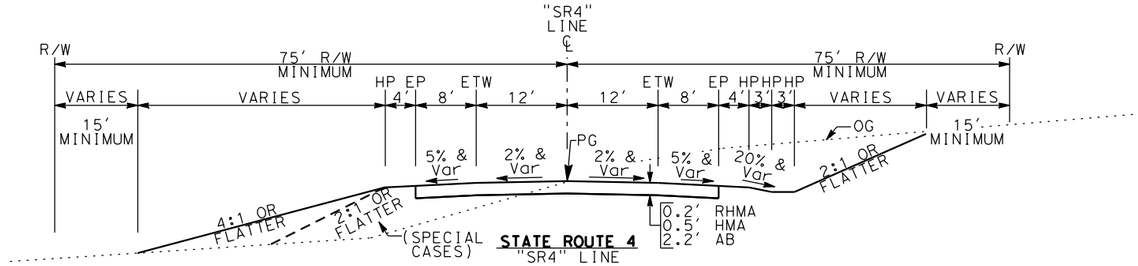
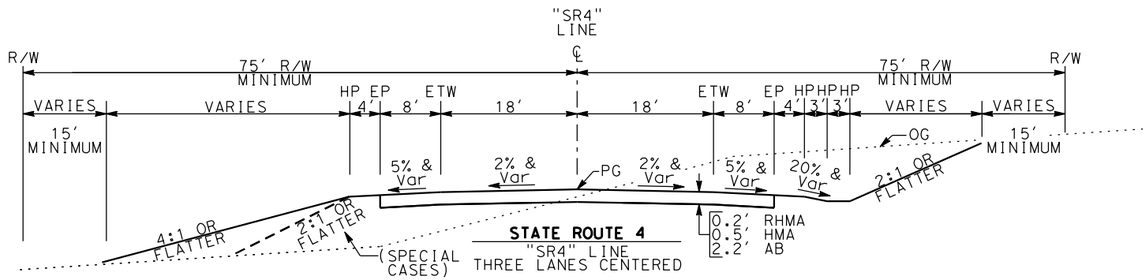
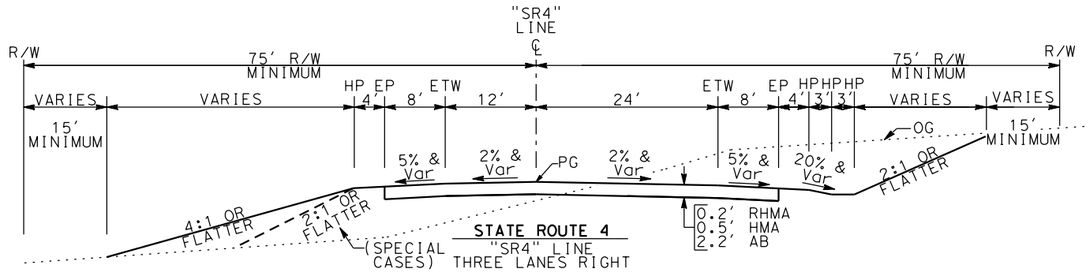
CU 00000 EA 000000

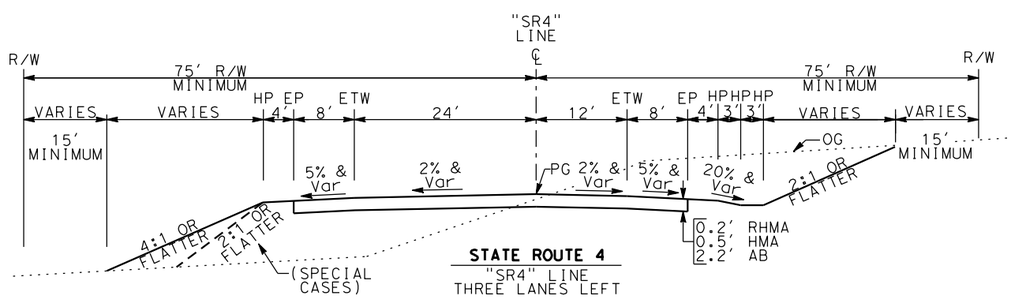
NOTE:

CONSTRUCT SAFETY EDGE AT PAVEMENT EDGES PER STANDARD PLANS









Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Cal	4	PM R10.3/R16.4		x

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JUANN RAMOS — No. C61931 — Exp. 9/30/15 — CIVIL — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

PREPARED FOR: COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

PREPARED BY: DOKKEN ENGINEERING
110 BLUE RAVINE ROAD
SUITE 200
FOLSOM CA 95630

PRELIMINARY PLANS NOT FOR CONSTRUCTION

TYPICAL SECTIONS
ALIGNMENT 1

CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
JUANN RAMOS			

CONSULTANT FUNCTIONAL SUPERVISOR: PAMELA DALCIN-WALLING

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 3/23/2015 | TIME PLOTTED => 8:10:47 AM

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CU 00000 | EA 000000

Attachment D:

Build Alternative 2 (Preferred Alternative) Geometrics and Typical Sections

CURVE DATA				
No	RADIUS	Δ	TANGENT	LENGTH
1	1050'	56°17'58"	561.82'	1031.74'
2	4500'	32°45'22"	1322.55'	2572.66'
3	2400'	21°30'04"	587.30'	1140.94'
4	1650'	26°36'15"	390.11'	766.15'
5	2100'	80°45'51"	1786.16'	2960.22'
6	300'	74°09'33"	226.72'	388.30'
7	1093'	25°50'40"	250.86'	493.18'

LINE DATA		
No	BEARING	LENGTH
1	N 21°28'53"W	2344.53'
2	N 11°16'30"E	1926.43'
3	N 16°13'35"W	1158.67'
4	N 10°22'40"E	473.76'
5	N 85°45'52"W	200.00'
6	N 11°36'19"W	349.77'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL No. SHEETS
10	Cal	4	PM R10.3/R16.4	1	3

REGISTERED CIVIL ENGINEER DATE

JUANN RAMOS No. C61931 Exp 6/30/15 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

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891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

PREPARED BY: DOKKEN ENGINEERING
110 BLUE RAVINE ROAD
SUITE 200
FOLSOM CA 95630

LEGEND:
- PROPOSED STRIPING
- PROPOSED IMPROVEMENTS
- PROPOSED RIGHT OF WAY
- EXISTING PROPERTY LINES
- FILL LINE
- CUT LINE
- PROPOSED MIDWEST GUARDRAIL SYSTEM (MGS)

"SR4(align2)" LINE 113+53.71 BC
"SR4(align2)" LINE 124+35.67 EC
"SR4(align2)" LINE 147+80.20 BC
"SR4(align2)" LINE 168+00.00
"HR(align2)" LINE 10+00.00 POB
"HR(align2)" LINE 12+00.00 BC
"HR(align2)" LINE 15+88.30 EC
"HR(align2)" LINE 19+38.07 BC
"HR(align2)" LINE 24+31.25 EC
"SR4(align2)" LINE 173+52.87 EC
"SR4(align2)" LINE 183+97.43 BC
"SR4(align2)" LINE 195+49.39 EC
"SR4(align2)" LINE 206+34.65 BC
"SR4(align2)" LINE 214+00.80 EC
"PS(align2)" LINE 10+00.00 POB
"SR4(align2)" LINE 218+16.87
"SR4(align2)" LINE 218+74.55 BC
HUNT ROAD
STATE ROUTE 4
POOL STATION ROAD
MATCH EX
MATCH EXISTING 4 LANE DIVIDED

SR 4 / WAGON TRAIL REALIGNMENT

SCALE: 1"=300' MARCH 2015

ALTERNATIVE 2 GEOMETRICS PAGE 1

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630 (916) 858-0642

DOCUMENT LAST PLOTTED => 3/23/2015 09:10:10 AM PLOTTED BY => JUANN RAMOS

STATE OF CALIFORNIA — DEPARTMENT OF TRANSPORTATION

REVISED BY	DATE REVISED
JUANN RAMOS	
CALCULATED-DESIGNED BY	CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR	
PAMELA DALCIN-WALLING	

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

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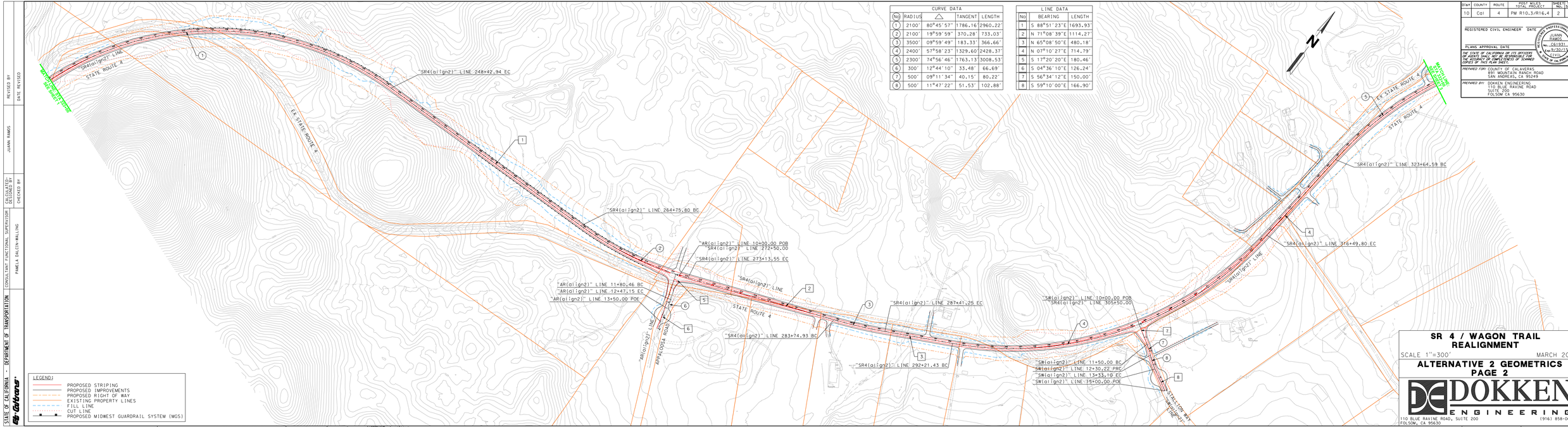

CURVE DATA				
No	RADIUS	Δ	TANGENT	LENGTH
1	2100'	80°45'57"	1786.16'	2960.22'
2	2100'	19°59'59"	370.28'	733.03'
3	3500'	09°59'49"	183.33'	366.66'
4	2400'	57°58'23"	1329.60'	2428.37'
5	2300'	74°56'46"	1763.13'	3008.53'
6	300'	12°44'10"	33.48'	66.69'
7	500'	09°11'34"	40.15'	80.22'
8	500'	11°47'22"	51.53'	102.88'

LINE DATA		
No	BEARING	LENGTH
1	S 88°51'23"E	1693.93'
2	N 71°08'39"E	1114.27'
3	N 65°08'50"E	480.18'
4	N 07°10'27"E	714.79'
5	S 17°20'20"E	180.46'
6	S 04°36'10"E	126.24'
7	S 56°34'12"E	150.00'
8	S 59°10'00"E	166.90'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Cal	4	PM R10.3/R16.4	2	3

REGISTERED CIVIL ENGINEER — DATE

JUANN RAMOS
No. C61931
Exp 6/30/15
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

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PREPARED FOR: COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

PREPARED BY: DOKKEN ENGINEERING
110 BLUE RAVINE ROAD
SUITE 200
FOLSOM CA 95630

SR 4 / WAGON TRAIL REALIGNMENT

SCALE 1"=300' MARCH 2015

ALTERNATIVE 2 GEOMETRICS PAGE 2

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630
(916) 858-0642

LEGEND:
- PROPOSED STRIPING
- PROPOSED IMPROVEMENTS
- PROPOSED RIGHT OF WAY
- EXISTING PROPERTY LINES
- FILL LINE
- CUT LINE
- PROPOSED MIDWEST GUARDRAIL SYSTEM (MGS)

REVISED BY	DATE REVISED
JUANN RAMOS	
CALCULATED-DESIGNED BY	CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR: PAMELA DALCIN-WILLING	

STATE OF CALIFORNIA — DEPARTMENT OF TRANSPORTATION

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES: 0 1 2 3

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DGN FILE => J:\1992_Wagon_Trail_Realignment\200_Proj_Dev\240_Approval_Documents\Draft Project Report\Attachments\Q. Alt 2 Geometrics\1992_Align 2 part 2.dgn

CU 00000 EA 000000

DATE PLOTTED => 3-23-2015
TIME PLOTTED => 13:19:08

CURVE DATA				
(No)	RADIUS	Δ	TANGENT	LENGTH
(1)	2300'	74°56'46"	1763.13'	3008.53'
(2)	2300'	38°08'49"	795.26'	1531.32'
(3)	2400'	25°03'47"	533.45'	1049.83'
(4)	2400'	11°00'48"	231.38'	461.33'
(5)	1600'	35°49'31"	517.18'	1000.43'

LINE DATA		
No	BEARING	LENGTH
1	N 82°07'12"E	3427.79'
2	N 43°58'24"E	210.77'
3	N 69°02'11"E	204.69'
4	N 58°01'22"E	533.69'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Cal	4	PM R10.3/R16.4	3	3

REGISTERED CIVIL ENGINEER — DATE

JUANN RAMOS — No. C61931 — Exp 6/30/15 — CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

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PREPARED FOR: COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

PREPARED BY: DOKKEN ENGINEERING
110 BLUE RAVINE ROAD
SUITE 200
FOLSOM CA 95630

EX STATE ROUTE 4

"SR4(align)" LINE

STATE ROUTE 4

"SR4(align2)" LINE 355+03.92 EC

"SR4(align2)" LINE 389+31.71 BC

"SR4(align2)" LINE 404+63.03 EC

"SR4(align2)" LINE 406+73.80 BC

"SR4(align2)" LINE 417+23.63 EC

"SR4(align2)" LINE 419+28.32 BC

"SR4(align2)" LINE 423+89.65 EC

"SR4(align2)" LINE 429+23.34 BC

STATE ROUTE 4

"SR4(align2)" LINE

"SR4(align2)" LINE 439+23.77 EC

LEGEND:
- PROPOSED STRIPING
- PROPOSED IMPROVEMENTS
- PROPOSED RIGHT OF WAY
- EXISTING PROPERTY LINES
- FILL LINE
- CUT LINE
- PROPOSED MIDWEST GUARDRAIL SYSTEM (MGS)

SR 4 / WAGON TRAIL REALIGNMENT

SCALE: 1"=300' — MARCH 2015

ALTERNATIVE 2 GEOMETRICS PAGE 3

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630 — (916) 858-0642

DESIGNED: DAE — DRAWN: DAE — CHECKED: JR — QUALITY CHECK: JR — DATE REVISED: >> 3/25/2015 09:38:11 AM

STATE OF CALIFORNIA — DEPARTMENT OF TRANSPORTATION — Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: PAMELA DALCIN-WILLING — CALCULATED-DESIGNED BY: JUANN RAMOS — CHECKED BY — REVISED BY — DATE REVISED

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES: 0 1 2 3

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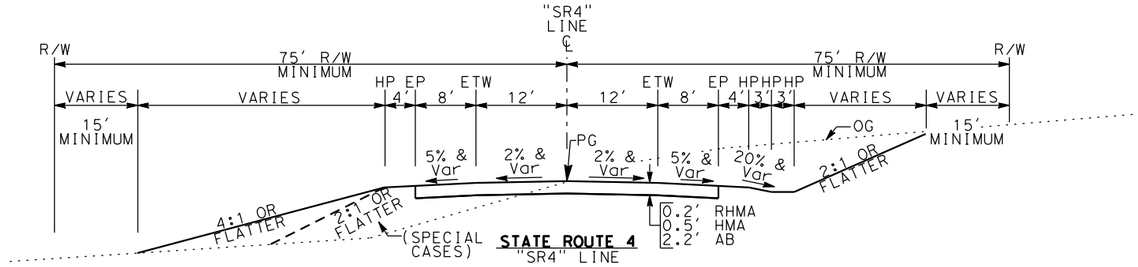
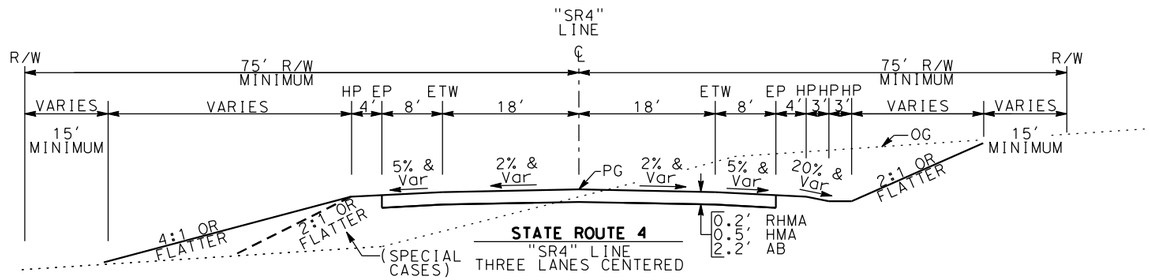
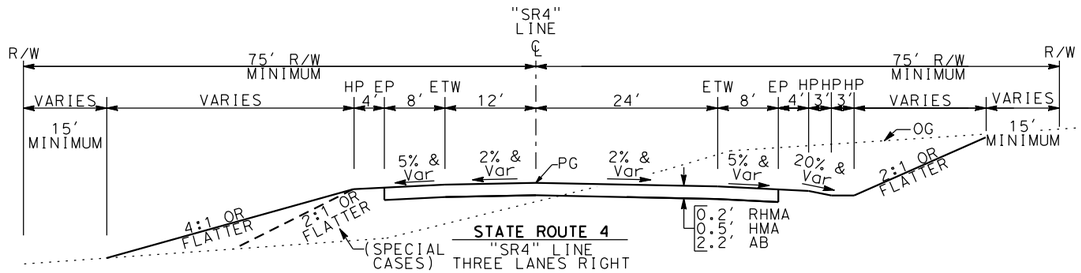
CU 00000 — EA 000000

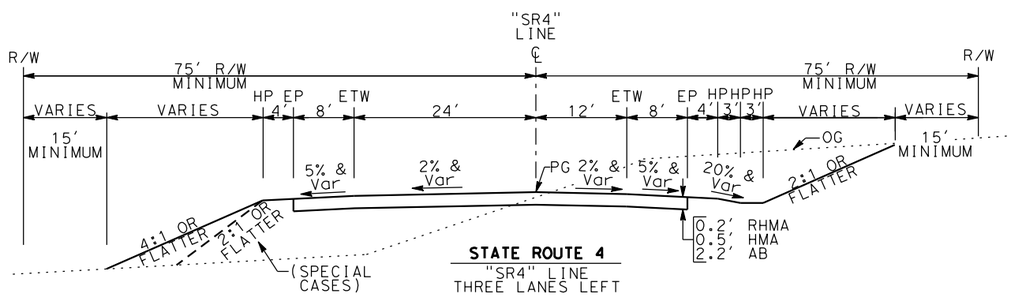
NOTE:

CONSTRUCT SAFETY EDGE AT PAVEMENT EDGES PER STANDARD PLANS.









Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Cal	4	PM R10.3/R16.4		x

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JUANN RAMOS — No. C61931 — Exp. 9/30/15 — CIVIL — STATE OF CALIFORNIA

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PREPARED FOR: COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

PREPARED BY: DOKKEN ENGINEERING
110 BLUE RAVINE ROAD
SUITE 200
FOLSOM CA 95630

PRELIMINARY PLANS NOT FOR CONSTRUCTION

TYPICAL SECTIONS
ALIGNMENT 2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISED BY	DATE REVISED
Caltrans	PAMELA DALCIN-WALLING	CHECKED BY	JUANN RAMOS	

LAST REVISION 00-00-00 | DATE PLOTTED => 3/23/2015 | TIME PLOTTED => 8:12:15 AM

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Attachment E:

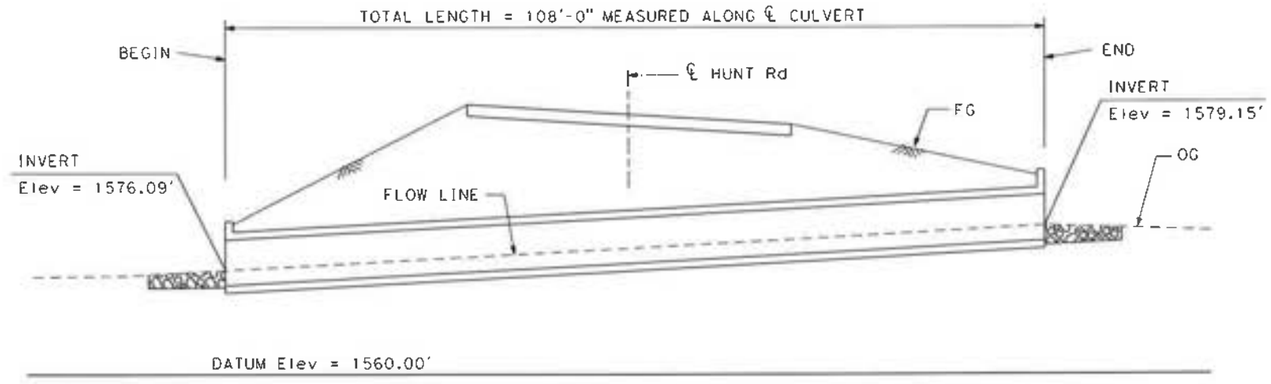
Build Alternative 1 Bridge Advance Planning Studies

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
10	Cal	4	R10.3/R16.4

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630

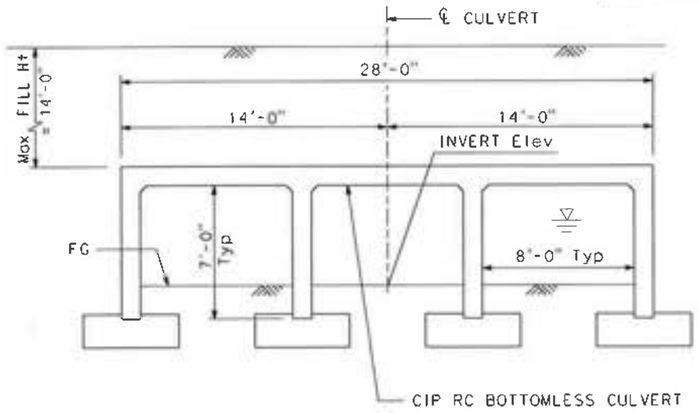
COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

PREPARED FOR THE COUNTY OF CALAVERAS



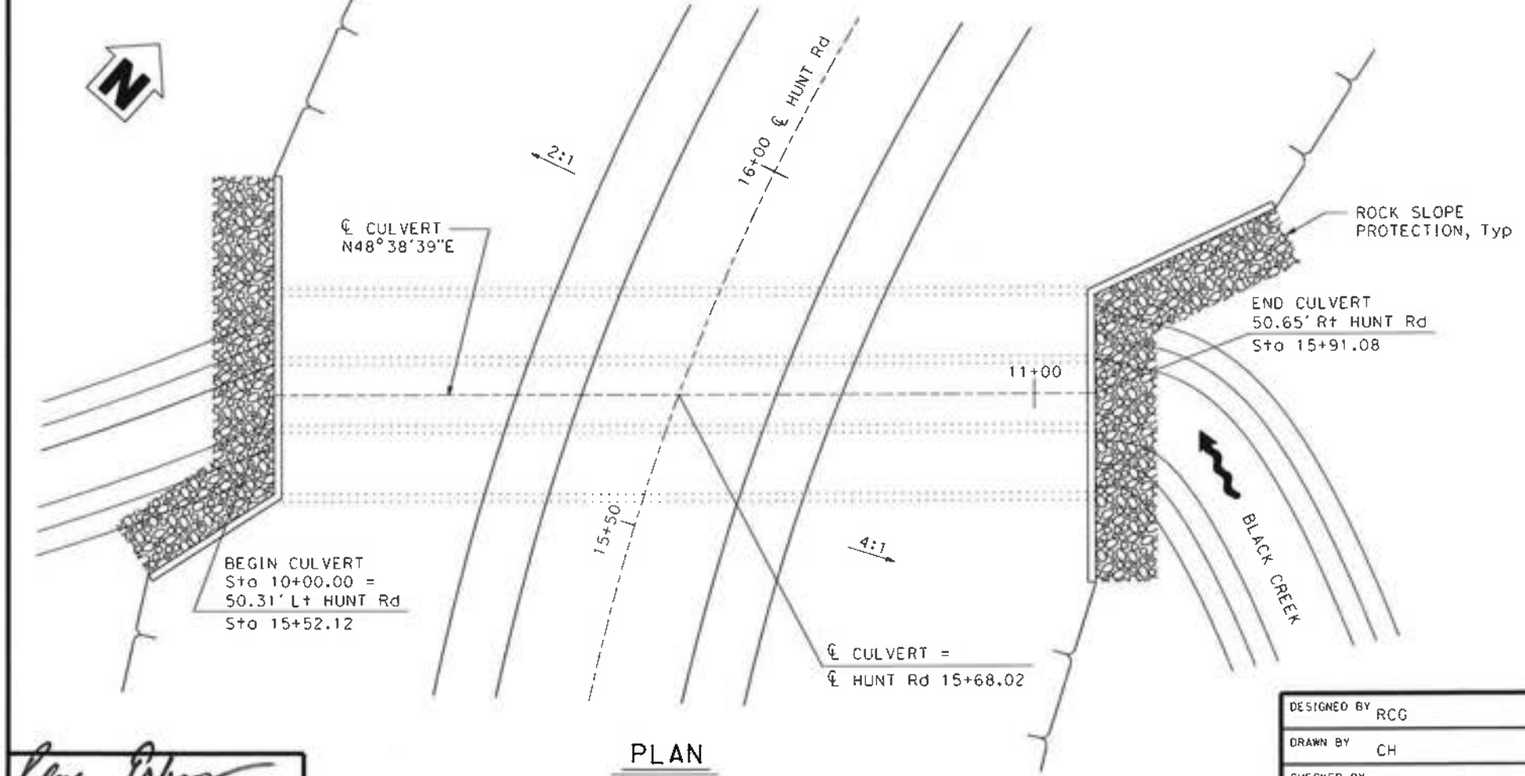
LONGITUDINAL SECTION

1" = 10'



TYPICAL SECTION

1/4" = 1'-0"



PLAN

1" = 10'

HYDROLOGIC SUMMARY

	DESIGN FLOOD	BASE FLOOD
FREQUENCY (Years)	50	100
WATER SURFACE (Elevation at bridge)	1582.14	1582.64
FREEBOARD (ft)	2.01	1.51

DATE OF ESTIMATE	=	6-3-15
STRUCTURE DEPTH	=	
LENGTH	=	108'-0"
WIDTH	=	28'-0"
AREA	=	3024 SF
COST/ SQ FT INCLUDING 10% mobilization & 25% CONTINGENCY	=	$148.81
TOTAL COST	=	$450,000

ALTERNATIVE 1

DESIGNED BY RCG	DATE 3-20-15	R GRIGGS PROJECT ENGINEER	**PLANNING STUDY**
DRAWN BY CH	DATE 3-20-15		**BLACK CREEK CULVERT AT HUNT ROAD**
CHECKED BY ACP	DATE 3-27-15		BRIDGE NO. X / UNIT: X
APPROVED	DATE		SCALE: AS NOTED / PROJECT NUMBER & PHASE: X

DESIGN OVERSIGHT 7/2/15
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV: 7/16/10)

FILE -> J:\1992_Wagon_Trail_Realignment\200_Proj_Dev\210_Prelim_Studies\CONTRACT\Planning Studies\1992APS9.dgn

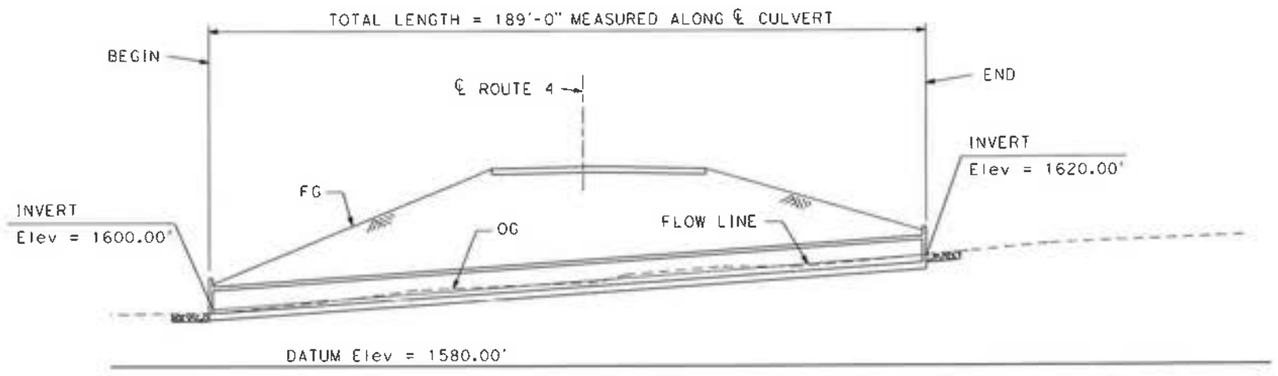
USERNAME -> untitled DATE PLOTTED -> 7/9/2015 TIME PLOTTED -> 8:17:51 AM

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
10	Cal	4	R10.3/R16.4

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630

COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

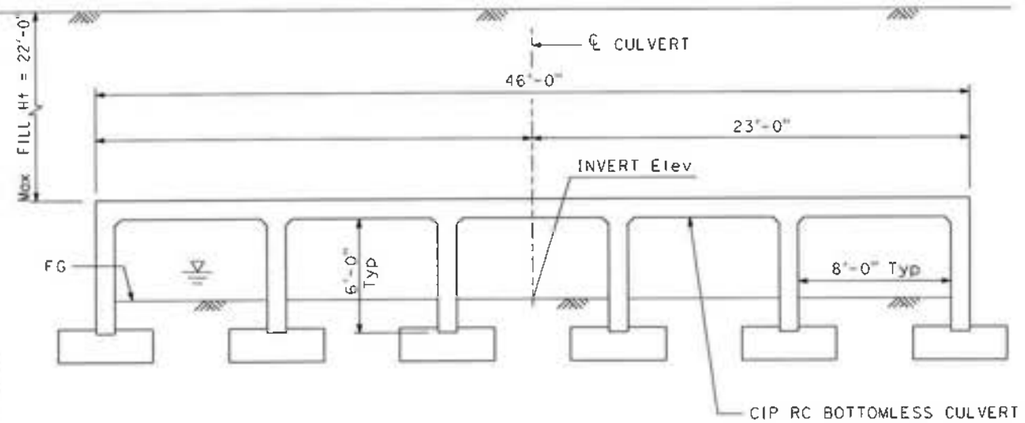
PREPARED FOR THE COUNTY OF CALAVERAS



LONGITUDINAL SECTION

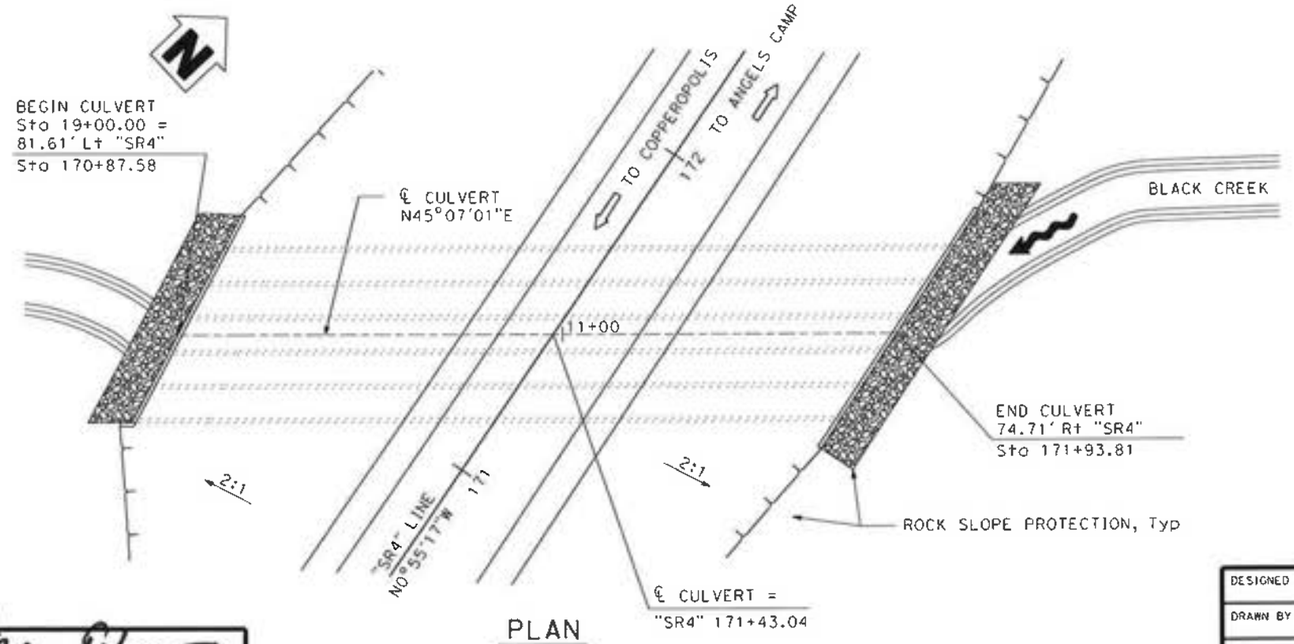
1" = 20'

DATE OF ESTIMATE	=	6-3-15
STRUCTURE DEPTH	=	
LENGTH	=	189'-0"
WIDTH	=	46'-0"
AREA	=	8,694 SF
COST/ SQ FT INCLUDING 10% mobilization & 25% CONTINGENCY	=	$135.73
TOTAL COST	=	$1,180,000



TYPICAL SECTION

1/4" = 1'-0"



PLAN

1" = 20'

HYDROLOGIC SUMMARY

	DESIGN FLOOD	BASE FLOOD
FREQUENCY (Years)	50	100
WATER SURFACE (Elevation at bridge)	1620.92	1621.64
FREEBOARD (ft)	3.08	2.36

ALTERNATIVE 1

DESIGN OVERSIGHT
SIGN OFF DATE 7/9/15

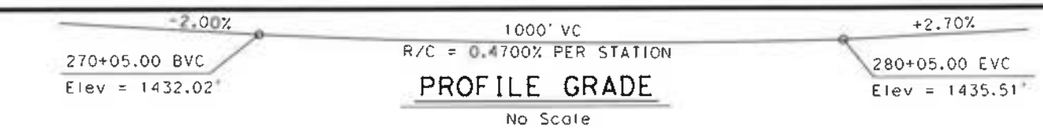
DESIGNED BY RCG	DATE 3-20-15	R GRIGGS PROJECT ENGINEER	**PLANNING STUDY**
DRAWN BY CH	DATE 3-20-15		**BLACK CREEK CULVERT AT ROUTE 4**
CHECKED BY ACP	DATE 3-27-15		BRIDGE NO. X / UNIT: X
APPROVED	DATE		SCALE: AS NOTED / PROJECT NUMBER & PHASE: X

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 7/16/10)

FILE => J:\1992.Wagon_Trail_Realignment\200_Proj_Dev\210_Prelim_Studies\Advance Planning Studies\1992APS2.dgn

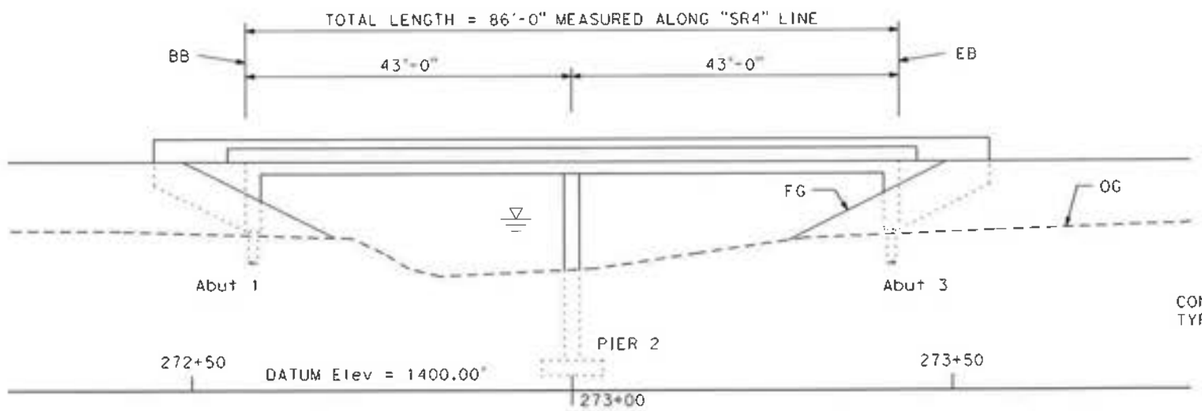
USERNAME => unknown DATE PLOTTED => 6/29/2015 TIME PLOTTED => 8:47:39 AM

PREPARED FOR THE COUNTY OF CALAVERAS



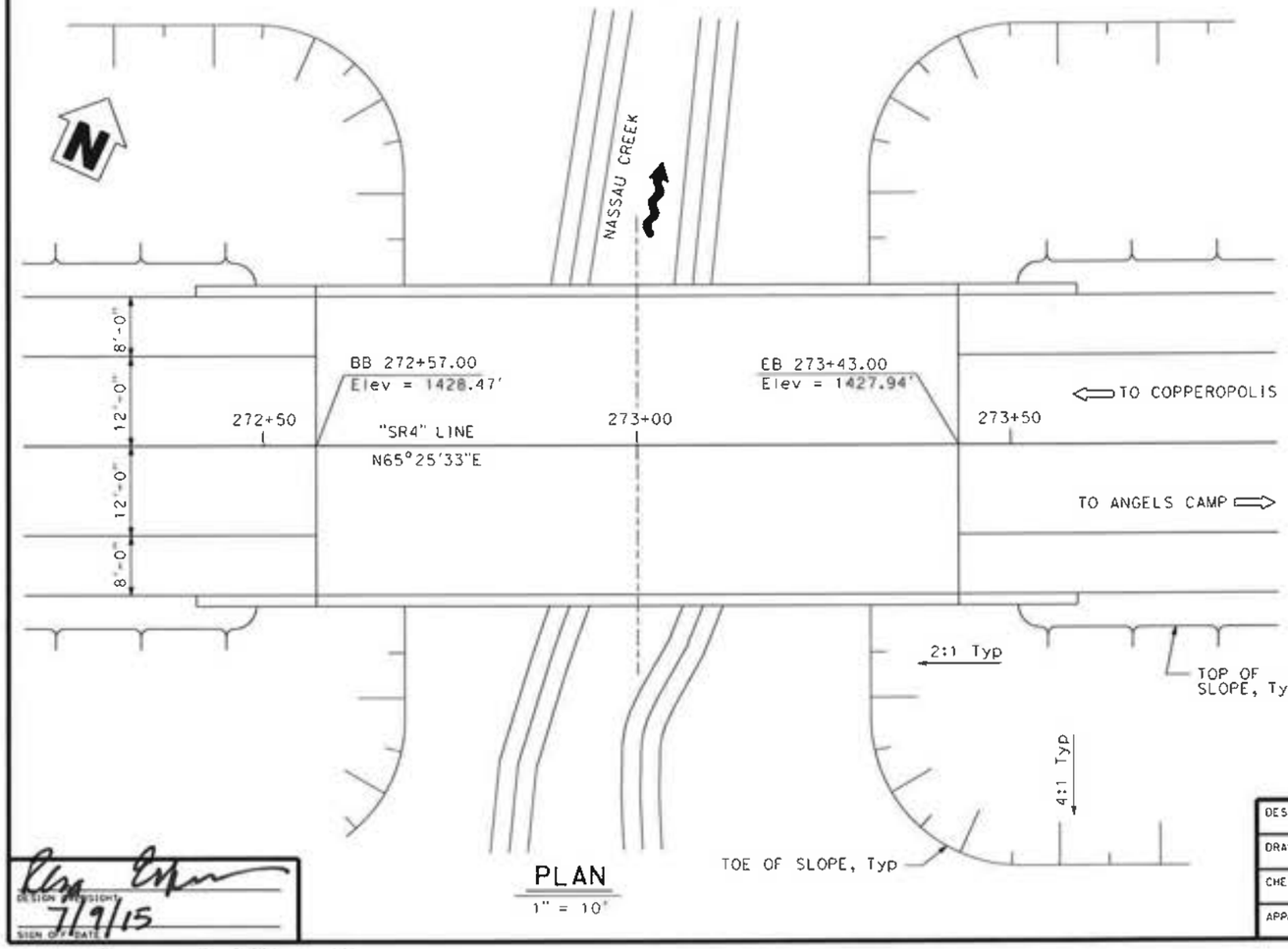
PROFILE GRADE

No Scale



ELEVATION

1" = 10'



PLAN

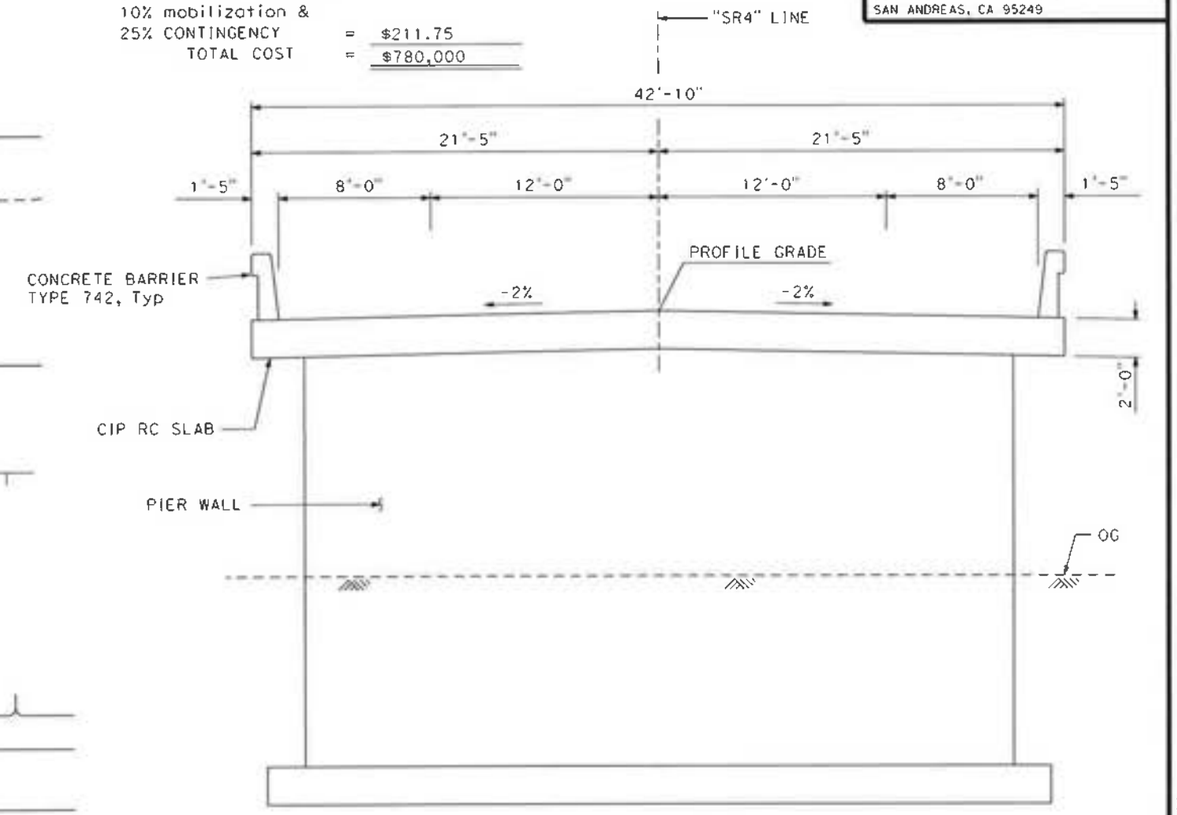
1" = 10'

DATE OF ESTIMATE	=	6-3-15
STRUCTURE DEPTH	=	2'-0"
LENGTH	=	86'-0"
WIDTH	=	42'-10"
AREA	=	3684 SF
COST/ SQ FT INCLUDING 10% mobilization & 25% CONTINGENCY	=	$211.75
TOTAL COST	=	$780,000

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
10	Cal	4	R10.3/R16.4

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630

COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249



TYPICAL SECTION

1/4" = 1'-0"

HYDROLOGIC SUMMARY

	DESIGN FLOOD	BASE FLOOD
FREQUENCY (Years)	50	100
WATER SURFACE (Elevation at bridge)	1422.35	1422.49
FREEBOARD (ft)	3.16	3.30

ALTERNATIVE 1

DESIGNED BY RCG	DATE 3-20-15	R GRIGGS PROJECT ENGINEER	PLANNING STUDY
DRAWN BY CH	DATE 3-20-15		NASSAU CREEK BRIDGE
CHECKED BY ACP	DATE 3-27-15		BRIDGE NO. X / UNIT: X
APPROVED	DATE		SCALE: AS NOTED / PROJECT NUMBER & PHASE: X

DESIGN ASSIGN DATE 7/9/15
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 7/16/10)

FILE => J:\1992_Wagon_Trail_Realignment\200_Proj_Dev\210_Prelim Studies\Drawings\Planning Studies\1992APS1.dgn

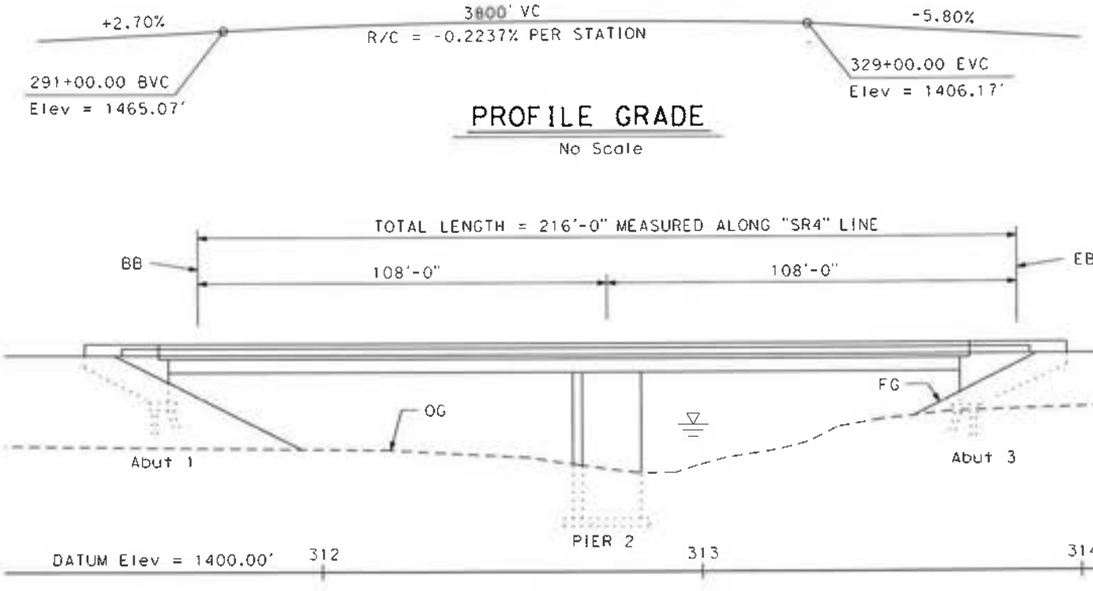
USERNAME => unfilled DATE PLOTTED => 8/29/2015 TIME PLOTTED => 8:47:17 AM

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
10	Cal	4	R10.3/R16.4

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630

COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

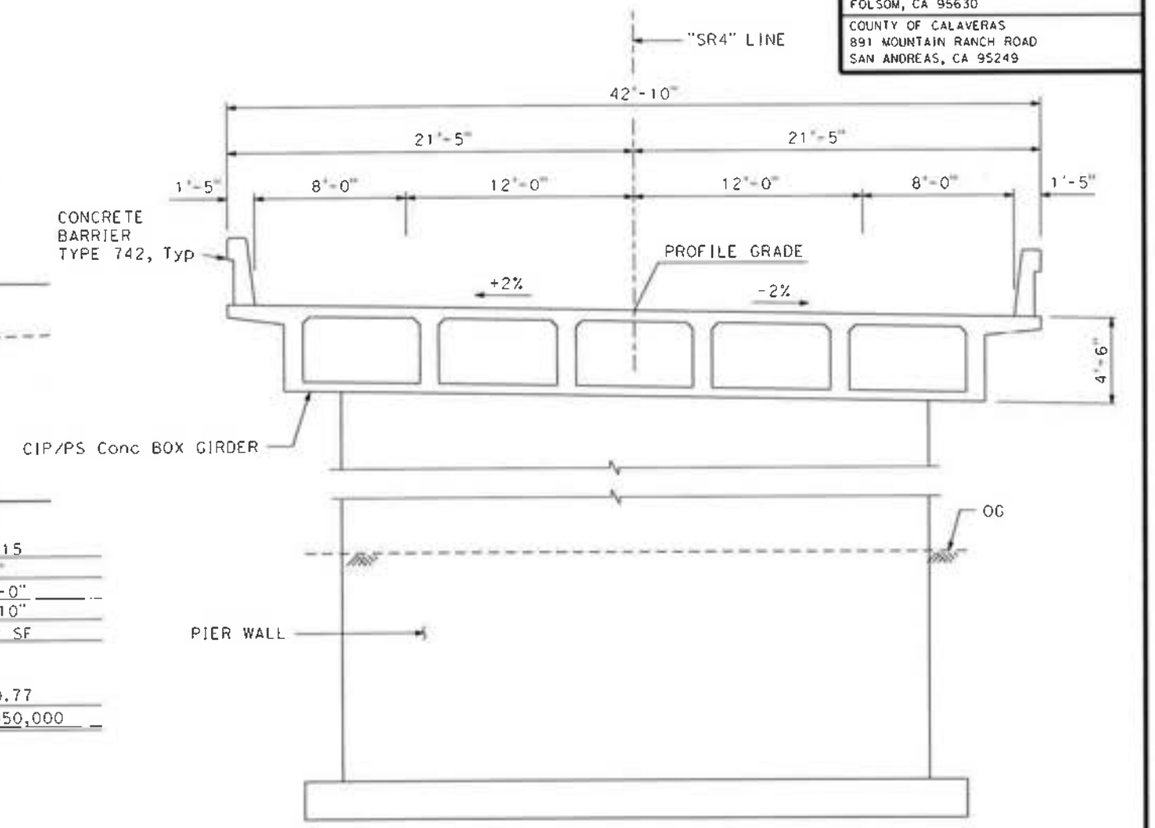
PREPARED FOR THE COUNTY OF CALAVERAS



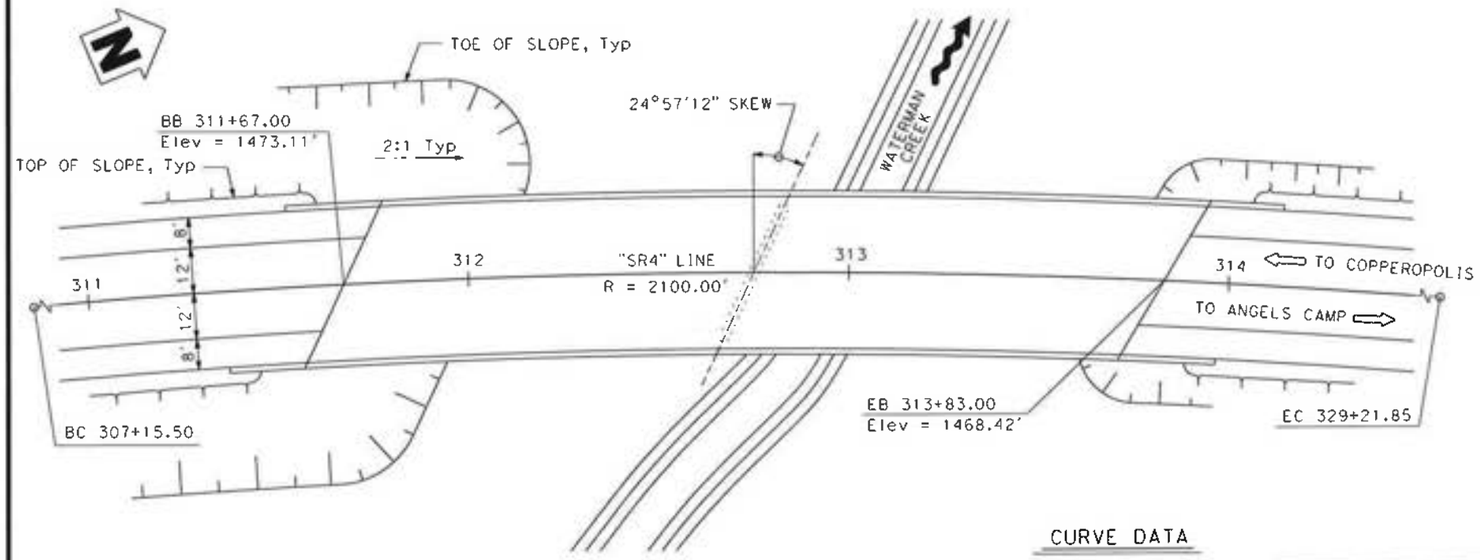
PROFILE GRADE
No Scale

ELEVATION
1" = 20'

DATE OF ESTIMATE	=	6-3-15
STRUCTURE DEPTH	=	4'-6"
LENGTH	=	216'-0"
WIDTH	=	42'-10"
AREA	=	9252 SF
COST/ SQ FT INCLUDING 10% mobilization & 25% CONTINGENCY	=	$210.77
TOTAL COST	=	$1,950,000



TYPICAL SECTION
¼" = 1'-0"



PLAN
1" = 20'

CURVE DATA
R = 2100.00'
Δ = 60°34'00"
T = 1217.26'
L = 2206.35'

HYDROLOGIC SUMMARY

	DESIGN FLOOD	BASE FLOOD
FREQUENCY (Years)	50	100
WATER SURFACE (Elevation at bridge)	1437.53	1438.42
FREEBOARD (ft)	25.96	25.07

ALTERNATIVE 1

DESIGNED BY RCG	DATE 3-20-15	R GRIGGS PROJECT ENGINEER	PLANNING STUDY
DRAWN BY CH	DATE 3-20-15		WATERMAN CREEK BRIDGE
CHECKED BY ACP	DATE 3-27-15		BRIDGE NO. X / UNIT: X
APPROVED	DATE		SCALE: AS NOTED / PROJECT NUMBER & PHASE: X

DESIGN OFFICE CHIEF SIGN OFF DATE 7/9/15

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 7/16/10)

FILE => J:\1992_Wagon_Trail_Realignment\200 Proj_Dev\210 Prelim_Studies\Advance Planning Studies\1992APS3.dgn

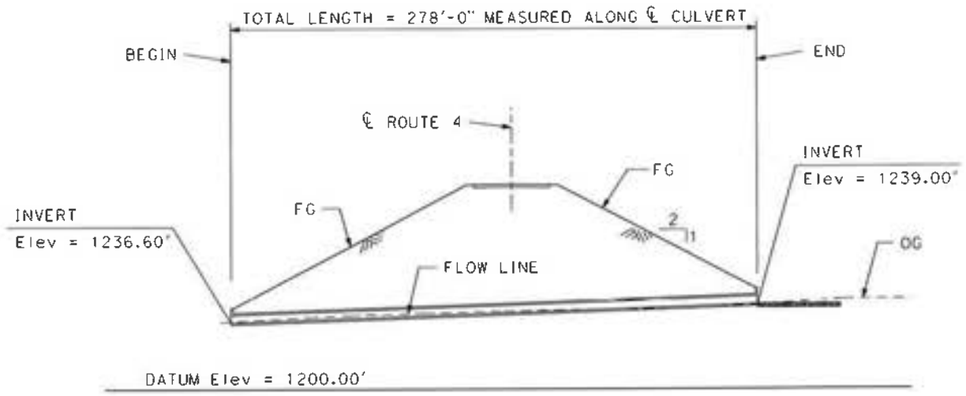
USERNAME => untitled DATE PLOTTED => 6/29/2015 TIME PLOTTED => 8:48:03 AM

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
10	Cal	4	R10.3/R16.4

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630

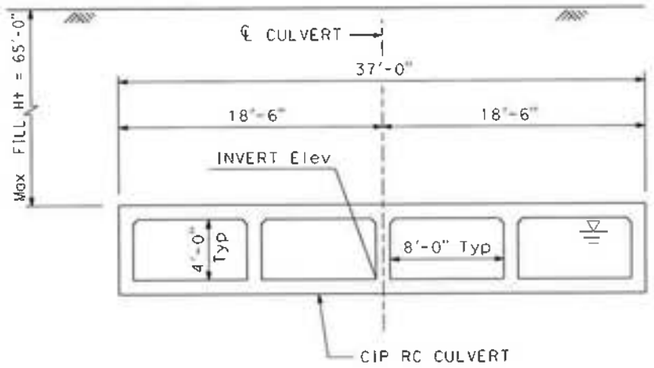
COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

PREPARED FOR THE COUNTY OF CALAVERAS



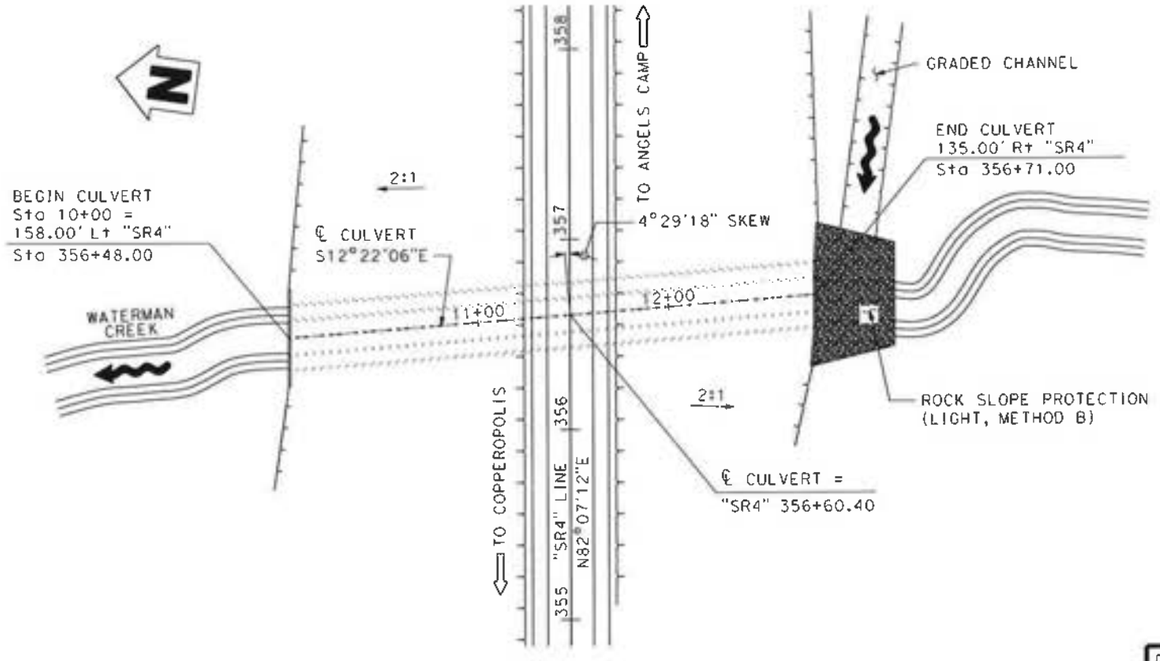
LONGITUDINAL SECTION

1" = 40'



TYPICAL SECTION

3/16" = 1'-0"



PLAN

1" = 40'

HYDROLOGIC SUMMARY

	DESIGN FLOOD	BASE FLOOD
FREQUENCY (Years)	50	100
WATER SURFACE (Elevation at bridge)	1240.87	1242.13
FREEBOARD (ft)	2.13	0.87

DATE OF ESTIMATE	=	6-3-15
STRUCTURE DEPTH	=	
LENGTH	=	278'-0"
WIDTH	=	37'-0"
AREA	=	10,286 SF
COST/ SQ FT INCLUDING 10% mobilization & 25% CONTINGENCY	=	$134.16
TOTAL COST	=	$1,380,000

ALTERNATIVE 1

DESIGNED BY RCG	DATE 3-20-15	R GRIGGS PROJECT ENGINEER	PLANNING STUDY
DRAWN BY CH	DATE 3-20-15		WATERMAN CREEK CULVERT
CHECKED BY ACP	DATE 3-27-15		BRIDGE NO. X / UNIT: X
APPROVED	DATE		SCALE: AS NOTED / PROJECT NUMBER & PHASE: X

DESIGN ENGINEER
SIGN OFF DATE 7/9/15

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 7/16/10)

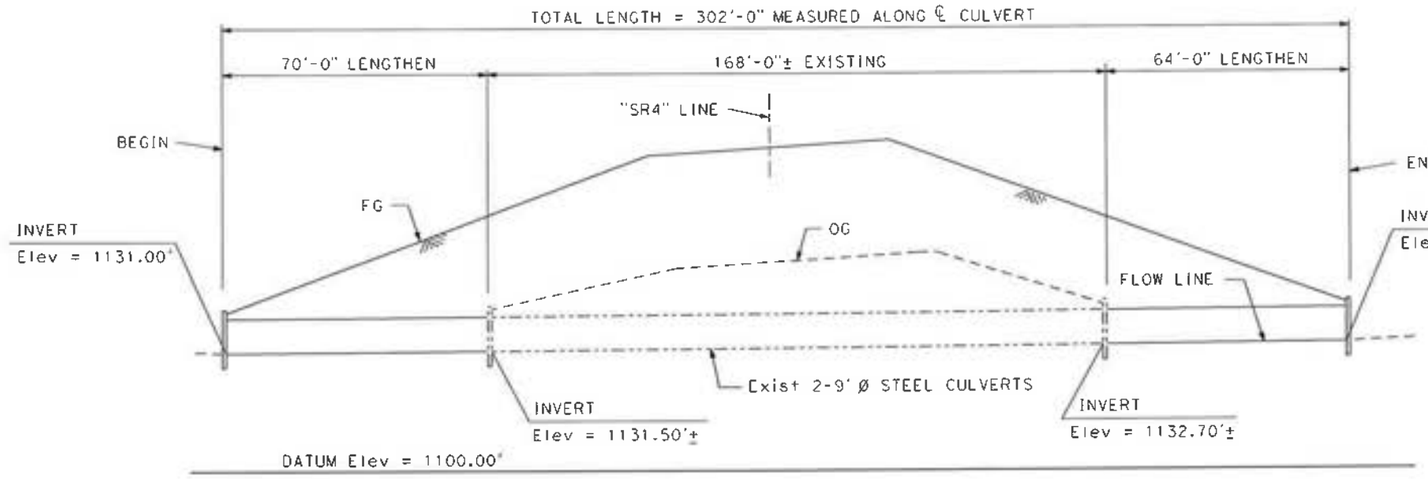
FILE => J:\1992 Wagon_Trail_Realignment\200_Proj_Dev\210_Prelim Studies\CONTRACTED\Planning Studies\1992APS4.dgn

LSERNAME => Untitled DATE PLOTTED => 6/29/2015 TIME PLOTTED => 8:53:25 AM

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
10	Cal	4	R10.3/R16.4

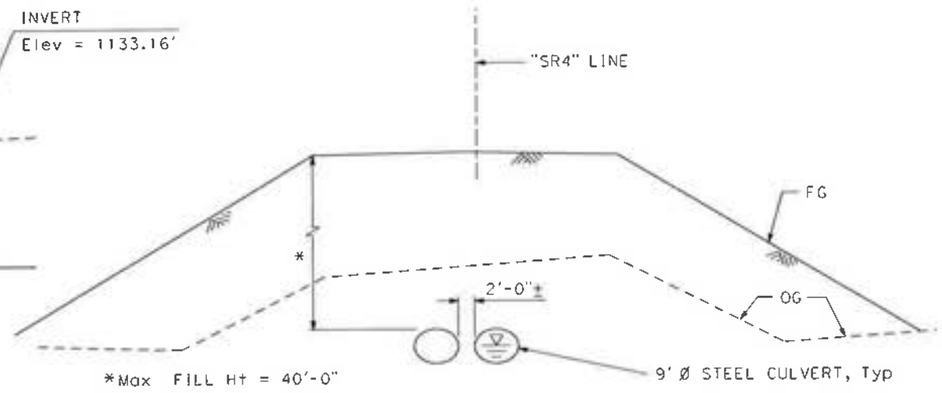
DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630

COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249



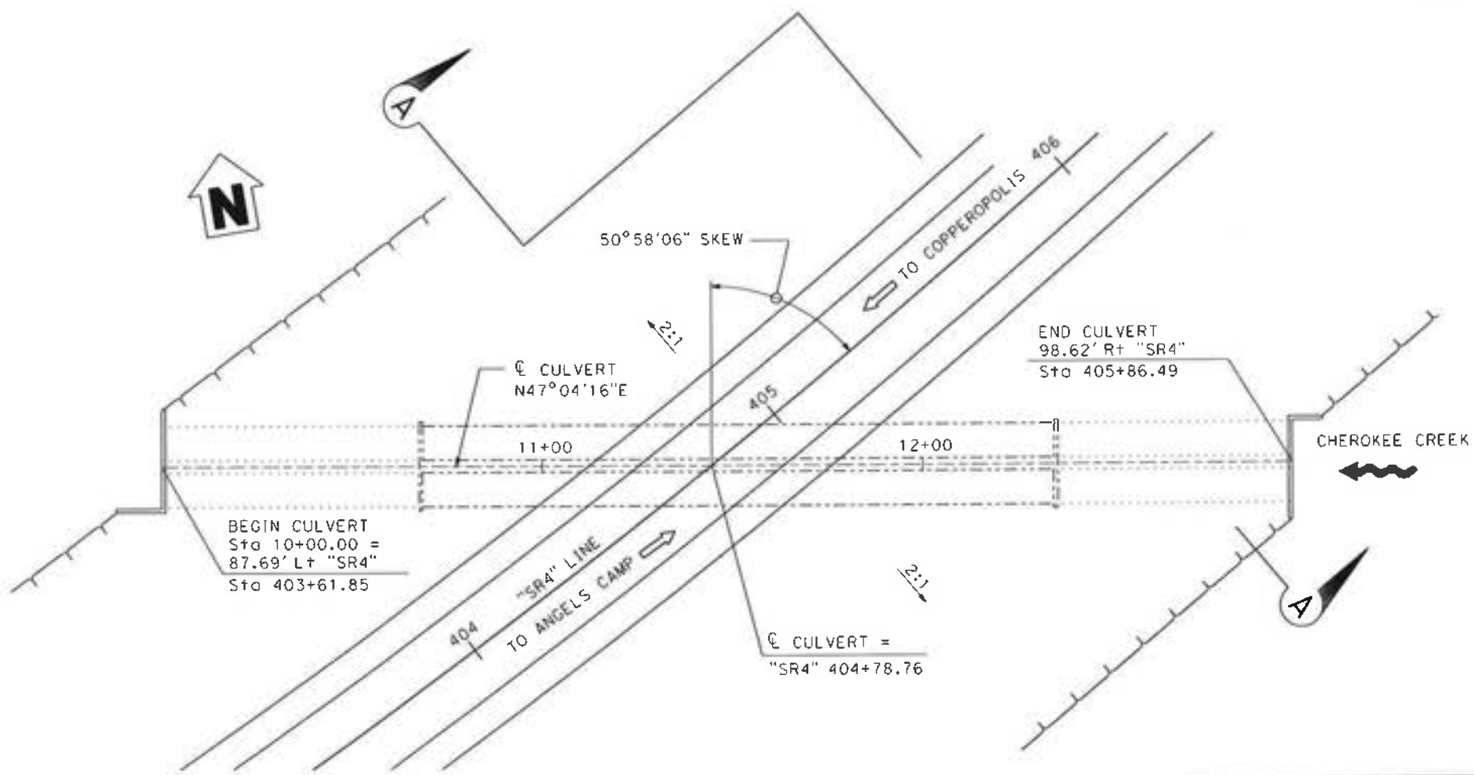
LONGITUDINAL SECTION

1" = 20'



SECTION A-A

1" = 20'



PLAN

1" = 20'

HYDROLOGIC SUMMARY

	DESIGN FLOOD	BASE FLOOD
FREQUENCY (Years)	50	100
WATER SURFACE (Elevation at bridge)	1136.74	1136.94
FREEBOARD (ft)	5.42	5.22

DATE OF ESTIMATE	=	6-3-15
STRUCTURE DEPTH	=	
LENGTH	=	134'-0"
WIDTH	=	20'-0"
AREA	=	2,680 SF
COST/ SQ FT INCLUDING 10% mobilization & 25% CONTINGENCY	=	$97.01
TOTAL COST	=	$260,000

ALTERNATIVE 1

PREPARED FOR THE COUNTY OF CALAVERAS

Reza Emami
DESIGN ENGINEER
7-9-15
SIGN OFF DATE

DESIGNED BY	RCG	DATE	3-20-15
DRAWN BY	CH	DATE	3-20-15
CHECKED BY	ACP	DATE	3-27-15
APPROVED		DATE	

R GRIGGS
PROJECT ENGINEER

PLANNING STUDY

CHEROKEE CREEK CULVERT EXTENSION

BRIDGE NO. 30-0050	UNIT: X
SCALE: AS NOTED	PROJECT NUMBER & PHASE: X

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 7/16/10)

FILE => J:\1992_Wagon_Trail_Realignment\200_Proj_Dev\210_Prelim_Studies\Hydraulic Studies\1997APS10.dgn

USERNAME => untitled DATE PLOTTED => 6/29/2015 TIME PLOTTED => 8:55:31 AM

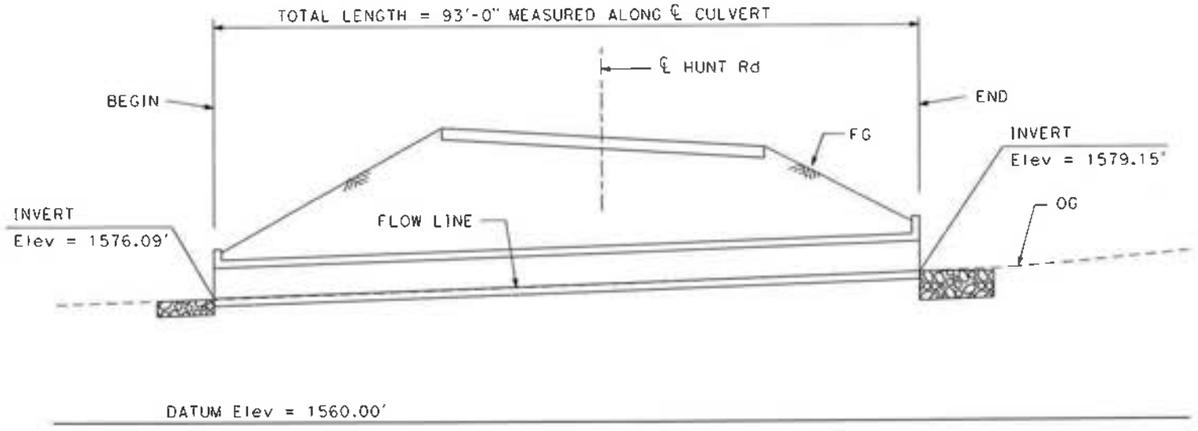
Attachment F:

Build Alternative 2 (Preferred Alternative)
Bridge Advance Planning Studies

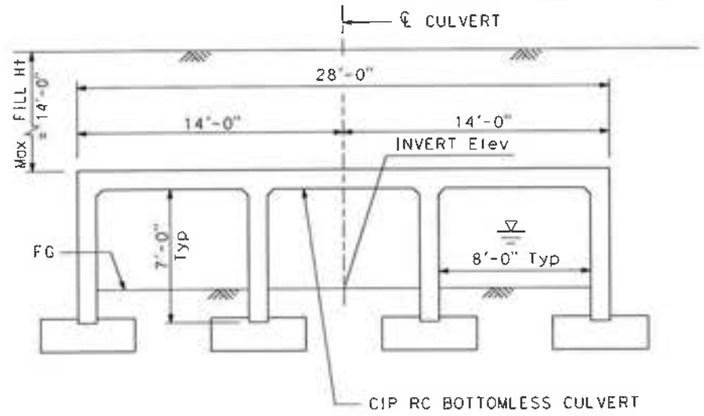
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
10	Cal	4	R10.3/R16.4

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630

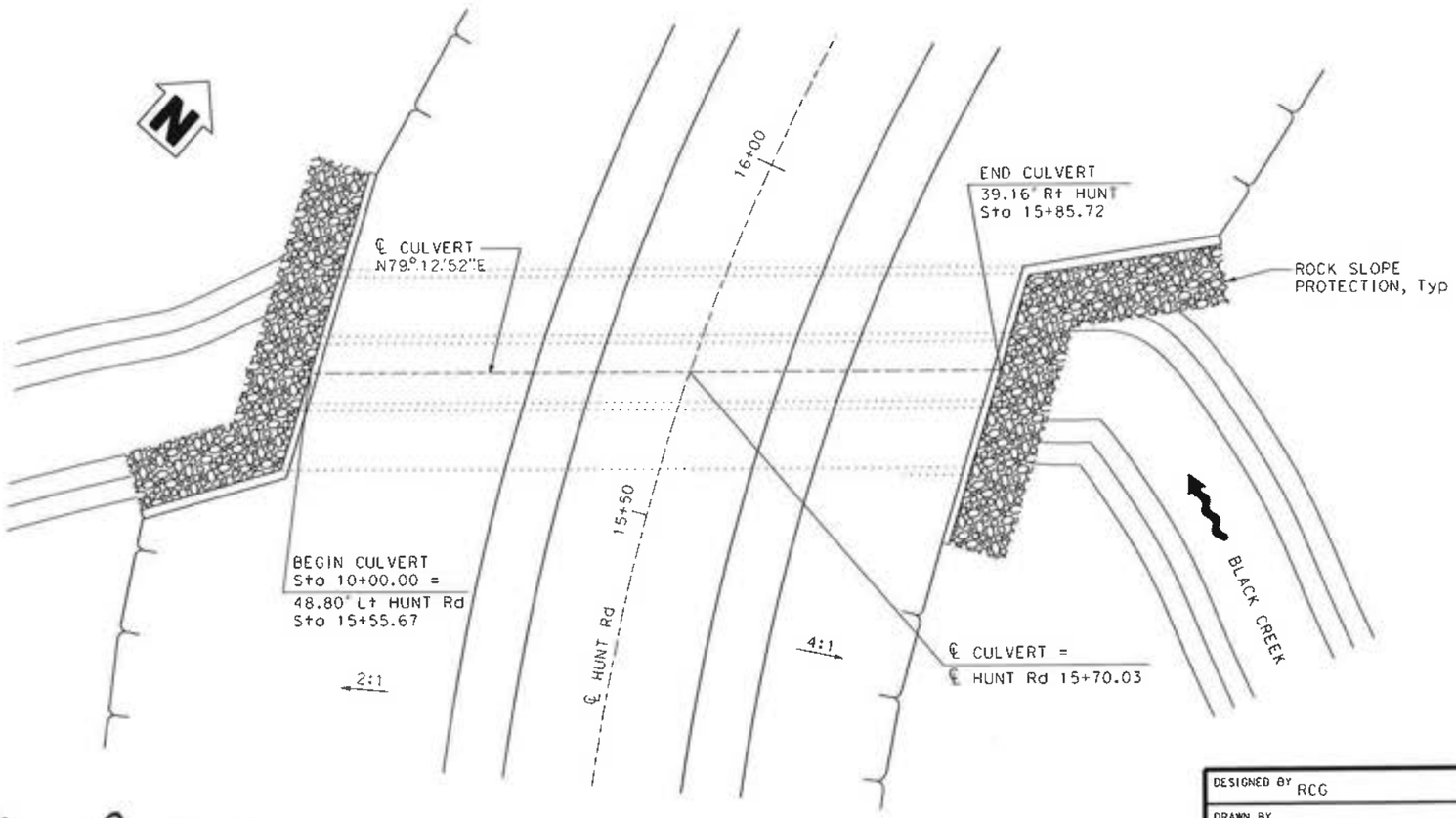
COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249



LONGITUDINAL SECTION
1" = 10'



TYPICAL SECTION
1/4" = 1'-0"



PLAN
1" = 10'

HYDROLOGIC SUMMARY

	DESIGN FLOOD	BASE FLOOD
FREQUENCY (Years)	50	100
WATER SURFACE (Elevation at bridge)	1582.14	1582.64
FREEBOARD (ft)	2.01	1.51

DATE OF ESTIMATE	=	6-3-15
STRUCTURE DEPTH	=	
LENGTH	=	93'-0"
WIDTH	=	28'-0"
AREA	=	2604 SF
COST/ SQ FT INCLUDING 10% mobilization & 25% CONTINGENCY	=	$149.77
TOTAL COST	=	$390,000

ALTERNATIVE 2

DESIGNED BY RCG	DATE 3-20-15	R GRIGGS PROJECT ENGINEER	**PLANNING STUDY**
DRAWN BY CH	DATE 3-20-15		**BLACK CREEK CULVERT AT HUNT ROAD**
CHECKED BY ACP	DATE 3-27-15		BRIDGE NO. X / UNIT: X
APPROVED	DATE		SCALE: AS NOTED / PROJECT NUMBER & PHASE: X

DESIGN OVERSIGHT
7-9-15
SIGN OFF DATE

PREPARED FOR THE COUNTY OF CALAVERAS

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 7/16/10)

FILE => J:\1992_Wagon_Trail_Realignment\200_Proj_Dev\210_Prelim_Studies\CONTRACT\Planning Studies\1992APS11.dgn

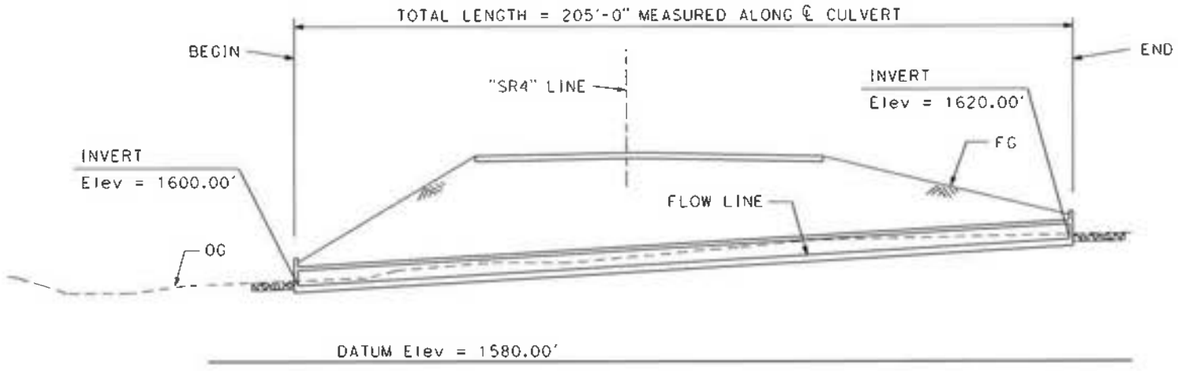
USERNAME => untitled DATE PLOTTED => 7/9/2015 TIME PLOTTED => 8:21:12 AM

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
10	Cal	4	R10.3/R16.4

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630

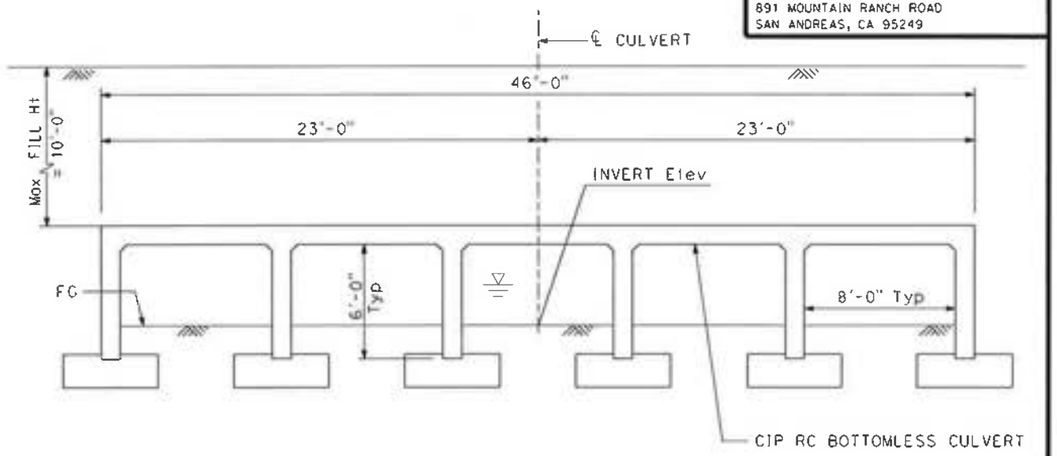
COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

PREPARED FOR THE COUNTY OF CALAVERAS



LONGITUDINAL SECTION

1" = 20'

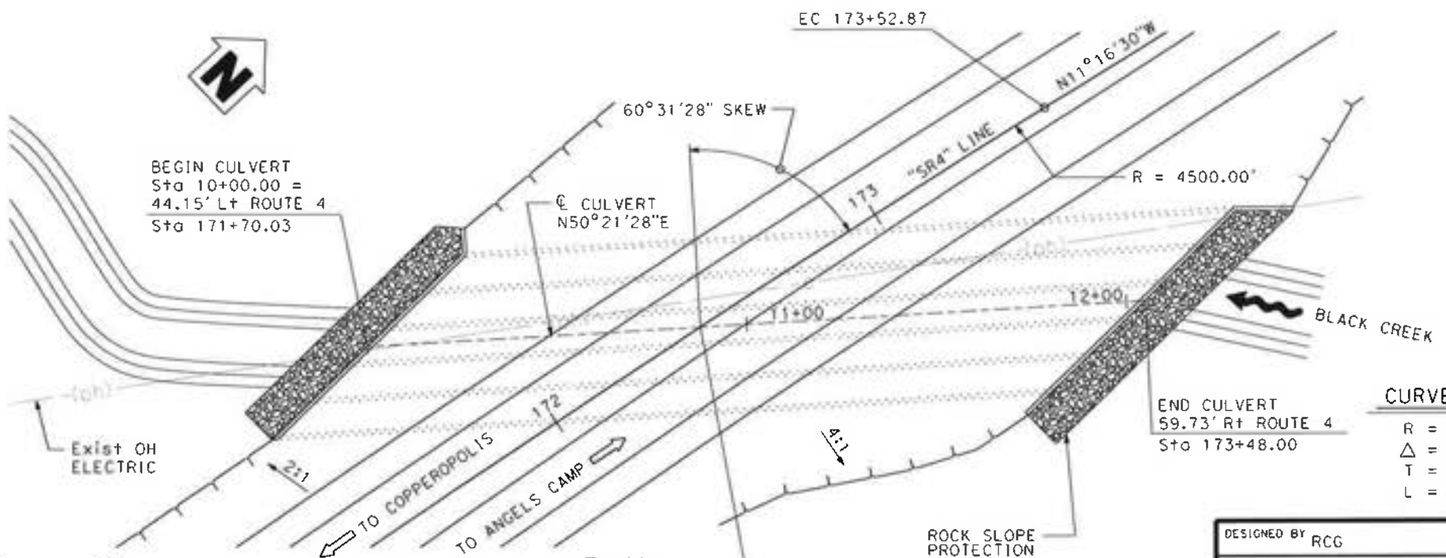


TYPICAL SECTION

1/4" = 1'-0"

HYDROLOGIC SUMMARY

	DESIGN FLOOD	BASE FLOOD
FREQUENCY (Years)	50	100
WATER SURFACE (Elevation at bridge)	1620.92	1621.64
FREEBOARD (ft)	3.08	2.36



PLAN

1" = 20'

CURVE DATA

R = 4,500.00'
Δ = 32°45'22"
T = 1,322.55'
L = 2,572.66'

DATE OF ESTIMATE	=	6-3-15
STRUCTURE DEPTH	=	
LENGTH	=	205'-0"
WIDTH	=	46'-0"
AREA	=	9,430 SF
COST/ SQ FT INCLUDING 10% mobilization & 25% CONTINGENCY	=	$135.74
TOTAL COST	=	$1,280,000

ALTERNATIVE 2

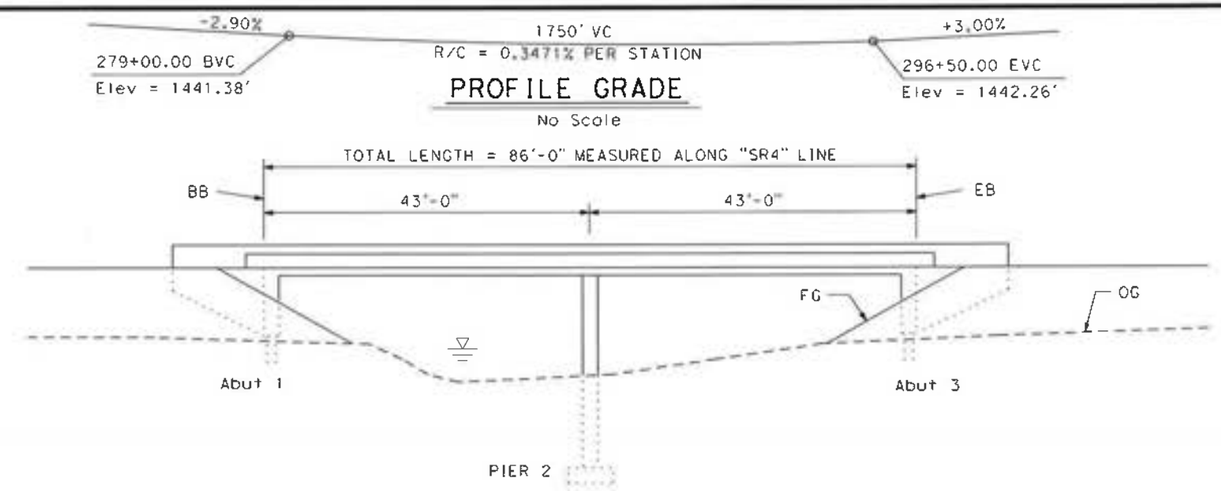
DESIGN OVERSIGHT
7-9-15
SIGN OFF DATE

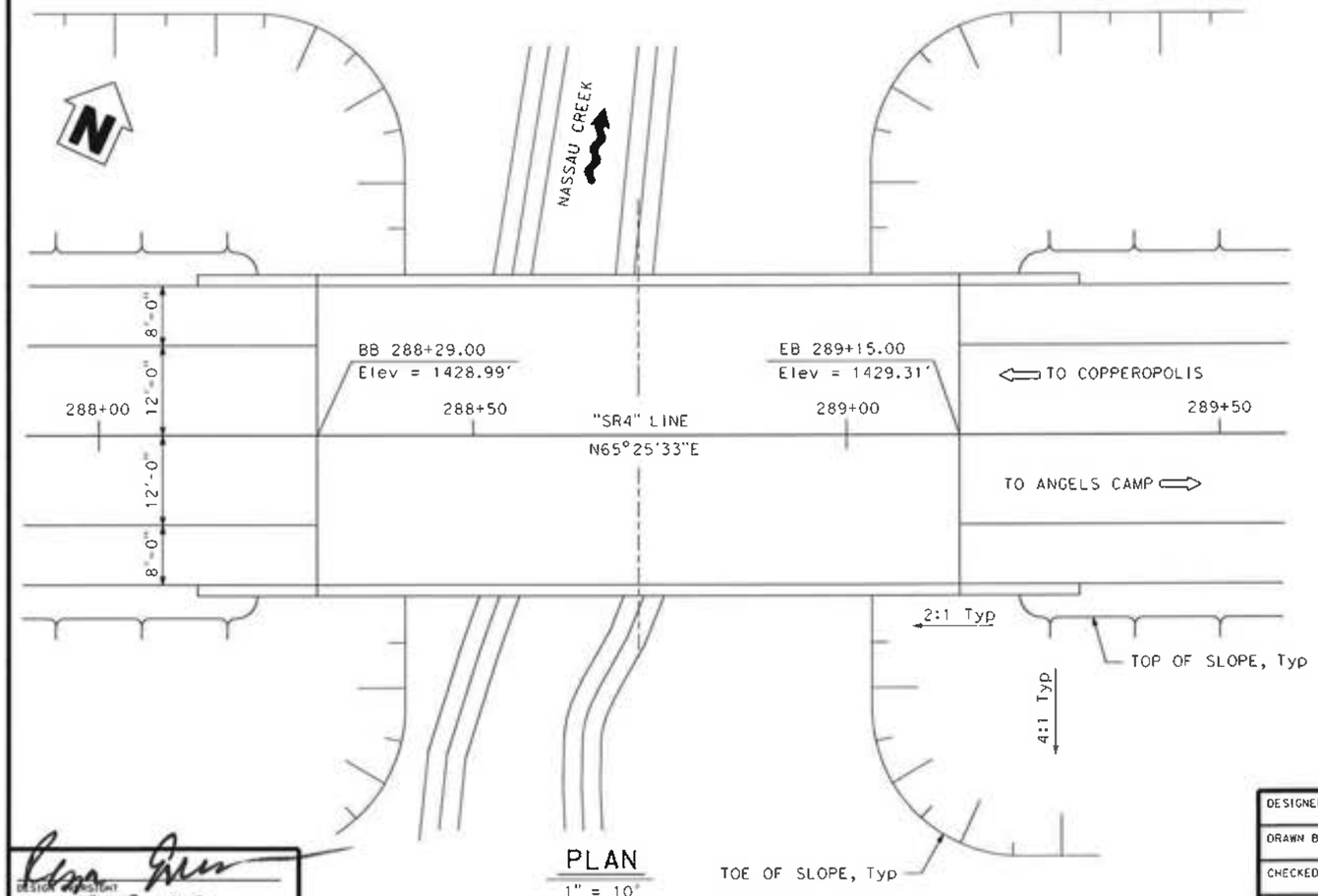
DESIGNED BY RCG	DATE 3-20-15	R GRIGGS PROJECT ENGINEER	PLANNING STUDY
DRAWN BY CH	DATE 3-20-15		BLACK CREEK CULVERT @ ROUTE 4
CHECKED BY ACP	DATE 3-27-15		BRIDGE NO. X / UNIT: X
APPROVED	DATE		SCALE: AS NOTED / PROJECT NUMBER & PHASE: X

FILE => J:\1992.Wagon_Trail_Realignment\200_Proj_Dev\210_Prelim_Studies\CONTRACT\Planning Studies\1992APS6.dgn

USERNAME => unknown DATE PLOTTED => 6/29/2015 TIME PLOTTED => 8:54:26 AM

PREPARED FOR THE COUNTY OF CALAVERAS



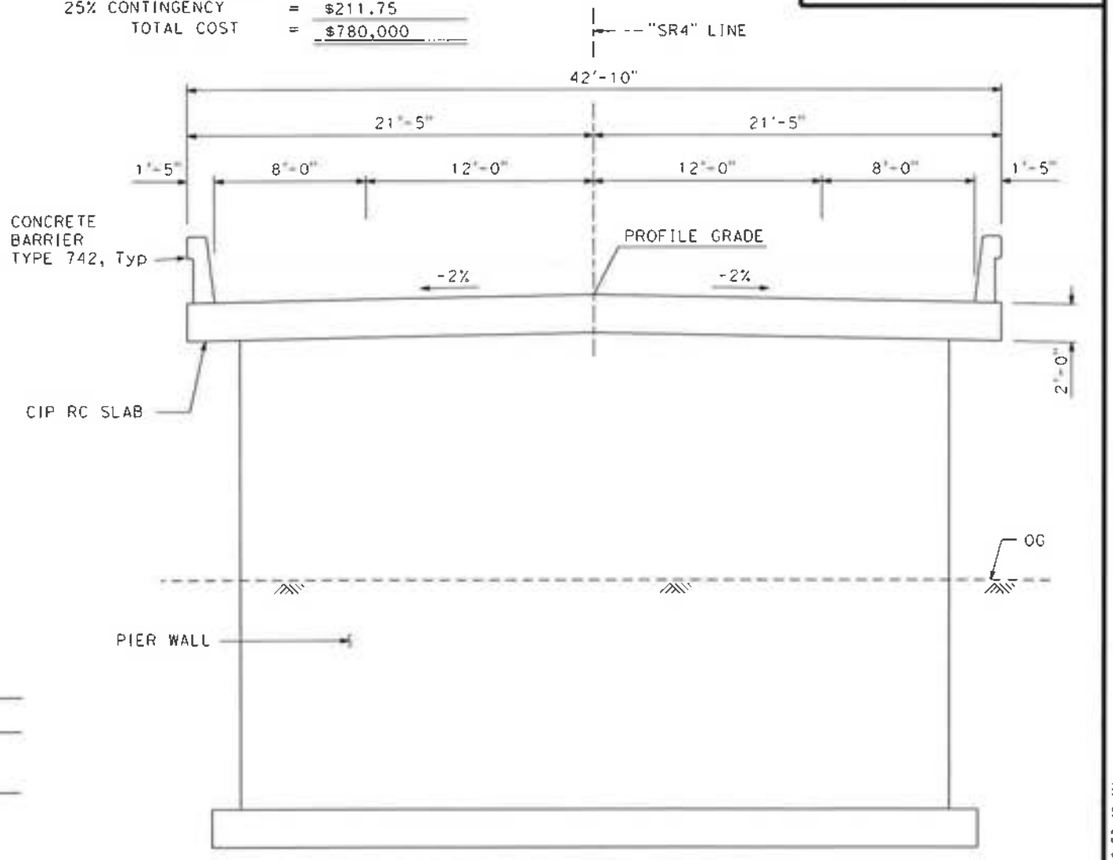


DATE OF ESTIMATE	=	6-3-15
STRUCTURE DEPTH	=	2'-0"
LENGTH	=	86'-0"
WIDTH	=	42'-10"
AREA	=	3,684 SF
COST/ SQ FT INCLUDING 10% mobilization & 25% CONTINGENCY	=	$211.75
TOTAL COST	=	$780,000

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
10	Col	4	R10.3/R16.4

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630

COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249



TYPICAL SECTION
1/4" = 1'-0"

HYDROLOGIC SUMMARY

	DESIGN FLOOD	BASE FLOOD
FREQUENCY (Years)	50	100
WATER SURFACE (Elevation at bridge)	1422.35	1422.49
FREEBOARD (ft)	4.21	4.07

ALTERNATIVE 2

DESIGNED BY RCG	DATE 3-20-15	R GRIGGS PROJECT ENGINEER	**PLANNING STUDY**
DRAWN BY CH	DATE 3-20-15		**NASSAU CREEK BRIDGE**
CHECKED BY ACP	DATE 3-27-15		BRIDGE NO. X / UNIT: X
APPROVED	DATE		SCALE: AS NOTED / PROJECT NUMBER & PHASE: X

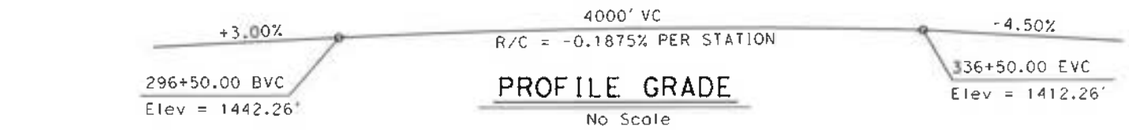
DESIGN ENGINEER 7-9-15 SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 7/16/10)

FILE => J:\1992_Wagon_Trail_Realignment\200_Proj_Dev\210_Prelim_Studies\Advance Planning Studies\1992APS5.dgn

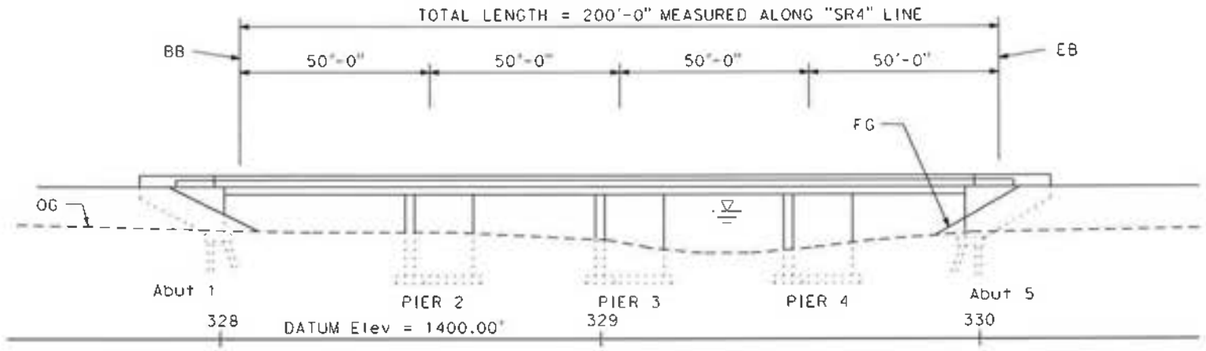
USERNAME => unrtitled DATE PLOTTED => 6/29/2015 TIME PLOTTED => 8:53:40 AM

PREPARED FOR THE COUNTY OF CALAVERAS



PROFILE GRADE

No Scale



ELEVATION

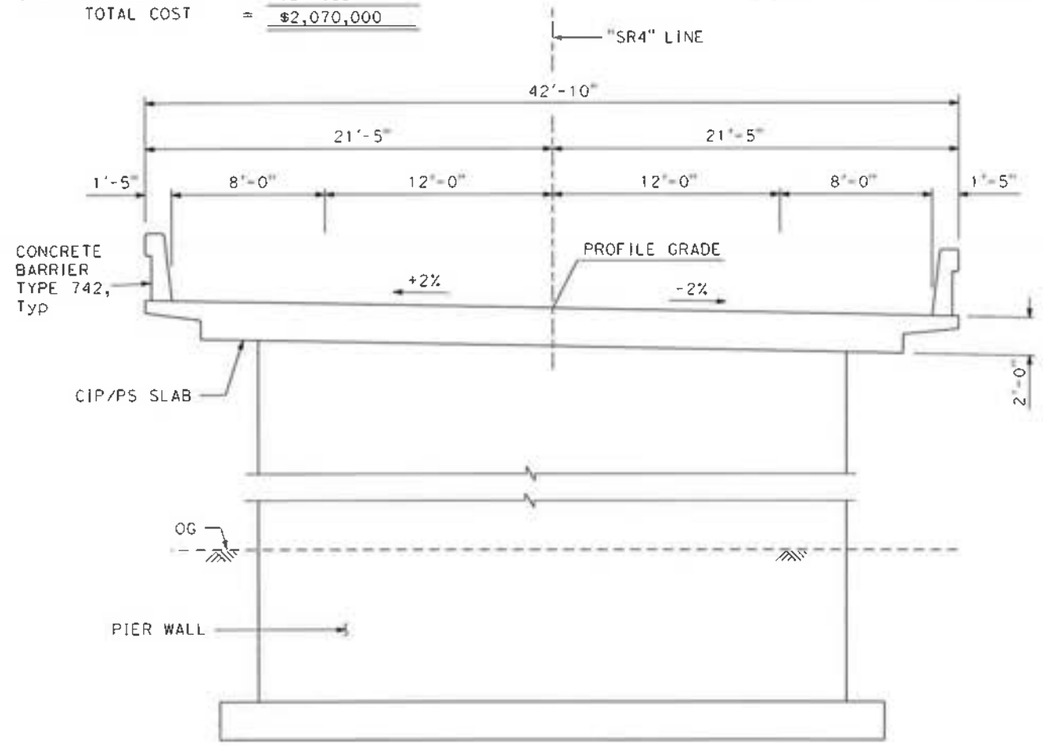
1" = 20'

DATE OF ESTIMATE = 6-3-15
STRUCTURE DEPTH = 2'-0"
LENGTH = 200'-0"
WIDTH = 42'-10"
AREA = 8567 SF
COST/ SQ FT INCLUDING 10% mobilization & 25% CONTINGENCY = $241.63
TOTAL COST = $2,070,000

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
10	Cal	4	R10.3/R16.4

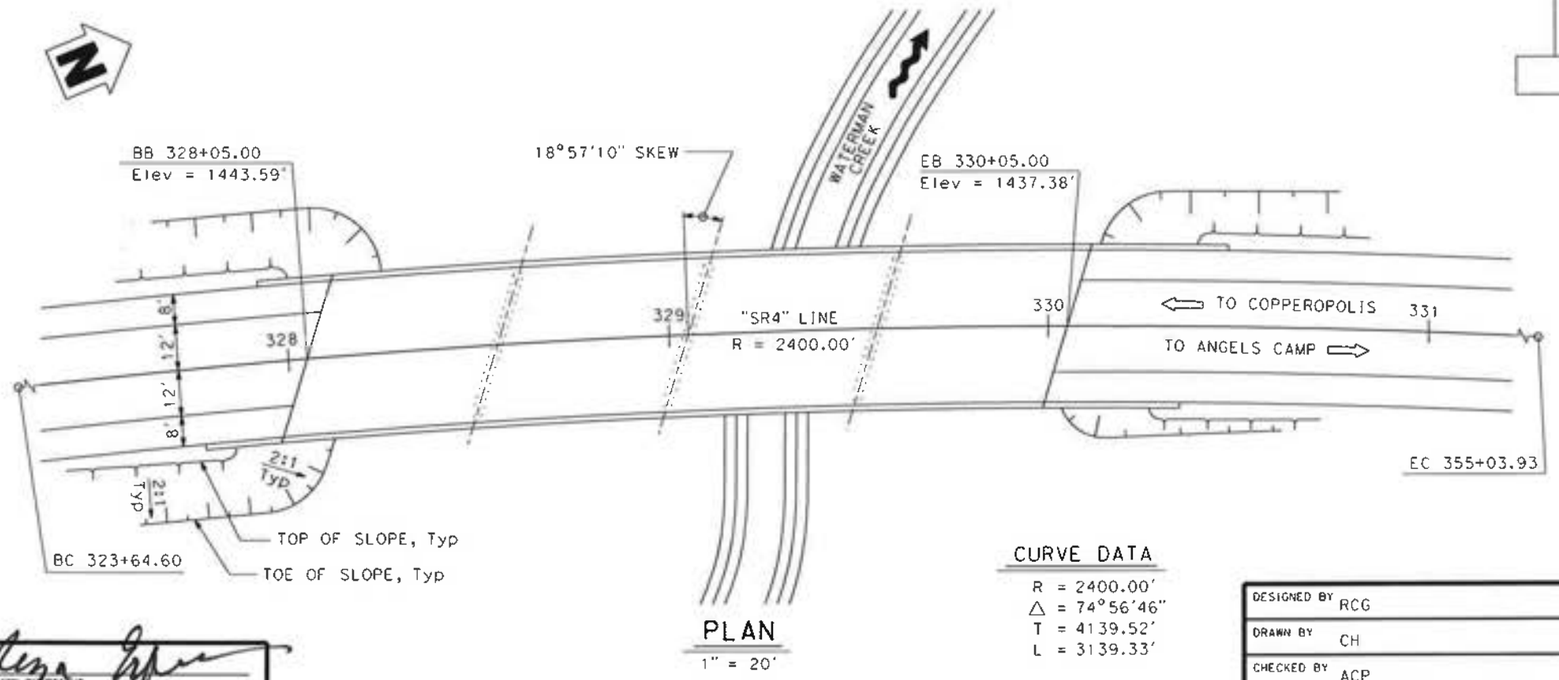
DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630

COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249



TYPICAL SECTION

1/4" = 1'-0"



PLAN

1" = 20'

CURVE DATA

R = 2400.00'
△ = 74°56'46"
T = 4139.52'
L = 3139.33'

HYDROLOGIC SUMMARY

	DESIGN FLOOD	BASE FLOOD
FREQUENCY (Years)	50	100
WATER SURFACE (Elevation at bridge)	1432.79	1432.87
FREEBOARD (ft)	2.16	2.08

ALTERNATIVE 2

DESIGN OVERSIGHT 7-9-15 SIGN OFF DATE

DESIGNED BY	RCG	DATE	3-20-15
DRAWN BY	CH	DATE	3-20-15
CHECKED BY	ACP	DATE	3-27-15
APPROVED		DATE	

R GRIGGS
PROJECT ENGINEER

PLANNING STUDY

WATERMAN CREEK BRIDGE

BRIDGE NO. X	UNIT: X
SCALE: AS NOTED	PROJECT NUMBER & PHASE: X

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 7/16/20)

FILE => J:\1992_Wagon Trail_Realignment\200_Proj_Dev\210_Prelim_Studies\Bridge Studies\1992APS8.dgn

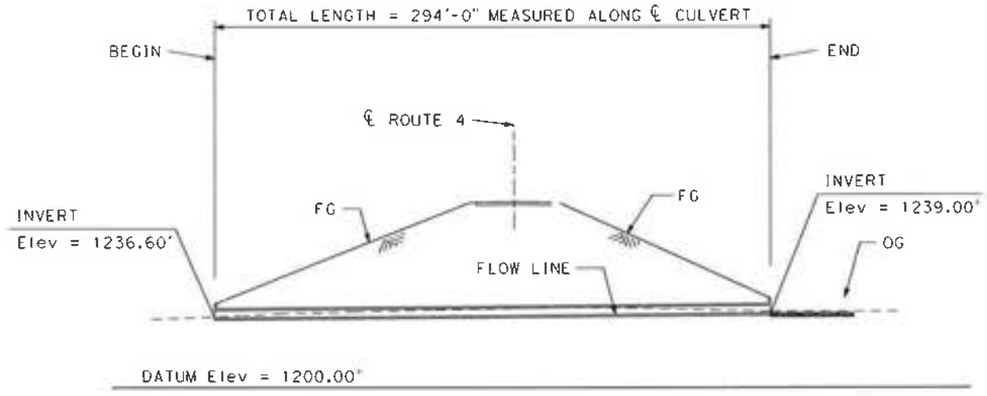
USERNAME => untitled DATE PLOTTED => 6/29/2015 TIME PLOTTED => 8:54:58 AM

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
10	Cal	4	R10.3/R16.4

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630

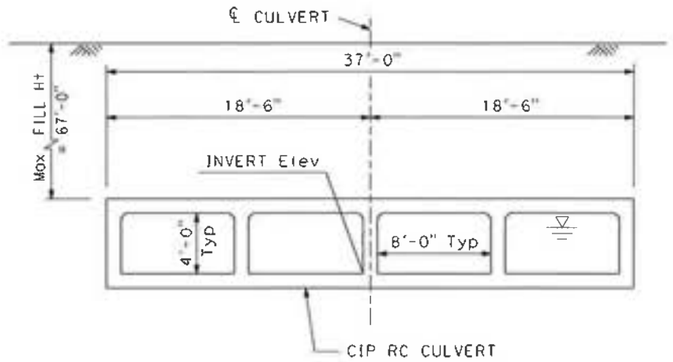
COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

PREPARED FOR THE COUNTY OF CALAVERAS



LONGITUDINAL SECTION

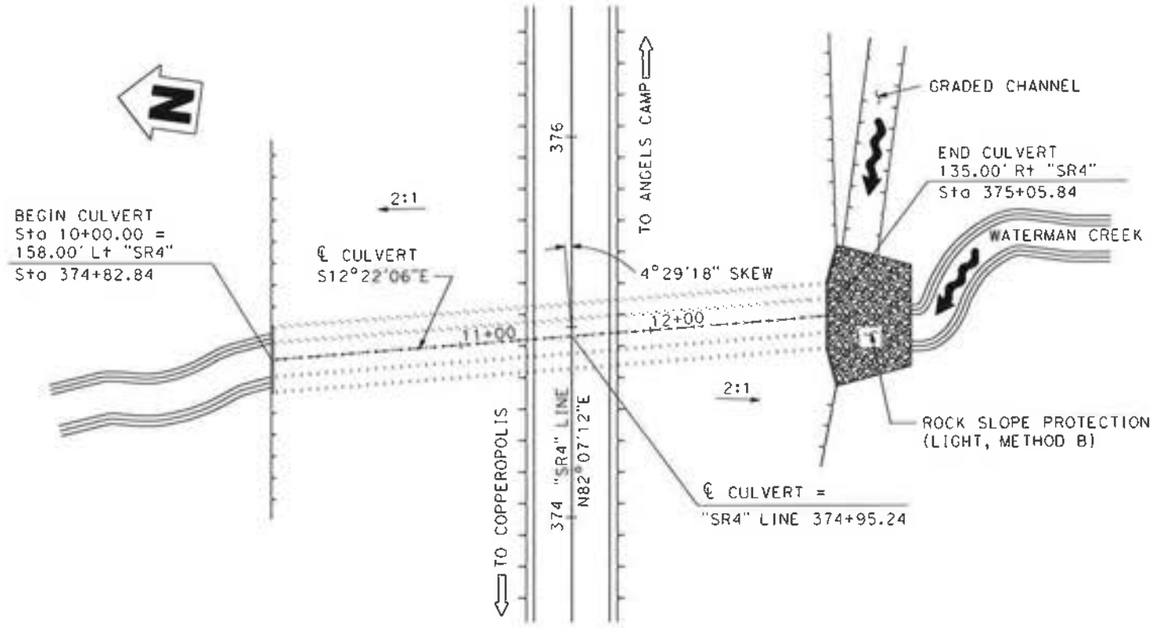
1" = 40'



TYPICAL SECTION

3/16" = 1'-0"

▽ 100 Yr STORM Elev = 1242.13'



PLAN

1" = 40'

HYDROLOGIC SUMMARY

	DESIGN FLOOD	BASE FLOOD
FREQUENCY (Years)	50	100
WATER SURFACE (Elevation at bridge)	1240.87	1242.13
FREEBOARD (ft)	2.13	0.87

DATE OF ESTIMATE	=	6-3-15
STRUCTURE DEPTH	=	
LENGTH	=	294'-0"
WIDTH	=	37'-0"
AREA	=	10,878 SF
COST/ SQ FT INCLUDING 10% mobilization & 25% CONTINGENCY	=	$134.22
TOTAL COST	=	$1,460,000

ALTERNATIVE 2

DESIGN OVERSIGHT
7-9-15
SIGN OFF DATE

DESIGNED BY	RCG	DATE	3-20-15
DRAWN BY	CH	DATE	3-20-15
CHECKED BY	ACP	DATE	3-27-15
APPROVED		DATE	

R GRIGGS
PROJECT ENGINEER

PLANNING STUDY

WATERMAN CREEK CULVERT

BRIDGE NO. X	UNIT: X
SCALE: AS NOTED	PROJECT NUMBER & PHASE: X

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 7/16/10)

FILE => J:\1992_Wagon_Trail_Realignment\200_Proj_Dev\210_Prelim_Studies\CONTRACTED\Planning Studies\1992APS7.dgn

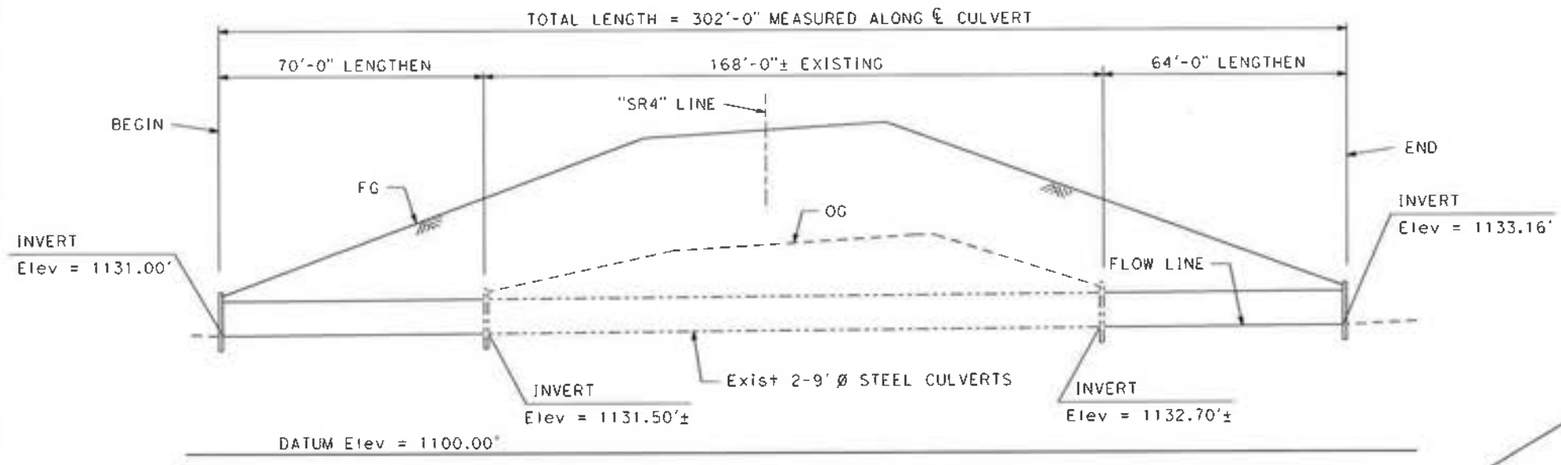
USERNAME => untitled DATE PLOTTED => 6/29/2015 TIME PLOTTED => 8:54:42 AM

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
10	Col	4	R10.3/R16.4

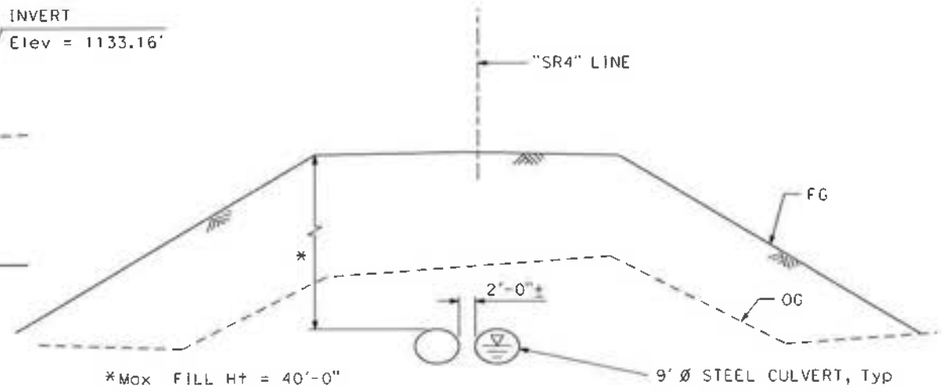
DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630

COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

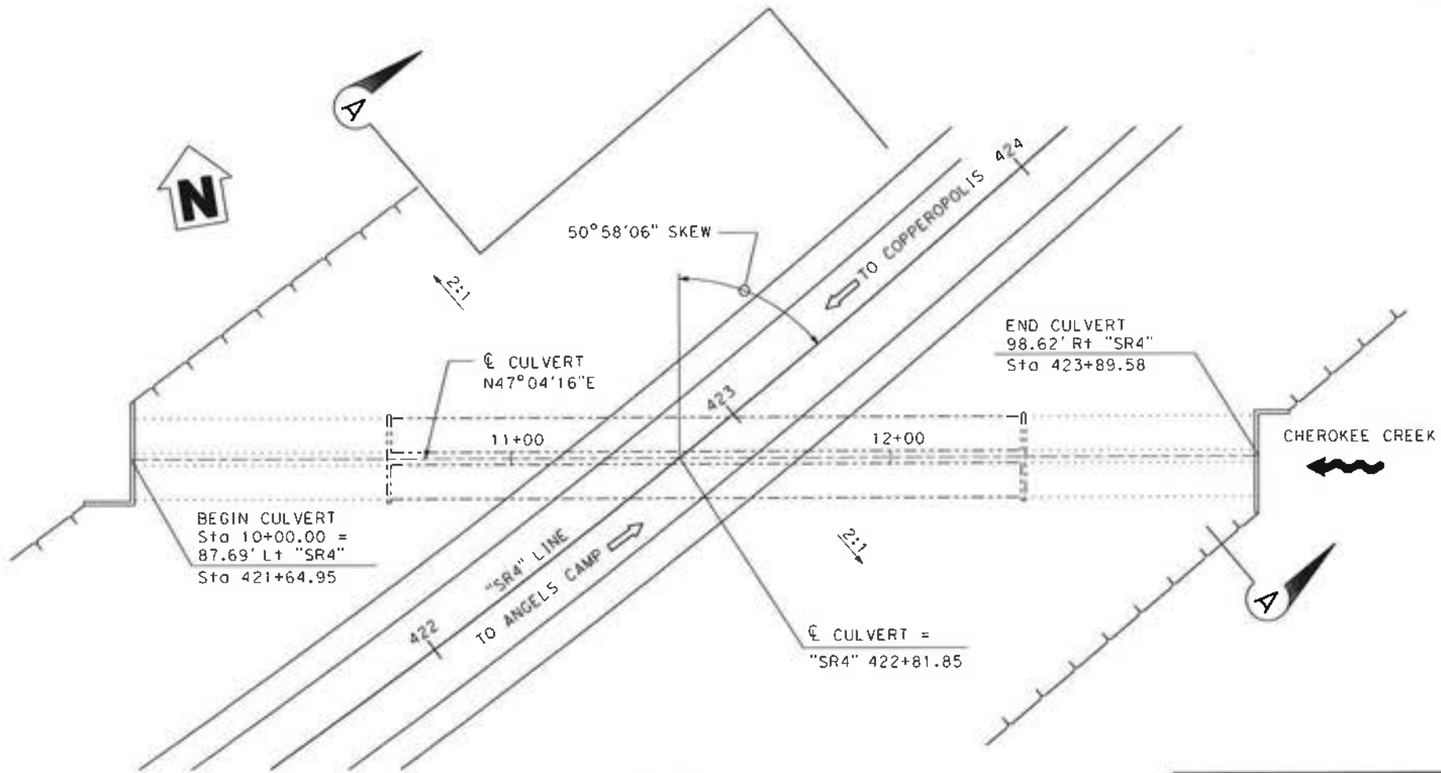
PREPARED FOR THE COUNTY OF CALAVERAS



LONGITUDINAL SECTION
1" = 20'



SECTION A-A
1" = 20'



PLAN
1" = 20'

HYDROLOGIC SUMMARY

	DESIGN FLOOD	BASE FLOOD
FREQUENCY (Years)	50	100
WATER SURFACE (Elevation at bridge)	1136.74	1136.94
FREEBOARD (ft)	5.42	5.22

DATE OF ESTIMATE	=	6-3-15
STRUCTURE DEPTH	=	
LENGTH	=	134'-0"
WIDTH	=	20'-0"
AREA	=	2,680 SF
COST/ SQ FT INCLUDING 10% mobilization & 25% CONTINGENCY	=	$97.01
TOTAL COST	=	$260,000

ALTERNATIVE 2

DESIGNED BY RCG	DATE 3-20-15	R GRIGGS PROJECT ENGINEER	**PLANNING STUDY**
DRAWN BY CH	DATE 3-20-15		**CHEROKEE CREEK CULVERT EXTENSION**
CHECKED BY ACP	DATE 3-27-15		BRIDGE NO. 30-0050 / UNIT: X
APPROVED	DATE		SCALE: AS NOTED / PROJECT NUMBER & PHASE: X

DESIGN ENGINEER SIGN OFF DATE 7-9-15

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 7/16/10)

FILE => J:\1992_Wagon_Trail_Realignment\200_Proj_Dev\210_Prelim_Studies\[illegible]\1992APS12.dgn

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Attachment G:

Storm Water Data Report (SWDR)
Signature Page

Dist-County-Route: 10-CAL-4
Post Mile Limits: PM R10.3/R16.4
Project Type: Realignment Project
Project ID (or EA): 1000000025 (EA 10-0E5300)
Program Identification: 20.XX.075.600
Phase: ☐ PID ☒ PA/ED ☐ PS&E

Regional Water Quality Control Board(s): Region 5 — Central Valley RWQCB – Sacramento office
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: 155 acres Risk Level: 3
Estimated: Construction Start Date: May 2019 Construction Completion Date: December 2021
Notification of Construction (NOC) Date to be submitted: _____
Erosivity Waiver Yes ☐ Date: _____ No ☒
Notification of ADL reuse (if Yes, provide date) Yes ☐ Date: _____ 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.

Pamela Dalcin-Walling, Registered Project Engineer — 11/29/16 Date

I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:

Grace Maggoyo, Project Manager — 12/12/16 Date

Anthony Lertora, Designated Maintenance Representative — 12-14-16 Date

Brad Cole, Designated Landscape Architect Representative — 12-15-16 Date

[Stamp Required for PS&E only) *James Espinosa, District/Regional Design SW Coordinator or Designee* — 12/15/16 Date

Attachment H:

Build Alternative 1 Project Cost Estimate

PROJECT REPORT

District - County - Route	10-CAL-4
PM	R10.3/R16.4
EA	0E5300
Program Code	10000000025

PROJECT DESCRIPTION

Limits: Along SR4 between Copperopolis and Angles Camp

Proposed Improvements: Realign SR4 between Bonanza Mine Way and Stockton Road

Alternate : Alternative 1

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$73,279,000
TOTAL STRUCTURE ITEMS	$6,000,000
SUBTOTAL CONSTRUCTION COSTS	$79,279,000
TOTAL RIGHT OF WAY ITEMS	$4,142,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$83,421,000

Reviewed by Calaveras County _____ (Signature)

Approved by Project Manager Pamela Dalini Walling (Signature) 12/5/16 Date

Phone Number 916-858-0642

District - County - Route	10-CAL-4
PM	R10.3/R16.4
EA	0E5300

I. ROADWAY ITEMS

Section 1: Earthwork	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Roadway Excavation	2,060,000	CY	$15	$30,900,000	
Clearing & Grubbing	1	LS	$2,000,000	$2,000,000	
Develop Water Supply	1	LS	$50,000	$50,000	
				Subtotal Earthwork	$32,950,000

Section 2: Structural Section	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Rubberized Hot Mix Asphalt	22,100	ton	$90	$1,989,000	
Hot Mix Asphalt (Type A)	55,200	ton	$76.50	$4,222,800	
Aggregate Base (Class 2)	120,000	CY	$36	$4,320,000	
Place Asphalt Concrete Dike	24,600	LF	$5	$123,000	
				Subtotal Structural Section	$10,654,800

Section 3: Drainage	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Large Drainage Facilities	1	LS	$250,000	$250,000	
Storm Drain	1	LS	$1,100,000	$1,100,000	
Rock Slope Protection	250	CY	$130	$32,500	
Project Drainage	1	LS	$100,000	$100,000	
				Subtotal Drainage	$1,482,500

District - County - Route	10-CAL-4
PM	R10.3/R16.4
EA	0E5300

Section 4: Specialty Items	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Midwest Guardrail System	27,100	LF	$20	$542,000	
Water Pollution Control	1	LS	$585,000	$585,000	
Resident Engineer Office Space	1	LS	$20,000	$20,000	
Environmental Compliance	1	LS	$1,428,600	$1,428,600	
				Subtotal Specialty Items	$2,575,600

Section 5: Traffic Items	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Pavement Delineation	147,000	LF	$1	$147,000	
Pavement Marking	680	SQFT	$5	$3,400	
Roadside Signs	30	EA	$300	$9,000	
Traffic Control System	1	LS	$71,400	$71,400	
Transportation Management Plan	1	LS	$1,035,700	$1,035,700	
				Subtotal Traffic Items	$1,266,500

Section 6: Planting and Irrigation	Quantity	Unit	Unit Price	Unit Cost	Section Cost
				Subtotal Planting and Irrigation	$0

District - County - Route	10-CAL-4
PM	R10.3/R16.4
EA	0E5300

Section 7: Roadside Management	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Hydroseed	120	ACRE	$4,400.00	$528,000	
Fiber Rolls	292,000	LF	$4.40	$1,284,800	
Post-Construction Revegetation	1	LS	$500,000	$500,000	

Subtotal Roadside Management Items $2,312,800

TOTAL SECTIONS: 1 thru 7 $51,242,200

Section 8: Minor Items

$51,242,200	x	10 %	=	$5,124,220
(Subtotal Sections 1 thru 7)				

TOTAL MINOR ITEMS $5,125,000

Section 9: Roadway Mobilization

$56,367,200	x	10 %	=	$5,636,720
(Subtotal Sections 1 thru 8)				

TOTAL ROADWAY MOBILIZATION $5,637,000

District - County - Route 10-CAL-4
PM R10.3/R16.4
EA 0E5300

Section 10: Roadway Additions

Supplemental Work

$56,367,200	x	10 %	=	$5,636,720
(Subtotal Sections 1 thru 8)				

Contingencies

$56,367,200	x	10 %	=	$5,636,720
(Subtotal Sections 1 thru 8)				

TOTAL ROADWAY ADDITIONS $11,274,000

TOTAL ROADWAY ITEMS $73,279,000
(Subtotal Sections 1 thru 10)

Estimate Prepared By

Jacqueline Lockhart	Phone #	916.858.0642	Date	3/30/2015
(Print Name)				

Estimate Checked By

Juann Ramos	Phone #	916.858.0642	Date	3/30/2015
(Print Name)				

District - County - Route	10-CAL-4
PM	R10.3/R16.4
EA	0E5300

II. STRUCTURE ITEMS

	Structure (1)	Structure (2)	Structure (3)
Bridge Name	Black Creek at Hunt Road Culvert	Black Creek Culvert	Nassau Creek Bridge
Structure Type	CIP 6'x8' Box Culvert (3 Cell)	CIP 6'x8' Box Culvert (5 Cell)	CIP Slab
Width (out to out) - (ft)	28	46	42.83
Span Lengths - (ft)	-	-	43-43
Total Area	3,024	8694	3684
Footing Type (pile/spread)	spread	spread	pile/spread
Cost per ft^2 (incl. 10% mobilization and 25% contingency)	$148.81	135.73	$211.75
Remove Bridge Cost			
Total Cost for Structure	$450,000	1,180,000	$780,000

	Structure (4)	Structure (5)	Structure (6)
Bridge Name	Waterman Creek Bridge	Waterman Creek Culvert	Cherokee Creek Culvert Extension
Structure Type	CIP/PS Box Girder	CIP 4'x8' Box Culvert (4 Cell)	2 - 9' Dia Structural Steel Culverts
Width (out to out) - (ft)	42.83	37	20
Span Lengths - (ft)	108-108	-	70-64
Total Area	9,252	10286	2,680
Footing Type (pile/spread)	pile/spread	spread	N/A
Cost per ft^2 (incl. 10% mobilization and 25% contingency)	$210.77	$134.16	$97.01
Remove Bridge Cost			
Total Cost for Structure	$1,950,000	$1,380,000	$260,000

District - County - Route	10-CAL-4
PM	R10.3/R16.4
EA	0E5300

SUBTOTAL STRUCTURE ITEMS (Sum of Total Cost for Structures)	$6,000,000

Railroad Related Costs N/A

SUBTOTAL RAILROAD ITEMS	$0

TOTAL STRUCTURE ITEMS (Sum of Structure Items plus Railroad Items)	$6,000,000

COMMENTS:

Estimate Prepared By

Rosa Griggs (Print Name) Phone # 916.858.0642 Date 3/30/2015

District - County - Route 10-CAL-4
PM R10.3/R16.4
EA 0E5300

III. RIGHT OF WAY ITEMS

A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$854,600
B. Utility Relocation (Local & State share)	$2,860,000
C. Relocation Assistance	$5,000
D. Clearance/Demolition	$30,000
E. Title and Escrow Fees	$125,000
F. R/W Support	$267,000

TOTAL RIGHT OF WAY ITEMS $4,142,000

Anticipated Date of Right of Way Certification Feb-17

G. Construction Contract Work

Brief Description of Work:

Right of Way Branch Cost Estimate for Work * $0

* This dollar amount is to be included in the Roadway and/or Structures Items of Work, as appropriate. Do not include in Right of Way Items

COMMENTS:

Estimate Prepared By

Jamie Formico (Print Name) Phone # 916.858.0642 Date 3/30/2015

Attachment I:

Build Alternative 2 (Preferred Alternative)
Project Cost Estimate

PROJECT REPORT

District - County - Route 10-CAL-4
PM R10.3/R16.4
EA 0E5300
Program Code 10000000025

PROJECT DESCRIPTION

Limits Along SR4 between Copperopolis and Angles Camp

Proposed Improvements: Realign SR4 between Bonanza Mine Way and Stockton Road

Alternate : Alternative 2

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$60,195,000
TOTAL STRUCTURE ITEMS	$6,240,000
SUBTOTAL CONSTRUCTION COSTS	$66,435,000
TOTAL RIGHT OF WAY ITEMS	$1,228,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$67,663,000

Reviewed by Calaveras County _____ (Signature)

Approved by Project Manager _____ (Signature) 12/5/16 Date

Phone Number 916-858-0642

District - County - Route	10-CAL-4
PM	R10.3/R16.4
EA	0E5300

I. ROADWAY ITEMS

Section 1: Earthwork	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Roadway Excavation	1,440,000	CY	$15	$21,600,000	
Imported Borrow	0	CY	$15	$0	
Clearing & Grubbing	1	LS	$2,000,000	$2,000,000	
Develop Water Supply	1	LS	$50,000	$50,000	
				Subtotal Earthwork	$23,650,000

Section 2: Structural Section	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Rubberized Hot Mix Asphalt	23,000	ton	$90	$2,070,000	
Hot Mix Asphalt (Type A)	57,400	ton	$76.50	$4,391,100	
Aggregate Base (Class 2)	124,600	CY	$36	$4,485,600	
Place Asphalt Concrete Dike	20,600	LF	$5	$103,000	
				Subtotal Structural Section	$11,049,700

Section 3: Drainage	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Large Drainage Facilities	1	LS	$250,000	$250,000	
Storm Drain	1	LS	$1,100,000	$1,100,000	
Rock Slope Protection	250	CY	$130	$32,500	
Project Drainage	1	LS	$100,000	$100,000	
				Subtotal Drainage	$1,482,500

District - County - Route	10-CAL-4
PM	R10.3/R16.4
EA	0E5300

Section 4: Specialty Items	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Midwest Guardrail System	18,100	LF	$20	$362,000	
Water Pollution Control	1	LS	$535,000	$535,000	
Resident Engineer Office Space	1	LS	$20,000	$20,000	
Environmental Compliance	1	LS	$1,428,600	$1,428,600	
				Subtotal Specialty Items	$2,345,600

Section 5: Traffic Items	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Pavement Delineation	147,000	LF	$1	$147,000	
Pavement Marking	680	SQFT	$5	$3,400	
Roadside Signs	30	LS	$300	$9,000	
Traffic Control System	1	LS	$71,400	$71,400	
Transportation Management Plan	1	LS	$1,035,700	$1,035,700	
				Subtotal Traffic Items	$1,266,500

Section 6: Planting and Irrigation	Quantity	Unit	Unit Price	Unit Cost	Section Cost
				Subtotal Planting and Irrigation	$0

District - County - Route	10-CAL-4
PM	R10.3/R16.4
EA	0E5300

Section 7: Roadside Management	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Hydroseed	110	ACRE	$4,400.00	$484,000	
Fiber Rolls	310,000	LF	$4.40	$1,364,000	
Post-Construction Revegation	1	LS	$450,000	$450,000	
			Subtotal Roadside Management Items		$2,298,000
			TOTAL SECTIONS: 1 thru 7		$42,092,300

Section 8: Minor Items

$42,092,300	x 10 %	=	$4,209,230	
(Subtotal Sections 1 thru 7)				
			TOTAL MINOR ITEMS	$4,210,000

Section 9: Roadway Mobilization

$46,302,300	x 10 %	=	$4,630,230	
(Subtotal Sections 1 thru 8)				
			TOTAL ROADWAY MOBILIZATION	$4,631,000

District - County - Route 10-CAL-4
PM R10.3/R16.4
EA 0E5300

Section 10: Roadway Additions

Supplemental Work

$46,302,300	x	10 %	=	$4,630,230
(Subtotal Sections 1 thru 8)				

Contingencies

$46,302,300	x	10 %	=	$4,630,230
(Subtotal Sections 1 thru 8)				

TOTAL ROADWAY ADDITIONS $9,261,000

TOTAL ROADWAY ITEMS $60,195,000
(Subtotal Sections 1 thru 10)

Estimate Prepared By

Jacqueline Lockhart	Phone #	916.858.0642	Date	3/30/2015
(Print Name)				

Estimate Checked By

Juann Ramos	Phone #	916.858.0642	Date	3/30/2015
(Print Name)				

District - County - Route	10-CAL-4
PM	R10.3/R16.4
EA	0E5300

II. STRUCTURE ITEMS

	Structure (1)	Structure (2)	Structure (3)
Bridge Name	Black Creek at Hunt Road Culvert	Black Creek Culvert at Route 4	Nassau Creek Bridge
Structure Type	CIP 6'x8' Box Culvert (3 Cell)	CIP 6'x8' Box Culvert (5 Cell)	CIP Slab
Width (out to out) - (ft)	28	46	42.83
Span Lengths - (ft)	-	-	43-43
Total Area	2,604	9430	3684
Footing Type (pile/spread)	spread	spread	pile/spread
Cost per ft^2 (incl. 10% mobilization and 25% contingency)	$149.77	135.74	$211.75
Remove Bridge Cost			
Total Cost for Structure	$390,000	1,280,000	$780,000

	Structure (4)	Structure (5)	Structure (6)
Bridge Name	Waterman Creek Bridge	Waterman Creek Culvert	Cherokee Creek Culvert Extension
Structure Type	CIP/PS Box Girder	CIP 4'x8' Box Culvert (4 Cell)	2 - 9' Dia Structural Steel Culverts
Width (out to out) - (ft)	42.83	37	20
Span Lengths - (ft)	108-108	-	70-64
Total Area	8,567	10878	2,680
Footing Type (pile/spread)	pile/spread	spread	N/A
Cost per ft^2 (incl. 10% mobilization and 25% contingency)	$241.63	$134.22	$97.01
Remove Bridge Cost			
Total Cost for Structure	$2,070,000	$1,460,000	$260,000

District - County - Route	10-CAL-4
PM	R10.3/R16.4
EA	0E5300

SUBTOTAL STRUCTURE ITEMS (Sum of Total Cost for Structures)	$6,240,000
SUBTOTAL RAILROAD ITEMS	$0
TOTAL STRUCTURE ITEMS (Sum of Structure Items plus Railroad Items)	$6,240,000

COMMENTS:

Estimate Prepared By

Rosa Griggs		Phone #	916.858.0642	Date	6/3/2015
(Print Name)					

District - County - Route 10-CAL-4
PM R10.3/R16.4
EA 0E5300

III. RIGHT OF WAY ITEMS

A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$840,000
B. Utility Relocation (Local & State share)	$0
C. Relocation Assistance	$0
D. Clearance/Demolition	$0
E. Title and Escrow Fees	$125,000
F. R/W Support	$263,000

TOTAL RIGHT OF WAY ITEMS $1,228,000

Anticipated Date of Right of Way Certification Feb-17

G. Construction Contract Work

Brief Description of Work:

Right of Way Branch Cost Estimate for Work * $0

* This dollar amount is to be included in the Roadway and/or Structures Items of Work, as appropriate. Do not include in Right of Way Items

COMMENTS:

Estimate Prepared By

Jamie Formico (Print Name) Phone # 916.858.0642 Date 3/30/2015

Attachment J:

Right of Way Data Sheets and Right of Way Requirements Map

To: Jaime Lupo
Acting Chief, Central Region Right of Way

Date: March 30, 2015

Co. CAL Rte. 4
Expense Authorization 0E5300

Attention: Tadj Ratajczak
R/W Local Programs

Subject: **RIGHT OF WAY DATA SHEET ALT 1 - LOCAL PUBLIC AGENCIES**

Project Description:

Right of way necessary for the subject project will be the responsibility of the County of Calaveras

The information in this data sheet was developed by Jamie Formico
Right of Way Agent
Dokken Engineering

I. *Right of Way Engineering*

Will Right of Way Engineering be required for this project?

- No ____
- Yes X (Submit a copy of the *Right of Way Engineering Surveys and Mapping Services checklist for Locally Funded Projects.* This Checklist includes, but is not limited to, the following items.)

• Hard copy (base map)	Yes
• Appraisal map	To be completed during PS&E
• Acquisition Documents	To be completed during PS&E
• Property Transfer Documents	To be completed during PS&E
• R/W Record Map	To be completed during PS&E
• Record of Survey	To be completed during PS&E

II. *Engineering Surveys*

1. Is any surveying or photogrammetric mapping required?

   No ____ Yes X (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

   No ____ Provide explanation on additional page.

III. ***Parcel Information (Land and Improvements)***

Are there any property rights required within the proposed project limits?

No ____ Yes __X__ (Complete the following.)

	Part Take	Full Take	Estimate $
A. Number of Vacant Land Parcels			$
B. Number of Single Family Residential Units	19 (52.19 AC)		$ 446,700
C. Number of Multifamily Residential Units			$
D. Number of Commercial/Industrial Parcels			$
E. Number of Farm/Agricultural Parcels	7 (105.87 AC)		$ 348,000
F. Permanent and/or Temporary Easements	26 (23.88 AC)		$ 59,900
G. Other Parcels (define in "Remarks" section)			$
Totals	26 (181.94 AC)		$ 854,600

Provide a general description of the right of way and excess lands required (zoning, use, improvements, critical, or sensitive parcels, etc.).
Project area is comprised of rural undeveloped agricultural parcels.

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? To be completed during PS&E.

V. ***Excess Lands / Relinquishments***

Are there Caltrans property rights which may become excess lands or potential relinquishment areas?

No ____ Yes __X__ (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 _____ $ _____

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. Underground phone	AT&T, Caltel	$0	$0	$365,000
B. Fiber Optic Cable	Caltel	$0	$0	$7,500
C. Water		$0	$0	$0
D. Gas		$0	$0	$0
E. Underground Electric		$0	$0	$0
F. Overhead Electric	Pacific Gas & Electric, Northern California Power Agency	$0	$2,860,000	$300,000
Totals		$0*	$2,860,000	$672,500
Number of facilities		see 13-EX-6	see 13-EX-6	see 13-EX-6

*This amount reflects the estimated total financial obligation by the State.

Any additional information concerning utility involvement on this project? See Attached Utility Information Sheet.

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.
Project proposed to cross railroad on a grade separated bridge structure.

Owner's Name	Transverse Crossing	Longitudinal Encroachment
A.		
B.		

Discuss types of agreements and rights required from the railroads. Are grade crossings that require services contracts, or grade separations that require construction and maintenance agreements involved?

The following agreements will be required:

- Construction & Maintenance Agreement
- Easement for Bridge
- CPUC approval for new Bridge
- Service Contract for reimbursement of construction costs
- License/Easement for misc. project improvements

IX. ***Clearance Information***

Are there improvements that require clearance?

No ____ Yes _X_ (Complete the following.)

A. Number of Structures to be Demolished 1
Estimated Cost of Demolition $ 30,000

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 ____ Yes _X_ (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 ____ Yes _X_ (Explain in the "Remarks" section.)

XI. ***Project Scheduling***

	Proposed lead time	Completion date
* Preliminary Engineering, Surveys	11 (months)	February 2016
* R/W Engineering Submittals	7 (months)	September 2016
* R/W Appraisals/Acquisition	6 (months)	January 2017
Proposed Environmental Clearance		December 2015
Proposed R/W Certification		February 2017

XII. ***Proposed Funding***

	Local	State	Federal	Other
Acquisition	$ 854,600			
Utilities	$2,860,000			$ 672,500
Relocation Assistance Program	$ 5,000			
R/W Support	$ 267,000			
Project Cost (Eng. Appraisals, etc.)	$ 125,000			

XIII. ***Remarks***

V. Existing State right of way will be relinquished to either Calaveras County or the adjacent property owners. To be determined during PS&E

X. The project is located in a region where Naturally Occurring Asbestos (NOA) is documented to occur. Exposed NOA-containing bedrock near Pool Station Road has been identified.

XII. Relocation Assistance Program cost is for removing personal belongings from an existing barn inside of the proposed right of way.

Project Sponsor Consultant
Prepared by:

Jamie Formico
Right of Way Agent
Dokken Engineering

3/30/2015
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
ANTHONY DeKN

4/30/2015
Date

R/W UTILITY ESTIMATE WORKSHEET AND R/W DATA SHEET INSTRUCTIONS

(Form #)

Date March 30, 2015
Post Mile PM R10.3/R16.4
Project ID No. 10000000025
EA 0E5300

Description of Project:
The Calaveras County Transportation Department is proposing improvements to State Route 4 between Copperopolis and Angles Camp to alleviate traffic congestion and improve road safety. The proposed improvements on SR4 between Bonanza Mine Way and Stockton Road include: a standard pavement width of 40 feet (two 12-foot lanes and two 8-foot shoulders) with an additional 12 feet for turn pockets where needed, increasing the radius of curves and having fewer curves, reducing the number of access points and utilizing frontage roads to consolidate private driveways.

Estimate for:

☐ Preliminary Route Estimate (Alternate No. _____)
☒ R/W Data Sheet (Alt 1)

Evidence of Utilities:

☐ Gas ☒ Electric ☒ Telephone ☐ Cable TV ☐ Water ☐ Public Drainage/Irrigation
☐ Sewer ☒ Fiber Optics ☐ Other (Explain in "Remarks"

Anticipated Utility Relocations:

☐ Gas ☒ Electric ☒ Telephone ☐ Cable TV ☐ Water ☐ Public Drainage/Irrigation
☐ Sewer ☒ Fiber Optics ☐ Other (Explain in "Remarks"

Estimated Cost of Utility Relocations:

_____	L.F. of Gas Line	@ $_____/L.F.	=	$_____
_____	L.F. of UG Electric Line	@ $_____/L.F.	=	$_____
_____	L.F. of UG Telephone Line	@ $_____/L.F.	=	$_____
_____	Wood Poles (Telephone)	@ $_____/Pole	=	$_____
_____	Wood Poles (Electric)	@ $_____/Pole	=	$_____
_____	Joint Poles	@ $_____/Pole	=	$_____
_____	Steel Poles	@ $_____/Pole	=	$_____
_____	Steel Towers	@ $_____/Tower	=	$_____
_____	L.F. of Water Line	@ $_____/L.F.	=	$_____
_____	Fire Hydrants	@ $_____/F.H.	=	$_____
_____	L.F. of Sewer Line	@ $_____/L.F.	=	$_____
_____	L.F. of Fiber Optics Line	@ $_____/L.F.	=	$_____
_____	Other (Explain)	@ $_____/	=	$_____
	TOTAL ESTIMATE (State's Share)		=	$ 0

Remarks: _____

INSTRUCTIONS FOR PREPARING THE UTILITIES PORTION OF THE
RIGHT OF WAY DATA SHEET

(Fill in all blank spaces and explain where necessary.)

The Right of Way Data Sheet (R/W Data Sheet) is prepared by R/W P&M with assistance from the District Utility Coordinator. The District Utility Coordinator must provide the following information to R/W P&M:

Item 1. Right of Way Cost Estimate: (Capital)

B. Utility Relocation (State Share)

Current Value (Future Use)	Escalation Rate	Escalated Value
$0	3.0%	$0

2a. Enter the total estimated dollar amount which the State will need to pay the affected utility owners for relocation of their facilities. Estimates can be obtained from the owners or the Utility Coordinator's best guess. The estimate must be as accurate as possible, but should always be based on the most probable "worst case" and "highest cost" assumptions.

2b. Enter the escalation rate as a percentage. The escalation rate is the expected yearly average increase in utility relocation costs to the year of utility construction completion. Escalation rates can be obtained from construction and building cost indices, past trends in utility relocation projects, etc.

2c. Enter the total dollar amount using 2a. escalated to the year of utility construction completion by 2b., i.e.:

$100,000.00	(Current relocation costs--2a.)
x 1.05	(Escalation rate of 5%--2b.)
$105,000.00	(Escalated Value--2c.)

Item 3. Parcel Data: (Support)

Utilities

U4-1 4 = The total number of expected owner expense involvements.

-2 0 = The total number of expected State expense involvements; conventional highway (no access control) and no Federal aid for the project.

-3 0 = The total number of expected State expense involvements; freeway (access control) and no Federal aid for the project.

-4 0 = The total number of expected State expense involvements; conventional highway or freeway and Federal aid for the project.

U5-7 0 = The total number of expected utility verifications, which will not result in involvements.

-8 0 = The total number of expected utility verifications, anticipating 50% of the verifications will have involvements and 50% will not.

-9 4 = The total number of expected utility verifications, which will result in involvements.

NOTE: The sum of the U4s must equal the sum of 1/2 of the U5-8s and all of the U5-9s.

Item 7. Are utility facilities or rights of way affected?
☒ Yes ☐ No (If "Yes," explain.)

Final determination of utility impacts will be made during the Plans, Specification, and Estimate (PS&E) phase of the project.

NOTE: The comments mentioned above must be reflected in the number of involvements in U4s and U5s in "Item 3., Parcel Data."

Item 14. Indicate the anticipated Right of Way schedule and lead time requirements. (Discuss if the District proposes less than formula lead time and/or if significant pressures for project advancement are anticipated.)

	Proposed lead time	Completion date
Preliminary Engineering, Surveys	11 months	February 2016
R/W Engineering Submittals	7 months	September 2016
R/W Appraisals/Acquisition	6 months	January 2017

NOTE: It is always a good idea to remind the project engineer that lead time starts for relocation of utilities when they supply adequate plans for requesting relocation plans from utility owners.

Item 15. Is it anticipated that all Right of Way work will be performed by CALTRANS staff?
☐ Yes ☒ No (If "Yes," discuss.)

*Evaluations prepared by:

Utilities: Name Jacqueline Lockhart Date March 30, 2015

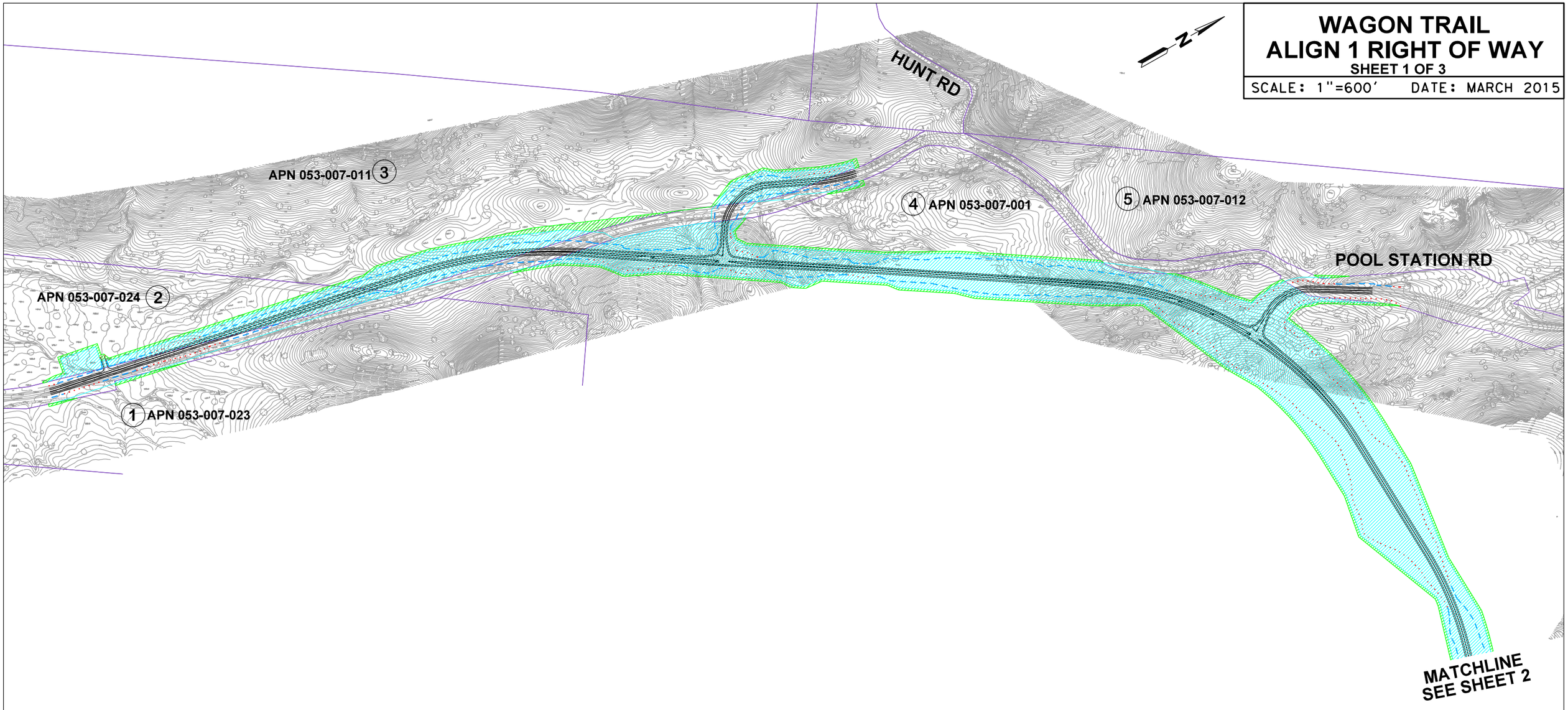
*The Utility Coordinator must sign and date the R/W Data Sheet.

NOTE: Return the R/W Data Sheet to R/W P&M via the District Utility Coordinator for input into PMCS and forwarding to the project engineer.

WAGON TRAIL
ALIGN 1 RIGHT OF WAY

SHEET 1 OF 3

SCALE: 1"=600' DATE: MARCH 2015



			FEE TAKE		TEMP ACCESS EASEMENT	
	APN	OWNER	SQFT	ACRES	SQFT	ACRES
①	053-007-023	SCOTT FRAZIER	1,800	0.04	7,100	0.16
②	053-007-024	EDWARD & ERLINDA TITUS	197,500	4.53	33,000	0.76
③	053-007-011	TISCORNIA RANCHES LP	310,500	7.13	71,100	1.63
④	053-007-001	TISCORNIA RANCHES LP	2,099,100	48.19	208,300	4.78
⑤	053-007-012	TISCORNIA RANCHES LP	300	0.01	2,300	0.05

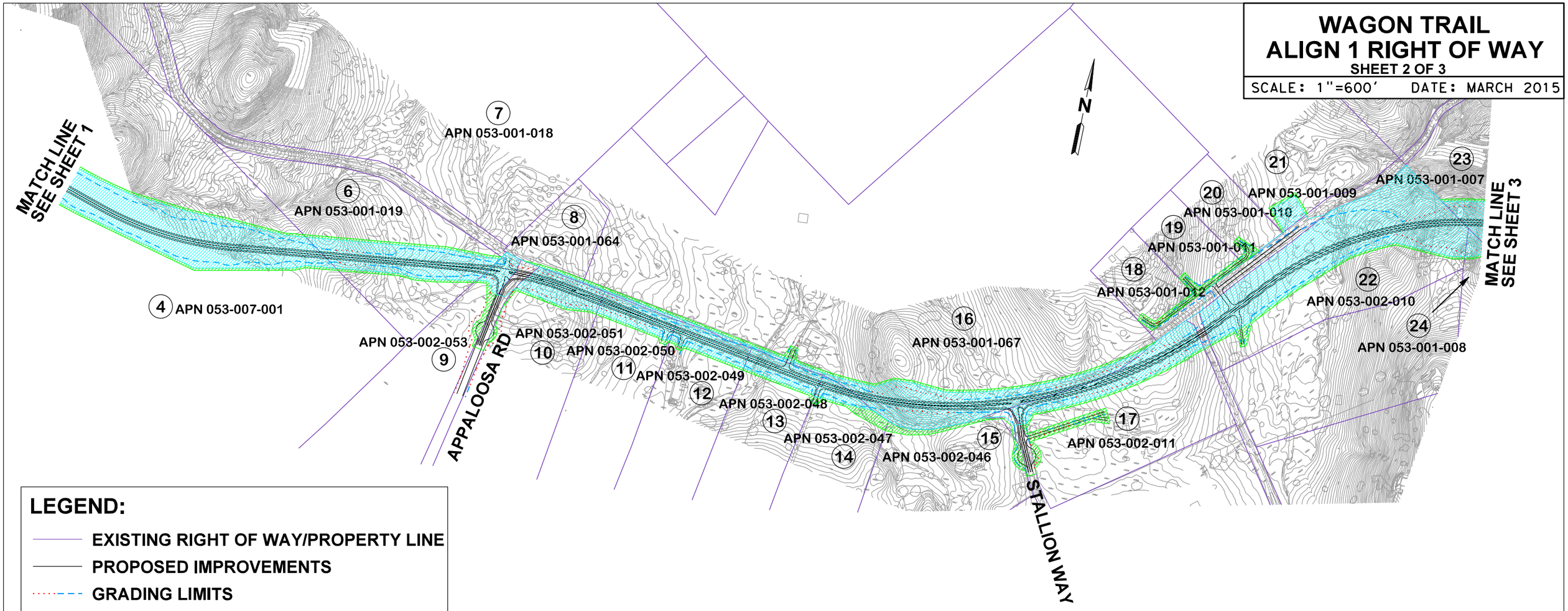
NOTE: PROPERTY AREAS ARE FOR THIS SHEET ONLY, PARCELS MAY OVERLAP SHEETS

LEGEND:

- EXISTING RIGHT OF WAY/PROPERTY LINE
- PROPOSED IMPROVEMENTS
- GRADING LIMITS
- RIGHT OF WAY ACQUISITION
- TEMPORARY CONSTRUCTION EASEMENT

WAGON TRAIL
ALIGN 1 RIGHT OF WAY
SHEET 2 OF 3

SCALE: 1"=600' DATE: MARCH 2015



LEGEND:

- EXISTING RIGHT OF WAY/PROPERTY LINE
- PROPOSED IMPROVEMENTS
- GRADING LIMITS
- RIGHT OF WAY ACQUISITION
- TEMPORARY CONSTRUCTION EASEMENT

			FEE TAKE		TEMP ACCESS EASEMENT	
	APN	OWNER	SQFT	ACRES	SQFT	ACRES
④	053-007-001	TISCORNIA RANCHES LP	438,800	10.07	50,700	1.16
⑥	053-001-019	TISCORNIA RANCHES LP	195,300	4.48	32,300	0.74
⑦	053-001-018	TISCORNIA RANCHES LP	-	-	-	-
⑧	053-001-064	CAROL CRIM	2,000	0.05	5,300	0.12
⑨	053-002-053	STEPHEN & GLORIA STRANGE	33,300	0.76	16,200	0.37
⑩	053-002-051	WENDELL & MARY ENDER	84,700	1.94	14,300	0.33
⑪	053-002-050	GREGORY & NUALA JORDAN	68,100	1.56	8,400	0.19
⑫	053-002-049	JOSEPH & CAROL SMITH	68,900	1.58	8,500	0.20
⑬	053-002-048	PAUL & LISA WESTERMAN	65,700	1.51	8,200	0.19
⑭	053-002-047	JEAN VAUGHAN	31,600	0.73	21,400	0.49

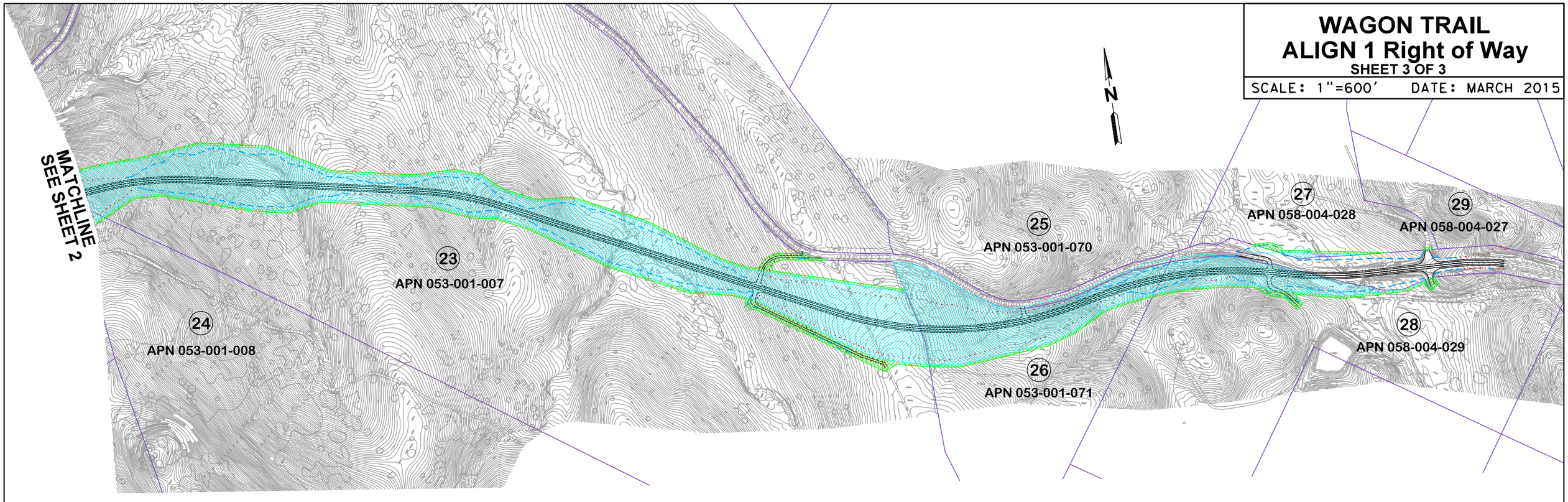
			FEE TAKE		TEMP ACCESS EASEMENT	
	APN	OWNER	SQFT	ACRES	SQFT	ACRES
⑮	053-002-046	PEGGI KROLL ROBERTS	-	-	31,200	0.72
⑯	053-001-067	CAROL CRIM	292,900	6.72	61,800	1.42
⑰	053-002-011	PATRICK & MILDRED LORETTE	163,300	3.75	59,700	1.37
⑱	053-001-012	ELLIS & DIXE GLOVER	-	-	17,200	0.39
⑲	053-001-011	DANIEL & REBECCA JENSEN	-	-	20,600	0.47
⑳	053-001-010	TODD & KIMBERLY RASSE	-	-	11,100	0.25
㉑	053-002-009	TISCORNIA RANCHES LP	25,600	0.59	7,600	0.17
㉒	053-002-010	JEFF & LEANN MILLAR	566,800	13.01	35,000	0.80
㉓	053-001-007	TISCORNIA RANCHES LP	35,200	0.81	4,200	0.10
㉔	053-001-008	TISCORNIA RANCHES LP	13,200	0.30	1,600	0.07

NOTE: PARCEL AREAS ARE FOR THIS SHEET ONLY, PARCELS MAY OVERLAP SHEETS

WAGON TRAIL
ALIGN 1 Right of Way

SHEET 3 OF 3

SCALE: 1"=600' DATE: MARCH 2015



			RIGHT OF WAY ACQUISITION		TEMP CONSTRUCTION EASEMENT	
	APN	OWNER	SQFT	ACRES	SQFT	ACRES
(23)	053-001-007	TISCORNIA RANCHES LP	1,491,100	34.23	222,200	5.10
(24)	053-001-008	TISCORNIA RANCHES LP	2,700	0.06	1,200	0.03
(25)	053-001-070	CALVIN & BARBARA BERGER	-	-	-	-
(26)	053-001-071	WILLIAM SPENCE	491,700	11.29	22,800	0.52
(27)	058-004-028	CALVIN & BARBARA BERGER	9,600	0.22	15,800	0.36
(28)	058-004-029	WILLIAM SPENCE	196,200	4.50	40,800	0.94
(29)	058-004-027	WILLIAM SPENCE	-	-	-	-
		TOTAL	6,885,900	158.06	1,039,900	23.88

NOTE: PROPERTY AREAS ARE FOR THIS SHEET ONLY, PARCELS MAY OVERLAP SHEETS

LEGEND:

- EXISTING RIGHT OF WAY/PROPERTY LINE
- PROPOSED IMPROVEMENTS
- GRADING LIMITS
- RIGHT OF WAY ACQUISITION
- TEMPORARY CONSTRUCTION EASEMENT

RIGHT OF WAY DATA SHEET FOR LOCAL PUBLIC AGENCIES

(Form #)

To: Jaime Lupo
Acting Chief, Central Region Right of Way

Date: March 30, 2015

Co. CAL Rte. 4
Expense Authorization 0E5300

Attention: Tadj Ratajczak
R/W Local Programs

Subject: **RIGHT OF WAY DATA SHEET ALT 2 - LOCAL PUBLIC AGENCIES**

Project Description:

Right of way necessary for the subject project will be the responsibility of the County of Calaveras

The information in this data sheet was developed by Jamie Formico
Right of Way Agent
Dokken Engineering

I. *Right of Way Engineering*

Will Right of Way Engineering be required for this project?

- No ____
- Yes X (Submit a copy of the *Right of Way Engineering Surveys and Mapping Services checklist for Locally Funded Projects.* This Checklist includes, but is not limited to, the following items.)

• Hard copy (base map)	Yes
• Appraisal map	To be completed during PS&E
• Acquisition Documents	To be completed during PS&E
• Property Transfer Documents	To be completed during PS&E
• R/W Record Map	To be completed during PS&E
• Record of Survey	To be completed during PS&E

II. *Engineering Surveys*

1. Is any surveying or photogrammetric mapping required?

   No ____ Yes X (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

   No ____ Provide explanation on additional page.

III. ***Parcel Information (Land and Improvements)***

Are there any property rights required within the proposed project limits?

No ____ Yes __X__ (Complete the following.)

	Part Take	Full Take	Estimate $
A. Number of Vacant Land Parcels			$
B. Number of Single Family Residential Units	19 (42.65 AC)		$ 411,200
C. Number of Multifamily Residential Units			$
D. Number of Commercial/Industrial Parcels			$
E. Number of Farm/Agricultural Parcels	6 (86.76 AC)		$ 392,400
F. Permanent and/or Temporary Easements	25 (25.84 AC)		$ 36,400
G. Other Parcels (define in "Remarks" section)			$
Totals	25 (155.25 AC)		$ 840,000

Provide a general description of the right of way and excess lands required (zoning, use, improvements, critical, or sensitive parcels, etc.).
Project area is comprised of rural undeveloped agricultural parcels.

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? To be completed during PS&E.

V. ***Excess Lands / Relinquishments***

Are there Caltrans property rights which may become excess lands or potential relinquishment areas?

No ____ Yes __X__ (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 _____ $ _____

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. Underground phone	AT&T, California Telephone	$0	$0	$700,000
B. Fiber Optic Cable	California Telephone	$0	$0	$137,500
C. Water		$0	$0	$0
D. Gas		$0	$0	$0
E. Underground Electric		$0	$0	$0
F. Overhead Electric	PG&E, Northern California Power Agency	$0	$0	$285,000
Totals		$0 *	$0	$1,122,500
Number of facilities		see 13-EX-6	see 13-EX-6	see 13-EX-6

*This amount reflects the estimated total financial obligation by the State.

Any additional information concerning utility involvement on this project? See Attached Utility Information Sheet.

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.
Project proposed to cross railroad on a grade separated bridge structure.

Owner's Name	Transverse Crossing	Longitudinal Encroachment
A.		
B.		

Discuss types of agreements and rights required from the railroads. Are grade crossings that require services contracts, or grade separations that require construction and maintenance agreements involved?

The following agreements will be required:

- Construction & Maintenance Agreement
- Easement for Bridge
- CPUC approval for new Bridge
- Service Contract for reimbursement of construction costs
- License/Easement for misc. project improvements

IX. ***Clearance Information***

Are there improvements that require clearance?

No __X__ Yes ____ (Complete the following.)

A. Number of Structures to be Demolished 0
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 ____ Yes __X__ (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 ____ Yes __X__ (Explain in the "Remarks" section.)

XI. ***Project Scheduling***

	Proposed lead time	Completion date
* Preliminary Engineering, Surveys	11 (months)	February 2016
* R/W Engineering Submittals	7 (months)	September 2016
* R/W Appraisals/Acquisition	6 (months)	January 2017
Proposed Environmental Clearance		December 2015
Proposed R/W Certification		February 2017

XII. ***Proposed Funding***

	Local	State	Federal	Other
Acquisition	$ 840,0000			
Utilities				$ 1,122,500
Relocation Assistance Program				
R/W Support	$ 263,000			
Project Cost (Eng. Appraisals, etc.)	$ 100,000			

XIII. ***Remarks***

V. Existing State right of way will be relinquished to either Calaveras County or the adjacent property owners. To be determined during PS&E.

X. The project is located in a region where Naturally Occurring Asbestos (NOA) is documented to occur. Exposed NOA-containing bedrock near Pool Station Road has been identified.

Project Sponsor Consultant
Prepared by:

Janie Formico
Right of Way Agent
Dokken Engineering

3/30/2015
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
ANTHONY DORN

4/30/2015
Date

R/W UTILITY ESTIMATE WORKSHEET AND R/W DATA SHEET INSTRUCTIONS

(Form #)

Date March 30, 2015
Post Mile PM R10.3/R16.4
Project ID No. 10000000025
EA 0E5300

Description of Project:
The Calaveras County Transportation Department is proposing improvements to State Route 4 between Copperopolis and Angles Camp to alleviate traffic congestion and improve road safety. The proposed improvements on SR4 between Bonanza Mine Way and Stockton Road include: a standard pavement width of 40 feet (two 12-foot lanes and two 8-foot shoulders) with an additional 12 feet for turn pockets where needed, increasing the radius of curves and having fewer curves, reducing the number of access points and utilizing frontage roads to consolidate private driveways.

Estimate for:

☐ Preliminary Route Estimate (Alternate No. _____)
☒ R/W Data Sheet (Alt 2)

Evidence of Utilities:

☐ Gas ☒ Electric ☒ Telephone ☐ Cable TV ☐ Water ☐ Public Drainage/Irrigation
☐ Sewer ☒ Fiber Optics ☐ Other (Explain in "Remarks"

Anticipated Utility Relocations:

☐ Gas ☒ Electric ☒ Telephone ☐ Cable TV ☐ Water ☐ Public Drainage/Irrigation
☐ Sewer ☒ Fiber Optics ☐ Other (Explain in "Remarks"

Estimated Cost of Utility Relocations:

_____	L.F. of Gas Line	@ $_____/L.F.	=	$_____
_____	L.F. of UG Electric Line	@ $_____/L.F.	=	$_____
_____	L.F. of UG Telephone Line	@ $_____/L.F.	=	$_____
_____	Wood Poles (Telephone)	@ $_____/Pole	=	$_____
_____	Wood Poles (Electric)	@ $_____/Pole	=	$_____
_____	Joint Poles	@ $_____/Pole	=	$_____
_____	Steel Poles	@ $_____/Pole	=	$_____
_____	Steel Towers	@ $_____/Tower	=	$_____
_____	L.F. of Water Line	@ $_____/L.F.	=	$_____
_____	Fire Hydrants	@ $_____/F.H.	=	$_____
_____	L.F. of Sewer Line	@ $_____/L.F.	=	$_____
_____	L.F. of Fiber Optics Line	@ $_____/L.F.	=	$_____
_____	Other (Explain)	@ $_____/	=	$_____
	TOTAL ESTIMATE (State's Share)		=	$ 0

Remarks: _____

INSTRUCTIONS FOR PREPARING THE UTILITIES PORTION OF THE RIGHT OF WAY DATA SHEET

(Fill in all blank spaces and explain where necessary.)

The Right of Way Data Sheet (R/W Data Sheet) is prepared by R/W P&M with assistance from the District Utility Coordinator. The District Utility Coordinator must provide the following information to R/W P&M:

Item 1. Right of Way Cost Estimate: (Capital)

B. Utility Relocation (State Share)

Current Value (Future Use)	Escalation Rate	Escalated Value
$0	3.0%	$0

2a. Enter the total estimated dollar amount which the State will need to pay the affected utility owners for relocation of their facilities. Estimates can be obtained from the owners or the Utility Coordinator's best guess. The estimate must be as accurate as possible, but should always be based on the most probable "worst case" and "highest cost" assumptions.

2b. Enter the escalation rate as a percentage. The escalation rate is the expected yearly average increase in utility relocation costs to the year of utility construction completion. Escalation rates can be obtained from construction and building cost indices, past trends in utility relocation projects, etc.

2c. Enter the total dollar amount using 2a. escalated to the year of utility construction completion by 2b., i.e.:

$100,000.00	(Current relocation costs--2a.)
x 1.05	(Escalation rate of 5%--2b.)
$105,000.00	(Escalated Value--2c.)

Item 3. Parcel Data: (Support)

Utilities

U4-1 4 = The total number of expected owner expense involvements.

-2 0 = The total number of expected State expense involvements; conventional highway (no access control) and no Federal aid for the project.

-3 0 = The total number of expected State expense involvements; freeway (access control) and no Federal aid for the project.

-4 0 = The total number of expected State expense involvements; conventional highway or freeway and Federal aid for the project.

U5-7 0 = The total number of expected utility verifications, which will not result in involvements.

-8 0 = The total number of expected utility verifications, anticipating 50% of the verifications will have involvements and 50% will not.

-9 4 = The total number of expected utility verifications, which will result in involvements.

NOTE: The sum of the U4s must equal the sum of 1/2 of the U5-8s and all of the U5-9s.

Item 7. Are utility facilities or rights of way affected?
☒ Yes ☐ No (If "Yes," explain.)

Final determination of utility impacts will be made during the Plans, Specification, and Estimate (PS&E) phase of the project.

NOTE: The comments mentioned above must be reflected in the number of involvements in U4s and U5s in "Item 3., Parcel Data."

Item 14. Indicate the anticipated Right of Way schedule and lead time requirements. (Discuss if the District proposes less than formula lead time and/or if significant pressures for project advancement are anticipated.)

	Proposed lead time	Completion date
Preliminary Engineering, Surveys	11 months	February 2016
R/W Engineering Submittals	7 months	September 2016
R/W Appraisals/Acquisition	6 months	January 2017

NOTE: It is always a good idea to remind the project engineer that lead time starts for relocation of utilities when they supply adequate plans for requesting relocation plans from utility owners.

Item 15. Is it anticipated that all Right of Way work will be performed by CALTRANS staff?
☐ Yes ☒ No (If "Yes," discuss.)

*Evaluations prepared by:

Utilities: Name Jacqueline Lockhart Date March 30, 2015

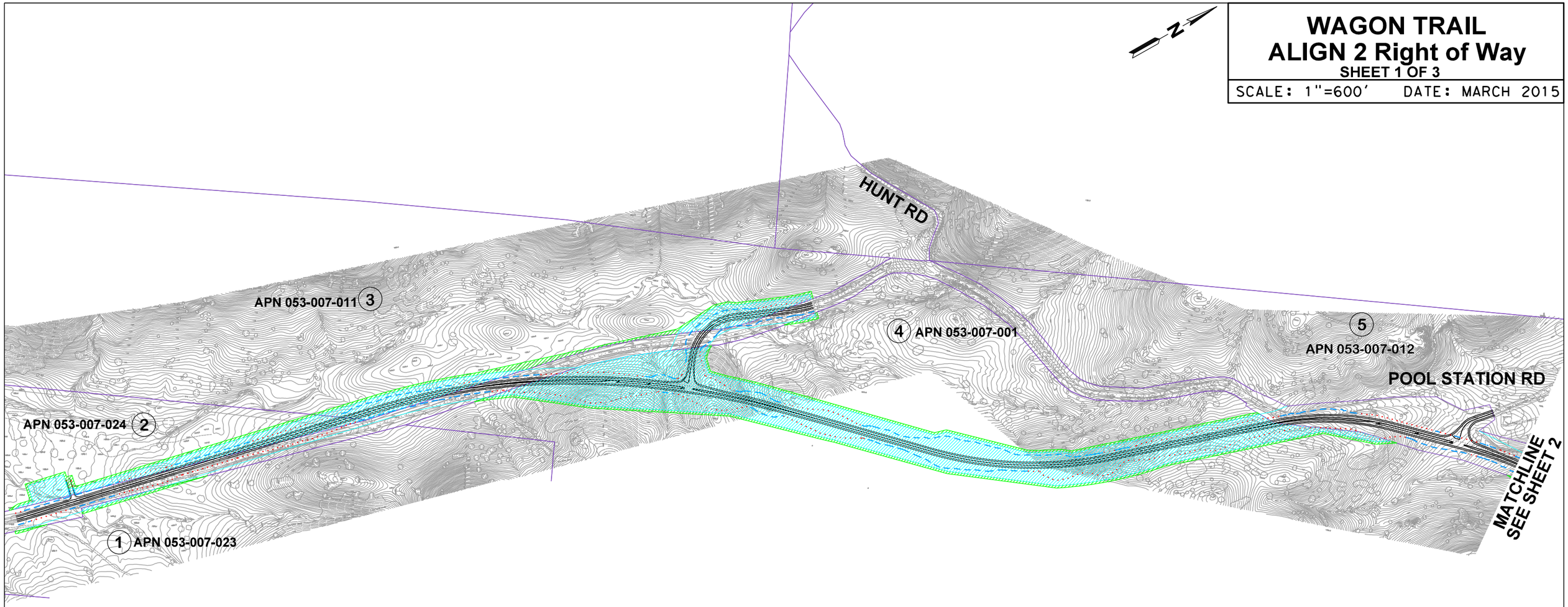
*The Utility Coordinator must sign and date the R/W Data Sheet.

NOTE: Return the R/W Data Sheet to R/W P&M via the District Utility Coordinator for input into PMCS and forwarding to the project engineer.

WAGON TRAIL
ALIGN 2 Right of Way

SHEET 1 OF 3

SCALE: 1"=600' DATE: MARCH 2015



			FEE TAKE		TEMP ACCESS EASEMENT	
	APN	OWNER	SQFT	ACRES	SQFT	ACRES
1	053-007-023	SCOTT FRAZIER	5,400	0.12	11,900	0.27
2	053-007-024	EDWARD & ERLINDA TITUS	162,000	3.72	36,100	0.83
3	053-007-011	TISCORNIA RANCHES LP	181,400	4.16	61,500	1.41
4	053-007-001	TISCORNIA RANCHES LP	1,131,500	25.98	148,800	3.42
5	053-007-012	TISCORNIA RANCHES LP	-	-	-	-

NOTE: PROPERTY AREAS ARE FOR THIS SHEET ONLY, PARCELS MAY OVERLAP SHEETS

LEGEND:

- EXISTING RIGHT OF WAY/PROPERTY LINE
- PROPOSED IMPROVEMENTS
- GRADING LIMITS
- RIGHT OF WAY ACQUISITION
- TEMPORARY CONSTRUCTION EASEMENT

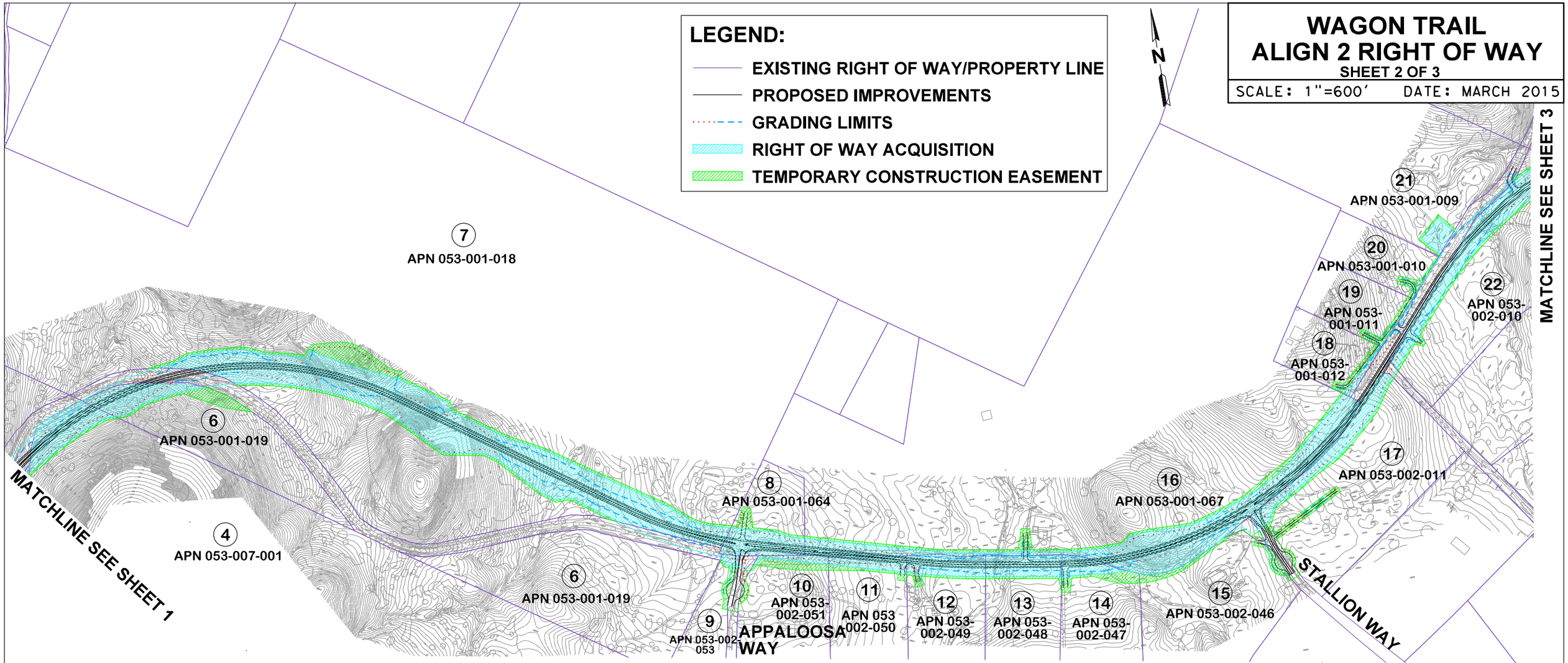
WAGON TRAIL
ALIGN 2 RIGHT OF WAY

SHEET 2 OF 3

SCALE: 1"=600' DATE: MARCH 2015

LEGEND:

- EXISTING RIGHT OF WAY/PROPERTY LINE
- PROPOSED IMPROVEMENTS
- GRADING LIMITS
- RIGHT OF WAY ACQUISITION
- TEMPORARY CONSTRUCTION EASEMENT



			FEE TAKE		TEMP ACCESS EASEMENT	
	APN	OWNER	SQFT	ACRES	SQFT	ACRES
④	053-007-001	TISCORNIA RANCHES LP	94,200	2.16	10,200	0.23
⑥	053-001-019	TISCORNIA RANCHES LP	79,900	1.83	33,700	0.77
⑦	053-001-018	TISCORNIA RANCHES LP	727,900	16.71	145,000	3.33
⑧	053-001-064	CAROL CRIM	75,800	1.74	16,900	0.39
⑨	053-002-053	STEPHEN & GLORIA STANGE	7,000	0.16	14,100	0.32
⑩	053-002-051	WENDELL & MARY ENDER	16,900	0.39	28,700	0.66
⑪	053-002-050	GREGORY & NUALA JORDAN	40,800	0.94	11,900	0.27
⑫	053-002-049	JOSEPH & CAROL SMITH	64,500	1.48	11,000	0.25
⑬	053-002-048	PAUL & LISA WESTERMAN	65,700	1.51	8,100	0.19

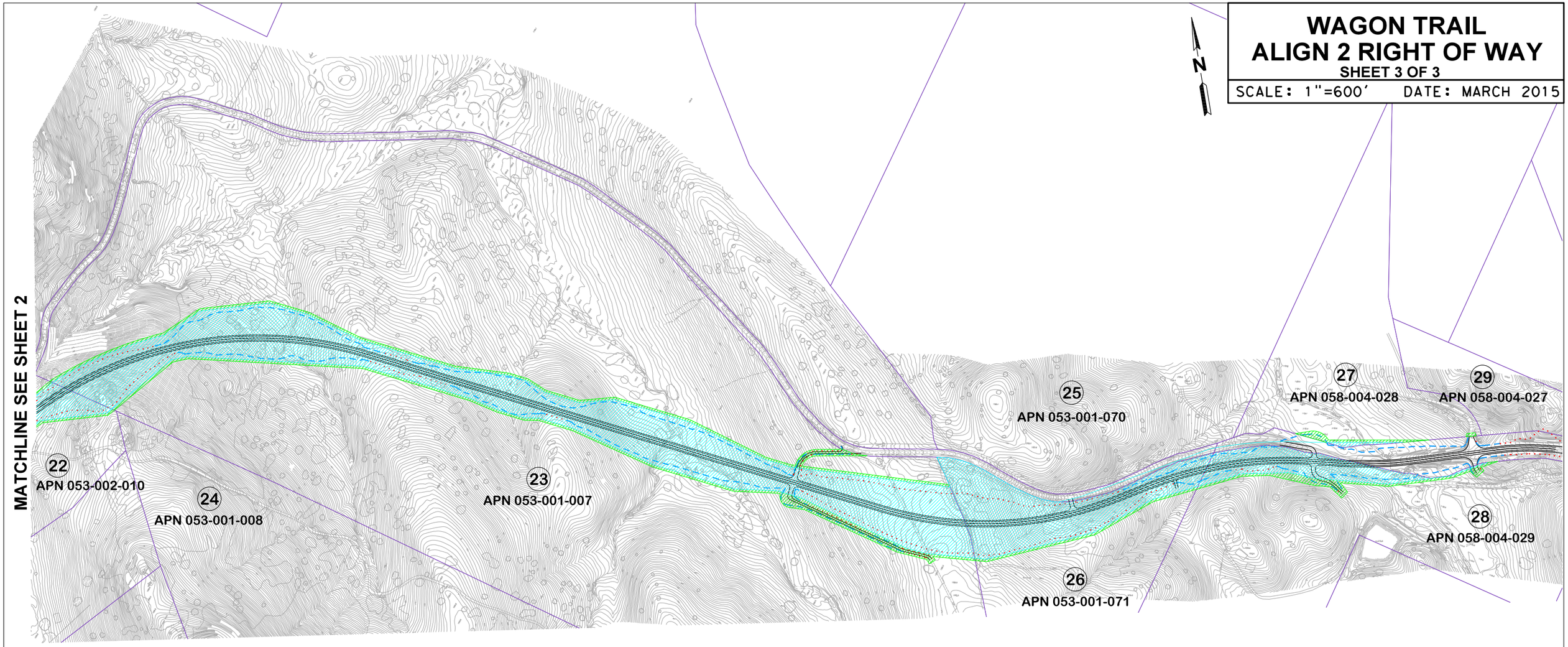
			FEE TAKE		TEMP ACCESS EASEMENT	
	APN	OWNER	SQFT	ACRES	SQFT	ACRES
⑭	053-002-047	JEAN VAUGHAN	35,100	0.81	24,200	0.56
⑮	053-002-046	PEGGI KROLL ROBERTS	-	-	32,000	0.73
⑯	053-001-067	CAROL CRIM	394,900	9.07	71,700	1.65
⑰	053-002-011	PATRICK & MILDRED LORETTE	94,400	2.17	48,600	1.12
⑱	053-001-012	ELLIS & DIXIS GLOVER	12,000	0.28	15,500	0.36
⑲	053-001-011	DANIEL & REBECCA JENSEN	400	0.01	18,500	0.42
⑳	053-001-010	TODD & KIMBERLY RASSE	-	-	13,100	0.30
㉑	053-001-009	TISCORNIA RANCHES LP	23,900	0.55	7,300	0.17
㉒	053-002-010	JEFF & LEANN MILLAR	142,700	3.28	24,900	0.57

NOTE: PROPERTY AREAS ARE FOR THIS SHEET ONLY, PARCELS MAY OVERLAP SHEETS

WAGON TRAIL
ALIGN 2 RIGHT OF WAY

SHEET 3 OF 3

SCALE: 1"=600' DATE: MARCH 2015



	APN	OWNER	FEE TAKE		TEMP ACCESS EASEMENT	
			SQFT	ACRES	SQFT	ACRES
22	053-002-010	JEFF & LEANN MILLAR	68,700	1.58	9,500	0.22
23	053-001-007	TISCORNIA RANCHES LP	1,540,500	35.37	234,600	5.39
24	053-001-008	TISCORNIA RANCHES LP	-	-	-	-
25	053-001-070	CALVIN & BARBARA BERGER	-	-	-	-
26	053-001-071	WILLIAM SPENCE	470,900	10.81	22,600	0.52
27	058-004-028	CALVIN & BARBARA BERGER	7,500	0.17	16,900	0.39
28	058-004-029	WILLIAM SPENCE	192,300	4.41	47,700	1.10
29	058-004-027	WILLIAM SPENCE	-	-	-	-
		TOTAL	5,636,300	129.41	1,125,000	25.84

NOTE: PROPERTY AREAS ARE FOR THIS SHEET ONLY, PARCELS MAY OVERLAP SHEETS

LEGEND:

- EXISTING RIGHT OF WAY/PROPERTY LINE
- PROPOSED IMPROVEMENTS
- GRADING LIMITS
- RIGHT OF WAY ACQUISITION
- TEMPORARY CONSTRUCTION EASEMENT

Attachment K:

Cooperative Agreement

DEPARTMENT OF TRANSPORTATION
P.O. BOX 2048 (1976 E. CHARTER WAY)
STOCKTON, CA 95201 (95205)
PHONE (209) 948-7911
FAX (209) 948-3820
TTY: 711

Flex your power!
Be energy efficient!

May 29, 2008

Tim McSorley
Calaveras Council of Governments
PO Box 280
San Andreas, CA 95249

Dear Mr. McSorley:

Enclosed is one (1) original fully executed Cooperative Agreement, Number 10-183 A-2. Please ensure the appropriate people receive a copy.

The District acknowledges and appreciates the County's efforts in getting this Agreement executed. If you have any questions, please call me at (209) 948-7911

Thank you for your assistance.

Sincerely,

K. Schenone

Kristen Schenone
Caltrans-District 10
Cooperative Agreement Coordinator

Encl: Cooperative Agreement No. 10-183 A-2 (1)

10-CAL-4-KP 16.6/26.39
SR4 Wagon Trail Expressway
EA: 10-0E530
District Agreement No. 10-183 A-2
Document No. 015931

AMENDMENT NO. 2 TO AGREEMENT

This AMENDMENT NO. 2 to AGREEMENT, entered into effective on May 27, 2008, is between the STATE OF CALIFORNIA, acting by and through its Department of Transportation, referred to herein as "STATE," and the

CALAVERAS COUNCIL OF GOVERNMENTS,
a public entity of the State of California,
referred to herein as "CCOG."

RECITALS

1. The parties hereto entered into Agreement No. 10-183 (Document No. 015931), on December 15, 2004. Said Agreement defining the terms and a condition for Project Approval and Environmental Documentation (PA&ED) work towards a project to construct State Highway improvements to State Route 4 in Calaveras County between KP 16.6 and 26.39, commonly known as the "Wagon Trail Expressway Project", and referred to herein as PROJECT.

2. The parties hereto also entered into an Amendment No. 1 to Agreement (District Agreement No. 10-183A-1) on December 29, 2006, to replace RIP funding with various source of Federal Funds.

3. Said Amendment No. 1 set the STATE's Independent Quality Assurance (IQA) costs at ten percent (10%) of the STIP-RIP programmed amount. It has now been determined, that the STATE will perform Independent Quality Assurance (IQA) responsibilities at STATE expense. Therefore, the agreement is amended so that CCOG is not charged for STATE'S IQA costs.

4. A Revised Exhibit A is attached, and made part of this Amendment No. 2 to Agreement to show a reallocation of STIP-RIP STATE only funds.

IT IS THEREFORE MUTUALLY AGREED:

1. That the existing revised Exhibit A of Amendment No. 1 to Agreement (District Agreement No. 10-183 A-1) will be replaced with the revised Exhibit A-2, dated May 2, 2007, attached to and made a part of this Amendment to Agreement. The Revised Exhibit A-2 supersedes the Amendment No. 1 Exhibit A dated September 1, 2006.

2. Article 5 of Recitals of the original Agreement No. 10-183 (Document No. 015931) is replaced in its entirety to read as follows:

   The California Transportation Commission (CTC) approved the application submitted by CCOG at its June 26, 2003 meeting to change the lead agency in the State Transportation Improvement Program (STIP) for the PROJECT from STATE to CCOG.

3. Article 10 of Recitals which was added to the original Agreement (Document No. 015931) by Amendment No.1 (District Agreement No. 10-183 A-1) is replaced in its entirety to read as follows:

CCOG will use $200,000 in STIP RIP State only funds to secure up to $1,000,000 on CCOG's federally authorized SAFETE-LU High Priority Project (HPP) funds, which shall be applied to the PROJECT PA&ED costs above the HPP amount.

4. Article 14 of Section I of the original Agreement (Document No. 015931) is deleted in its entirety.

5. Article I of Section II of the original Agreement (Document No. 015931) is replaced in its entirety to read as follows:

   To pay CCOG twenty percent (20%) of the State-only STIP-RIP funds for HPP match.

6. Article 5 of Section III of the original Agreement (Document No. 015931) is replaced in its entirety to read as follows:

   As stipulated in the CTC-approved application for PA&ED, STATE's maximum obligation for completion of PA&ED is $2,230,000.

7. All other terms and conditions of said Agreement (Document No. 015931) as amended by Amendment No.1 (District Agreement No. 10-183 A-1) shall remain in full force and effect.

8. Any reference to Exhibit A in the original Agreement is deemed to refer to the Revised Exhibit A-2, dated May 2, 2007.

9. This Amendment to Agreement is hereby deemed to be a part of Document No. 015931.

STATE OF CALIFORNIA
Department of Transportation

WILL KEMPTON
Director

By Kome Ajise
KOME AJISE
District Director, District 10

CALAVERAS COUNCIL OF GOVERNMENTS
~~GABRIEL KARAM~~ GREGG BAXTER
Chairman

J. P. Lynch Jr.
Vice Chair
for Gregg Baxter
Counsel 5-7-08
County ~~Council~~

~~MARY KELLY~~ MELISSA EADS
Attest to Signatures

Approved as to form and Procedure

By
Attorney
Department of Transportation

Certified as to State Funds

By Anne Wells
ANNE WELLS
District 10 Budget Manager

Certified as to Procedure

By Shelly Gruzman
Accounting Administrator

REVISED EXHIBIT A
Estimated Costs
(March 6, 2008)

	PLHD	CCOG Federal PLHD	HPP	STATE State-only RIP (Match)	Subtotal
PA&ED	$320,000	$710,000	$1,000,000	$200,000	$2,230,000
Total	$320,000	$710,000	$1,000,000	$200,000	$2,230,000

Federal funds are from the Public Lands Highway Discretionary Program (PLHD) and High Priority Project (HPP)

10-CAL-4-KP 16.6/26.39
SR 4 Wagon Trail Realignment
EA 10-0E530
District Agreement No. 10-183A-1
Document No. 015931

AMENDMENT NO. 1 TO AGREEMENT

THIS AMENDMENT NO. 1 TO AGREEMENT, ENTERED INTO EFFECTIVE ON December 31, 2006, is between the STATE OF CALIFORNIA, acting by and through its Department of Transportation, referred to herein as "STATE," and the

CALAVERAS COUNCIL OF GOVERNMENTS,
a public entity of the State of California,
referred to herein as "CCOG."

RECITALS

1. The parties hereto entered into Cooperative Agreement No. 10-183 (Document No. 015931), on December 15, 2004, said Agreement defining the terms and a condition for project development work towards a project to construct State Highway improvements, commonly known as the "Wagon Trail Expressway Project," and is referred to herein as "PROJECT."

2. Said Agreement set PROJECT development costs to be funded from the Regional Improvement Program (RIP) of the State Transportation Improvement Program (STIP). Other than using RIP funds for Federal matching funds, CCOG now desires to replace RIP funding with various source of Federal Funds as shown on Revised Exhibit A, attached to and make a part of this Amendment No. 1 to Agreement.

IT IS THEREFORE MUTUALLY AGREED:

1. Exhibit A of the original Agreement (Document No. 015931) is hereby replaced in its entirety with Revised Exhibit A dated September 1, 2006, attached to and made a part of this Amendment No. 1 to Agreement.

2. Article 4 of Recitals of the original Agreement (Document No. 015931) is hereby replaced in its entirety to read as follows:

   4. *STATE and CCOG agree that CCOG will perform PA&ED for PROJECT using STIP-RIP and federally authorized HPP and PLHD funds.*

3. Article 5 of Recitals of the original Agreement (Document No. 015931) is hereby replaced in its entirety to read as follows:

   5. *The California Transportation Commission (CTC) approved the application submitted by CCOG at its June 26, 2003 meeting to change the lead agency in the State Transportation Improvement Program (STIP) for the PROJECT from STATE to CCOG, except*

2006 DEC 29 AM 8 45

that STATE will retain ten (10%) percent of the HPP match State-only RIP at the time of allocation to cover STATE's quality assurance costs.

4. New Articles 9, 10, and 11 are hereby added to Recitals of the original Agreement (Document No. 015931) to read as follow:

   9. CCOG will receive $2,030,000 in Federal funding and CCOG wishes to use a combination of Federal and State money to pay for PROJECT.

   10. CCOG will use $200,000 in RIP State only ($180,000 as the match and $20,000 to pay oversight) funds to secure up to $1,000,000 on CCOG's federally authorized SAFETE-LU High Priority Project (HPP) funds, which shall be applied to the PROJECT PA&ED costs above the HPP amount.

   11. CCOG will also contribute up to $1,030,000 in federally authorized Public Lands Highway Discretionary funds to cover PROJECT PA&ED costs. These funds do not require a match.

5. Article 14 of Section I of the original Agreement (Document No. 015931) is hereby replaced in its entirety to read as follows:

   14. All costs to STATE to fulfill its quality assurance responsibilities for project development of PROJECT as described in Section II, Articles 2 and 3, of this Agreement will be charged to, State-only STIP_RIP funds allocated for PROJECT. STATE will retain ten percent (10%) from State-only STIP-RIP funds allocated to CCOG for PROJECT PA&ED to cover said costs for quality assurance activities. CCOG acknowledges that funds available for CCOG work on PROJECT will be less than the allocated amounts shown in CTIPS by the amount of ten percent (10%).

6. Article 1 of Section II of the original Agreement (Document No. 015931) is hereby replaced in its entirety to read as follows:

   1. To pay CCOG twenty percent (20%) of the State-only STIP-RIP funds for HPP match, STATE will retain ten percent (10)%) of this amount for quality assurance activities.

7. New Article 3A is hereby added to Section II of the original Agreement (Document No. 015931) to read as follows:

   3A. To process all Federal authorizations, State allocations, and/or State applications of funds on behalf of CCOG, as applicable under Federal and State law, necessary for STATE to encumber and utilize CCOG's

Federally authorized HPP and PLHD funds in the amount not to exceed $2,030,000, toward PROJECT PA&ED costs.

8. New Article 1A is hereby added to Section III of the original Agreement (Document No. 015931) to read as follows:

   1A. Should any portions of PROJECT be financed with Federal funds or State gas tax funds, all applicable laws, rules and policies relating to use of such funds shall apply notwithstanding other provisions of this Agreement.

9. Articles 21 and 22 of Section III of the original Agreement (Document No. 015931) are hereby replaced in its entirety to read as follows:

   21. Neither STATE nor any officer or employee thereof is responsible for any injury, damage or liability occurring by reason of anything done or omitted to be done by CCOG under or in connection with any work, authority or jurisdiction conferred upon CCOG and arising under this Agreement. It is understood and agreed that CCOG shall fully defend, indemnify and save harmless STATE and all its officers and employees from all claims, suits or actions of every name, kind and description brought forth under, including, but not limited to, tortious, contractual, inverse condemnation and other theories or assertions of liability occurring by reason of anything done or omitted to be done by CCOG under this Agreement.

   22. Neither CCOG nor any officer or employee thereof is responsible for any injury, damage or liability occurring by reason of anything done or omitted to be done by STATE under or in connection with any work, authority or jurisdiction conferred upon STATE and arising under this Agreement. It is understood and agreed that STATE shall fully defend, indemnify and save harmless CCOG and all its officers and employees from all claims, suits or actions of every name, kind and description brought forth under, including, but not limited to, tortious, contractual, inverse condemnation and other theories or assertions of liability occurring by reason of anything done or omitted to be done by STATE under this Agreement.

10. The other terms and conditions of said Agreement (Document No. 015931) shall remain in full force and effect.

11. This Amendment No. 1 to Agreement is hereby deemed to be a part of Document No. 015931.

STATE OF CALIFORNIA
Department of Transportation

WILL KEMPTON
Director

By: Kome Ajise
Kome Ajise, District 10 Director

CALAVERAS COUNCIL OF
GOVERNMENTS

By:
Merita Callaway, Chair

Approved as to form and procedure:

Attorney
Department of Transportation

Approved as to form

Attest:
County Council

Certified as to budgeting of funds:

District 10 Budget Manager

Certified as to financial terms and policies:

Accounting Administrator

REVISED EXHIBIT A
Estimated Costs
(September 1, 2006)

Item		CCOG Federal		STATE State-only	Subtotal
	PLHD	PLHD	HPP	RIP (Match)	
PA&ED	$320,000	$710,000	$1,000,000	$180,000	$210,000
PA&ED (Oversight)				$ 20,000	$ 20,000
Total	$320,000	$710,000	$1,000,000	$200,000	$2,230,000

Federal funds are from the Public Lands Highway Discretionary Program and High Priority Project.

CALAVERAS COUNCIL OF GOVERNMENTS
STATE OF CALIFORNIA

MINUTE ORDER
December 6, 2006

A motion was made authorizing the Chair to sign an amendment to the Cooperative Agreement previously entered into with Caltrans on December 15, 2004 which specified responsibilities and allowed the CCOG to be the lead agency for the first phase of work on the Wagon Trail Project. The amendment specifies the funds to be used.

Moved: Erickson Second: Faught Approved: 7-0

AYES: Callaway, Middleton, Erickson, Seaton, Plotnik, Leitzell & Faught
NOES: None
ABSENT: None
ABSTAIN: None

Merita Callaway, Chair
Calaveras Council of Governments

ATTEST:

Mary Kelly, Recording Secretary
Calaveras Council of Governments

10-Cal-4-KP 16.6/26.39
Wagon Trail Expressway
Calaveras County
EA 10-0E530
District Agreement # 10-183

COOPERATIVE AGREEMENT

THIS AGREEMENT, entered into effective on December 15, 2004, is between the STATE OF CALIFORNIA, acting by and through its Department of Transportation, referred to herein as "STATE', and

CALAVERAS COUNCIL OF GOVERNMENTS,
a public entity of the State of California,
referred to herein as "CCOG"

RECITALS

1. STATE and CCOG, pursuant to Streets and Highways Code sections 114 and 130, are authorized to enter into a Cooperative Agreement for proposed improvements to State highways within Calaveras County.

2. STATE and CCOG mutually desire State highway improvements to State Route 4 in Calaveras County between KP 16.6 and 26.39, commonly referred to as the "Wagon Trail Expressway Project", but referred to herein as "PROJECT".

3. For the purposes of this Agreement, the Project Approval and Environmental Documentation phase (PA&ED) is defined as that work necessary to carry out engineering studies, prepare a project report (PR), perform environmental studies and prepare the environmental documentation (ED) in order to obtain approvals and permits for PROJECT.

4. STATE and CCOG agree that CCOG will perform PA&ED for PROJECT in order to bring about the earliest possible construction of PROJECT.

5. The California Transportation Commission (CTC) approved the application submitted by CCOG at its June 26, 2003 meeting to change the lead agency in the State Transportation Improvement Program (STIP) for the PROJECT from STATE to CCOG. Funds programmed by the CTC for the PROJECT will now be allocated to CCOG, except that STATE will retain ten (10%) percent of the programmed amount at the time of allocation to cover STATE's quality assurance costs. Future changes to the programmed amount will require that a STIP amendment be approved by the CTC and that an amendment to this Agreement be executed.

6. STATE and CCOG agree that PROJECT final design, right of way acquisition, and construction will not commence until CTC approves a fund allocation for said work for those portions of the PROJECT, regardless of Caltrans' position of lead agency or as a quality assurance entity. Design, right of way acquisition, and construction may be subjects of future cooperative agreements.

7. This agreement will define STATE's role as the California Environmental Quality Act (CEQA) lead agency, CEQA responsible agency, and the roles and responsibilities of the CEQA lead agency and CEQA responsible agency regarding environmental documents, studies and reports and compliance with both CEQA and the National Environmental Policy Act (NEPA).

8. STATE and CCOG mutually desire to cooperate in development of PROJECT and desire to specify herein the terms and conditions under which the PROJECT PD is to be developed and financed.

SECTION I

CCOG AGREES:

1. To perform PA&ED using CCOG forces or private consultants, and to submit each set of documents to STATE for STATE's review and concurrence at appropriate stages of development. The PR for PROJECT shall be signed by a Civil Engineer registered in the State of California. If private consultants are used to perform PA&ED, each private consultant shall be required to maintain professional liability insurance with a limit of liability of at least $1,000,000 per occurrence through completion of PROJECT construction and the resolution of all construction contract claims, which policy of insurance names STATE as an additional insured under the policy.

2. To permit STATE to monitor and participate in the selection of personnel who will prepare the PR, conduct environmental studies and obtain approval for PROJECT. CCOG agrees to consider any request by STATE to discontinue the services of any personnel considered by STATE to be unqualified on the basis of credentials, professional expertise and failure to perform in accordance with the scope of work and/or other pertinent criteria.

3. Prior to commencing work on PROJECT, to furnish STATE with a proposed time schedule acceptable to STATE to complete PROJECT PA&ED.

4. To furnish STATE with written quarterly progress reports during the period while project development work is being prepared.

5. PA&ED is to be prepared in accordance with California laws, rules, regulations, and STATE's policies, procedures, manuals, standard plans and specifications, and other standards, including, but not limited to, compliance with applicable Federal Highway Administration (FHWA) requirements. Said PA&ED is to be subject to ongoing review by STATE and the draft final documents for PA&ED shall require prior review and concurrence by both STATE and FHWA. CCOG shall not incorporate any materials or equipment of single or sole source origin in the design of PROJECT without the prior written approval of STATE.

6. To have the final PA&ED and preliminary design documents and drawings of civil, structural, mechanical, electrical, architectural, or other engineering features of PROJECT prepared by or under the direction of engineers or architects registered and licensed in the applicable professional field in the State of California. Any engineering reports, each sheet of plans, and the specifications for PROJECT shall bear the professional seal, certificate number, registration classification, expiration date of certificate, and signature of the professional engineer responsible for their preparation.

7. To make available its personnel or consultants within a reasonable time to be specified by STATE to do all necessary corrections and furnish the corrected product to STATE if, during the course of preparing the final design or right of way acquisition, errors or omissions are discovered in any of the plans, specifications, and estimates (PS&E) which CCOG has provided pursuant to this Agreement.

8. To make written application to STATE for necessary encroachment permits authorizing entry of CCOG and/or its consultants onto the State highway right of way to perform surveying and other investigative activities required for preparation of the PA&ED.

9. To be responsible for the investigation of potential hazardous material sites within and outside of the existing State highway right of way that would impact PROJECT as part of the responsibility for the ED for PROJECT. If CCOG encounters hazardous material or contamination within the existing and proposed State highway right of way during said investigation; CCOG shall immediately notify STATE and responsible control agencies of such discovery. As the implementing agency responsible for carrying out the work necessary to complete PROJECT, CCOG shall evaluate, with STATE, the impact on PROJECT costs for required remedy or remedial action of all hazardous material found in existing and proposed State highway right of way required for construction of PROJECT. CCOG shall also be responsible for identification of additional PROJECT funding to be referenced in the PR for the PROJECT that may be needed to cover potential added costs of PROJECT, whether resulting from discovery of hazardous material or from any other cause.

10. CCOG shall provide all plans prepared by CCOG or CCOG's consultant on a CD-ROM in MicroStation .dgn file, version 5.0 or later through version 7 format. One copy of the data on CD, including the Engineer's electronic signature and seal, shall be provided to STATE upon completion of the final PR for PROJECT. STATE reserves the right to modify these requirements and STATE shall provide CCOG advance notice of any modifications.

11. To obtain all necessary permits and/or agreements from appropriate regulatory agencies. All mitigation, monitoring, and/or remedial action required by said permits shall constitute parts of the cost of PROJECT.

12. To submit to STATE signed itemized invoices monthly, in triplicate, with specific details of all costs incurred during the period of the invoice. Invoices will meet format and content requirements specified by STATE.

13. To submit a final report of expenditures in the format specified by STATE within ninety (90) days after completion of PA&ED for PROJECT.

14. All costs to STATE to fulfill its quality assurance responsibilities for project development of PROJECT as described in Section II, Articles 2 and 3, of this

Agreement will be charged to STIP Regional Improvement Program (RIP) funds allocated for PROJECT. STATE will retain ten percent (10%) from funds allocated to CCOG for each Phase of PROJECT to cover said costs for quality assurance activities. CCOG acknowledges that funds available for CCOG work on PROJECT will be less than the allocated amounts shown in CTIPS by the amount of ten percent (10%)

15. If it becomes apparent at any time that funds will be insufficient to cover remaining work on each phase of PROJECT, STATE or CCOG reserves the right to have work stopped until CCOG obtains additional funding for the PROJECT.

16. If, upon final accounting of project development costs for PROJECT, it is discovered that STATE had overpaid CCOG, CCOG shall, within sixty (60) days of notice, refund the overpaid amount to STATE.

17. To retain all books, documents, papers, accounting records, and other evidence pertaining to PROJECT costs incurred, including support data for cost proposals, and make such materials available at the respective offices of CCOG at all reasonable times during the contract period and for three years from the date of final payment under this Agreement. STATE, FHWA, or any duly authorized representative of the Federal Government shall have access to any books, records, and documents of CCOG that are pertinent to this Agreement for audits, examinations, excerpts, and transactions, and copies thereof shall be furnished if requested.

18. CCOG shall notify the CTC of any cost savings from any Phase of PROJECT using RIP funds. The notification shall include the reason for the savings and how CCOG intends to use the RIP funds from the savings for later Phases of PROJECT. In any case, CTC approval will be required before RIP fund cost savings can be used for later PROJECT Phases.

19. All aerial photography and photogrammetric mapping shall conform to STATE's latest standards.

20. A copy of all original survey documents resulting from surveys performed for PROJECT, including original field notes, adjustment calculations, final results, and appropriate intermediate documents, shall be delivered to STATE and shall become property of STATE. For aerial mapping, survey documents to be furnished are three sets of contract prints with one set showing control, a complete photo index – two prints and a copy of the negative, and the original aerial photography negative.

21. STATE's quality assurance activities referred to in Section II, Article 2, of this Agreement do not include performance of any engineering services required for PROJECT. These services are to be performed by CCOG. If CCOG requests STATE to perform any of these services, an amendment to this Agreement authorizing STATE's performance of such services will be required prior to performance of any engineering work by STATE.

SECTION II

STATE AGREES:

1. To pay CCOG one hundred percent (100%) of the actual allowable costs of PROJECT PA&ED up to the maximum amounts stipulated in Section III, Article 5, of this Agreement, less costs to STATE for fulfilling its oversight responsibilities as described in Section II, Articles 2 and 3, of this Agreement. Allowable costs shall include CCOG staffing costs attributable to the PROJECT.

2. To provide quality assurance activities of all work on PROJECT done by CCOG, to provide prompt reviews and approvals, as appropriate, of submittals by CCOG, and to cooperate in timely processing of PROJECT.

3. To provide CCOG with necessary regulations, policies, procedures, manuals, standard plans and specifications, and other standards required for the preparation of PROJECT PA&ED.

4. Upon proper application by CCOG, to issue, at no cost to CCOG, an encroachment permit authorizing CCOG entry onto the State highway right of way to perform survey and other investigative activities required for preparation of PA&ED. If CCOG uses consultants rather than its own staff to perform required work, those consultants will also be required to obtain a separate encroachment permit. These permits will be issued at no cost upon proper application by the consultants.

SECTION III

IT IS MUTUALLY AGREED:

1. All obligations of STATE under the terms of this Agreement are subject to the appropriation of resources by the Legislature, State Budget Authority, and allocation of funds by the CTC for the purposes of fulfilling STATE's obligations herein.

2. All obligations of CCOG under the terms of this Agreement are limited to the funds allocated to CCOG by the CTC for the PROJECT PA&ED.

3. Any costs incurred by CCOG prior to the effective date of this Agreement and the CTC's approval of funds allocated to CCOG for PA&ED work for PROJECT shall not be reimbursed by STATE.

4. After receiving an allocation from the CTC, CCOG shall make diligent and timely progress toward completing PA&ED for PROJECT pursuant to this Agreement. If timely progress is not achieved, the CTC may review the status of PA&ED work for PROJECT. If CTC finds that CCOG is not pursuing work on PA&ED for PROJECT diligently, the CTC may direct STATE to terminate this Agreement and will

reallocate those funds to another project or projects. Termination will be pursuant to Article 24 of this Section III.

5. As stipulated in the CTC-approved application for PA&ED, STATE's maximum obligation for completion of PA&ED is $1,178,000 ($1,060,200 for CCOG and $117,800 for STATE's Quality Assurance).

6. The total amount STATE shall reimburse CCOG for those actual allowable costs incurred in the performance of PA&ED work for PROJECT using STIP funds encumbered under this Agreement shall not exceed the amounts specified in Section III, Article 5, less costs for STATE's quality assurance activities. If it becomes apparent that the maximum amount of STATE's contribution is about to be reached or exceeded, CCOG shall request that CTC approve additional available RIP funding or seek other resources and funding for the PROJECT as necessary. STATE or CCOG reserves the right to have work stopped until CCOG identifies additional funding for the PROJECT.

7. Actual PROJECT costs reimbursed, direct and indirect, shall conform with procedures set forth in the Cost Principles and Procedures, Chapter 1, Part 31, CFR 48. CCOG also agrees to comply with Federal procedures in accordance with CFR 49, Part 18, Uniform Administrative Requirement for Grants and Cooperative Agreements to State and Local Governments.

8. STATE shall designate a Project Manager to represent STATE and CCOG shall designate a representative through whom all communications between the two agencies shall be channeled. STATE's Project Manager shall review the work of CCOG during performance of the PA&ED for PROJECT.

9. CCOG shall furnish STATE with all necessary copies of PA&ED work for PROJECT to complete the review and approval process. Upon completion of all work under this Agreement, ownership and title to all engineering reports, documents, plans, and estimates produced for delivery to STATE as part of PA&ED work for PROJECT will automatically be vested in STATE and no further agreement will be necessary to transfer ownership to STATE.

10. The basic design features, as defined in EXHIBIT B, Scope of Work for PROJECT, attached to and made apart of this Agreement shall comply with those addressed in the approved PSR, dated June 29, 2001, unless modified as required for environmental clearance and/or FHWA approval of PROJECT.

11. The PA&ED for PROJECT shall be performed in accordance with STATE's standards and practices current as of the date of performance. Any exceptions to applicable design standards shall first be approved by STATE via the processes outlined in STATE's Highway Design Manual and appropriate memorandums and design bulletins published by STATE. In the event that STATE proposes and/or requires a change in design standards, implementation of new or revised design

standards shall be done as part of the work on PROJECT in accordance with STATE's current Highway Design Manual Section 82.5, "Effective Date for Implementing Revisions to Design Standards". STATE shall consult with CCOG in a timely manner regarding the effect of proposed and/or required changes on PROJECT.

12. Any hazardous material or contamination of an HM-1 category found within the existing State highway right of way during investigative studies requiring remedy or remedial action, as defined in Division 20, Chapter 6.8 et seq. of the Health and Safety Code, shall be the responsibility of STATE. Any hazardous material or contamination of a HM-1 category found within a local road right of way during investigative studies requiring the same defined remedy or remedial action shall be the responsibility of local agency and/or property owner having jurisdiction of that local road right of way or property. For the purpose of this Agreement, hazardous material or contamination of HM-1 category is defined as that level or type of contamination which State or Federal regulatory control agencies having jurisdiction have determined must be remediated by reason of its mere discovery, regardless of whether it is disturbed by PROJECT or not. CCOG shall be responsible only for notifying the responsible Federal or State agency and the local agency or property owner having ownership of the affected property of any discovery of HM-1 material found during investigative studies.

13. The remedy or remedial action with respect to any hazardous material or contamination of an HM-2 category found within the existing State highway right of way during investigative studies shall be addressed in the PROJECT PR and ED and any remedy or remedial action shall be addressed in the final PROJECT PS&E and the cooperative agreement for construction of PROJECT. For the purposes of this Agreement, hazardous material or contamination of HM-2 category is defined as that level or type of contamination which said regulatory control agencies would have allowed to remain in place if undisturbed or otherwise protected in place should PROJECT not proceed.

14. Locations subject to remedy or remedial action and/or protection include utility relocation work required for PROJECT. Costs for remedy or remedial action and/or protection shall include, but not be limited to, the identification, treatment, protection, removal, packaging, transportation, storage, and disposal of such material.

15. The party responsible for funding any HM-1 category hazardous material cleanup shall be responsible for the development of the necessary remedy and/or remedial action plans and designs. Remedial actions proposed by other parties on the State highway right of way shall be pre-approved by STATE and shall be performed in accordance with STATE's standards and practices and those standards mandated by the Federal and State regulatory agencies as well as an encroachment permit for performing work on State highway right of way.

16. STATE will be the CEQA Lead Agency and CCOG will be a Responsible Agency for CEQA. The Federal Highway Administration (FHWA) will be the Federal Lead Agency for NEPA with STATE acting as FHWA's agent for NEPA and providing oversight for the NEPA process. CCOG will assess impacts of PROJECT on the environment and, if necessary, CCOG will prepare the Environmental Document (ED), including the necessary associated investigative studies and technical environmental reports, in order to meet the requirements of CEQA and NEPA. CCOG will submit to STATE for STATE's review, comment and approval the investigative studies and technical environmental reports. The administrative draft, draft, administrative final, and final ED will require both STATE's and FHWA's review, comment and approval prior to public availability. STATE will review the technical environmental reports and request approval of the environmental technical reports and ED by FHWA. STATE and FHWA will be responsible for the public hearing process.

17. If, during preliminary engineering, preparation of the PS&E, or PROJECT construction, new information is obtained which requires the preparation of an additional NEPA and/or CEQA Environmental Document (ED), this Agreement will be amended to include completion of these additional tasks by CCOG.

18. All administrative draft reports, studies, materials, and documentation, including, but not limited to all PR and ED administrative draft reports and administrative final reports, relied upon, produced created or utilized by CCOG as STATE's agent, will be held in confidence. CCOG agrees that said material will not be distributed, released or shared with any other organization, person or group other than STATE, CCOG employee and its agents without prior written approval by STATE authorizing said release or distribution except as required or authorized by statutory authority.

19. One or more separate Cooperative Agreements will be required to cover responsibilities and funding for the Design, Right-of-Way and Construction phases of PROJECT.

20. Nothing in the provisions of this Agreement is intended to create duties or obligations to or rights in third parties not parties to this Agreement or to affect the legal liability of either party to the Agreement by imposing any standard of care with respect to the development, design, construction, operation or maintenance of State highways and public facilities different from the standard of care imposed by law.

21. Neither STATE nor any officer or employee thereof is responsible for any damage or liability occurring by reason of anything done or omitted to be done by CCOG under or in connection with any work, authority or jurisdiction delegated to CCOG under this Agreement. It is understood and agreed that, pursuant to Government Code section 895.4, CCOG shall fully defend, indemnify and save harmless STATE and all its officers and employees from all claims, suits or actions of every name, kind and description brought for or on account of injury (as defined in Government Code section 810.8) occurring by reason of anything done or omitted to be done by CCOG

under or in connection with any work, authority or jurisdiction delegated to CCOG under this Agreement.

22. Neither CCOG nor any officer or employee thereof is responsible for any damage or liability occurring by reason of anything done or omitted to be done by STATE under or in connection with any work, authority or jurisdiction delegated to STATE under this Agreement. It is understood and agreed that, pursuant to Government Code section 895.4, STATE shall fully defend, indemnify and save harmless CCOG and all its officers and employees from all claims, suits or actions of every name, kind and description brought for or on account of injury (as defined in Government Code section 810.8) occurring by reason of anything done or omitted to be done by STATE under or in connection with any work, authority or jurisdiction delegated to STATE under this Agreement.

23. No alteration or variation of the terms of this Agreement shall be valid unless made in writing and signed by the parties hereto and no oral understanding or agreement not incorporated herein shall be binding on any of the parties hereto.

24. STATE reserves the right to terminate this Agreement upon written notice to CCOG. At the time of termination, CCOG will be paid only for work accomplished and delivered in accordance with the terms of this Agreement and all engineering documents for project development work for PROJECT, including raw data and draft plans, prepared up to the time of termination shall become property of STATE and will be delivered to STATE by CCOG.

25. This Agreement shall terminate upon completion of construction of PROJECT or on December 31, 2014, whichever is earlier in time, unless all parties agree to an extension of time in an amendment to this Agreement.

STATE OF CALIFORNIA
Department of Transportation

RANDALL H. IWASAKI
Interim Director of Transportation

By Kome Ajise
KOME AJISE
District Director, District 10

CALAVERAS COUNCIL OF GOVERNMENTS
GABRIEL KARAM
Chairman

Gabriel Karam

Approved as to form:
County Counsel

MARY KELLY
Attest to Signatures.

Mary Kelly

Approved as to form and Procedure

By
Attorney
Department of Transportation

Certified as to State Funds

By Anne Wells
ANNE WELLS
District 10 Budget Manager

Certified as to Procedure

By
Accounting Administrator

EXHIBIT A
Estimated Costs

DESCRIPTION	FUNDS (RIP)
PA&ED	$1,060,200
PA&ED Oversight	$117,800
Total	$1,178,000

EXHIBIT B

SCOPE OF WORK

This Scope of Work outlines the specific areas of responsibility for the proposed Cal 4 Wagon Trail Expressway Project (PROJECT).

1. STATE will be CEQA Lead Agency and CCOG will be the Responsible Agency for CEQA. STATE will be the liaison for the NEPA Lead Agency. The Federal Highway Administration (FHWA) will be the Federal Lead Agency for NEPA. CCOG will assess impacts of PROJECT on the environment and will prepare the Environmental Document(s) (ED) to meet the requirements of CEQA and NEPA. STATE's review and comment on technical studies/reports is required. The draft and final ED will require STATE's review and approval, as well as FHWA's review and approval, prior to public circulation. CCOG will provide all data for and prepare drafts of the Draft Project Report (DPR) and the Project Report (PR). STATE will review and process the reports and request approval of PROJECT and ED by the FHWA. STATE and FHWA will be responsible for the public hearing process.

2. CCOG will submit drafts of environmental technical reports and individual sections of the draft environmental documents to STATE, as they are developed, for review and comment. Traffic counts and projections to be used in the various reports shall be supplied by STATE if available, or by CCOG. Existing traffic data shall be furnished by CCOG. CCOG shall provide to STATE and the CTC the Notice of Preparation (NOP), the draft environmental documents and the final environmental document for PROJECT.

3. STATE will review, monitor, and approve all project development reports, studies, and plans, and provide all necessary implementation activities up to but not including the Design and Right-of-Way phases of PROJECT.

4. CCOG and STATE concur that the proposal is a Category 1 as defined in STATE's Project Development Procedures Manual.

5. Detailed steps in the project development process are listed in Attachment 1, titled Project Activities. Attachment 1 is intended as a guide to STATE's and CCOG's staff.

ATTACHMENT 1
PROJECT ACTIVITIES

	RESPONSIBILITY STATE	CCOG
PHASE 1 ACTIVITY		
1. ENVIRONMENTAL ANALYSIS & DOCUMENT PREPARATION		
Establish Project Development Team (PDT)	X	X
Approve PDT	X	X
Project Category Determination	X	X
Prepare Preliminary Environmental Assessment		X
Identify Preliminary Alternatives and Costs		X
Prepare and Submit Environmental Studies and Reports		X
Review and Approve Environmental Studies and Reports	X	
Prepare and Submit Draft Environmental Document (DED)		X
Review DED in District	X	
2. PROJECT GEOMETRICS DEVELOPMENT		
Prepare Existing Traffic Analysis		X
Prepare Future Traffic Volumes for Alternatives		X
Prepare Project Geometrics and Profiles		X
Prepare Layouts and Estimates for Alternatives		X
Prepare Operational Analysis for Alternatives		X
Review and Approve Project Geometrics and Operational Analysis	X	
3. PROJECT APPROVAL		
Oversight Agency for Environment Compliance Certifies ED in Accordance with its Procedures	X	
Prepare Draft Project Report (DPR)		X
Finalize and Submit Project Report with Certified ED for Approval		X
Approve Project Report	X	

015931

CALAVERAS COUNCIL OF GOVERNMENTS
STATE OF CALIFORNIA

MINUTE ORDER
December 15, 2004

A motion was made authorizing the Chair to sign a Cooperative Agreement with Caltrans which specifies responsibilities and allows the CCOG to be the lead agency for the first phase of work on the Wagon Trail Project

Moved: Tryon Second: Middeton Approved: Unanimously

AYES: Karam, Plotnik, Middleton, Seaton, Morgan, Tryon, Mitchell
NOES: none
ABSENT: none
ABSTAIN: none

Gabriel Karam
Gabriel Karam, Chair
Calaveras Council of Governments

ATTEST:

Mary Kelly
Mary Kelly, Clerk to the
Calaveras Council of Governments

I, MARY KELLY, Clerk to the Calaveras Council of Governments, County of Calaveras do hereby certify that this is a true and correct copy of a minute order approved by the Council of Governments on December 15, 2004.

This 17th day of December, 2004

By: Mary Kelly
Mary Kelly

015931

CALAVERAS COUNCIL OF GOVERNMENTS
COUNTY OF CALAVERAS
State of California

April 9, 2003

RESOLUTION NO. FY 03-12

RESOLUTION AUTHORIZING THE EXECUTIVE DIRECTOR TO SIGN FUNDING ALLOCATION REQUESTS FOR THE WAGON TRAIL EXPRESSWAY, STATE ROUTE 4 PROJECT

WHEREAS, the Calaveras Council of Governments (CCOG) is the State designated Regional Transportation Planning Agency (RTPA) for Calaveras County in accordance with Government Code Section 29532; and

WHEREAS, the CCOG identified the Wagon Trail Expressway to State Route 4 as a top priority State highway project in the adopted 2001 Calaveras County Regional Transportation Plan; and

WHEREAS, on September 18, 2002 the CCOG passed Resolution No. FY03-03 declaring the authority to be known as the lead agency for the Wagon Trail Expressway project; and

WHEREAS, California Department of Transportation (Caltrans) completed a Project Study Report for Project Development and Support which identified that $1,278,000 is needed for the initial phase of the Wagon Trail Expressway SR4 corridor project; and

WHEREAS, the CCOG submitted its 2002 Regional Transportation Improvement Program (RTIP) requesting that $1,178,000 be programmed for the initial phase which will include completion of a Project Report and Environmental Documents (PA&ED); and

WHEREAS, the California Transportation Commission (CTC) programmed $1,178,000 for purposes of completing the Wagon Trail Expressway SR 4 corridor PA&ED phase with approval of the 2002 STIP; and

WHEREAS, the CCOG has determined that it intends to utilize provisions of Senate Bill 45 (Kopp 1997) and Proposition 35 to take lead agency responsibilities for delivery of the Wagon Trail Expressway SR 4 PA&ED project phase; and

WHEREAS, the CCOG is in the process of negotiating a cooperative agreement with Caltrans whereby lead agency responsibilities for delivery of the Wagon Trail Expressway SR 4 PA&ED phase will be assigned to the Calaveras Council of Governments; and

WHEREAS the CCOG has prepared a funding allocation request for submittal to the CTC requesting that the $1,178,000 programmed for PA&ED be allocated to the CCOG to initiate work prior to July 1, 2003, or as soon thereafter as possible.

NOW THEREFORE BE IT RESOLVED, that the Calaveras Council of Governments hereby grants authority for the Executive Director to sign and execute documents associated with Project Approval and Environmental Documents (PA&ED), including the CTC's allocation of funds for carrying out the Wagon Trail Expressway SR 4 project.

The foregoing resolution was duly passed and adopted by the Calaveras Council of Governments, State of California, at a regular meeting thereof, held on the 9th day of April, 2003, by the following vote:

Ayes: *Stein, Morgan, Erickson, Middleton, Seaton, Plotnik and Karam*

Noes: *None*

Absent: *None*

Abstain: *None*

Paul Stein, Chair
Calaveras Council of Governments

ATTEST:

Mary Kelly, Clerk to the
Calaveras Council of Governments

State of California
County of Calaveras

I MARY KELLY, Clerk to the Calaveras Council of Governments, County of Calaveras do hereby certify that this is a true and correct copy of a resolution approved by the Calaveras Council of Governments on April 9, 2003

This 17th day of December, 2004

By: Mary Kelly
Mary Kelly

Attachment L:

Preliminary Transportation Management Plan (TMP) Data Sheets

STATE OF CALIFORNIA

D-10 TRAFFIC MANAGEMENT: DELIVERY- MEMO

To: Mason Leung	From: Tam Cao D-10 Traffic Management	Date: 3/18/2015
Cc: FILE, D-10 PIO	Phone: 209-942-6089	

MESSAGE

Re: Project ID# 10 0000 0025

Please include a copy of the TMP Checklist in the RE Book with all supporting Documentation.

We request the following:

a. ***Contractor shall work with RE/Inspector to request the necessary lane closures needed. Requests shall be made the week prior to the actual work. Inspector shall submit closure through the Lane Closure System (LCS) for our approval by Wednesday afternoon of the week prior.***

b. ***All lane closures shall be called in by either the Contractor to the Traffic Management Center (TMC) when the closure begins (10-97), ends (10-98), or is canceled (10-22). The TMC can be reached 24-7 at (209) 948-7556 or 7551.***

c. ***Use proper Traffic Control devices throughout the duration of the project as per Caltrans Standard Specifications.***

Please call if you have any questions regarding the attached information.

D-10 TRANSPORTATION MANAGEMENT PLAN CHECKLIST

District - Project No: 0E530/10 0000 0025
Date Prepared: March 18, 2015
Prepared By: Tam Cao
Requested By: Mason Leung

Co.-Rte.-P.M. CAL-4-R10.3/R16.4
Location: From approximately 2.6 miles east of Copperopolis near Bonanza Mine Way to approximately 1.6 miles west of the State Route 4/49 Junction

Stage of Project (X box) ☐ PID ☐ PSR ☒ PR ☐ PS&E

Description: Realignment

Date Signed	Date Signed	Date Signed	Date Signed

	REQUIRED	RECOMMENDED	NOT APPLICABLE	BEES Item No.	COMMENTS	ITEM COST	REQUIRED IN SPEC.
1.0 Public Information Strategies							
1.1 Brochures and Mailers	X				RE to hand-deliver to business/residences.		
1.2 Media Releases (& minority media sources)	X						
1.3 Paid Advertising			X				
1.4 Public Information Center		X			See comments below.		
1.5 Public Meetings/Speakers Bureau		X		066063	Designer to add to budget if public meeting is added.		
1.6 Project Telephone Hotline			X				
1.7 Internet, E-Mail			X				
1.8 Local cable TV and News			X				
1.9 Notification to Impacted groups	X				Designer to verify impacted groups.		
(i.e. bicycle users, pedestrians with disabilities, others)							
1.10 Project Web Page		X			Web page could be linked to local City pg.		
1.11 Caltrans Public Information Office			X	066063	Items 1.1 to 1.11 to be handled by CT PIO.		
1.12 Consultant Public Information Office	X				To be determined by consultant	TBD	
1.13 Other items			X				
2.0 Traveler Information Strategies							
2.1 Changeable Message Signs (permanent)			X				
2.2 Changeable Message Signs (portable)	X			128652	See comments below	$175K	X
2.3 Special Construction Signs			X	120690			
2.4 Traveler Information Systems (CHIN/Internet)	X			861985	As required.		X
2.5 Highway Advisory Radio "HAR" (fixed or mobile)			X	860520			
2.6 Radar Speed Sign			X	066064			
2.7 Traffic Management Team			X				
2.8 Revised Transit Schedules/ Maps			X				
2.9 Bicycle community information	X				Same as Item 1.9.		
2.10 Other items			X				
3.0 Incident Management							
3.1 COZEEP	X			066062	See comments below	$100K	
3.2 Freeway Service Patrol (tow truck service patrol)			X	066065			
3.3 Traffic Surveillance Stations (loops or CCTV)	X			066876	Existing to remain &/or provide new stations.		
3.4 Transportation Management Center	X						
3.5 Traffic Control Inspector (Caltrans)		X					
3.6 Traffic Management Team	X				TMC will contact TMT as needed.		
3.7 On-site Traffic Advisor (contractor)		X					
3.8 Other Items			X				
4.0 Construction Strategies							
4.1 Delay damage clause			X				
4.2 Night work	X				Per Lane Closure Charts		X
4.3 Weekend Work			X				
4.4 Extended Weekend Closures			X				
4.5 Planned Lane Closures	X				Per Lane Closure Charts		X
4.6 Planned Ramp Closures/Connector Closure			X				
4.7 Total Facility Closure			X				
4.8 Project Phasing	X				As per stage construction if any.		X
4.9 Truck Traffic Restrictions			X				
4.10 Reduced Lane Widths		X			Per drawings/data sheet if any.		
4.11 Temporary K-Rail			X	129000			
4.12 Temporary Traffic Screens			X	129150			
4.13 Reduced Speed Zones			X				
4.14 Traffic Control Improvements	X				As necessary.		

4.0 Construction Strategies (Continued)	REQUIRED	RECOMMENDED	NOT APPLICABLE	BEES Item No.	COMMENTS	ITEM COST	REQUIRED IN SPEC.
4.15 Contingency Plans	X				Construction to determine items 4.15.1 thru. 4.15.9		X
4.15.1 Material Plant on standby							
4.15.2 Extra Critical Equipment on site							
4.15.3 Material Testing Plan							
4.15.4 Alternate Material on site							
(In case of failure or major delays)							
4.15.5 Emergency Detour Plan							
4.15.6 Emergency Notification Plan							
4.15.7 Weather Conditions Plan							
4.15.8 Delay Timing and Documentation Plan							
4.15.9 Late Closure Reopening Notification							
4.16 Signal timing modification			X				
4.17 Coordination with adjacent construction	X				RE to confirm prior to scheduling of closures.		X
4.18 Double Fine Zone (signs)			X				
4.19 Right of Way Delay			X				
4.20 ADA access to Pedestrian Facilities	X				See comments below.		X
4.21 Other Items	X				See comments below.		X
5.0 Demand Management							
5.1 HOV Lanes/Ramps			X				
5.2 Ramp metering			X				
5.3 Park-and-Ride Lots			X				
5.4 Parking Management/Pricing			X				
5.5 Rideshare Incentives			X				
5.6 Rideshare Marketing			X	066069			
5.7 Transit, Train, or Light-Rail Incentives			X	066066			
5.8 Transit Service Modification			X				
5.9 Variable Work Hours			X				
5.10 Telecommute			X				
5.11 Other Items			X				
6.0 Alternate Route Strategies							
6.1 Ramp Closures			X				
6.2 Street Improvements			X				
6.3 Reversible Lanes			X				
6.4 Temporary Lanes or Shoulders Use	X				Per stage construction		X
6.5 Freeway to freeway connector closures			X				
6.6 Other Items			X				
7.0 Other Strategies							
7.1 Application of new technology			X				
7.2 District Lane Closure Review Committee			X				
7.3 315 Program: Construct Long Range Plan Elements							
7.3.1 Changeable Message Sign (CMS)	X				$350K/EA x 2 Direction	$700K	
7.3.2 Closed-Circuit Television (CCTV)	X				$50K/EA x 2 Direction	$100K	
7.3.3 Extinguishable Message Sign (EMS)	X				$25K/EA	$25K	
7.3.4 Highway Advisory Radio (HAR) & Signs	X				$50K/EA	$50K	
7.3.5 Ramp Metering			X				
7.3.6 Traffic Monitoring Station	X				$30K/EA x 4/Direction x 2 Direction	$240K	
7.3.7 Weather Station (RWIS)	X				$60K/EA	$60K	
7.4 Other Items			X				

Comments:

1.4 Plan, progress/completion information should be available at Local Public Works, Chamber of Commerce Offices, and CT Maintenance Offices.

1.9 Impacted groups need to be notified and informed about upcoming construction. During construction, access across job site will be needed.

1.11 PIO estimated at $2k/mo. Or per stage construction or per major milestone.

2.2 PCMS Estimate: 2PCMS($3.5k/PCMS/mo.)(25mo.)=$175,000 One PCMS per direction at the beginning of the work zone

3.1 COZEEP Estimate: 2CHP($100/hr)(10hr/day)(50day)=$100,000

4.20 Ensure that temporary routes, which are provided around and through construction along pedestrian facilities under Caltrans jurisdiction, are accessible to persons with disabilities when provided.

4.21 RE/Inspector shall maintain access to all business & residences at all times.

Approved by:

Tam Cao **3/18/2015**

For WILMAR KUHL, P.E.DISTRICT TRAFFIC MANAGER DATE

Replace "Reserved" in section 12-4.05F with:

Chart no. 1
Conventional Highway Lane Requirements

County: Calaveras	Route/Direction: 4/Westbound - Eastbound	PM: R10.3/R16.4

Closure limits: From approximately 2.6 miles east of Copperopolis (near Bonanza Mine Way) to approximately 1.6 miles west of the State Route 4/49 Junction (near Stockton Road)

Hour	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon-Thu	R	R	R	R	R	R	R	S	S	S	S	S	S	S	S	S	S	S	S	R	R	R	R	R	
Fri	R	R	R	R	R	R	R	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
Sat	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
Sun	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	R	R	R	R	R	

Legend:

R	Provide at least 1 through traffic lane, not less than 10 feet in width, for use by both directions of travel (Reversing Control)
S	Shoulder closure allowed

REMARKS:

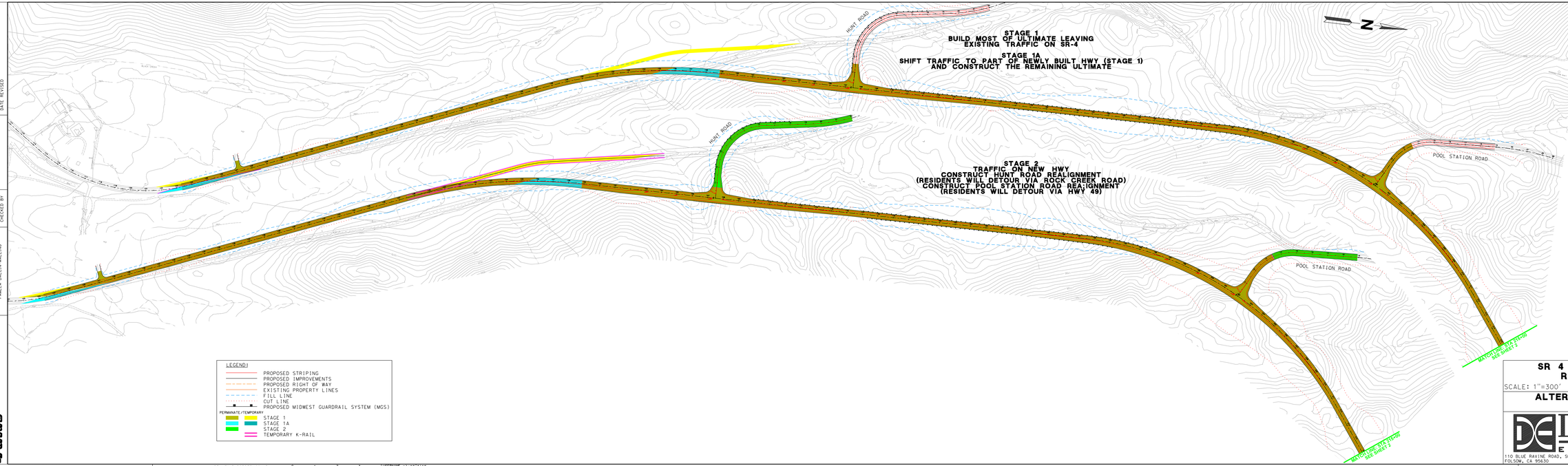
1. See Lane Closure Restriction for Designated Legal Holidays and Special Days table in Maintain Traffic of these special provisions for additional closure restrictions.
2. Closures of local roads will require City/County concurrence.

Note to Design:

Above window must be re-evaluated or updated if actual construction takes place later than 2017.

Attachment M:

Built Alternative 1 Construction Staging Exhibit



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Cal	4	PM R10.3/R16.4	1	3

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
JUANN RAMOS
No. C61931
Exp. 9/30/17
CIVIL
STATE OF CALIFORNIA

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PREPARED FOR: COUNTY OF CALAVERAS
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

PREPARED BY: DOKKEN ENGINEERING
110 BLUE RAVINE ROAD
SUITE 200
FOLSOM CA 95630

SR 4 / WAGON TRAIL REALIGNMENT

SCALE: 1"=300' MARCH 2015

ALTERNATIVE 1 STAGING PAGE 1

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630
(916) 858-0642

LAST REVISION DATE PLOTTED => 3/5/2015
TIME PLOTTED => 3:51:02 PM
DATE REVISED
REVISED BY
JUANN RAMOS
CALCULATED-DESIGNED BY
CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
PAMELA DALCIN-WALLING
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

BORDER LAST REVISED 4/11/2008

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DIST	COUNTY	ROUTE	POST MILES: TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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REGISTERED CIVIL ENGINEER — DATE

JUAN RAMOS
No. C61931
Exp. 6/30/15
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

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110 BLUE RAVINE ROAD
SUITE 200
FOLSOM CA 95630

SR 4 / WAGON TRAIL REALIGNMENT

SCALE: 1"=300' MARCH 2015

ALTERNATIVE 1 STAGING PAGE 2

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
FOLSOM, CA 95630
(916) 858-0642

DESIGNED BY: PAMELA DALCIN-WILLING
CALCULATED-DRAWN BY: JUAN RAMOS
CHECKED BY:
DATE REVISED:
REVISED BY:

STATE OF CALIFORNIA — DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR: PAMELA DALCIN-WILLING

BORDER LAST REVISED 4/11/2008

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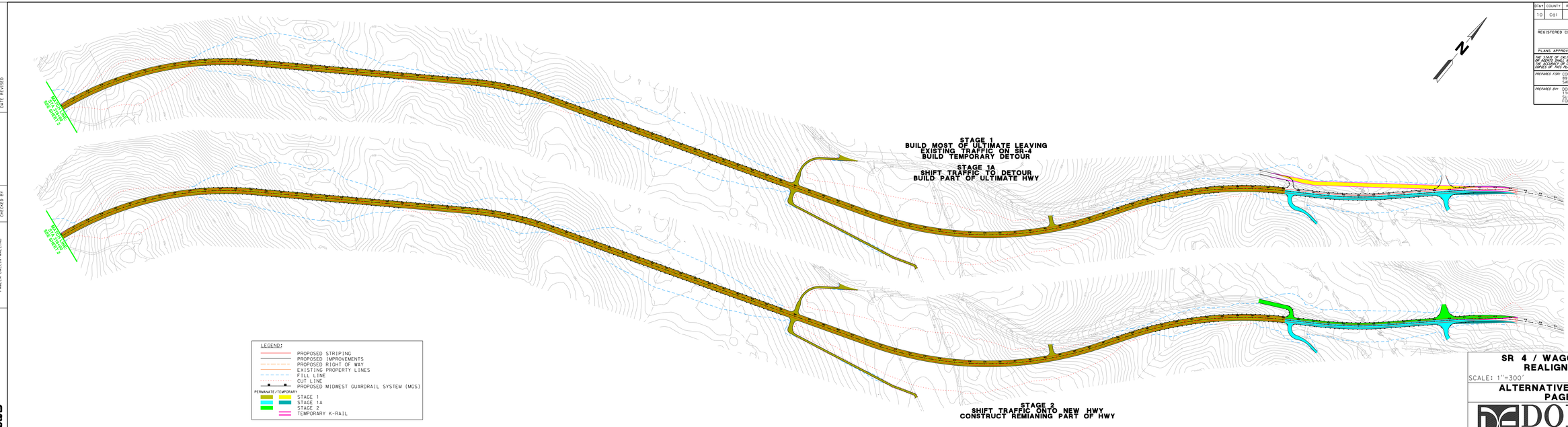
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

PREPARED BY: DOKKEN ENGINEERING
110 BLUE RAVINE ROAD
SUITE 200
FOLSOM CA 95630



SR 4 / WAGON TRAIL REALIGNMENT

SCALE: 1"=300' MARCH 2015

ALTERNATIVE 1 STAGING PAGE 3

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FOLSOM, CA 95630
(916) 858-0642

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: PAMELA DALCIN-WALLING
CALCULATED-DESIGNED BY: JUANN RAMOS
CHECKED BY:
REVISED BY:
DATE REVISED:

BORDER LAST REVISED 4/11/2008

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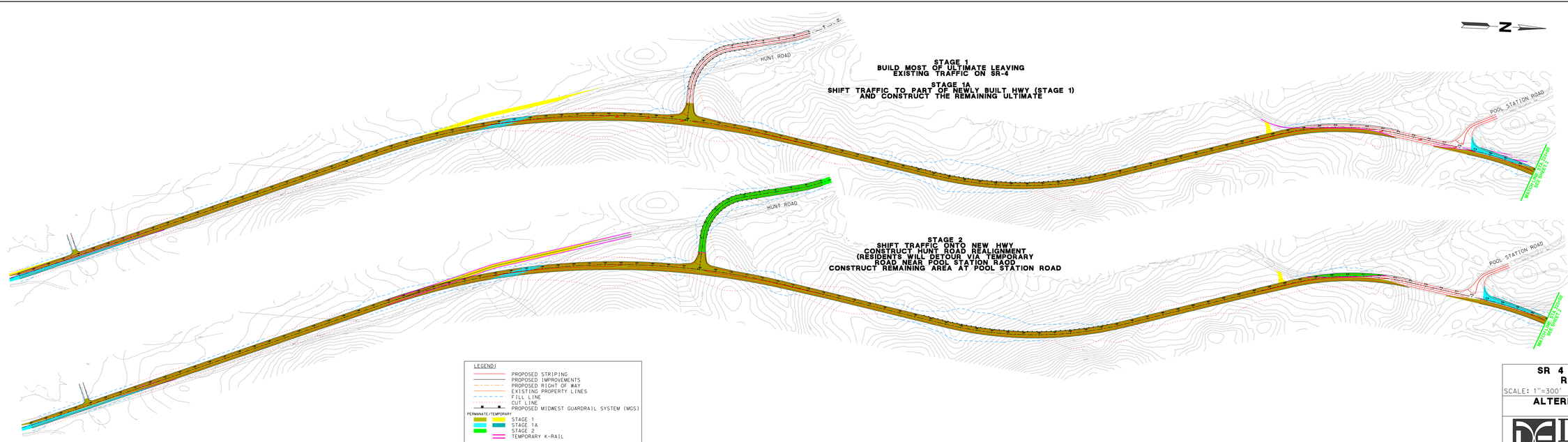
Attachment N:

Built Alternative 2 (Preferred Alternative) Construction Staging Exhibit



STAGE 1
BUILD MOST OF ULTIMATE LEAVING EXISTING TRAFFIC ON SR-4

STAGE 1A
SHIFT TRAFFIC TO PART OF NEWLY BUILT HWY (STAGE 1) AND CONSTRUCT THE REMAINING ULTIMATE

STAGE 2
SHIFT TRAFFIC ONTO NEW HWY
CONSTRUCT HUNT ROAD REALIGNMENT
(RESIDENTS WILL DETOUR VIA TEMPORARY ROAD NEAR POOL STATION RAOD
CONSTRUCT REMAINING AREA AT POOL STATION ROAD

LEGEND:
- PROPOSED STRIPING
- PROPOSED IMPROVEMENTS
- PROPOSED RIGHT OF WAY
- EXISTING PROPERTY LINES
- FILL LINE
- CUT LINE
- PROPOSED MIDWEST GUARDRAIL SYSTEM (MGS)

PERMANATE/TEMPORARY
- STAGE 1
- STAGE 1A
- STAGE 2
- TEMPORARY K-RAIL

DIST	COUNTY	ROUTE	POST MILES: TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	CAL	4	PM R10.3/R16.4	1	3

REGISTERED CIVIL ENGINEER DATE

JUAN RAMOS No. C61931 Exp 6/30/15 CIVIL STATE OF CALIFORNIA

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PREPARED BY: DOKKEN ENGINEERING
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SUITE 200
FOLSOM CA 95630

SR 4 / WAGON TRAIL REALIGNMENT

SCALE: 1"=300' MARCH 2015

ALTERNATIVE 2 STAGING PAGE 1

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200 (916) 858-0642
FOLSOM, CA 95630

STATE OF CALIFORNIA — DEPARTMENT OF TRANSPORTATION

CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
PAMELA DALCIN-WILLING	JUANN RAMOS			

BORDER LAST REVISED 4/11/2008

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SUITE 200
FOLSOM CA 95630

SR 4 / WAGON TRAIL REALIGNMENT

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ALTERNATIVE 2 STAGING PAGE 2

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FOLSOM, CA 95630 (916) 858-0642

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PAMEL DALCIN-WILLING	JUANN RAMOS			

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Cal	4	PM R10.3/R16.4	3	3

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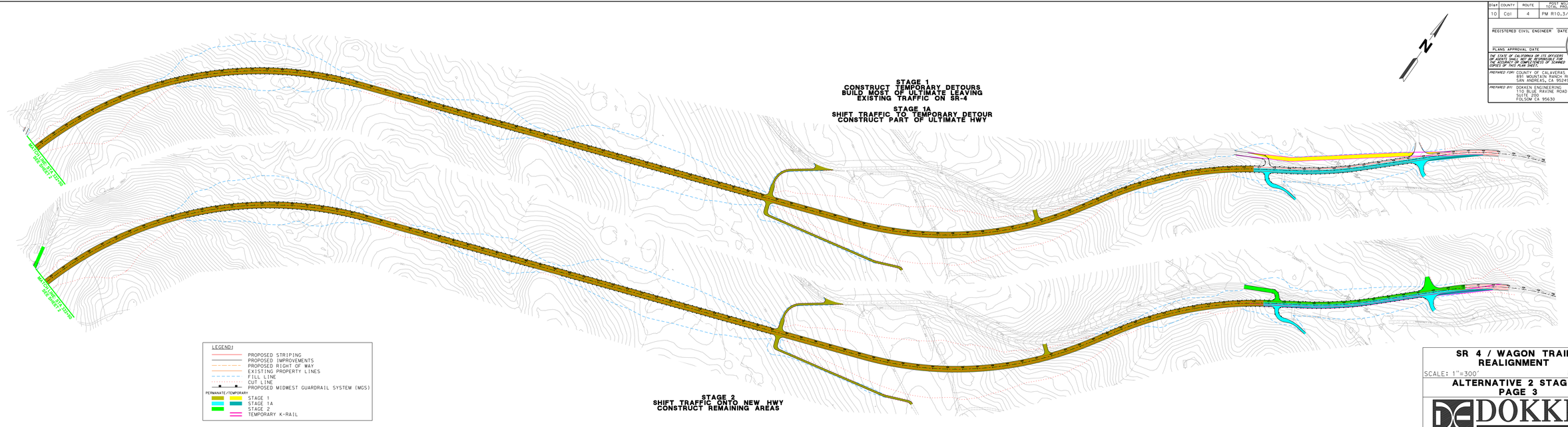
SAN ANDREAS, CA 95249

PREPARED BY: DOKKEN ENGINEERING
110 BLUE RAVINE ROAD
SUITE 200
FOLSOM CA 95630



SR 4 / WAGON TRAIL REALIGNMENT

SCALE: 1"=300' MARCH 2015

ALTERNATIVE 2 STAGING PAGE 3

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD, SUITE 200
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(916) 858-0642

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: PAMELA DALCIN-WALLING
CALCULATED-DESIGNED BY: JUANN RAMOS
CHECKED BY:
REVISED BY:
DATE REVISED:

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Attachment O:

Risk Register

LEVEL 2 - RISK REGISTER				SR 4 Wagon Trail Realignment Project		10-0E5300	Project Manager: Grace Magsayo			Phone: 209-948-7976						
Risk Identification							Risk Assessment						Risk Response			
Status	ID #	Type	Category	Title	Risk Statement	Current status/assumptions	Probability	Cost Impact	Cost Score	Time Impact	Time Score	Rational (Mitigation)	Strategy	Response Actions (Resolution)	Risk Owner	Updated
Active	1	Threat	Environmental	Environmental Analysis Quality	New information after Environmental Document is completed may require re-evaluation, additional review time, report changes, recirculation, hence delaying the project and potentially impacting the project cost	FED approved	2-Low	4 -Moderate	8	4 -Moderate	8	Utilize most current guidelines and regulations available.	Mitigate	Update and revalidate the document	Calaveras County	
Active	3	Threat	Environmental	Environmental Analysis Quality	Acquisition, creation or restoration of on- or off-site mitigation may result in additional analysis, report revisions, additional review time, and additional mitigation costs	FED approved	2-Low	4 -Moderate	8	4 -Moderate	8	Early coordination with resource agencies to identify mitigation approach.	Avoid		Calaveras County	
Active	4	Threat	Environmental	Environmental Analysis Quality	Subsurface investigations in culturally sensitive areas may uncover artifacts that will delay the project and potentially impact project cost.	FED approved	3-Moderate	4 -Moderate	12	4 -Moderate	12	Cultural measures in DED include on-going coordination with agencies.	Mitigate	Perform additional studies as needed.	Calaveras County	
Retired	5	Threat	Environmental	Environmental Analysis Quality	Design changes due to scope change require additional environmental analysis which could result in reports revisions, additional review and circulation times, potentially having more environmental impacts resulting in additional design revisions hence delaying the project and adding cost	GAD's approved	1-Very Low	1 -Very Low	1	1 -Very Low	1	Limit design changes	Avoid		Calaveras County	
Retired	6	Threat	Environmental	Environmental Analysis Quality	Project does not conform to the state implementation plan for air quality at the program and plan level resulting in additional Air Quality mitigation measures causing increase in time and budget.	AQ Conformity concurrance obtained.	1-Very Low	1 -Very Low	1	1 -Very Low	1		Avoid		Calaveras County	
Retired	7	Threat	Construction	Public Support	Support of public not attained.	Public meeting held October 8, 2015.	2-Low	2 -Low	4	2 -Low	4	Public meeting planned during DED circulation.	Mitigate	Maintain open communication and address public needs to the extent possible.	Calaveras County	
Retired	8	Threat	Design	Phasing	Ability to incorporate phasing into design to accommodate available funding.	Funding grant approved.	2-Low	2 -Low	4	2 -Low	4	Coordination of design with available funding.	Accept	Develop phasing segments to match funding.	Calaveras County	
Active	9	Threat	Construction	Design	Unknown utilities are encountered, causing a delay in construction	Coordination in progress	2-Low	2 -Low	4	2 -Low	4	DED discusses utility coordination.	Mitigate	Relocate utility conflicts.	Calaveras County	
Active	10	Threat	ROW	Funding	ROW funding for entire project has not been secured.	Funding sources being sought for unfunded segment.	1-Very Low	1 -Very Low	1	1 -Very Low	1	Continue submitting grant applications.	Accept	Delay right of way purchase until funding is identified.	Calaveras County	
Active	11	Threat	Construction	Funding	Construction funding for entire project has not been secured.	Funding sources being sought for unfunded segment.	5-Very High	4 -Moderate	20	8 -High	40	Continue submitting grant applications.	Accept	Delay construction until funding is identified. Phase the project to fit funding.	Calaveras County	
Active	12	Threat	Construction	Construction General Permit Coverage	Permanent erosion control fails to meet RWQCB requirements.	Erosion control strategy to be reviewed.	5-Very High	4 -Moderate	20	8 -High	40	DED states permits would be obtained and will include mitigation measures as applicable.	Accept	Reapply erosion control as needed to establish necessary coverage.	Calaveras County	
Retired	13	Threat	Design	Design Features	Design Exception Fact Sheets need to be approved by Caltrans for non-standard design features.	Design Exception Fact Sheet approved.	1-Very Low	1 -Very Low	1	1 -Very Low	1	Obtain approval for design exceptions.	Mitigate	Adjust design to meet approval needs.	Calaveras County	
Active	14	Threat	ROW	ROW Condemnation	Acquisition agent is unable to obtain a mutually agreeable settlement with property owners to obtain right of way.	Past and planned public outreach will minimize opposition to the project.	5-Very High	8 -High	40	8 -High	40	Conduct one-on-one property owner meetings to discuss property needs.	Mitigate	Utilize eminent domain to obtain needed property.	Caltrans	
Active	15	Threat	Environmental	Permits	Environmental permits take longer to obtain than originally anticipated.	Permits identified and agency outreach initiated.	2-Low	2 -Low	4	2 -Low	4	Early outreach to resource agencies.	Accept	Facilitate permit processing through on-going and frequent communication.	Calaveras County	
Active	16	Threat	Construction	Staging	Construction staging will negatively impact local traffic.	Staging has been designed to minimize impact to local traffic.	2-Low	2 -Low	4	2 -Low	4	Outreach and publicity to be used to reduce traffic volumes using this highway during the construction period.	Avoid		Calaveras County	

Attachment P:

Environmental Document

State Route 4 Wagon Trail Realignment Project

Calaveras County
District 10-CAL-4-Post Miles R10.3/R16.4 (Post Miles 12.66/19.10)
10-0E5300/10-0000-0025
SCH #2015092066

Initial Study with Mitigated Negative Declaration/ Environmental Assessment with Finding of No Significant Impact

Prepared by the
State of California Department of Transportation
and Calaveras County

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S. Code 327.

December 2016

Caltrans

General Information About This Document

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Philip Vallejo, Acting Senior Environmental Planner, 855 M Street, Suite 200, Fresno, CA 93721; (559) 445-6172 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY), 1(800) 735-2929 (Voice), or 711.

SCH # 2015092066
District 10-CAL-4-Post Miles R10.3/R16.4 (Post Miles 12.66/19.10)
10-0E5300
10-0000-0025

Realign a segment of State Route 4 in Calaveras County from about 2.6 miles east of Copperopolis (near Bonanza Mine Way) to about 1.6 miles west of the State Route 4/49 junction (near Stockton Road) Post Miles R10.3/R16.4 (Post Miles 12.66/19.10)

INITIAL STUDY
with Mitigated Negative Declaration/ ENVIRONMENTAL ASSESSMENT with Finding of No Significant Impact

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 U.S. Code 4332(2)(C)

THE STATE OF CALIFORNIA
Department of Transportation
and
Calaveras County

DECEMBER 29, 2016
Date of Approval

Michelle Ray
Office Chief, Central Region
Environmental North
California Department of Transportation
NEPA and CEQA Lead Agency

The following person may be contacted for additional information concerning this document:

Philip Vallejo, Acting Senior Environmental Planner
California Department of Transportation
855 M Street, Suite 200, Fresno, CA 93721
(559) 445-6172

CALIFORNIA DEPARTMENT OF TRANSPORTATION

FINDING OF NO SIGNIFICANT IMPACT

for the

State Route 4 Wagon Trail Realignment Project

The California Department of Transportation (Caltrans) has determined that Alternative 2 will have no significant impact on the human environment. This Finding of No Significant Impact is based on the attached Environmental Assessment, which has been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached Environmental Assessment.

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to 23 U.S. Code 327.

DECEMBER 29, 2016
Date

Michelle Ray
Office Chief, Central Region Environmental North
California Department of Transportation

SCH: 2015092066

Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans), in cooperation with Calaveras County, proposes to improve a segment of State Route 4 in Calaveras County from about 2.6 miles east of Copperopolis (near Bonanza Mine Way) to about 1.6 miles west of the State Route 4/49 junction (near Stockton Road), from post miles R10.3 to R16.4 (Post Miles 12.66 to 19.10).

Determination

Caltrans has prepared an Initial Study for this project and, following public review, has determined from this study that the project will not have a significant effect on the environment for the following reasons:

The project will have no effect on Coastal Zones, Wild and Scenic Rivers, Timberlands, Section 4(f), Parks and Recreational Facilities, and Growth.

In addition, the project will have less than significant effects to Existing and Future Land Use, Consistency with State, Regional, and Local Plans and Programs, Farmlands, Community Character and Cohesion, Environmental Justice, Traffic and Transportation/Pedestrian, Hydrology and Floodplain, Paleontology, Hazardous Waste and Materials, Air Quality, Bicycle Facilities, Visual/Aesthetics, Water Quality and Storm Water Runoff, Geology/Soils/Seismic/Topography, Utilities, Emergency Services, Air Quality, Invasive Species, and Noise.

With the following mitigation measures incorporated, the project will have a less than significant effect to Real Property Acquisition, Cultural Resources, Natural Communities, Wetlands and Other Waters, Plant Species, Animal Species, and Threatened and Endangered Species:

Real Property: Property owners will be treated fairly and in compliance with the California Department of Transportation Relocation Assistance Program and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

Cultural Resources: After application of the adverse criteria, Caltrans has determined that the undertaking as a whole will have an adverse effect on historic properties. Mitigation measures outlining a phased approach required to complete Section 106 compliance to address effects to cultural resources are detailed in the *Programmatic Agreement Between the California Department of Transportation and the California State Historic Preservation Officer Regarding the State Route 4/Wagon Trail Realignment Project, Calaveras County, California* (Wagon Trail Programmatic Agreement), executed

on March 30, 2016 after consultation with the State Historic Preservation Officer, Caltrans, Calaveras County of Public Works, and participating Native American tribal governments. Stipulations of the Wagon Trail Programmatic Agreement include Minimization Measures CR-1 and Mitigation Measures CR-2 through CR-18 contained within the Initial Study/Environmental Assessment. The Wagon Trail Programmatic Agreement will expire on March 30, 2021 or upon completion of the project. If the terms are not satisfactorily fulfilled at that time, Caltrans District 10, in coordination with the Caltrans Cultural Services Office, shall consult with the signatories and concurring parties listed in the Wagon Trail Programmatic Agreement to extend it or reconsider its terms. Reconsideration may include continuation of the Wagon Trail Programmatic Agreement as originally executed, amendment of the Wagon Trail Programmatic Agreement, or termination. Please reference Appendix E for a more detailed accounting of the requirements within the Wagon Trail Programmatic Agreement to ensure project compliance with Section 106 of the National Historic Preservation Act/National Environmental Policy Act.

Biological Resources: Impacts to biological resources will be minimized through biological monitoring, pre-construction surveys, environmentally sensitive area fencing, and work windows. Impacts to threatened and endangered species will be mitigated by terms and conditions provided in the U.S. Fish and Wildlife Service Biological Opinion concurrence, contract special provisions, and Best Management Practices. Impacts to wetlands and waters of the United States will be mitigated by the terms and conditions provided in the California Department of Fish and Wildlife Section 1602 Streambed Alteration Agreement, U.S. Army Corps of Engineers Section 404 permit, and California Regional Water Quality Control Board Section 401 Certification. All construction activity will be limited to the project impact area, and environmental sensitive areas will be implemented. Mitigation measures to identify, avoid, and/or minimize the effects are described in Section 2.3.

_____ _____

Michelle Ray
Office Chief, Central Region Environmental North
California Department of Transportation

Date

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans), in cooperation with Calaveras County, will improve a segment of State Route 4 from Bonanza Mine Way to Stockton Road from 2.6 miles east of Copperopolis to about 1.6 miles west of the State Route 4/49 junction in Altaville (Angels Camp), post miles 10.3 to 16.4 (see Figures 1 and 2). The State Route 4 Wagon Trail Realignment project is located in Calaveras County, California. Caltrans is the National Environmental Policy Act and California Environmental Quality Act lead agency.

State Route 4 is a major thoroughfare from the San Joaquin Valley to the Sierra Nevada Mountains and is subject to a high volume of recreational vehicles. The accident rate within the project area is over twice the statewide average.

The project will to construct a new alignment with two standard-width lanes and paved shoulders. The project would improve sight distance by increasing curve radii with the incorporation of longer, smoother curves. The project is intended to enhance safety by improving alignment geometrics.

The County, in coordination with Caltrans, developed two build alternatives for the project: Alternative 1 and Alternative 2. A No-Build Alternative was also under consideration.

The project may be built in phases depending on availability of funding. The phases would be built so that each roadway would tie into the existing highway.

The State Route 4 Wagon Trail Realignment project is listed in the 2007 *Regional Transportation Plan* as well as the 2012 *Regional Transportation Plan* update, approved by the Calaveras Council of Governments. The project is identified as providing a more efficient and safer alignment on State Route 4 between Copperopolis and Angels Camp.

Background

In the early 1960s, the Division of Highways (predecessor of Caltrans) began studies to upgrade the segment of State Route 4 between the San Joaquin/Stanislaus County line and the junction of State Route 49 in Altaville. A freeway route from post miles R10.0 to R21.4 was adopted in 1963. Freeway agreements covering the highway from post miles R10.0 to R21.4 were executed in 1969.

In January 1985, the California Transportation Commission passed Resolution Highway Route Adoption (HRA) 85-9 that included the designation of the new segment of State Route 4 as a Controlled Access Highway.

In 1989, Caltrans started construction to widen and realign a 0.6-mile segment of State Route 4 east of Copperopolis, from post miles R9.9 to R10.5. The project upgraded this segment to a 40-foot-wide standard two-lane limited access highway and was completed in 1991.

In April 2001, Caltrans prepared a Project Study Report/Project Development Support document for the State Route 4 Wagon Trail Realignment project that identified a need to make improvements to the roadway to improve safety operations. As noted in the Project Study Report/Project Development Support, this project was intended to relieve current and future congestion and enhance safety. It would also improve system continuity.

State Route 4 is a major interregional east/west route through Calaveras County, a region that has among the highest percentage growth rate in the state. The highway begins near Hercules in Contra Costa County and ends at State Route 89, south of Markleeville in Alpine County. State Route 4 is the main access route to Calaveras Big Trees State Park and to ski resorts in Alpine County. State Route 4, within the project limits, is a two-lane east-west highway. Except for the 0.6-mile segment that is 40 feet wide, most of the roadway varies between 18 to 20 feet wide, with no shoulders. Currently, there is no controlled access to State Route 4.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the State Route 4 Wagon Trail Realignment project is to:

- Enhance safety
- Improve sight distance
- Limit access to State Route 4

1.2.2 Need

The project is needed to correct the roadway's narrow lanes and lack of shoulders in the project area. The horizontal and vertical alignments follow the existing rolling topography, resulting in numerous curves and limited sight distance. The existing tight curves and rapid gain in elevation limit the drivers' sight distance. The width and geometry of the roadway, combined with the high traffic volumes, increase the number of accidents throughout the project area. Accidents that occurred within the project area between January 2010 and December 2012 included:

Table 1. Accidents within the Project Area

Accident Type	Number of Occurrences
Overturn	15
Hit Object	35
Rear End	2
Sideswipe	4
Other	1
Source: California Statewide Integrated Traffic Records System, 2013	

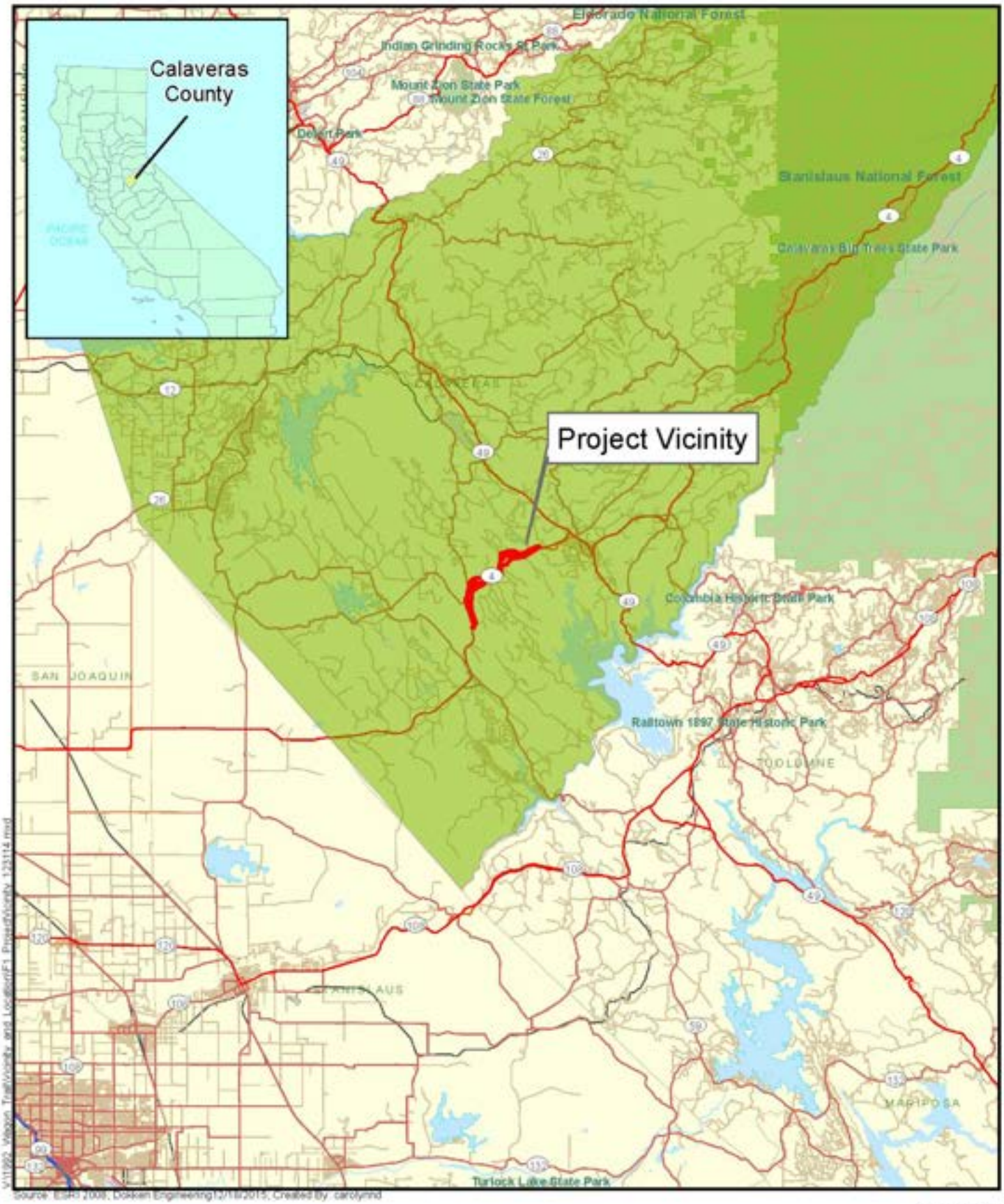

Figure 1
Project Vicinity
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
SR 4 Wagon Trail Realignment Project
Calaveras County, California

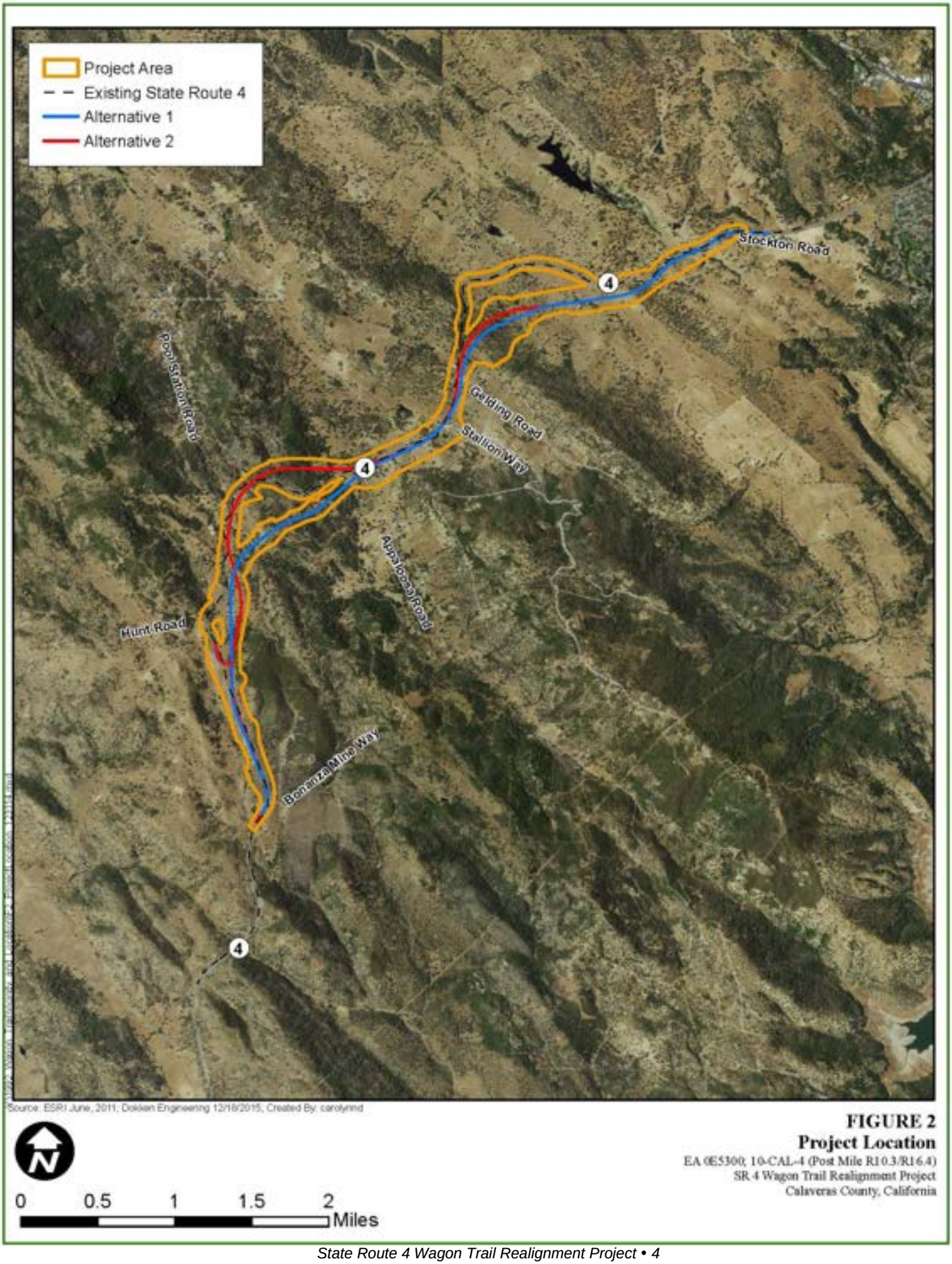

FIGURE 2
Project Location
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
SR 4 Wagon Trail Realignment Project
Calaveras County, California

Existing Roadway Conditions

Like many older facilities, State Route 4 does not meet current design standards. The existing facility has the following design features:

- Pavement width varies between 18 to 20 feet for most of the roadway.
- Shoulder widths vary from 0 to 4 feet with most of the project having no shoulders, except for the 0.6-mile, 40-foot-wide section near the Pool Station Road intersection.
- Access to State Route 4 is currently uncontrolled. Vehicles can enter or exit the facility from connecting private driveways, commercial driveways, city streets and county roads.
- The alignment contains curves and limited sight distance.

System Safety Needs

An accident analysis was done between January 2010 to December 2012 based on Traffic Accident Surveillance and Analysis System records on file at Caltrans for the segment of State Route 4 from post miles R10.3 to R19.4. However, no records were reviewed from post miles 14.5 to 14.8 within the limits of the recently completed Pool Station Road Intersection Improvements Project (November 2012). Several geometric deficiencies were corrected with the intersection improvements, and therefore potential causes of accidents at that location may no longer be applicable.

Traffic Accident Surveillance and Analysis System accident information from January 1, 2010 to December 31, 2012 was reviewed. Table 2 shows this information. Fatal plus Injury and Total accidents is higher for the post mile R10.3 to post mile R14.5 segment than the statewide average for similar roadways (see Table 2).

Table 2. Traffic Accident Surveillance and Analysis System Accident Rates from Post Miles R10.3 to R19.4 (January 2010 to December 2012)

Segment	Actual			Statewide Average		
	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total
Post Mile R10.3 to Post Mile R14.5	0.00	1.04	1.59	0.032	0.73	1.46
Post Mile R14.8 to Post Mile R19.4	0.034	0.51	1.16	0.033	0.74	1.48
Source: California Statewide Integrated Traffic Records System (2013)						

Roadway Deficiencies

Roadway deficiencies at this segment of State Route 4 consist of non-standard geometrics caused by numerous curves and inadequately narrow roadway widths.

System Linkages

While this project is not intended to result in growth or economic development, it serves the public by providing a link from the San Joaquin Valley to destinations in Calaveras County. The new alignment would be used by the residents within the project area in addition to those commuting between Copperopolis and Angels Camp. Recreational users, such as those traveling to tourist destinations such as ski resorts, Gold Country towns along State Route 49, parks and campgrounds, also use State Route 4.

Independent Utility and Logical Termini

Federal Highway Administration regulations (23 Code of Federal Regulations 771.111 [f]) require that the action evaluated:

1. Connect logical termini and be of sufficient length to address environmental matters on a broad scope.
2. Have independent utility or independent significance (be usable and require a reasonable expenditure even if no additional transportation improvements in the area are made).
3. Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Logical termini for project development are defined as (1) rational end points for a transportation improvement, and (2) rational end points for a review of the environmental impacts.

A project has “independent utility” when the project can function as a stand-alone project without forcing other improvements which may have impacts.

Both Alternatives 1 and 2 of the project have logical termini and independent utility. The improvements would tie into State Route 4 where the route currently meets Caltrans design standards. The project would function as a stand-alone improvement and would not force other improvements to take place.

1.3 Project Description

This section describes the proposed action and the project alternatives that were developed to meet the identified purpose and need of the project, while avoiding or minimizing environmental impacts. Alternatives under consideration are Alternative 1, Alternative 2, and the No-Build Alternative.

The project sits in Calaveras County on State Route 4 from 2.6 miles east of Copperopolis (post mile 10.3) to west of the State Route 4/49 junction in Altaville (Angels Camp) (post mile 16.4). Total length of the project is about 6 miles. Within the limits of the proposed project, State Route 4 does not meet current design standards.

The State Route 4 Wagon Trail Realignment project would:

- Provide a standard pavement width of 40 feet (two 12-foot lanes and two 8-foot shoulders) with an additional 12 foot passing lane or turn lane where needed.
- Improve the road alignment to reduce the number of curves, and increase curve radii with longer, smoother curves.
- Reduce the number of access points and using frontage roads to consolidate private driveways.

1.4 Project Alternatives

Guiding criteria used for alternative evaluation included environmental constraints, use of existing infrastructure, property acquisition needs, ease of phasing, and balancing cut-and-fill with desired geometrics.

1.4.1 Build Alternatives

Common Design Features of the Build Alternatives

The total length of the project is approximately 6 miles. The project has two build alternatives (Alternative 1 and 2) (see Figures 3 and 4) and a No-Build Alternative. Alternatives 1 and 2 realign existing State Route 4, a rural two-lane highway, between Bonanza Mine Way (post mile 10.3) to the west and just west of Stockton Road (post mile 16.4) to the east.

Alternatives 1 and 2 would provide two 12-foot lanes, two 8-foot shoulders, and turn lanes at road intersections as appropriate.

The following intersection improvements would be constructed as part of the State Route 4 Wagon Trail Realignment project:

- State Route 4/Hunt Road—560-foot eastbound left-turn lane (including a 120-foot bay taper), widened westbound approach for right-turning vehicles, and widened southbound stop-controlled approach for right-turning vehicles.
- State Route 4/Appaloosa Road—560-foot westbound left-turn lane (including a 120-foot bay taper), widened eastbound approach for right-turning vehicles, and widened southbound stop-controlled approach for right-turning vehicles.
- State Route 4/Stallion Way—570-foot westbound left-turn lane (including a 120-foot bay taper), widened eastbound approach for right-turning vehicles, and widened southbound stop-controlled approach for right-turning vehicles.
- State Route 4/Consolidated Driveway—A new State Route 4/Consolidated Driveway would be constructed 1,500 feet east of Stallion Way and would serve a total of 4 properties (3 to the north and 1 to the south).

Alternatives 1 and 2 would realign large portions of the existing roadway to standardize roadway curves and sight distance. This would require a large amount of cut and fill because they would realign large portions of the existing highway to obtain minimum roadway curvature and maximize sight distances.

Access points along the alignment would be combined where appropriate to avoid conflicts with merging and through traffic. After construction, the existing State Route 4 would be used in select locations as a new frontage road and collector street. Currently, there are 16 access points, including gates and other means of accessing property, and 12 driveways within the project area.

To reduce the impact and cost of the project, Alternatives 1 and 2 would use the existing highway right-of-way corridor, where feasible. The proposed minimum width of highway right-of-way is 150 feet. The property acquisition would be larger where excavation and fill limits exceed the minimum width.

Relocation of utilities would be necessary to construct either build alternative. Utilities identified in the project area include underground telephone and fiber optic lines (Calaveras Telephone), underground and overhead telephone lines (AT&T), and overhead electrical lines (Pacific Gas & Electric and Northern California Power).

Alternatives 1 and 2 would also provide for cross drainage at existing water crossings. Conveyance facilities would include the installation and/or upgrade of drainage pipes, culverts, and bridges.

Unique Features of the Build Alternatives

Alternative 1

Alternative 1 requires reconfiguration of intersections and portions of the adjoining roads to conform to the proposed project. Intersections are at Hunt Road, Pool Station Road, Appaloosa Road, and Stallion Way. Total length of Alternative 1 is about 5.6 miles, which reduces the length of travel for this segment of highway by approximately 0.8 mile.

Alternative 1 would affect 26 private parcels, including 19 different property owners. These impacts are a combination of temporary and permanent encroachments on parcels. Temporary impacts include temporary access for construction equipment and adjusting driveways/property frontages to conform to the proposed project. 23 of these parcels are expected to require permanent acquisition to accommodate the new highway alignments and features (see Section 2.1.4.2). Alternative 1 would modify driveway connection for 19 parcels.

The estimated cost of constructing Alternative 1 is approximately $83,421,000 (based on 2016 costs).

Alternative 2

Alternative 2 requires reconfiguration of intersections and portions of the adjoining roads to conform to the proposed project. Intersections are at Hunt Road, Appaloosa Road, and

Stallion Way. Alternative 2 uses and conforms to recent improvements at the intersection of State Route 4 and Pool Station Road. Alternative 2 would also provide for the conveyance of cross drainage at existing water crossings. These features would include installation of drainage pipes, culverts, and bridges. Total length of Alternative 2 is approximately 5.9 miles, which reduces the length of travel for this portion of highway by about 0.5 mile.

Alternative 2 would affect 25 private parcels, including 18 different property owners. These impacts are a combination of temporary and permanent encroachments on parcels. Temporary impacts include temporary access for construction equipment and adjusting driveways/property frontages to conform to the proposed project. 23 of these parcels are expected to require permanent acquisition to accommodate the new highway alignments and features (see Section 2.1.4.2). Alternative 2 would modify driveway connections for 17 parcels.

The estimated cost of constructing Alternative 2 is approximately $67,663,000 (based on 2016 costs).

Transportation System Management and Transportation Demand Management Alternatives

Transportation System Management and Transportation Demand Management alternatives are actions that increase the number of vehicle trips a facility can carry without increasing the number of through lanes. Examples of Transportation System Management strategies include ramp metering, auxiliary lanes, turning lanes, reversible lanes and traffic signal coordination. Transportation System Management also encourages automobile, public and private transit, ridesharing programs, and bicycle and pedestrian improvements as elements of a unified urban transportation system. Modal alternatives integrate multiple forms of transportation modes, such as pedestrian, bicycle, automobile, rail, and mass transit. Transportation System Management and Transportation Demand Management alternatives would not meet the purpose of enhancing safety; the project already does not add through lanes.

Although Transportation System Management measures alone could not satisfy the purpose and need of the project, the following Transportation System Management measure has been incorporated into the build alternatives for this project: A Class III bicycle facility would be provided along the project segment of State Route 4. In addition to providing an alternative modal option, the project would be consistent with the Calaveras County Bicycle Master Plan (2007).

1.4.2 No-Build Alternative

The No-Build Alternative would not alter State Route 4. The existing condition is an outdated alignment with two narrow lanes and no shoulders. The current conditions include poor sight distance and high accident rates, which would not be addressed or changed with the No-Build Alternative.

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FIGURE 3
Alternative 1
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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FIGURE 4
Alternative 2
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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1.5 Comparison of Alternatives

Criteria used for evaluating the alternatives consisted of environmental impacts, use of existing infrastructure, property acquisition needs, ease of phasing, and balancing cut-and-fill geometrics. While numerous options were presented based on topography, using existing infrastructure and minimizing property acquisition were most desired.

Both Alternatives 1 and 2 use existing infrastructure by following the existing alignment of State Route 4 for the segments near Bonanza Way, Appaloosa Road and Stallion Way, and Stockton Way. As a result, staying close to the existing alignment also minimizes property acquisition with these alternatives.

Alternative 1 allows for a slightly straighter route through the corridor. Alternative 2 allows for more use of the existing infrastructure near Pool Station Road.

The following table shows the alternatives' potential impacts to resources.

Table 3. Summary of Potential Impacts

Potential Impact		Alternative 1	Alternative 2	No-Build Alternative
Land Use	Consistency with the Calaveras County General Plan	Consistent with plan.	Consistent with plan.	Not consistent.
	Regional Transportation Plan	Consistent with plan.	Consistent with plan.	Not consistent.
	Federal Transportation Improvement Program	Consistent with plan.	Consistent with plan.	Not consistent.
Farmlands		Would affect 7 parcels for a total conversion of approximately 114.2 acres of Williamson Act land.	Would affect 5 parcels for a total conversion of approximately 75.6 acres of Williamson Act land.	No impact.
Community Character and Cohesion		No impact.	No impact.	No impact.
Relocations and Real Property Acquisition	Temporary Construction Easement	Would affect 26 parcels totaling 23.88 acres.	Would affect 25 parcels totaling 25.84 acres.	No impact.
	Partial Acquisition	Would affect 22 parcels totaling 158.06 acres.	Would affect 23 parcels totaling 129.41 acres.	No impact.
	Utility Service Relocation	Relocations for Pacific Gas & Electric, Northern California Power Agency, Calaveras Telephone Company, AT&T, Calaveras County Road Department.	Relocations for Pacific Gas & Electric, Northern California Power Agency, Calaveras Telephone Company, AT&T, Calaveras County Road Department.	No impact.
Environmental Justice		No impact.	No impact.	No impact.

Potential Impact		Alternative 1	Alternative 2	No-Build Alternative
Utilities and Emergency Services		Will require relocation of Pacific Gas and Electric transmission towers.	Will require relocation of Pacific Gas and Electric transmission towers.	No impact.
Traffic and Transportation/Pedestrian and Bicycle Facilities		Consistent with Calaveras County Bicycle Master Plan; Class III bicycle facility included.	Consistent with Calaveras County Bicycle Master Plan; Class III bicycle facility included.	Not consistent with Calaveras County's Bicycle Master Plan.
Visual/Aesthetics		Approximately 1,147 oak trees impacted.	Approximately 965 oak trees impacted.	No impact.
Cultural Resources		There are potentially 7 Historic Properties and 7 areas with buried site potential.	There are potentially 4 Historic Properties and 7 areas with buried site potential.	No impact.
Hydrology and Floodplain		Approximately 9.1 acres of floodplain would be encroached upon. 3 creeks would be affected.	Approximately 7.7 acres of floodplain would be encroached upon. 3 creeks would be affected.	No impact.
Water Quality and Storm Water Runoff		Approximately 29.7 acres net new impervious surfaces.	Approximately 27.2 acres net new impervious surfaces.	No impact.
Geology, Soils, Seismicity and Topography		No impact.	No impact.	No impact.
Paleontology		No impact.	No impact.	No impact.
Hazardous Waste and Materials	Naturally Occurring Asbestos	Naturally Occurring Asbestos would be encountered.	Naturally Occurring Asbestos would be encountered.	No impact.
	Aerially Deposited Lead	No impact.	No impact.	No impact.
	Asbestos-Containing Material	Asbestos-containing material would be encountered in structures.	Asbestos-containing material would be encountered in structures.	No impact.
	Lead Paint	Lead paint would be encountered in the structures.	Lead paint would be encountered in the structures.	No impact.
Air Quality		Construction-related dust emissions and Naturally Occurring Asbestos.	Construction-related dust emissions and Naturally Occurring Asbestos.	No impact.

Potential Impact		Alternative 1	Alternative 2	No-Build Alternative
Noise and Vibration		Noise levels would increase by up to 5 decibels over existing volumes.	Noise levels will increase by up to 2 decibels over existing volumes.	No impact.
Natural Communities		Approximately 1,147 oak trees impacted.	Approximately 965 oak trees impacted.	No impact.
Wetlands and Other Waters		<u>Other Waters (Creeks):</u> 0.32 acre temporary impacts and 0.61 acre of permanent impacts on Waters of the U.S.; 1.06 acre temporary impacts and 1.87 acres of permanent impacts on Waters of the State. <u>Wetlands:</u> 0.89 acre of temporary impacts and 0.83 acres of permanent impacts on Waters of U.S.; 0.89 acre of temporary impacts and 0.83 acres of permanent impacts on Waters of State.	<u>Other Waters (Creeks):</u> 0.27 acre temporary impacts and 0.40 acre of permanent impacts on Waters of the U.S.; 1.21 acre temporary impacts and 2.95 acres of permanent impacts on Waters of the State. <u>Wetlands:</u> 0.69 acre of temporary impacts and 0.80 acres of permanent impacts on Waters of U.S.; 0.69 acre of temporary impacts and 0.80 acres of permanent impacts on Waters of State.	No impact.
Plant Species	Oak Trees	Approximately 1,147 oak trees affected.	Approximately 965 oak trees affected.	No impact.
	Tuolumne Button-Celery	One specimen of button-celery would be directly affected. Approximately 0.85 acre of potential habitat would be permanently affected.	No specimen directly affected. Approximately 0.27 acre of potential habitat would be permanently affected.	No impact.

Potential Impact		Alternative 1	Alternative 2	No-Build Alternative
Plant Species	Red Hills Soaproot	Approximately 57.78 acres of potential habitat would be permanently affected.	Approximately 46.35 acres of potential habitat would be permanently affected.	No impact.
	Mariposa Cryptantha	No permanent impacts.	No permanent impacts.	No impact.
	Forked Hare-leaf	Approximately 57.70 acres of potential habitat would be permanently affected.	Approximately 48.64 acres of potential habitat would be permanently affected.	No impact.
	Congdon's Lomatium	Approximately 57.78 acres of potential habitat would be permanently affected.	Approximately 46.35 acres of potential habitat would be permanently affected.	No impact.
Animal Species	Foothill Yellow-legged Frog	Approximately 0.61 acre of potential creek habitat would be permanently affected.	Approximately 0.44 acre of potential creek habitat would be permanently affected.	No impact.
	Western Pond Turtle	Approximately 57.70 acres of potential habitat would be permanently affected.	Approximately 48.64 acres of potential habitat would be permanently affected.	No impact.
	Western Red Bat	Approximately 57.78 acres of potential habitat would be permanently affected.	Approximately 46.35 acres of potential habitat would be permanently affected.	No impact.
Threatened and Endangered Species	Chinese Camp Brodiaea	Approximately 115.48 acres of potential habitat would be permanently affected.	Approximately 94.99 acres of potential habitat would be permanently affected.	No impact.

Potential Impact		Alternative 1	Alternative 2	No-Build Alternative
Threatened and Endangered Species	California Red-legged Frog	Potential CRLF habitat is located within the proposed project area.	Potential CRLF habitat is located within the proposed project area. Following selection of Alternative 2 as the Preferred Alternative, a Biological Opinion was obtained from U.S. Fish and Wildlife Service on November 29, 2016.	No Impact

The draft environmental document was circulated for public review and comment, and all comments were considered. Caltrans then selected a preferred alternative and made the final determination of the project's effect on the environment. Under the California Environmental Quality Act, because no un-mitigatable significant adverse impacts were identified, Caltrans prepared a Mitigated Negative Declaration. Similarly, because Caltrans determined the action would not significantly affect the environment, Caltrans, as assigned by the Federal Highway Administration, has issued a Finding of No Significant Impact in accordance with the National Environmental Policy Act.

1.6 Identification of a Preferred Alternative

The Draft Initial Study/Environmental Assessment was circulated for public review and comment from September 25 to October 24, 2015. All comments received were considered and are included with responses in Appendix D.

After review of public comments and consideration of appropriate design changes, the Project Development Team met on December 10, 2015 to discuss the proposed project alternatives. During the meeting, the two build alternatives in the environmental document (Alternative 1 and Alternative 2) were discussed relative to any issues raised by the public during the public review period, the local agencies' input on the locally preferred alternative, and the alternatives' ability to meet the purpose and need of the project. It was then determined that Alternative 2 was the alternative preferred by the public, associated local agencies, and Caltrans.

As a result, Caltrans recommended Alternative 2 as the Preferred Alternative for the following reasons:

1) Alternative 2 meets the purpose and need of the project.

2) Alternative 2 has fewer adverse impacts to the human, physical, and biological environments.

3) Alternative 2 was preferred by the public as expressed during public meetings and demonstrated through the public comments.

4) The local jurisdictions (Angels Camp, Calaveras County, and Calaveras Council of Governments) unanimously support the selection of Alternative 2 as the locally preferred alternative.

5) Alternative 2 uses more of the existing infrastructure, which allows for an ease of phasing, which makes it easier to construct than Alternative 1.

6) Alternative 2 requires fewer acres of property acquisition.

7) Alternative 2 has a better balance of cut-and-fill geometrics, which reduces the cost and limits the amount of material being transported to the project site.

8) Alternative 2 costs substantially less money than Alternative 1 ($67.7 million versus $83.4 million).

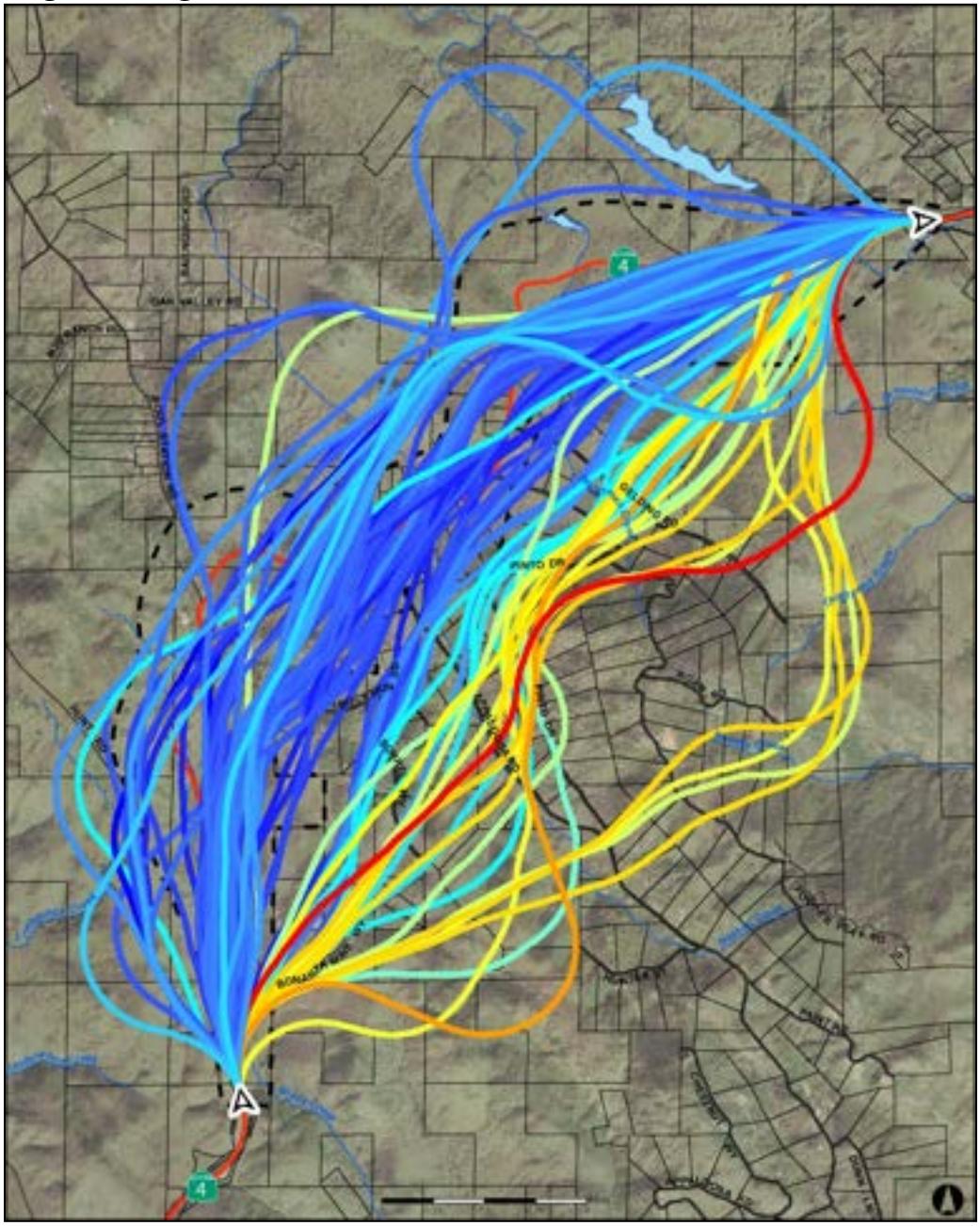
1.7 Alternatives Considered but Eliminated from Further Discussion Prior to Draft Environmental Document

Caltrans initiated the State Route 4 Wagon Trail Realignment project, completing a Project Study Report/Project Development Support document in April 2001. The Project Study Report/Project Development Support document evaluated two build alternatives and the No-Build Alternative. The first build alternative was an expressway with a new alignment and a 70-mile-per-hour design speed. The second build alternative provided for a 55-mile-per-hour design speed that incorporated curve corrections, geometric improvements, and the addition of shoulders largely on the existing alignment.

Beginning in 2008, preliminary studies and conceptual alignments were further evaluated. Numerous alignments were looked at, and several public meetings were facilitated to identify the most cost-effective, environmentally sensitive alignment that was also supported by the local community.

Figure 5 shows the potential alignments considered during that time.

Figure 5. Alignments Considered but Eliminated from Further Discussion



Source: Caltrans and Calaveras County of Governments (2009), Community Workshop Meeting.

In addition to the two build alternatives studied in this document, a northern alignment was preliminarily evaluated. It was eliminated from further consideration due to the following:

- The northern alignment did not maximize the use of existing infrastructure, including the newly improved Pool Station Road Intersection, and therefore would have had a greater footprint of disturbance. Because more of the northern alignment crossed undisturbed areas, and thus would have required longer roads/driveways to maintain access to

existing properties, there was a higher potential for impacts to cultural and other sensitive natural habitats.

- Because the northern alignment did not maximize the use of existing infrastructure, the amount of property acquisition would have been higher.
- The northern alignment was found not to be well suited to staged construction/phasing due to its infrequent use and connectivity to the existing alignment. Due to the large overall project cost, phasing will likely be required as funding becomes available, potentially making the northern alignment difficult to fund.

Alignment 2 became Alternative 2 and was added to the considered alternatives and was brought forward to the Project Approval/Environmental Document phase, which addressed the deficiencies in the northern alignment.

1.8 Permits and Approvals Needed

The following permits, reviews, and approvals would be required for project construction:

Agency	Permit/Approval	Status
U.S. Army Corps of Engineers	Section 404 Permit	Application for Section 404 permit to be submitted before construction during final design.
Regional Water Quality Control Board	Section 401 Permit	Application for Section 401 permit to be submitted before construction during final design.
California Department of Fish and Wildlife	Section 1602 Streambed Alteration Agreement	Application for Section 1602 agreement to be submitted before construction during final design.
U.S. Fish and Wildlife Service	Formal Section 7 Consultation for California red-legged frog	Completed for Alternative 2 following the alternative selection. Biological Opinion issued November 29, 2016.
State Historic Preservation Office	Section 106 Compliance	State Historic Preservation Officer concurrence letter regarding historic property eligibility determinations received December 17, 2014 (Appendix E). State Historic Preservation Officer concurrence letter regarding determination of Adverse Effect to historic properties received March 1, 2016 (Appendix E). State Historic Preservation Officer concurrence letter regarding execution of Programmatic Agreement Between the California Department of Transportation and the California State Historic Preservation Officer Regarding the State Route 4/Wagon Trail Realignment Project, Calaveras County, California, received March 30, 2016 (Appendix E).
Calaveras County Air Pollution Control District	National Emissions Standards for Hazardous Air Pollutants Notification	Notification to occur 10 days before renovation or demolition.

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

As part of the scoping and environmental analysis done for the project, the following environmental issues were considered, but no adverse impacts were identified. As a result there is no further discussion of these issues in this document.

- Coastal Zones—The project is about 90 miles inland from the Pacific Ocean and 80 miles from the San Francisco Bay Area. This is well outside the Coastal Zone.
- Wild and Scenic Rivers—No National Wild and Scenic Rivers or California Wild and Scenic Rivers are at or near the project site. The nearest National Wild and Scenic River and California Wild and Scenic River is the Tuolumne River about 17 miles southeast of the project site. "Potential" California Wild and Scenic Rivers, as described and shown in California's Wild and Scenic Rivers, Northern Sierra Nevada Map (accessed 2014), are the North and Middle Forks of the Stanislaus River, 16 miles northeast of the project site.
- Timberlands—No Timber Production Zones are in the vicinity of the project; the nearest is 8 miles to the northeast.
- Section 4(f)—No Section 4(f) resources would be affected. No parks are in the vicinity, and cultural resources evaluated do not meet the definition of a Section 4(f) resource.
- Parks and Recreational Facilities—There are no parks or recreational facilities within the project vicinity.
- Growth—The project does not warrant further analysis because it does not increase capacity or increase accessibility and is on an existing facility.

2.1 Human Environment

2.1.1 Existing and Future Land Use

Affected Environment

The *Community Impact Assessment* for this project was approved in August 2015 and provides the basis for the following discussion. Sources consulted included the 1996 General Plan for the County of Calaveras and applicable land use and aerial maps. The 2012 Calaveras Regional Transportation Plan also provided a cumulative project list for the communities next to the project area and was used for the Land Use, Growth, and Community sections of this document.

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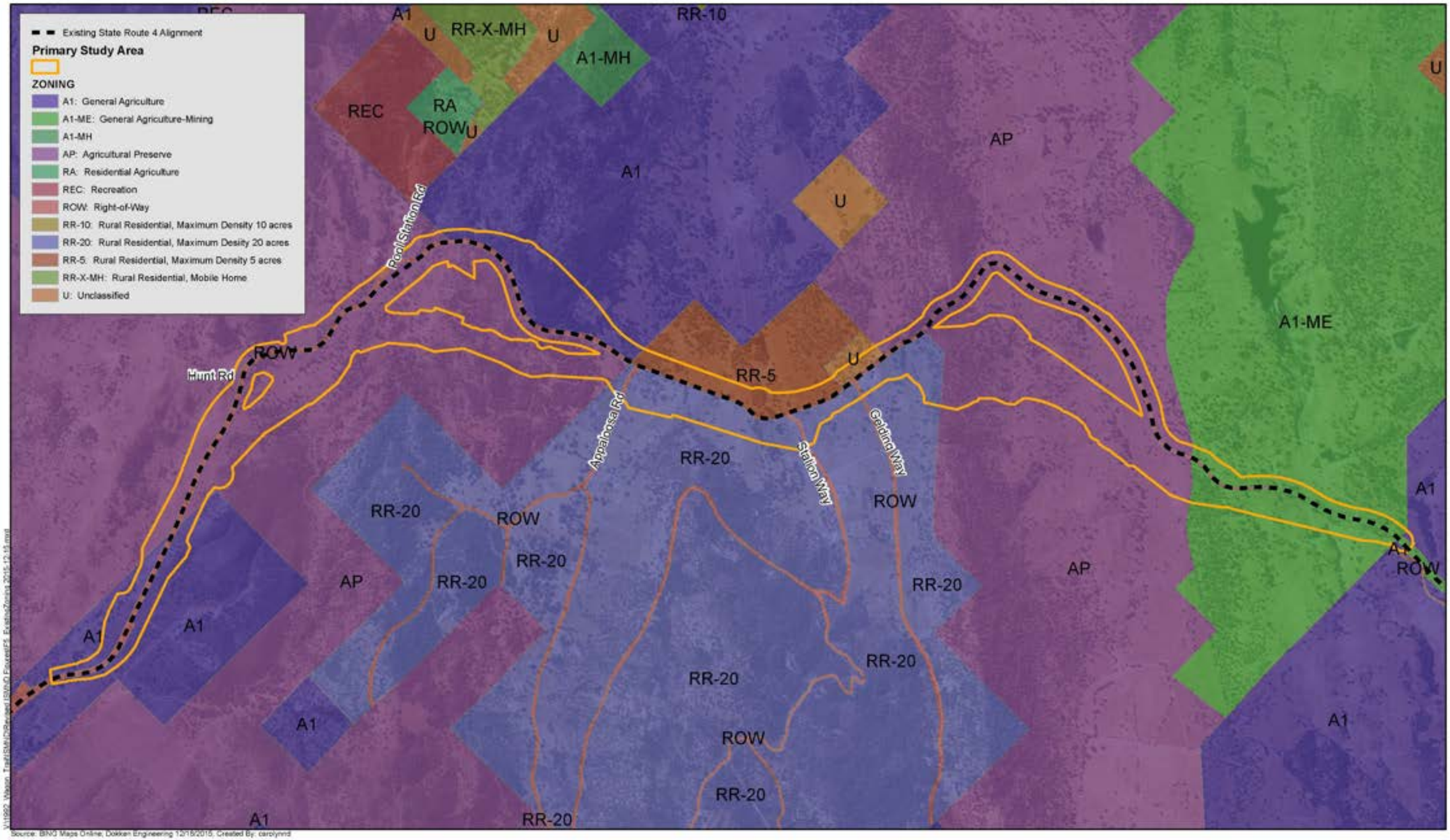

FIGURE 6
Existing Zoning
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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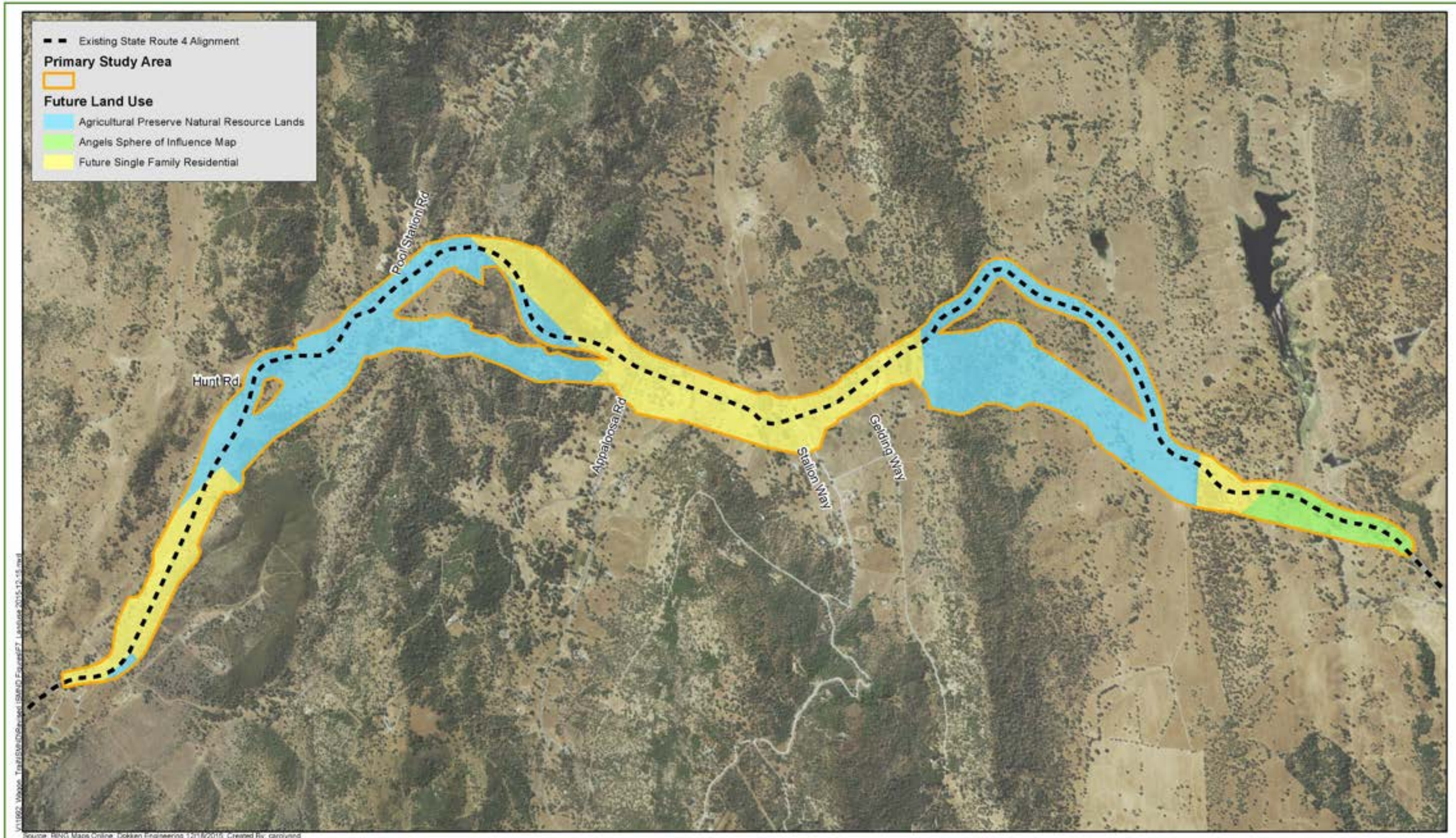

FIGURE 7
Future Land Use
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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The project area is characterized by hilly terrain, mixed oak woodlands, grasslands, mixed chaparral, and some riparian vegetation next to State Route 4. Land uses within the corridor are mostly rural residential and agriculture (mainly cattle grazing).

The project area is zoned as "Future Single-Family Residential (5-acre minimum)" and "Agriculture Preserve Natural Resource Lands," as shown in Figures 6 and 7.

The development projects listed in Table 4 represent the types of residential and/or commercial development being considered in the nearby areas of Angels Camp, Murphy's, Arnold, and Copperopolis. None were found within the project limits.

Table 4. Local Development Projects

Name	Jurisdiction	Proposed Uses	Status
Forest Meadows	Angels Camp/Murphy's/Arnold	220 residential units	In approval process
Murphys Rocky Hill (in Murphy's)	Angels Camp/Murphy's/Arnold	43 residential units	In approval process
Mitchell Ranches (in Vallecito)	Angels Camp/Murphy's/Arnold	113 residential units	In approval process
Coyote Creek (near Douglas Flat)	Angels Camp/Murphy's/Arnold	104 residential units	In approval process
Sutton Enterprises (on State Route 49 at Melones)	Angels Camp/Murphy's/Arnold	14 residential units	In approval process
Deaver Projects on State Route 49 at Melones: Nielsen Rasmussen Wilson Field	Angels Camp/Murphy's/Arnold	Deaver Projects on State Route 49 at Melones 5 residential units 5 residential units 4 residential units 4 residential units	In approval process
Novogradac (Camp Connell area)	Angels Camp/Murphy's/Arnold	15 residential units	In approval process
Khosla (Sheep Ranch Road)	Angels Camp/Murphy's/Arnold	44 residential units	In approval process
Copper Town Square	Copperopolis	39 to 69 residential units and commercial space	Final Map approved in phases
Copper Town Square Condos	Copperopolis	May be included in total for Copper Town Square	Final Map approved in phases
Sawmill Lake	Copperopolis	800 residential units and commercial Village	In approval process
Vineyard Estates	Copperopolis	18 residential lots	In approval process
Saddle Creek	Copperopolis	1,650 residential lots	Tentative and final map approved in phases

Name	Jurisdiction	Proposed Uses	Status
Oak Canyon	Copperopolis	2,275 residential lots, 400 permanent residential units, 800 transient residential units	Tentative map approved; land ownership has changed or application has changed hands; status is uncertain
Tuscany Hills	Copperopolis	300 residential lots	Tentative map approved; land ownership has changed or application has changed hands; status is uncertain
Copper Valley Ranch	Copperopolis	2,400 residential lots	In approval process
Source: Calaveras County, 2014			

Environmental Consequences

Alternatives 1 and 2 would result in partial acquisition of areas currently zoned for "Future Single- Family Residential (5-acre minimum)" and "Agriculture Preserve Natural Resource Lands" and not currently zoned for public right-of-way. However, the overall existing and future land uses in the vicinity would not be changed. Land uses next to the alignment would continue to be zoned as "Future Single- Family Residential (5-acre minimum)" and "Agriculture Preserve Natural Resource Lands."

The project area includes all areas of construction, new or existing Caltrans right-of-way, temporary staging areas and temporary construction easements. Permanent right-of-way acquisitions for Alternative 1 would affect approximately 172 acres, composed of 55 acres of Future Single-Family Residential, 107 acres of Agriculture Preserve Natural Resource Lands, and 10 acres within the Angels Camp Sphere of Influence as delineated in the 1996 Calaveras County General Plan. Right-of-way acquisitions for Alternative 2 would permanently affect approximately 148 acres, composed of 61 acres of Future Single-Family Residential, 77 acres of Agriculture Preserve Natural Resource Lands, and 10 acres within the Angels Camp Sphere of Influence as delineated in the 1996 Calaveras County General Plan.

The relinquishment of the current State Route 4 would need to go through the official process as stated in the California Highway Code and Project Development Procedures Manual, which includes a provision to give first right of refusal to the County. This means the County would have the first opportunity to acquire the right-of-way on which the current State Route 4 exists. The County is not anticipated to accept the right-of-way, and it is likely that the land will revert back to the adjacent property owners. There are no longer any plans for an equestrian trail to be built where the current road exists. The plan for an equestrian trail has been abandoned; however, the County has not formally declined its interest in the land identified for relinquishment. If the land is relinquished to the property owners, zoning of relinquished portions is anticipated to become the same as the surrounding area (i.e., Agricultural Preserve or Single-Family Residential). Some of the existing highway portions

are anticipated to be used for driveway access for local property owners. With Alternative 1, approximately 31 acres of the existing highway would be relinquished and approximately 158.06 acres would be acquired for the realignment. With Alternative 2, approximately 26 acres of the existing highway would be relinquished and 129.41 acres would be acquired for the realignment (see Figures 8 and 9).

Acquired areas for Alternatives 1 or 2 would become Caltrans-owned public right-of-way. Alternative 1 would have a more pronounced change in the location of the highway and therefore Caltrans-owned public right-of-way due to the alignment near Pool Station Road. Alternative 2 stays closer to the existing alignment near Pool Station Road.

With either Alternative 1 or 2, land use impacts are not considered substantial as no new land uses or zoning (such as commercial or industrial, etc.) are being introduced to this area of Calaveras County. While the project would acquire a larger area of Caltrans-owned public right-of-way and would shift Caltrans-owned public right-of-way to the chosen alternative, zoning and land uses are expected to continue being Agricultural Preserves and Single-Family Residential in this general corridor (see Figures 6 and 7).

While temporary construction easements would be needed during construction, this would be a temporary and non-significant impact. Alternative 1 is estimated to require 23.88 acres of temporary construction easement, and Alternative 2 is estimated to require 25.84 acres of temporary construction easement.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.1.2 Consistency with State, Regional, and Local Plans and Programs

Affected Environment

Pertinent state, regional, and local plans are the Calaveras Council of Government's 2012 *Regional Transportation Plan*, the Calaveras Council of Government's 2012 *Regional Transportation Improvement Program*, and the Calaveras County *General Plan* (1996) (which defers to the Caltrans District 10 District *System Management Plan*).

Road Impact Mitigation Fee Program

In February 2004, the Calaveras County Board of Supervisors adopted a Road Impact Mitigation Fee Program ordinance. The intent of the program is to provide funding for transportation improvements that mitigate impacts from new developments. All new developments within the unincorporated areas of the county are subject to the Road Impact Mitigation fee based on the proportion of impact caused on the Regional Transportation Network. The Road Impact Mitigation Fee Nexus Study identified a list of "Road Impact Mitigation Fee Capital Projects" and estimated the proportion of the total project cost that could be attributed to new developments. For projects marked as state highway projects, 25% of costs that can be attributed to development are allocated to the Road Impact Mitigation program. It is important to note that funding accumulated through the Road Impact

Mitigation Fee Program will pay for only a portion of Road Impact Mitigation Fee capital project costs.

The goal of the Road Impact Mitigation fee is to maintain adequate Level of Service, facilitate emergency response, reduce collisions, improve air quality, foster economic development, and enhance quality of life for residents. The proposed project is listed as a Road Impact Mitigation Priority Project within Calaveras County and is in Construction Tier 1; a short-range tier to occur by 2021.

2012 Regional Transportation Plan

The 2012 *Regional Transportation Plan* was adopted by the Calaveras Council of Governments on October 3, 2012. The project is included on page 104 of the 2012 *Regional Transportation Plan* as PPNO 3067 with the project name "STATE ROUTE 4 Wagon Trail Realignment."

2012 Regional Transportation Improvement Program

The 2012 Regional Transportation Improvement Program consists of projects nominated by the Calaveras Council of Governments for State Transportation Improvement Program funding. The project is included on page 4 of the 2012 Regional Transportation Improvement Program as PPNO 3067 with the project name "Calaveras, Route 4 Wagon Trail Realignment" as a highway project. It is also discussed in further detail on page 10 of the Regional Transportation Improvement Program as a project that would "provide a safer and faster route between Copperopolis and Angels Camp."

Calaveras County General Plan (1996) and Caltrans District 10 District System Management Plan

The Calaveras County General Plan defers to the Caltrans District 10 District System Management Plan, which "describes the current transportation system, identifies opportunities, and provides strategies for improving overall transportation and mobility throughout the eight counties of District 10." The District 10 District System Management Plan states that State Route 4 is "regionally significant and is part of the [Interregional Road System]."

Environmental Consequences

The project has been identified in both the *Regional Transportation Plan* and Regional Transportation Improvement Program. The project is consistent with state, regional, and local plans and programs, as shown in Table 5.

Table 5. Consistency with State, Regional, and Local Plans and Programs

Policy	Alternative 1	Alternative 2	No-Build Alternative
County General Plan			
Policy 2.5: To sustain the viability of County agriculture by restraining division and use of land which is harmful to continued agricultural use of non-replaceable land resources.	Consistent. Alternative 1 would acquire narrow strips of farmland along the sides of the existing roadway, but these acquisitions would not result in the subdivision of agricultural parcels, substantially diminish the size of agricultural parcels, or change the existing use, designation, or zoning of agricultural parcels.	Consistent. Alternative 2 would acquire narrow strips of farmland along the sides of the existing roadway, but these acquisitions would not result in the subdivision of agricultural parcels, substantially diminish the size of agricultural parcels, or change the existing use, designation, or zoning of agricultural parcels.	Consistent. The No-Build Alternative would not result in conversion of farmland to non-agricultural uses.
Goal III-4: Provide and maintain a State highway system with capacity to serve projected State highway traffic at acceptable levels of service. *Policy III-4A: Utilize Caltrans' concept levels of service as guidelines for establishing acceptable levels of service on State highways and to determine improvements to be required of new development.* *Implementation measure III-4A-1: As appropriate, require traffic analysis for new development that may result in the degradation of a State highway below the concept level of service or that may otherwise have a significant impact on the State highway serving the development. Traffic analysis includes identification of all State highway impacts of the project and potential mitigation measures to avoid degradation of levels of service.*	Consistent. A Traffic Operations Analysis Report (2014) was prepared for the project. Level of Service on the facility would remain acceptable, with or without the project.	Consistent. A Traffic Operations Analysis Report (2014) was prepared for the project. Level of Service on the facility would remain acceptable, with or without the project.	Consistent. A Traffic Operations Analysis Report (2014) was prepared for the project. Level of Service on the facility would remain acceptable, with or without the project.

Policy	Alternative 1	Alternative 2	No-Build Alternative
Policy III-4B: Consult with Caltrans for recommendations whether new development necessitates general improvements and/or project specific improvements to maintain the existing service level on any affected State Highway. *Implementation Measure III-4B-2: Address potential impacts of State highway safety deficiencies as part of project approval.*	Consistent. The project addresses safety deficiencies on the facility.	Consistent. The project addresses safety deficiencies on the facility.	Not consistent. With the No-Build Alternative, safety deficiencies would not be addressed.
Regional Transportation Plan			
State Highways: Increasing traffic congestion and decreasing [Level of Service] on [State Route] 4 due to increased traffic volumes and lack of passing opportunities. Potential Solution: Implementation of roadway capacity projects and intersection improvements in RTP.	Consistent. Level of Service was evaluated in the Final Traffic Operations Analysis Report for the proposed project. Level of Service was found to be acceptable without capacity improvements. The proposed project does not add through-lanes.	Consistent. Level of Service was evaluated in the Final Traffic Operations Analysis Report for the proposed project. Level of Service was found to be acceptable without capacity improvements. The proposed project does not add through-lanes.	Not consistent. Under the No-Build Alternative, no changes to the existing roadways would occur in the project area. This alternative would not provide an efficient route for freight trucks between the state highway and industrial areas that would minimize conflicts with automobile traffic and incompatibility with other land uses.
Countywide: Lack of passing opportunities on state highways and inadequate right-of-way (ROW) to meet minimum safety improvement criteria for projects. Potential Solution: Provide additional passing lanes where feasible and identify, map and secure funding for dedication of future arterial, collector, and local ROW to improve safety.	Consistent. Alternative 1 would incorporate passing lanes or turn pockets where needed for enhanced safety.	Consistent. Alternative 2 would incorporate passing lanes or turn pockets where needed for enhanced safety.	Not consistent. The segment of State Route would continue to have narrow widths.
Source: Calaveras County, 2014; Community Impact Analysis, 2015.			

The project is consistent with state, regional and local plans and programs. State, regional, and local plans and programs are generally oriented to long-term, permanent topics.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are proposed. The project is consistent with state, regional, and local plans and programs.

2.1.3 Farmland

Regulatory Setting

The National Environmental Policy Act and the Farmland Protection Policy Act (7 United States Code 4201-4209 and its regulations, 7 Code of Federal Regulations Part 658) require federal agencies, such as the Federal Highway Administration, to coordinate with the Natural Resources Conservation Service if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the Farmland Protection Policy Act, farmland includes prime farmland, unique farmland, and farmland of statewide or local importance.

The California Environmental Quality Act requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to discourage the early conversion of agricultural and open space lands to other uses.

Affected Environment

The *Community Impact Assessment* for this project was approved in August 2015 and provides the basis for the following discussion. Agricultural activities within the project study area include grape production and rangeland with animal grazing. Grape production and cattle ranching within the study area make up a small portion of such activities in Calaveras County as a whole.

Farmland Protection Policy Act

Information about prime, unique, or other important farmlands as defined under the Farmland Protection Policy Act is currently unavailable for Calaveras County. The Natural Resources Conservation Service and California Department of Conservation Farmland Mapping and Monitoring Program have not identified or mapped prime, unique, or other important farmlands in Calaveras County.

Williamson Act

There are approximately 143,000 acres of land in Calaveras County under Williamson Act contract (Calaveras County Report of Agriculture). The largest mass of these lands is in the southwestern portion of the county near the Stanislaus County border. The remaining sites are scattered throughout the middle of the county.

Non-Prime Agricultural Land is land enrolled under California Land Conservation Act contract and does not meet any of the criteria for classification as Prime Agricultural Land. Non-Prime Land is defined as Open Space Land of Statewide Significance under the

California Open Space Subvention Act (see California Government Code Section 1614), and may be identified as such in other documents. Williamson Act land parcels throughout the project are in grazing use and not actively farmed.

Environmental Consequences

Table 6 shows the estimated number of acres affected within the primary study area that consist of grape production and rangeland.

Table 6. Acreages Harvested by Commodity Type

Agricultural Commodity	Approximate Project Impacts	
	2013	
Grapes (Wine)	910 acres	Acquire/remove 1 acre next to Appaloosa Road with both Alternative 1 and Alternative 2
Rangeland	188,300 acres	Acquire 158.06 acres with Alternative 1 and 129.41 acres with Alternative 2
Source: Community Impact Assessment, 2015		

Alternatives 1 and 2 would convert portions of parcels under Williamson Act contract to public use. All of the Williamson Act-affected parcels are designated as Williamson Act Non-Prime Agriculture Land.

For each alternative, portions of parcels currently under Williamson Act contracts would be acquired for right-of-way purposes. Alternative 1 would affect 7 parcels for a total conversion of approximately 114.2 acres of Williamson Act land. Alternative 2 would affect 5 parcels for a total conversion of approximately 75.6 acres of Williamson Act land. Table 7 lists the affected parcels for each alternative. Williamson Act land parcels will need to be adjusted to reflect the project's impacts to the parcel boundaries.

Table 7. Affected Williamson Act Contracted Parcels

Assessor's Parcel Number	Alternative 1		Alternative 2	
	Acreage Converted to Public Use	Total Acreage of Affected Parcel	Acreage Converted to Public Use	Total Acreage of Affected Parcel
053-001-007	35.1	314.9	35.4	314.9
053-001-008	0.4	401.2	--	--
053-001-009	0.5	40.4	0.5	40.4
053-001-019	4.5	32.8	1.9	32.8
053-007-001	67.0	505.2	34.3	505.2
053-007-011	6.7	140.6	3.5	140.6
053-007-012	0.1	59.8	--	--
Total	114.2	1494.9	75.6	1034.0
Source: Community Impact Assessment, 2015				

Construction activities for Alternatives 1 and 2 would not have a substantial impact on use of the lands for agriculture because agricultural activities will be able to continue during construction. Access to the parcels will be maintained throughout construction.

Avoidance, Minimization, and/or Mitigation Measures

Minimization Measure CIA-1: Final design efforts will be made to minimize right-of-way for the selected alternative.

2.1.4 Community Impacts

2.1.4.1 Community Character and Cohesion

Regulatory Setting

The National Environmental Policy Act, as amended, established that the federal government use all practicable means to ensure that all Americans have safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 United States Code 4331[b][2]). The Federal Highway Administration in its implementation of the National Environmental Policy Act (23 United States Code 109[h]) directs that final decisions on projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under the California Environmental Quality Act, an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Because this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

Affected Environment

The *Community Impact Assessment* for this project was approved in August 2015 and provided the basis for the following discussion.

The project area is rural in character and consists of large parcels with single-family residential houses, ranches, and currently just one existing commercial business (a "bed and breakfast" business). Homes and ranches next to the existing State Route 4 have relatively large spaces between them. Based on residents' comments, cohesion in the community is fairly high, as residents know and communicate with their neighbors regularly through telephone or in-person interaction.

The project connects the two populated areas of Copperopolis and Angels Camp. The area along the alignments is not anticipated for large commercial development because planned uses are agricultural and residential. Further, the project type does not induce growth because it does not add additional through lanes or increase accessibility.

As shown in Table 8, census data indicate that the median age of residents in Calaveras County is 49.5 years old, approximately 21% is over the age of 65, and approximately 94.1% is white. A high percentage of older populations and a high percentage of ethnic homogeneity can be indicators of a high degree of community cohesion.

Table 8. Demographic Information for Calaveras County

Calaveras County				
Year	**Median Age**	**Percentage Over 65**	**Median Household Income**	**Ethnicity (% White)**
2010[1]	49.5	21.0	$54,686[3]	94.1
2000[2]	44.6	18.2	$41,022	94.3

*US Census Bureau Poverty Threshold for a family of four: 2000 - $ 17,603 / 2010 - $ 22,314.
Source: [1]US Census Bureau, Census 2010, [2]US Census Bureau, Census 2000, [3]2008-2012 American Community Survey 5-Year Estimates

No community facilities such as community centers, churches, senior centers, teen centers, or libraries are in the project area.

Environmental Consequences

Community character and cohesion are not expected to change with the realignment of State Route 4. The alignments do not remove homes, and the project does not induce growth. Community character would not change substantially because State Route 4 would still be a two-lane road (one lane each direction) and adjacent land uses would not be changed as a result of the project.

While there would be some partial acquisition along the frontage of privately owned parcels, no homes would be removed or relocated.

Construction would have no substantial impact on community character and cohesion because construction would be staged to accommodate traffic and access to residences. State Route 4 would remain open during construction.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are proposed.

2.1.4.2 Relocations and Real Property Acquisition

Regulatory Setting

Caltrans' Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (Code of Federal Regulations) Part 24. The purpose of the Relocation Assistance Program is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons would not suffer disproportionate injuries as a result of projects designed for the benefit of

the public as a whole. See Appendix B for the Caltrans non-discrimination policy and Appendix J for a Summary of Relocation Benefits.

All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 United States Code 2000d, *et seq*.). See Appendix B for a copy of Caltrans' Title VI Policy Statement.

Affected Environment

A Relocation Impact Memorandum, approved in March 2015, was used in the preparation of this section.

Parcels within the project area are used mostly for agriculture and rural residential uses. Residences are scattered because parcels are 20 acres or more, except for three that are about 5 acres each. There are no neighborhoods or public facilities.

There are currently 16 access points within the study area. These include 12 driveways and gates or other means of accessing property. Limiting the number of access points is part of the purpose of the project.

Environmental Consequences

Build Alternatives

There is a potential for partial property acquisition and temporary construction easement to be required from 26 parcels for Alternative 1 and 25 parcels from Alternative 2 throughout the proposed project study area (see Figures 8 and 9). To enhance safety, both Alternatives 1 and 2 would limit access to State Route 4 by reducing the number of driveways from four to one while using existing State Route 4 as a frontage road at approximately post mile 14.0 to consolidate private driveways. In addition, driveways on opposite sides of the roadway near each other would be aligned directly across from one another. Driveways that may be too close to a road intersections will be realigned and connect to a county road. Under either build alternative, no businesses or farms would be displaced. Alternatives 1 and 2 are not expected to result in residential relocations.

Alternative 1 would require permanent partial acquisition from 22 parcels (see Figure 8 and Table 9). These parcels amount to 158.06 acres. In addition to the land required for road right-of-way, a portion of each parcel would be needed for cut and fill earthwork. Temporary construction easements would be needed from 26 parcels, totaling approximately 23.88 acres. Approximately four parcels would have access changes to State Route 4, as indicated in Table 9. Road easement quantities are approximate and subject to change as the design is refined.

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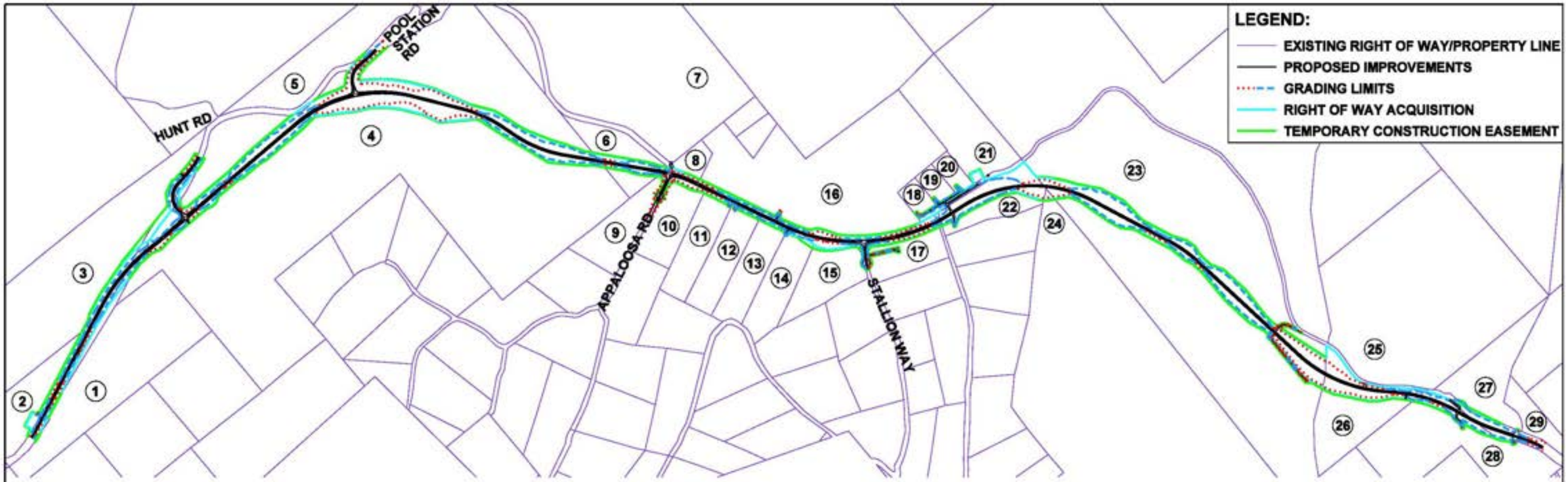

	ASSESSORS PARCEL NUMBER	APPROXIMATE ACQUISITION ACRES	TEMPORARY CONSTRUCTION EASMENT ACRES
1	053-007-023	0.04	0.16
2	053-007-024	4.53	0.76
3	053-007-011	7.13	1.63
4	053-007-001	58.26	5.94
5	053-007-012	0.01	0.05
6	053-001-019	4.48	0.74
7	053-001-018	0	0
8	053-001-064	0.05	0.12
9	053-002-053	0.76	0.37
10	053-002-051	1.94	0.33

	ASSESSORS PARCEL NUMBER	APPROXIMATE ACQUISITION ACRES	TEMPORARY CONSTRUCTION EASMENT ACRES
11	053-002-050	1.56	0.19
12	053-002-049	1.58	0.20
13	053-002-048	1.51	0.19
14	053-002-047	0.73	0.49
15	053-002-046	0	0.72
16	053-001-067	6.72	1.42
17	053-002-011	3.75	1.37
18	053-001-012	0	0.39
19	053-001-011	0	0.47
20	053-001-010	0	0.25

	ASSESSORS PARCEL NUMBER	APPROXIMATE ACQUISITION ACRES	TEMPORARY CONSTRUCTION EASMENT ACRES
21	053-002-009	0.59	0.17
22	053-002-010	13.01	0.80
23	053-001-007	35.04	5.20
24	053-001-008	0.36	0.10
25	053-001-070	0	0
26	053-001-071	11.29	0.52
27	058-004-028	0.22	0.36
28	058-004-029	4.50	0.94
29	058-002-027	0	0
	TOTAL	158.06	23.88

	ASSESSORS PARCEL NUMBER	APPROXIMATE RELINQUISHMENT ACRES
5	053-007-012	6
6	053-001-019	12
21	053-002-009	1
23	053-001-007	9
25	053-001-070	2
27	053-004-028	1
	TOTAL	31

Figure 8
Potential Right of Way Acquisitions for Alternative 1
EA 0E5300; 10-CAL-4 (PM R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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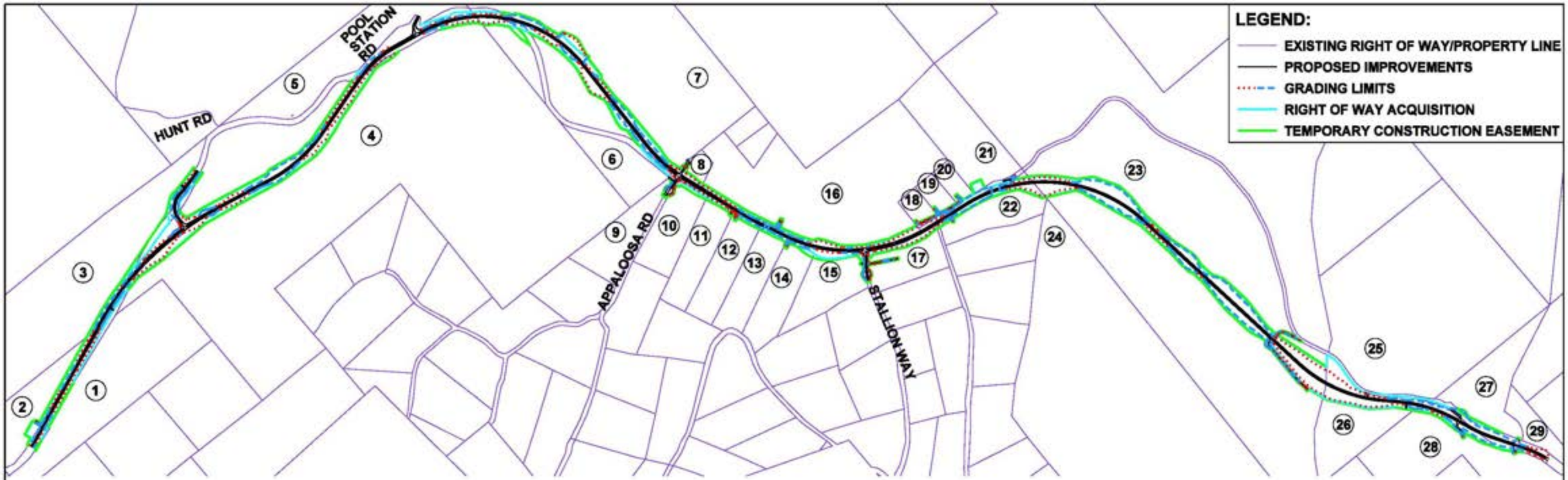

	ASSESSORS PARCEL NUMBER	APPROXIMATE ACQUISITION ACRES	TEMPORARY CONSTRUCTION EASMENT ACRES
1	053-007-023	0.12	0.27
2	053-007-024	3.72	0.83
3	053-007-011	4.16	1.41
4	053-007-001	28.14	3.65
5	053-007-012	0	0
6	053-001-019	1.83	0.77
7	053-001-018	16.71	3.33
8	053-001-064	1.74	0.39
9	053-002-053	0.16	0.32
10	053-002-051	0.39	0.66

	ASSESSORS PARCEL NUMBER	APPROXIMATE ACQUISITION ACRES	TEMPORARY CONSTRUCTION EASMENT ACRES
11	053-002-050	0.94	0.27
12	053-002-049	1.48	0.25
13	053-002-048	1.51	0.19
14	053-002-047	0.81	0.56
15	053-002-046	0	0.73
16	053-001-067	9.07	1.65
17	053-002-011	2.17	1.12
18	053-001-012	0.28	0.36
19	053-001-011	0.01	0.42
20	053-001-010	0	0.30

	ASSESSORS PARCEL NUMBER	APPROXIMATE ACQUISITION ACRES	TEMPORARY CONSTRUCTION EASMENT ACRES
21	053-002-009	0.55	0.17
22	053-002-010	4.86	0.79
23	053-001-007	35.37	5.39
24	053-001-008	0	0
25	053-001-070	0	0
26	053-001-071	10.81	0.52
27	058-004-028	0.17	0.39
28	058-004-029	4.41	1.10
29	05-002-027	0	0
	TOTAL	129.41	25.84

	ASSESSORS PARCEL NUMBER	APPROXIMATE RELINQUISHMENT ACRES
5	053-007-012	6
6	053-001-019	7
21	053-002-009	1
23	053-001-007	9
25	053-001-070	2
27	053-004-028	1
	TOTAL	26

1000 0 250 500 1000 FT

Figure 9
Potential Right of Way Acquisitions for Alternative 2
EA 0E5300; 10-CAL-4 (PM R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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Table 9. Alternative 1 Right-of-Way Acquisition Needs

Assessor's Parcel Number (APN)	Approximate Permanent Acquisition (acres)	Temporary Construction Easement (acres)
053-007-023	0.04	0.16
053-007-024	4.53	0.76
053-007-011	7.13	1.63
053-007-001	58.26	5.94
053-007-012	0.01	0.05
053-001-019	4.48	0.74
053-001-018	0	0
053-001-064	0.05	0.12
053-002-053	0.76	0.37
053-002-051	1.94	0.33
053-002-050	1.56	0.19
053-002-049	1.58	0.20
053-002-048	1.51	0.19
053-002-047	0.73	0.49
053-002-046	0	0.72
053-001-067	6.72	1.42
053-002-011*	3.75	1.37
053-001-012*	0	0.39
053-001-011*	0	0.47
053-001-010*	0	0.25
053-002-009	0.59	0.17
053-002-010	13.01	0.80
053-001-007	35.04	5.20
053-001-008	0.36	0.10
053-001-070	0	0
053-001-071	11.29	0.52
058-004-028	0.22	0.36
058-004-029	4.50	0.94
058-004-027	0	0
TOTAL	158.06 acres (22 parcels)	23.88 acres (26 parcels)

Bolded = Driveway modifications anticipated
Asterisk* = Access to State Route 4 anticipated to change

Alternative 2, the selected Alternative, would require partial permanent acquisition from 23 parcels (see Figure 9 and Table 10), totaling 129.41 acres. In addition to the land required for road right-of-way, a portion of each parcel would be needed for cut and fill earthwork. Temporary construction easement would be needed from 25 parcels, totaling 25.84 acres. Approximately four parcels would have access changes to State Route 4, as indicated in Table 10. Road easement quantities are approximate and subject to change as design is refined.

Table 10. Alternative 2 Right-of-Way Acquisition Needs

Assessor's Parcel Number (APN)	Approximate Permanent Acquisition (acres)	Temporary Construction Easement (acres)
053-007-023	0.12	0.27
053-007-024	3.72	0.83
053-007-011	4.16	1.41
053-007-001	28.14	3.65
053-007-012	0	0
053-001-019	1.83	0.77
053-001-018	16.71	3.33
053-001-064	1.74	0.39
053-002-053	0.16	0.32
053-002-051	0.39	0.66
053-002-050	0.94	0.27
053-002-049	1.48	0.25
053-002-048	1.51	0.19
053-002-047	0.81	0.56
053-002-046	0	0.73
053-001-067	9.07	1.65
053-002-011*	2.17	1.12
053-001-012*	0.28	0.36
053-001-011*	0.01	0.42
053-001-010*	0	0.30
053-002-009	0.55	0.17
053-002-010	4.86	0.79
053-001-007	35.37	5.39
053-001-008	0	0
053-001-070	0	0
053-001-071	10.81	0.52
058-004-028	0.17	0.39
058-004-027	0	0
053-004-029	4.41	1.10
Total (approximate)	129.41 acres (23 parcels)	25.84 acres (25 parcels)
Bolded = Driveway modifications anticipated Asterisk* = Access to State Route 4 anticipated to change		

Both Alternatives 1 and 2 result in changed access to properties in the project area. Alternative 1 would change access to 4 parcels, and Alternative 2 would change access to 4 parcels. Other parcels in the area would have their driveways re-graded or shifted to conform to the new alignment. The project would modify driveways to conform to the new highway grade. Alternative 1 would modify driveway connection for 19 parcels, and Alternative 2 would modify driveway connections for 17 parcels. Access would be maintained to properties during construction. Construction of Alternatives 1 and 2 would require temporary construction easements at privately owned parcels.

No-Build Alternative

Under the No-Build Alternative, there would be no partial property acquisitions.

Avoidance, Minimization, and/or Mitigation Measures

Mitigation Measure CIA-2: Where acquisition and relocation are unavoidable, the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and the 1987 Amendments, as implemented by the Uniform Relocation Assistance and Real Property Acquisition regulations for Federal and Federally Assisted Programs adopted by the U.S. Department of Transportation (March 2, 1989) shall be followed. Relocation advisory assistance shall be provided to any person, business, farm or nonprofit organization displaced as a result of the acquisition of real property for public use.

2.1.4.3 Environmental Justice

Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by President Bill Clinton on February 11, 1994. This executive order directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2014, this was $23,850 for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this project. Caltrans' commitment to upholding the mandates of Title VI is demonstrated by its Title VI Policy Statement, signed by the director, which can be found in Appendix B of this document.

Affected Environment

The three measures used to evaluate the potential for environmental justice impacts are:

- Percentage of minority residents in the project area census tracts
- Percentage of population below the poverty level in the project area census tracts
- Median household income in the project area census tracts

Tables 11 and 12 summarize the percentage of low-income minority and populations averaged over a 5-year span in Copperopolis, Angels Camp, and Calaveras County and the Census Tracts that encompass the project area.

Table 11. Low-Income Populations

Area	Percentage Below Poverty	Median Household Income
Town of Copperopolis	4.6%	$72,241
City of Angels Camp	5.9%	$71,392
Calaveras County	6.9%	$66,699
Census Tract 1.20, Calaveras County, CA	6.3%	$66,154
Census Tract 1.21, Calaveras County, CA	11.8%	$52,444
Census Tract 2.20, Calaveras County, CA	6.0%	$65,417
Source: Community Impact Assessment, August 2015		

Table 12. Minority Populations

Town of Copperopolis		
Race	**Population**	**Percentage**
American Indian and Alaska native	43	1.17
Asian	36	0.98
Black or African American	31	0.84
Native Hawaiian/Pacific Island	12	0.33
Some other race	83	2.26
Two or more races	148	4.03
White	3,318	90.38
Total Population	3,671	
Not of Hispanic or Latino Origin	3,217	87.63
Hispanic or Latin Origin	454	12.37
City of Angels Camp		
Race	**Population**	**Percentage**
American Indian and Alaska native	48	1.25
Asian	49	1.28
Black or African American	12	0.31
Native Hawaiian/Pacific Island	5	0.13
Some other race	270	7.04
Two or more races	123	3.21
White	3,329	86.78
Total Population	3,836	
Not of Hispanic or Latino Origin	3,338	87.02
Hispanic or Latin Origin	498	12.98
Calaveras County		
Race	**Population**	**Percentage**
American Indian and Alaska native	689	1.51
Asian	571	1.25
Black or African American	383	0.84
Native Hawaiian/Pacific Island	79	0.17
Some other race	1,534	3.37
Two or more races	1,800	3.95
White	40,522	88.91
Total Population	45,578	
Not of Hispanic or Latino Origin	40,875	89.68
Hispanic or Latin Origin	4,703	10.32
Source: Community Impact Assessment, August 2015		

Minority Populations

To evaluate whether a project could potentially disproportionately affect minority populations, percentages of minorities bordering the project area were compared against percentages of minorities in the larger geographical area surrounding the project. Minority populations that are substantially higher within the project area only could result in disproportionate effects to the minority population. The proposed project is located within the boundaries of three contiguous Census Tracts, Census Tracts 1.20, 1.21, and 2.20. As shown in Table 12, while Census Tract 2.20 has a slightly higher percentage of minorities than Calaveras County as a whole, Census Tracts 1.20 and 1.21 have a lower percentage of minorities than Calaveras County as a whole. Minority populations are not substantially higher in this area. This area would not be disproportionately affected by the proposed project as discussed below in the Environmental Consequences section (see Figure 10).

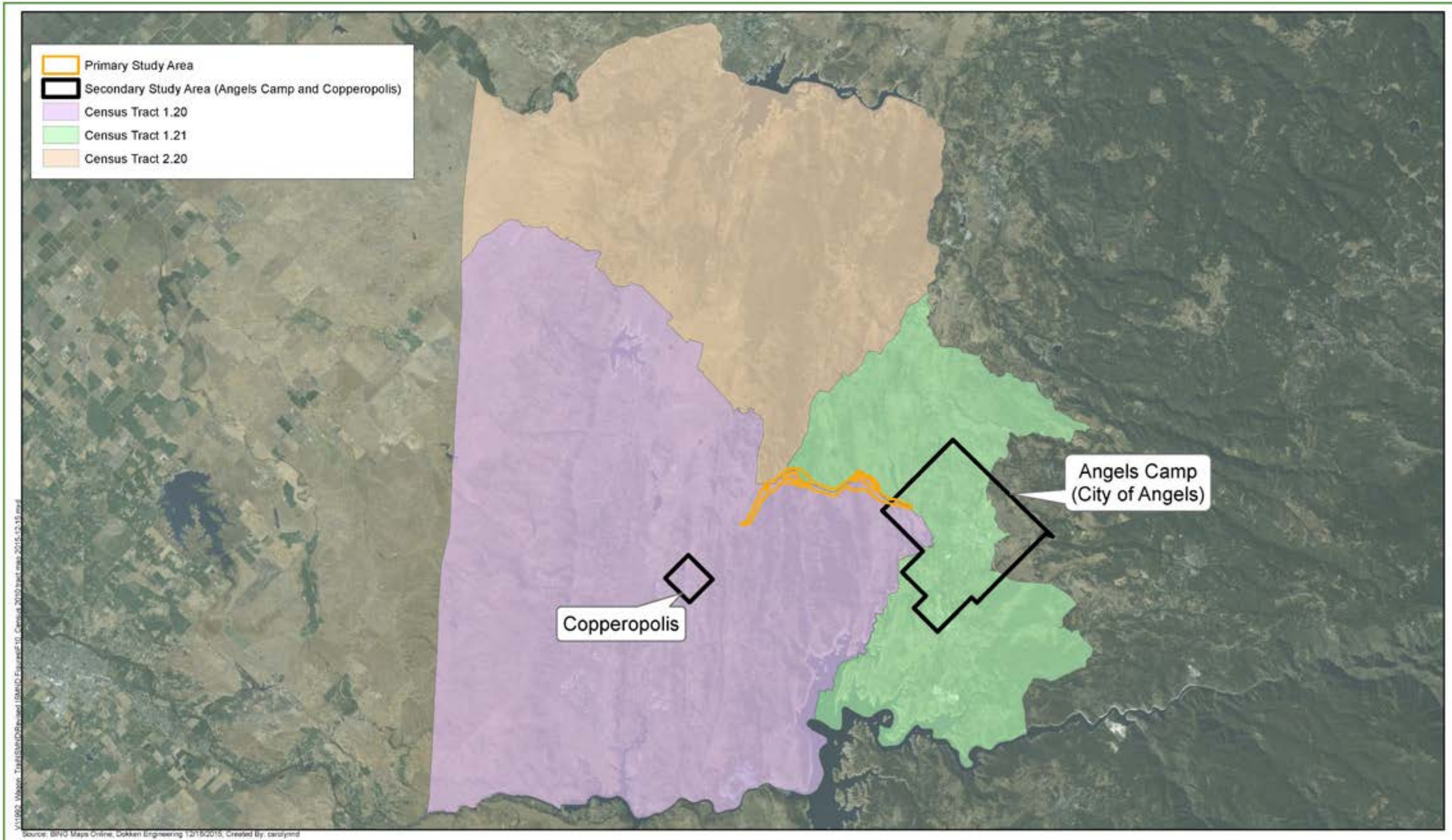

FIGURE 10
CENSUS 2010 Tract Map
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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Low-income Populations

To further consider low-income impacts, we must look at two versions of federal poverty measures. The first is the use of poverty thresholds, which takes into account size of family and number of related children under 18 years old in the family unit. The second version of federal poverty measure is the use of poverty guidelines (which is a simplification of the poverty threshold method). The Department of Health and Human Services (2014) identifies a poverty guideline of $15,730 for a family of two; $19,790 for a family of three; and $23,850 for a family of four.

While Census data did not differentiate median household income based on family size, Census data regarding the median household income in combination with the average household size were compared against the Department of Health and Human Services poverty guidelines to evaluate potential of low-income populations in the project area. Census Tract 1.20 average house size is 2.55 persons, and the median household income is $66,154 (Census Bureau 2010). Census Tract 1.21 average house size is 2.21 persons, and the median household income is $52,444 (Census Bureau 2010). Census Tract 1.20 average house size is 2.78 persons, and the median household income is $65,417 (Census Bureau 2010). All three Census Tracts are well above the poverty threshold. Based on this information, none of the Census Tracts should be considered a low-income population.

No minority or low-income populations that would be adversely affected by the proposed project have been identified as determined above. Therefore, this project is not subject to the provisions of Executive Order 12898.

Environmental Consequences

There would be no environmental consequences because minority and/or low-income populations would not be adversely affected by the proposed project.

Minority Populations

The project area does not have a large minority population. This area would not disproportionately affect minority populations as a result of the proposed project.

<u>Low-income Populations</u>

The median income at the Census Tracts are well above the Department of Health and Human Services poverty thresholds. No impact on low-income populations would result from Alternatives 1 or 2.

Based on the above discussion and analysis, Alternatives 1 and 2 would not cause disproportionately high and adverse effects on any minority or low-income populations per Executive Order 12898 regarding environmental justice.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.1.4.4 Utilities and Emergency Services

Affected Environment

Utilities

Utility companies that have identified facilities within the proposed project area and expect utility relocations are listed in Table 13.

Table 13. Potential Utilities

Utility Relocation	Utility Company
Electric facilities	Pacific Gas & Electric
Electric facilities	Northern California Power Agency
Telephone facilities	Calaveras Telephone Company
Telephone facilities	AT&T
Drainage	Calaveras County Road Department
Power	Northern California Power Agency

Implementation of the project would not result in the need for additional water supply, nor would it generate any wastewater or require new water supplies.

Emergency Services

Calaveras County sits on the western slopes of the Sierra Nevada Mountain Range, where the most likely natural disasters and hazards of concern include flooding, landslides, mudslides, and wildfires. As a part of the county's transportation infrastructure, State Route 4 is important for disaster recovery and response and is indicated as critical infrastructure in the Calaveras County Local Hazard Mitigation Plan (2009).

Fire

The City of Copperopolis provides fire protection services to the project area. It is likely that the project would be served by Fire District Station 3 at 9164 Pool Station Road, about 4.5 miles from the proposed project site.

Police

The Angels Camp Police Department provides police protection service. It sits about 4 miles from the project area, at 200 Monte Verda Street.

Hospital

The Mark Twain St. Joseph's Hospital is the nearest emergency services facility to the project area. The hospital is located at 768 Mountain Ranch Road within Angels Camp. The hospital is about 9 miles from the project area.

Environmental Consequences

Alternatives 1 and 2 would relocate electric and telephone facilities with minimal disruption to service. Utility companies possibly involved in the proposed project include Pacific Gas & Electric, Northern California Power Agency, Calaveras Telephone Company, and AT&T. Details regarding utility relocation may be modified and refined during the final design phase of the proposed project. Measure CIA-3 (below) would be implemented to minimize interruptions during construction.

The project would provide a more efficient and safer alignment for a 5-mile portion of State Route 4 between Copperopolis and Angels Camp, which is a primary east-west link to the Central Valley. State Route 4 as an existing evacuation route would become more efficient and safer for Calaveras County residents to use.

Accommodations would be made to ensure that construction of the proposed project does not negatively affect emergency access. Segments of the existing alignment that deviate from the proposed alignments of Alternatives 1 and 2 would remain open during construction. For areas where the designs of the proposed alignments coincide with the existing alignment, traffic controls would be in place. Measure CIA-4 (below) would be implemented to avoid affecting emergency services. A traffic management plan will be required prior to construction and is discussed further in section 2.1.4.4 of this document.

Construction

Construction of the proposed project would generate a small amount of solid waste through the removal of earthen material and general debris from project construction. Earthen material (native soils) generated during construction would be used on-site as fill where feasible. Any remaining solid waste caused by project construction would be disposed of at an appropriate disposal site.

Avoidance, Minimization, and/or Mitigation Measures

Minimization Measure CIA-3: To minimize interruptions of service to utility customers, a series of coordination letters shall be sent to all impacted utility companies to identify utilities within the proposed project. Letters would indicate where utility relocations are to be performed and the required time to relocate them. Design plans would be sent to involved utility owners during the project development phase. Meetings would be arranged with utility companies as necessary to discuss impacts and relocation plans prior to construction.

Minimization Measure CIA-4: Emergency public services, local law enforcement agencies, and local businesses would be notified of the proposed project and of any temporary lane closures before construction begins.

2.1.4.5 Traffic and Transportation/Pedestrian and Bicycle Facilities

Regulatory Setting

Caltrans, as assigned by the Federal Highway Administration, directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the

development of federal-aid highway projects (see 23 Code of Federal Regulations 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the U.S. Department of Transportation regulations (49 Code of Federal Regulations Part 27) implementing Section 504 of the Rehabilitation Act (29 United States Code 794). The Federal Highway Administration has enacted regulations for the implementation of the 1990 Americans with Disabilities Act, including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the Americans with Disabilities Act requirements to federal-aid projects, including Transportation Enhancement Activities.

Affected Environment

Most of the data in this section is from the *Final Traffic Operations Analysis Report for the State Route 4 Wagon Trail Realignment Project in Calaveras County, CA*, which was approved in 2014. The study area extends along the State Route 4 corridor from 1.37 miles west of Hunt Road (post mile 12.66) to 2.83 miles east of Stallion Way (post mile 19.10). There are currently 16 access points within the study area. These include 12 driveways and gates or other means of accessing the property. Limiting the number of access points is part of the purpose of the project. The following four intersections were analyzed for weekday morning and afternoon peak hours:

1. State Route 4/Hunt Road
2. State Route 4/Pool Station Road
3. State Route 4/Appaloosa Road
4. State Route 4/Stallion Way

Level of Service

Transportation planners use the term “level of service” to describe a roadway’s performance based on average delay per vehicle. Level of Service is a measure of traffic operating conditions, which varies from Level of Service A (indicating free-flow traffic conditions with little or no delay) to Level of Service F (representing oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). The Level of Service is determined differently depending on the type of control at the intersection. Freeway, multilane highway, and urban street facility operations are also described in terms of Level of Service. The service level for a freeway section and multilane highway is based on vehicle density expressed as passenger/cars/lane/mile, and the service level for urban streets is based on average through-vehicle speed for each roadway segment, which is influenced both by the number of signals per mile and by the intersection control delay. Level of Service standards on Caltrans facilities are based on the Transportation Concept Report for each facility, or applied by jurisdiction. See Figures 11 and 12.

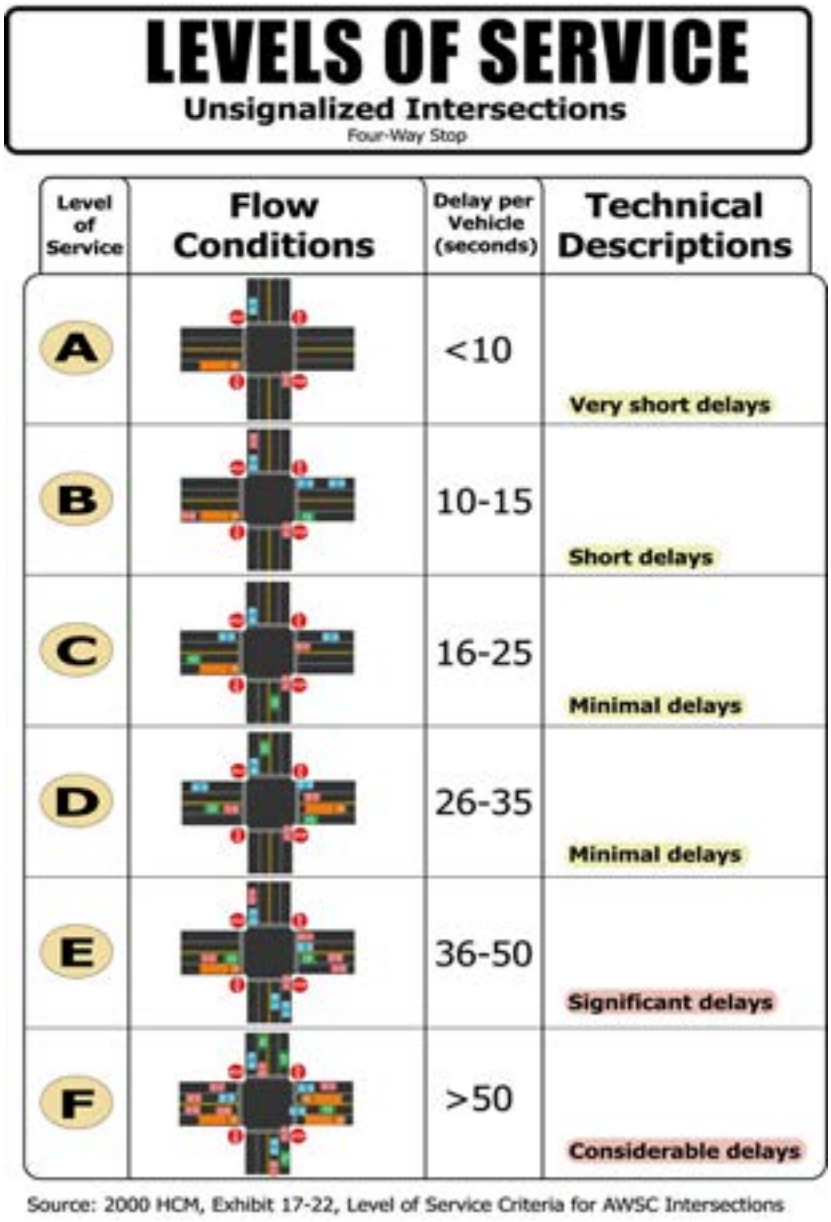

Figure 11. Level of Service for Unsignalized Intersections

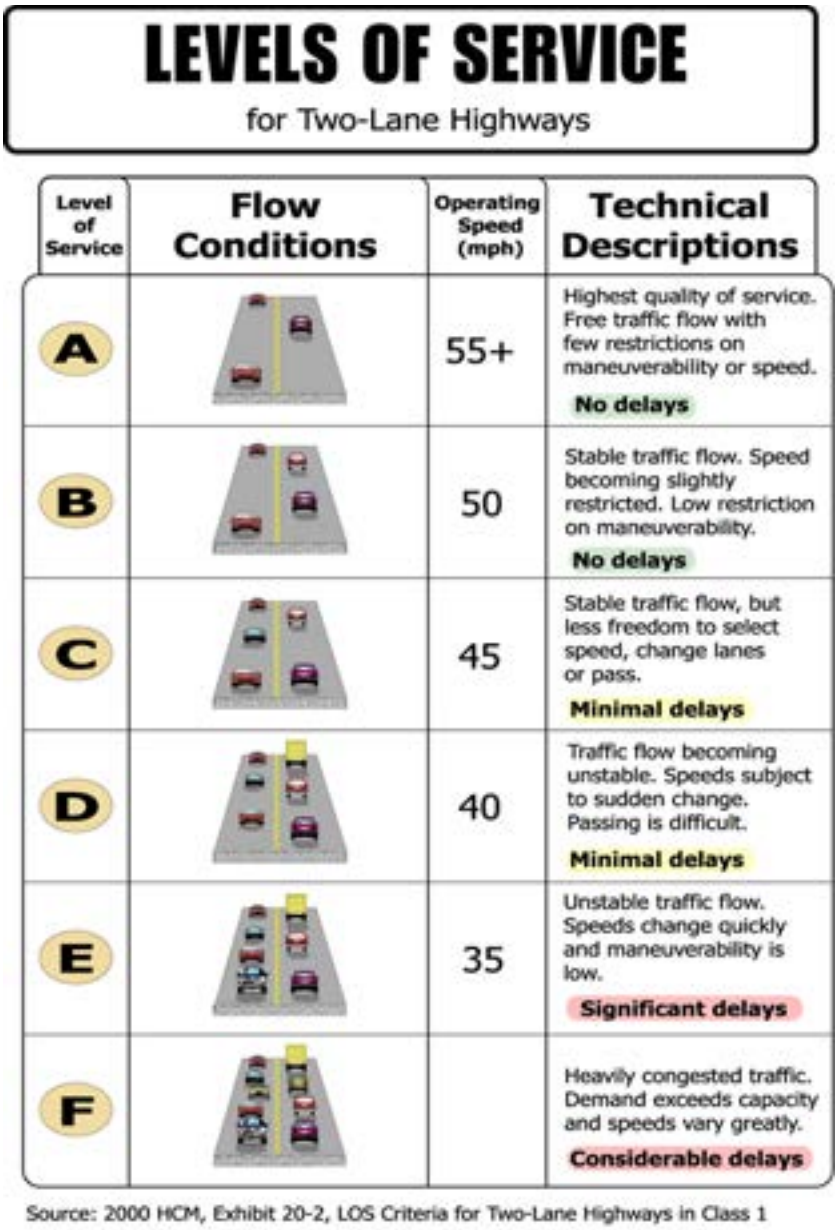

Figure 12. Level of Service for Two-lane Highways

State Route 4 is an east-west two-lane rural highway within the study area that connects State Route 99 in Stockton to the west with State Route 89 and eventually US 395 in Nevada to the east. In the project study area, side-street stop-controlled intersections are located at Hunt Road (post mile 14.00), Pool Station Road (post mile 14.70), Appaloosa Road (post mile 15.83) and Stallion Way (post mile 16.44). Currently, State Route 4 experiences free-flow conditions. All of the study intersections and segments operate at Level of Service A.

Hunt Road – As one travels eastbound on State Route 4, the unsignalized side street stop-controlled intersection of State Route 4/Hunt Road is the first intersection in the project study

area. Hunt Road provides one travel lane in each direction and connects State Route 4 with Milton Road to the west. For eastbound State Route 4 vehicles, a left-turn pocket is currently not provided, resulting in vehicles having to stop within the eastbound travel lane as they wait for gaps in westbound State Route 4 traffic.

Pool Station Road – As one travels eastbound on State Route 4, the unsignalized side street stop-controlled intersection of State Route 4/Pool Station Road is the second intersection in the project study area. Pool Station Road provides one travel lane in each direction and connects State Route 4 with State Route 49 and the town of San Andreas to the north. For eastbound State Route 4 vehicles, a 630-foot left-turn pocket (including a 120-foot bay taper) was recently completed in 2012. In westbound State Route 4 direction, a widened westbound travel lane allows vehicles to decelerate as they make the right turn onto northbound Pool Station Road. Lastly, a widened southbound stop-controlled approach allows vehicle making the right-turn movement onto westbound State Route 4 to wait next to left-turning vehicles. This intersection does not meet signal warrants standards.

Appaloosa Road – As one travels eastbound on State Route 4, the unsignalized side-street stop-controlled intersection of State Route 4/Appaloosa Road is the third intersection in the project study area. Appaloosa Road provides one travel lane in each direction and is a local street providing access to low-density residences on the south side of State Route 4.

Stallion Way – As one travels eastbound on State Route 4, the unsignalized side-street stop-controlled intersection of State Route 4/Stallion Way is the fourth intersection in the project study area. Stallion Way provides one travel lane in each direction and is a local street providing access to low-density residences on the south side of State Route 4.

Under existing conditions, all four study intersections are side-street stop-controlled intersections. As shown in Table 14, all four study intersections currently operate with very short delays (described as Level of Service A) during the morning and afternoon peak hours. Level of Service is a qualitative measure of traffic operations from a driver's perspective, which varies from Level of Service A (the best) to Level of Service F (the worst).

Table 14. Intersection Analysis - Existing Conditions 2014

Intersection	Control	Morning Peak Hour		Afternoon Peak Hour	
		Delay (sec/veh*)	Level of Service	Delay (sec/veh*)	Level of Service
1. State Route 4/Hunt Road	Side-Street Stop	EB LT = 1.8 EB TH = 1.5 WB TH = 1.6 WB RT = 0.5 SB LT = 6.0 SB RT = 3.2 Entire = 1.6	A A A A A A A	EB LT = 2.2 EB TH = 1.4 WB TH = 2.0 WB RT = 0.7 SB LT = 6.8 SB RT = 3.9 Entire = 1.8	A A A A A A A
2. State Route 4/Pool Station Road	Side-Street Stop	EB LT = 2.2 EB TH = 1.4 WB TH = 4.4 WB RT = 2.7 SB LT = 7.4 SB RT = 6.3 Entire = 2.9	A A A A A A A	EB LT = 2.6 EB TH = 1.3 WB TH = 5.2 WB RT = 3.0 SB LT = 8.2 SB RT = 7.2 Entire = 3.8	A A A A A A A
3. State Route 4/Appaloosa Road	Side-Street Stop	EB TH = 1.9 EB RT = 0.6 WB LT = 3.5 WB TH = 3.6 NB LT = 6.7 NB RT = 3.5 Entire = 2.7	A A A A A A A	EB TH = 1.9 EB RT = 0.6 WB LT = 5.1 WB TH = 5.2 NB LT = 7.6 NB RT = 3.2 Entire = 3.7	A A A A A A A
4. State Route 4/Stallion Way	Side-Street Stop	EB TH = 4.4 EB RT = 3.4 WB LT = 3.3 WB TH = 2.6 NB LT = 6.6 NB RT = 3.8 Entire = 3.7	A A A A A A A	EB TH = 4.2 EB RT = 3.3 WB LT = 4.2 WB TH = 3.9 NB LT = 8.1 NB RT = 3.1 Entire = 4.0	A A A A A A A

*Seconds Per Vehicle
Source: Traffic Operations Analysis Report, 2014

Traffic Accident Surveillance and Analysis System Data

As shown in Table 15, two of the project segments have a higher accident rate than the average for similar facilities in California.

Table 15. Traffic Accident Surveillance and Analysis System Data for the Project Area

Segment	Actual	Average for Similar Facilities* (per million miles traveled)
	Accident Rate	Accident Rate
Post Miles 12.80 to 14.72	1.38	0.80
Post Miles 14.72 to 16.75	0.61	
Post Miles 16.75 to 19.05	0.58	
Post Miles 12.80 to 19.05	0.83	

*Conventional 2-Lane Highway on Rolling Terrain with a Design Speed greater than 55 miles per hour for the January 2010 through December 2012 time period.
Source: California Statewide Integrated Traffic Records System, 2015.

Driveways and Access Points

Current driveway locations have limited sight distance and/or are close to each other. Design standards require access openings to be no closer than a half-mile to an adjacent public road or to another access opening. Design guidelines recommend that when several access openings are closely spaced, consolidations of access points be considered to improve spacing between openings and/or frontage roads.

Pedestrian and Bicycle Facilities

There are currently no pedestrian, bicycle, or parking facilities or lots in the project area. The Draft Calaveras County Pedestrian Master Plan (2007) was reviewed, and pedestrian facilities were proposed along State Route 4. As detailed in the *Calaveras County Bicycle Master Plan* (2007), a Class III bikeway, consisting of signage only, is planned at the State Route 4 segments from Salt Spring Valley Road to Pool Station Road and from Pool Station Road to the city limits of Angels Camp. Both of these Class III bikeway segments have been assigned a priority "B" by the County.

Transit

The project segment of State Route 4 is currently served by Bus Route 5 operated by Calaveras Transit. Route 5 runs from Copperopolis to Angels Camp with five scheduled stops at the O'Byrnes Ferry Road Chevron, Copper Library, Copper Cove at Little John Road, Cooper Town Squire, and State Route 49 at Demarest Transfer Stop. No scheduled transit stops are within the project footprint.

Environmental Consequences

In the Design Year 2040, State Route 4 would still operate at acceptable Level of Service A and Level of Service B at most of the movements with or without the project. A few turning movements would operate at Level of Service C, D, with or without the project, and Level of Service E at one location with the No-Build Alternative.

Hunt Road – The State Route 4 Wagon Trail Realignment project would improve this existing operational issue by providing a 560-foot eastbound State Route 4 left-turn pocket (including a 120-foot bay taper), a widened westbound State Route 4 approach for right-turning vehicles, and a widened southbound approach for right-turning vehicles. This intersection does not meet signal warrants under Construction Year 2020 or Design Year 2040 conditions, and will remain a side-street stop-controlled intersection.

Pool Station Road – This intersection does not meet signal warrants under Construction Year 2020 or Design Year 2040 conditions, and will remain a side-street stop-controlled intersection.

Appaloosa Way – The State Route 4 Wagon Trail Realignment project would provide a 560-foot westbound State Route 4 left-turn pocket (including a 120-foot bay taper), a widened eastbound lane for vehicles making a right-turn movement onto southbound Appaloosa Road, and a widened northbound stop-controlled approach allowing vehicles making the right-turn movement onto eastbound State Route 4 to wait next to left-turning vehicles. This

intersection does not meet signal warrants under Construction Year 2020 or Design Year 2040 conditions, and will remain a side-street stop-controlled intersection.

Stallion Way – The State Route 4 Wagon Trail Realignment project would provide a 570-foot westbound State Route 4 left-turn pocket (including a 120-foot bay taper), a widened eastbound lane for vehicles making a right-turn movement onto southbound Stallion Way, and a widened northbound stop-controlled approach allowing vehicles making the right-turn movement onto eastbound State Route 4 to wait next to left-turning vehicles. This intersection does not meet signal warrants under Construction Year 2020 or Design Year 2040 conditions, and will remain a side-street stop-controlled intersection.

Design Year 2040 Build Conditions

When comparing Design Year 2040 Build conditions to No-Build conditions, the results of traffic analysis (see Table 16) showed that all 28 movements (100.0%) would continue to operate at Level of Service D conditions or better during morning peak hour conditions. During afternoon peak hour conditions, all 28 movements (100.0%) would also operate at Level of Service D conditions or better. Table 14 shows that as a direct result of the State Route 4 Wagon Trail Realignment project, the following movements would improve:

- The southbound left-turn movement from Pool Station Road to eastbound State Route 4 would improve from unacceptable Level of Service E with average delays of 39.5 seconds to Level of Service D with average delays of 29.6 seconds.
- The northbound left-turn movement from Appaloosa Road to westbound State Route 4 would marginally improve from Level of Service C with average delays of 16.8 seconds to Level of Service B with average delays of 14.5 seconds.
- The northbound left-turn movement from Stallion Road to westbound State Route 4 would marginally improve from Level of Service C with average delays of 15.2 seconds to Level of Service B with average delays of 15.0 seconds.
- At the new State Route 4/Consolidated Driveway intersection, the results of the traffic analysis (see Table 16) show that all 10 movements would operate at Level of Service A conditions during both morning and afternoon peak hours.

Table 16. Intersection Analysis—Design Year 2040 with Alternatives 1 and 2 Conditions

Intersection	Control	Morning Peak Hour		Afternoon Peak Hour	
		Delay (sec/veh)	Level of Service (LOS)	Delay (sec/veh)	Level of Service (LOS)
1. State Route 4/Hunt Road	Side-Street Stop	EB LT = 3.3 EB TH = 2.3 WB TH = 2.3 WB RT = 0.7 SB LT = 20.2 SB RT = 7.1 Entire = 3.0	LOS A LOS A LOS A LOS A LOS C LOS A LOS A	EB LT = 7.2 EB TH = 2.0 WB TH = 2.9 WB RT = 1.0 SB LT = 24.6 SB RT = 11.4 Entire = 3.2	LOS A LOS A LOS A LOS A LOS C LOS B LOS A
2. State Route 4/Pool Station Road	Side-Street Stop	EB LT = 6.4 EB TH = 2.1 WB TH = 6.5 WB RT = 3.9 SB LT = 29.3 SB RT = 10.8 Entire = 5.7	LOS A LOS A LOS A LOS A LOS D LOS B LOS A	EB LT = 8.4 EB TH = 1.9 WB TH = 7.4 WB RT = 4.4 SB LT = 29.6 SB RT = 17.3 Entire = 7.4	LOS A LOS A LOS A LOS A LOS D LOS C LOS A
3. State Route 4/Appaloosa Road	Side-Street Stop	EB TH = 2.6 EB RT = 1.0 WB LT = 6.6 WB TH = 4.4 NB LT = 13.3 NB RT = 8.3 Entire = 3.7	LOS A LOS A LOS A LOS A LOS B LOS A LOS A	EB TH = 2.7 EB RT = 0.9 WB LT = 7.5 WB TH = 5.1 NB LT = 14.5 NB RT = 6.7 Entire = 4.3	LOS A LOS A LOS A LOS A LOS B LOS A LOS A
4. State Route 4/Stallion Way	Side-Street Stop	EB TH = 5.8 EB RT = 4.4 WB LT = 5.5 WB TH = 2.1 NB LT = 14.3 NB RT = 7.8 Entire = 4.6	LOS A LOS A LOS A LOS A LOS B LOS A LOS A	EB TH = 5.5 EB RT = 3.9 WB LT = 4.4 WB TH = 2.5 NB LT = 15.0 NB RT = 5.8 Entire = 4.0	LOS A LOS A LOS A LOS A LOS B LOS A LOS A
5. State Route/Consolidated Driveway	Side-Street Stop	EB LT = 0.0 EB TH = 2.6 EB RT = 0.0 WB LT = 0.0 WB TH = 2.6 WB RT = 1.7 NB LT = 13.8 SB LT = 0.0 SB RT = 3.2 Entire = 2.6	LOS A LOS A LOS A LOS A LOS A LOS A LOS B LOS A LOS A LOS A	EB LT = 3.7 EB TH = 2.5 EB RT = 0.9 WB LT = 0.0 WB TH = 3.3 WB RT = 2.4 NB LT = 12.8 SB LT = 0.0 SB RT = 2.4 Entire = 3.0	LOS A LOS A LOS A LOS A LOS A LOS A LOS B LOS A LOS A LOS A

Source: Traffic Operations Analysis Report, 2014

Design Year 2040 No-Build Conditions

As shown in Table 17, during the morning peak hour, all 28 of the 28 movements (100.0%) would continue to operate at Level of Service D conditions or better. The following key movements were identified to marginally degrade during the morning peak hour:

- The southbound left-turn movement from Hunt Road to eastbound State Route 4 marginally declines from Level of Service A to Level of Service C conditions.
- The southbound left-turn movement from Pool Station Road to eastbound State Route 4 marginally declines from Level of Service A to Level of Service D conditions.
- The southbound right-turn movement from Pool Station Road to westbound State Route 4 marginally declines from Level of Service A to Level of Service B conditions.
- The northbound left-turn movement from Appaloosa Road to westbound State Route 4 marginally declines from Level of Service A to Level of Service B conditions.
- The northbound left-turn movement from Stallion Road to westbound State Route 4 marginally declines from Level of Service A to Level of Service B conditions.

During the evening peak hour, 27 of the 28 movements (96.4%) would continue to operate at Level of Service D conditions or better. The following key movements were identified to marginally degrade during the morning peak hour:

- The southbound left-turn movement from Hunt Road to eastbound State Route 4 marginally declines from Level of Service A to Level of Service C conditions.
- The southbound left-turn movement from Pool Station Road to eastbound State Route 4 marginally declines from Level of Service A to unacceptable Level of Service E conditions.
- The southbound right-turn movement from Pool Station Road to westbound State Route 4 marginally declines from Level of Service A to unacceptable Level of Service C conditions.
- The northbound left-turn movement from Appaloosa Road to westbound State Route 4 marginally declines from Level of Service A to Level of Service B conditions.
- The northbound left-turn movement from Stallion Road to westbound State Route 4 marginally declines from Level of Service A to Level of Service C conditions.

As described in the Calaveras County *General Plan* (1996), the Caltrans' 1989 System Management Plan specifies a concept Level of Service C for State Route 4 in Calaveras County and State Route 4 is considered a route of regional importance.

Table 17. Intersection Analysis—Design Year 2040 No-Build Conditions

Intersection	Control	Morning Peak Hour		Afternoon Peak Hour	
		Delay (sec/veh)	Level of Service	Delay (sec/veh)	Level of Service
1. State Route 4/Hunt Road	Side-Street Stop	EB LT = 5.1 EB TH = 3.2 WB TH = 2.6 WB RT = 0.9 SB LT = 18.0 SB RT = 7.0 Entire = 3.5	A A A A C A A	EB LT = 6.8 EB TH = 3.1 WB TH = 3.1 WB RT = 1.3 SB LT = 21.8 SB RT = 9.1 Entire = 3.6	A A A A C A A
2. State Route 4/Pool Station Road	Side-Street Stop	EB LT = 7.1 EB TH = 2.1 WB TH = 7.0 WB RT = 4.0 SB LT = 28.8 SB RT = 10.6 Entire = 5.9	A A A A D B A	EB LT = 9.9 EB TH = 1.9 WB TH = 7.7 WB RT = 4.4 SB LT = 39.5 SB RT = 20.5 Entire = 8.3	A A A A E C A
3. State Route 4/Appaloosa Road	Side-Street Stop	EB TH = 2.6 EB RT = 1.0 WB LT = 6.8 WB TH = 5.5 NB LT = 12.2 NB RT = 7.1 Entire = 4.1	A A A A B A A	EB TH = 2.7 EB RT = 0.9 WB LT = 9.1 WB TH = 7.1 NB LT = 16.8 NB RT = 6.8 Entire = 5.4	A A A A C A A
4. State Route 4/Stallion Way	Side-Street Stop	EB TH = 5.7 EB RT = 4.2 WB LT = 7.0 WB TH = 4.4 NB LT = 13.5 NB RT = 8.0 Entire = 5.4	A A A A B A A	EB TH = 5.6 EB RT = 4.1 WB LT = 7.1 WB TH = 5.8 NB LT = 15.2 NB RT = 5.2 Entire = 5.7	A A A A C A A

Source: Calaveras County General Plan, 1996

Vehicle Hours of Delay, Vehicle Miles Traveled, and Vehicle Hours of Travel

Currently, State Route 4 within the project area experiences 7 vehicle hours of delay in the morning peak hour and 8.4 in the afternoon. There are 163 total stops in the morning peak hour and 149 in the afternoon. Average Delay per Vehicle is 32.9 seconds in the morning and 35.9 seconds in the afternoon peak hour.

Vehicle Miles of Travel is 4,408 and 4,878 in the morning and afternoon, respectively. Vehicle Hours Traveled is 90.4 and 100.7 in the morning and afternoon, respectively.

Total Fuel Consumption is 126.3 and 139.3 gallons in the morning and afternoon, respectively. Total Vehicle Emissions are 24,000 pounds and 2,647pounds in the morning and afternoon peak hours, respectively.

Comparison

When compared to Design Year 2040 No-Build conditions, the following benefits of the State Route 4 Wagon Trail Realignment project were identified for morning peak hour conditions:

- Total Vehicle Hours of Delay would be reduced by 9.3%, from 20.5 to 18.6.
- Total Stops would be reduced by 3.4%, from 496 to 479.
- Average Delay Per Vehicle would be reduced by 8.7%, from 45.0 to 41.1 seconds.
- Vehicle Miles Traveled through the project study area would be reduced by 7.6%, from 8,883 to 8,210.
- Vehicle Hours of Travel through the project study area would be reduced by 7.6%, from 190.2 to 176.3.
- Fuel Consumption would be reduced 7.2%, from 255.3 to 236.8 gallons, resulting in 351 fewer pounds of vehicular emissions (exhaust gases).
- Average eastbound State Route 4 travel speed from post mile 12.66 to post mile 19.10 would increase from 48.6 miles per hour to 48.7 miles per hour (+0.1 miles per hour).
- Average westbound State Route 4 travel speed from post mile 19.10 to post mile 12.66 would increase from 48.7 miles per hour to 49.2 miles per hour (+0.5 miles per hour).

When compared to Design Year 2040 No-Build conditions, the following benefits of the State Route 4 Wagon Trail Realignment project were identified for afternoon peak hour conditions:

- Total Vehicle Hours of Delay would be reduced by 11.9%, from 24.3 to 21.4.
- Total Stops would be reduced by 8.2%, from 548 to 503.
- Average Delay Per Vehicle would be reduced by 10.5%, from 49.6 to 44.4 seconds.
- Vehicle Miles Traveled through the project study area would be reduced by 7.7%, from 9,570 to 8,837.
- Vehicle Hours of Travel through the project study area would be reduced by 7.6%, from 207.1 to 191.4.
- Fuel Consumption would be reduced 7.7%, from 275.1 to 253.9 gallons, resulting in 403 fewer pounds of vehicular emissions (exhaust gases).
- Average eastbound State Route 4 travel speed from post mile 12.66 to post mile 19.10 would increase from 49.1 miles per hour to 49.4 miles per hour (+0.3 miles per hour).
- Average westbound State Route 4 travel speed from post mile 19.10 to post mile 12.66 would increase from 47.7 miles per hour to 48.2 miles per hour (+0.5 miles per hour).

The project would improve traffic circulation and conditions by upgrading the facility to current design standards. Safety would be enhanced by providing a standard pavement width of 40 feet (two 12-foot lanes and two 8-foot shoulders) with an additional 12 feet to provide turn lanes where needed. Sight distance would be improved through engineered alignments that reduce the number of curves and increase curve radii. The project would also enhance

safety by reducing the number of access points and using frontage roads to consolidate private driveways.

Driveways and Access Points

The project would modify driveways to conform to the new highway grade. Alternative 1 would modify the driveway connection for 19 parcels, and Alternative 2 would modify the driveway connection for 17 parcels. Access would be maintained to properties during construction. Construction of Alternatives 1 and 2 would require temporary construction easements at privately owned parcels.

Pedestrian and Bicycle Facilities

No parking facilities would be affected because none are within the project area. No sidewalks or facilities subject to the Americans with Disabilities Act would be affected. Access to State Route 4 would change for local residents. Instead of direct access, several driveways would lead to frontage roads, which would lead to State Route 4. A Class III bikeway is included in the project, consistent with the 2007 *Calaveras County Bicycle Master Plan*.

Transit

The existing State Route 4 segment would continue to serve traffic throughout the duration of construction. The project would be staged to allow such access, and a Traffic Management Plan would be implemented per measure TRA-1. While public transportation services may experience delays during construction, these would be temporary and minor. No scheduled transit stops are within the project footprint.

Avoidance, Minimization, and/or Mitigation Measures

Minimization Measure TRA-1: A Traffic Management Plan shall be implemented during construction of the project to allow traffic access to State Route 4.

2.1.4.6 Visual/Aesthetics

Regulatory Setting

The National Environmental Protection Act establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 United States Code 4331[b][2]). To further emphasize this point, the Federal Highway Administration in its implementation of the National Environmental Protection Act (23 United States Code 109[h]) directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act establishes that it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of aesthetic, natural, scenic and historic environmental qualities" (CA Public Resources Code Section 21001[b]).

Affected Environment

The *Visual Impact Assessment, State Route 4 Wagon Trail Realignment* was approved in May 2014 and provides most of the information in this section. The project area's visual landscape is characterized by hilly terrain, mixed oak woodlands, grasslands, mixed chaparral, and riparian vegetation next to State Route 4. Land uses within the corridor are mostly rural residential and agricultural (mainly cattle grazing).

For the visual assessment, the project corridor was divided into a series of "outdoor rooms" or visual assessment units, each with its own visual character and visual quality, typically defined by the limits of a particular viewshed. Key viewpoints 1, 2, 3, 4, and 5 were selected to display the visual results of the proposed project as viewed from primary viewer groups potentially affected. Key views were determined based on viewer locations and typical views and are not restricted to individual visual assessment units. Visual assessment units in the project area are grassland, oak woodland, and rural residential. Six key view locations (Key View 1A, 1B, 2, 3, 4 and 5) were identified (see Figure 13) based on viewer locations and typical views. Motorists and residents are the main viewer groups. For the project, the following five visual assessment units and their associated key views have been identified (see Figure 13):

- Key View 1: This key view shows eastbound State Route 4 and is surrounded by grassland and oak woodland, the dominant land cover types in the area. This key view is composed of two nearby locations to show both build alternatives. The dominant landforms in the key view are hills in the foreground, middleground, and background. This view represents the views seen by motorists, the main viewers of the project.
- Key View 2: This key view shows westbound State Route 4 just east of the intersection with Appaloosa Road. This view shows agricultural, rural residential land, and oak woodlands. The hills seen to the west are the dominant landform in the project site. This view represents the views seen by motorists, the main viewers of the project.
- Key View 3: This key view shows eastbound State Route 4 and contains rural residential, grassland, and oak woodlands, land cover typical of this section of the project area. The hills seen in the background are the typical landform in project area. This view represents the views seen by motorists, the main viewers of the project.
- Key View 4: This key view shows the view from a rural residence next to State Route 4 approximately 0.33 mile east of Stallion Way and contains residential driveway, fencing, and barn land cover typical of a residence. The view shows the front yard of the residence and wooded hillsides in the background. This view represents the views seen by a resident next to the project.
- Key View 5: This key view shows the view from a rural residence next to State Route 4 approximately 0.6 mile west of Stockton Road and contains fencing, a shed and electrical poles. The view shows a hilly, lightly wooded section of the project. This view represents views seen by a resident near the project.

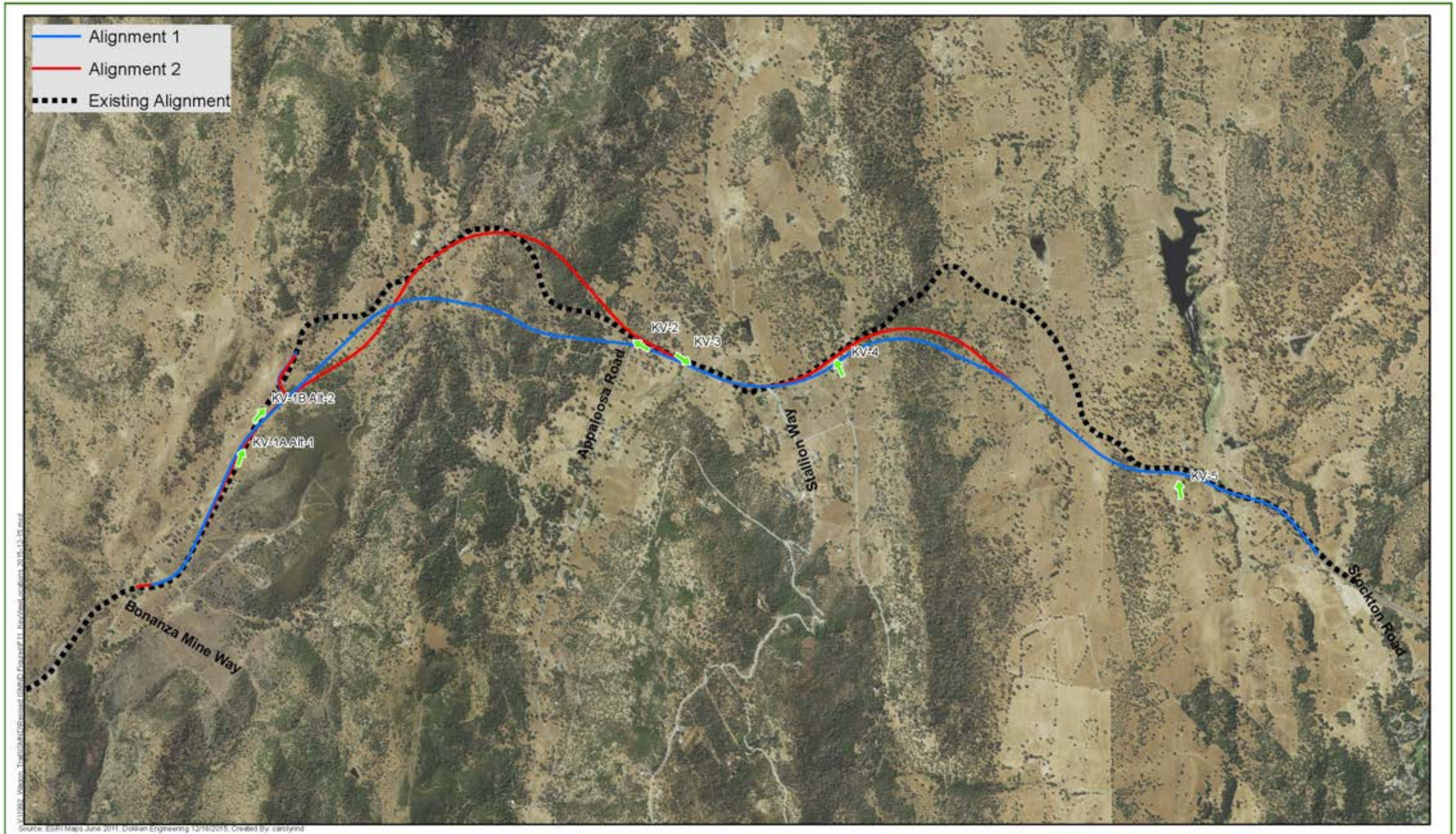

FIGURE 13
Key View Locations
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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Scenic Resources

National Scenic Byway Designation: The project site is not an officially designated National Scenic Byway. The nearest National Scenic Byway is Ebbetts Pass National Scenic Byway from post mile 41.6 on State Route 4 to post mile 14.6 on State Route 89, which begins about 22 miles east.

State Scenic Highway Designation: The project site does not contain officially designated State Scenic Highways (Caltrans 2013). The nearest designated State Scenic Highway is about 22 miles east on State Route 4, from Arnold to Alpine County. The nearest eligible State Scenic Highway is about 1.6 miles east at the junction of State Route 4 and State Route 49.

Local/Calaveras County: The project area includes a section of State Route 4 that is a locally designated scenic highway in the *Calaveras County General Plan* (1996) and *Calaveras County Regional Transportation Plan* (RTP) (2012). The *Calaveras County General Plan* identifies Goal III: 14: "Preserve and enhance the natural and historic character of scenic highway corridors in Calaveras County."

The *Calaveras County Regional Transportation Plan* defines two measures to protect scenic highways:

> RTP Mitigation Measure 1: Prior to construction, the implementing agency would consider the following measures in the design of a project:
>
> - Design transportation systems in a manner where the surrounding landscape dominates.
> - Design transportation systems to be compatible with the surrounding environment (e.g., colors and materials of construction material). Design transportation systems such that landscape vegetation complements the natural landscape.
> - Design transportation systems such that trees are maintained intact, or if removal is necessary, incorporate new trees into the design.
> - Design grades to be consistent with the construction guidelines required by the County or Angels Camp.
>
> RTP Mitigation Measure 2: Prior to the design approval of a project, the implementing agency would consider whether the project would remove any significant visual resources in the project area (trees, outcroppings, buildings) or obstruct views of the identified scenic resources.

If it is determined that a project would impact scenic resources, the implementing agency should consider alternative designs that avoid, minimize or mitigate the visual impacts to the extent feasible.

Key Views 1A and 1B

Key Views 1A and 1B (see Figures 14 and 16) represent the view experienced by drivers going eastbound on State Route 4, 0.8 mile eastbound from Bonanza Mine Way. Key Views 1A and 1B consist of grasslands in the foreground, the existing State Route 4 in the middleground, and rolling hills covered by oak woodlands in the background. Key View 1B is closer to a hillside.

Key View 2

Key View 2 (see Figures 18) represents the view from the intersection of State Route 4 and Appaloosa Road looking westbound. Key View 2 consists of the existing State Route 4 in the foreground and middleground. Oak woodlands are seen in the middleground, and rolling hills, also covered with oak woodlands, are in the background. Key View 2 shows substandard sight-lines due to humps in the roadway. Sight lines here are important due to the existence of the Appaloosa Road intersection, as seen in the foreground.

Key View 3

Key View 3 (see Figures 22) represents the view experienced by motorists driving eastbound on State Route 4, 0.25 mile eastbound from Appaloosa Road. Key View 3 consists of State Route 4, grasslands, and oak woodlands in the foreground, middleground, and background of the view.

Key View 4

Key View 4 (see Figures 24) represents the view experienced from a residence along State Route 4. Key View 4 is looking toward State Route 4, about 0.33 mile east of the intersection with Stallion Way. Key View 4 shows an existing residential driveway in the foreground and middleground and oak woodlands in the background. State Route 4 is in the middleground/background of this view.

Key View 5

Key View 5 (see Figures 28) represents the view experienced from a residence and a viewer standing on a hill overlooking State Route 4 approximately 0.65 mile west of the intersection with Stockton Road. Key View 5 consists of a private yard with grasses in the foreground and hillsides with oak woodlands in the middleground and background.

Environmental Consequences

Visual quality is evaluated by identifying the vividness, intactness, and unity present in the project corridor. Public attitudes validate the assessed level of quality and predict how changes to the project corridor can affect these attitudes. This process helps identify specific methods for addressing each visual impact that may occur as a result of the project. The three criteria for evaluating visual quality are defined as follows:

- **Vividness** is the extent to which the landscape is memorable and is associated with distinctive, contrasting, and diverse visual elements.
- **Intactness** is the integrity of visual features in the landscape and the extent to which the existing landscape is free from non-typical visual intrusions.

- **Unity** is the extent to which all visual elements combine to form a coherent, harmonious visual pattern.

The visual quality of the existing corridor would be altered by the proposed project. Existing visual quality of the project area is moderately high due to the vividness, intactness, and unity throughout the area. The *vividness* of the project corridor is moderately high as the landform consists of rolling hills with dense oak woodlands contrasted by open grasslands. Rural homes and fencing along the alignment also provide an element of aesthetic interest. *Intactness* of the project corridor is moderate as the project area is largely free from encroachment. Most of the viewshed is open and undeveloped, and composed of ranches and passive land uses such as cattle grazing. The project corridor also has high *Unity* due to the integration of State Route 4 with the terrain. The road generally conforms to the topography of the area as it moves through the viewshed.

The proposed project is not anticipated to have a substantial effect on visual resources. The build alternatives do not block views of visual resources, and the overall visual quality would decrease only slightly. Because the project proposes to improve and realign an existing road, visual character change would be low. Visual resource change throughout the project would be low. Motorists would have a moderate viewer response, and residents would have a moderately high viewer response. Overall the visual impact of the project would be moderately low to moderate.

Key Views 1A and 1B

Key Views 1A and 1B (see Figures 14 through 17) represent the views experienced by drivers driving eastbound on State Route 4, 0.8 mile eastbound from Bonanza Mine Way.

Alternative 1 would shift the roadway eastward in this view. This view shows the scenario where the old alignment would be removed and allowed to return to natural conditions. The hills and oak woodlands in the background are still visible.

Alternative 2 would shift the roadway eastward and result in slightly cutting into the existing hillside at Key View 1B. The hillside would be disturbed with the cut, but the ridgeline and background views of other hills would not be affected.

The Visual Impact Assessment concluded that Alternatives 1 and 2 would result in moderate visual impact to motorists (the viewer group for this Key View) due to the small amount of resource change—views of grasslands and oak woodlands would still largely be intact.

Figure 14. Key View 1A- Existing Condition

Figure 15. Key View 1A Proposed Condition-Alternative 1

Figure 16. Key View 1B-Existing Condition Facing Eastbound

Figure 17. Key View 1B-Proposed Condition—Alt 2 Facing Eastbound

Key View 2

Key View 2 (see Figures 18 through 21) represents the view from the intersection of State Route 4 and Appaloosa Road looking westbound.

Alternative 1 would shift State Route 4 southward of the existing road. Figure 19 shows the scenario where the old alignment would be removed and allowed to re-vegetate. Views of adjacent woodlands and hills in the background are still visible. The roadway would be straighter, and the large humps would be removed.

Alternative 2 would also shift State Route 4 northward of the existing road. Figure 20 shows the scenario where the old alignment would be removed and allowed to re-vegetate. Oak woodland trees would be removed along the alignment. Adjacent woodlands, aside from the trees to be removed, and hills in the background are still visible. Alternative 2 would have a large curved alignment that is less wavy than the existing condition.

The *Visual Impact Assessment* concluded that Alternatives 1 and 2 would result in moderate visual impact to motorists (the viewer group for this Key View) due to the small amount of resource change—views of grasslands and oak woodlands would still largely be intact.

Figure 18. Key View 2—Existing Condition Facing Westbound

Figure 19. Key View 2- Proposed Condition—Alternative 1 Facing Westbound

Figure 20. Key View 2 - Existing Condition Facing Westbound (repeated for visual comparison)

Figure 21. Key View 2-Proposed Condition—Alternative 2 Facing Westbound

Alternative 1 would shift the roadway eastward in this view. This view shows the scenario where the old alignment would be removed and allowed to return to natural conditions. The hills and oak woodlands in the background are still visible.

Alternative 2 would shift the roadway westward and result in slightly cutting into the existing hillside at Key View 1B. The hillside would be disturbed with the cut, but the ridgeline and background views of other hills would not be affected.

The *Visual Impact Assessment* concluded that Alternatives 1 and 2 would result in moderate visual impact to motorists (the viewer group for this Key View) due to the small amount of resource change—views of grasslands and oak woodlands would still largely be intact.

Key View 3

Key View 3 (see Figures 22 and 23) represents the view experienced by motorists driving eastbound on State Route 4, 0.25 mile eastbound from Appaloosa Road.

Alternatives 1 and 2 would shift State Route 4 southward of the existing road. Figure 23 shows the scenario where the old alignment would be removed and allowed to re-vegetate. Views of adjacent woodlands and hills in the background are still visible. The roadway would be straighter, and the large humps would be removed.

The *Visual Impact Assessment* concluded that Alternatives 1 and 2 would result in moderate visual impact to motorists (the viewer group for this Key View) due to the small amount of resource change—views of grasslands and oak woodlands would still largely be intact.

Figure 22. Key View 3—Existing Condition Facing Eastbound

Figure 23. Key View 3-Proposed Condition—Alternatives 1 and 2 Facing Eastbound

Key View 4

Key View 4 (see Figures 24 through 27) represents the view experienced from a residence along State Route 4. Key View 4 is looking toward State Route 4, about 0.33 mile east of the intersection with Stallion Way.

Alternative 1 would shift State Route 4 southward of the existing road and, as a result, this view would have a raised slope where the roadway fill would be placed. The driveway connection to State Route 4 would be closer in the foreground, and views of the oak woodlands across the road would be fully obscured.

Alternative 2 would also shift State Route 4 southward of the existing road, but less southerly than Alternative 1. In the middleground, this view would have a raised slope where the roadway fill would be placed. In the background, views of the oak woodlands across the road would be partially blocked. In the foreground, the driveway's connection with State Route 4 would be somewhat closer, but the view of the driveway would largely remain intact.

The *Visual Impact Assessment* concluded that Alternative 1 would result in a moderate to high visual impact to residents (the viewer group for this Key View). Views of oak woodlands would be blocked, and the elevated roadway would be a more dominant feature. Alternative 2 would result in a moderate impact to residents due to the small amount of resource change—views of oak woodlands would still largely be intact.

Figure 24. Key View 4 Existing Condition Facing Northward

Figure 25. Key View 4-Proposed Condition—Alternative 1 Facing Northward

Figure 26. Key View 4 Existing Condition (repeated for visual comparison)

Figure 27. Key View 4-Proposed Condition—Alternative 2

Key View 5

Key View 5 (see Figures 28 and 29) represents the view experienced from a residence and a viewer standing on a hill overlooking State Route 4 about 0.65 mile west of the intersection with Stockton Road.

Alternatives 1 and 2 would shift the alignment southward of the existing alignment and result in a more visible elevated roadway. In the background, the rolling hillsides and oak woodlands would remain visible. In the middleground, the elevated roadway and associated fill slopes would be visible; this differs from the existing view because State Route 4 is currently mostly blocked from this viewpoint. The foreground at Key View 5, consisting of the backyard, would not be affected.

The *Visual Impact Assessment* concluded that Alternative 1 would result in a moderate visual impact to residents (the viewer group for this Key View). The *Visual Impact Assessment* concluded that Alternatives 1 and 2 would result in a moderate visual impact to residents (the viewer group for this Key View). There would be moderate resource change and moderate to moderately high viewer response.

Figure 28. Key View 5 Existing Condition

Figure 29. Key View 5-Proposed Condition--Alternatives 1 and 2

Table 18 summarizes and compares the narrative ratings for visual resource change, viewer response and visual impacts between alternatives for each Key View.

Table 18. Summary of Key View Narrative Ratings

Visual Assessment Unit	Key View	Alternative 1			Alternative 2		
		Resource Change	Viewer Response	Visual Impact	Resource Change	Viewer Response	Visual Impact
Motorists	1	L	MH	M	L	MH	M
	2	L	MH	M	L	MH	M
	3	L	MH	M	L	MH	M
Residents	4	M	MH	H	ML	MH	M
	5	ML	MH	M	ML	MH	M

L=Low; M=Moderate; ML=Moderately Low; MH=Moderately High
Source: Visual Impact Assessment, 2014

Based on analysis of the Key Views of the project, visual impacts range from moderate to high. The increase in road width with the proposed project would not substantially increase or block current views for motorists at Key Views 1-3 or residents at Key View 5. At Key View 4, views of the roadway would be blocked with the project. Vegetation removal would be necessary throughout the project area to accommodate widening and realignment. Revegetation plans would minimize this impact by restoring vegetation in nearby areas. A summary of visual impacts has been prepared for the following alternatives:

- Alternative 1 would result in a low to moderate resource change. Alternative 1 would not impair or diminish the public's visual enjoyment of the area. Viewer response would be moderately high, and visual impacts would be moderate to high.
- Alternative 2 would result in a low to moderately low resource change. Alternative 2 would not impair or diminish the public's visual enjoyment of the area. Viewer response would be moderately high, and visual impacts would be moderate.

The key difference between the two alternatives is seen in Key View 4 where Alternative 1 would block existing views of oak woodlands more.

No-Build Alternative

With the No-Build Alternative, no changes would result compared to the existing, therefore no impacts would occur.

The proposed project would not have substantial impacts on visual resources due to the following:

- The build alternatives do not block most views of visual resources, and the overall visual quality would decrease only slightly.
- Because the build alternatives would improve and realign an existing road, visual character change would be low. Views of grasslands, oak woodlands, and rolling hills would still be viewable to most viewers.
- While a large number of oak trees within the project area would be removed, they would be removed from a large area and many oak trees would still remain viewable in the project area. With the inclusion of measures VIS-4 and VIS-5, the removal of

these trees is not anticipated to result in substantial adverse changes in visual quality or character.

- The visual impact of exposed slopes due to new roadway cut and fill would be minimized through standard re-vegetation. This would particularly be useful for visual impacts from Alternative 1, as seen with Key View 4.

Construction

During construction of the proposed project, temporary activities such as grading, asphalt laying, truck movement and truck shipments and other routine construction activities within the project area would be visible by motorists traveling along State Route 4 and nearby roadways, and from adjacent residential properties. Construction-related materials, such as road-building material, staging areas, stockpiles, temporary traffic barriers, and construction equipment, would be visible to these viewer groups. Areas may also be lighted during construction. Motorists and other viewer groups would experience a change in their physical view of the highway, but the change is temporary and construction would be subject to local ordinances regarding construction time periods of lighting. The construction area would be kept neat and orderly with regard to trash. Standard special provisions regarding site maintenance would be implemented.

Avoidance, Minimization, and/or Mitigation Measures

The following measures to avoid or minimize visual impacts would be incorporated into the project:

Minimization Measure VIS-1: Where feasible, build alternatives would use the existing highway right-of-way corridor.

Minimization Measure VIS-2: Per Caltrans standards regarding erosion control, exposed slopes would be re-vegetated.

Minimization Measure VIS-3: Aesthetic elements incorporated during Final Design, would be designed and implemented with coordination between local agencies and Caltrans.

Minimization Measure VIS-4: Vegetation clearing would occur only within the delineated project boundaries in an effort to minimize the impacts. Oak trees located in areas along the edge of the construction zone would be trimmed whenever possible, and only those oak trees that lie within the active construction areas would be removed.

2.1.4.7 Cultural Resources

Regulatory Setting

The term “cultural resources” as used in this document refers to all “built environment” resources (structures, bridges, railroads, water conveyance systems, etc.), culturally important resources, and archaeological resources (both prehistoric and historic), regardless of significance. Laws and regulations dealing with cultural resources include:

- The National Historic Preservation Act of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places.
- Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation [36 Code of Federal Regulations 800].

On January 1, 2014, a Section 106 Programmatic Agreement between the Advisory Council, the Federal Highway Administration, State Historic Preservation Officer, and Caltrans went into effect for department projects, both state and local, with Federal Highway Administration involvement. The Programmatic Agreement implements the Advisory Council's regulations, 36 Code of Federal Regulations Part 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The Federal Highway Administration's responsibilities under the Programmatic Agreement have been assigned to Caltrans as part of the Surface Transportation Project Delivery Program (23 United States Code 327).

Historical resources are considered under the California Environmental Quality Act, as well as California Public Resources Code Section 5024.1, which established the California Register of Historical Resources. California Public Resources Code Section 5024 requires state agencies to identify and protect state-owned resources that meet the National Register of Historic Places listing criteria. It further specifically requires Caltrans to inventory state-owned structures in its rights-of-way.

Affected Environment

A Historic Property Survey Report was completed in November 2014 for the proposed project. This report also included the Archaeological Survey Report and Historic Resources Evaluation Report. These reports were prepared to identify potential significant cultural resources, consisting of historic and prehistoric resources, within the project study area.

The Area of Potential Effects consists of approximately 797 acres and encompasses all proposed project construction activities for both Alternatives 1 and 2. The Area of Potential Effects included areas for removal of existing pavement, potential staging areas, utility relocation, drainage facilities, vegetation clearing, re-planting areas, temporary construction easement, permanent right-of-way acquisition, and, at a minimum, a 100-foot-wide buffer around all anticipated cut and fill limits as shown in Figure 30.

Records searches, supplemental records searches, and pedestrian field surveys were conducted to identify resources within the Area of Potential Effects. Records searches obtained from the Central California Information Center in 2008, 2012, and 2013 identified previously recorded resources in the area. The record search disclosed 78 previously recorded cultural resources within the project study area. Twenty-nine of those resources fall within the current Area of Potential Effects. They include 9 prehistoric resources, 17 historic

resources, and 3 multi-component resources (those containing both historic and prehistoric resources).

Field surveys (walking the areas) were conducted in April, May, and October 2013 by archaeologists. In addition to the surveys conducted in April, May, and October 2013, 32 archaeological investigations were undertaken within the study area and include field surveys and Phase II test excavations. As a result, most of the current Area of Potential Effects has been surveyed since 1977, with many portions of the Area of Potential Effects being repeatedly surveyed over the last 32 years.

The Native American Heritage Commission was contacted to request a Sacred Lands Search and a list of Native American groups with whom consultation should be conducted. Native American groups were sent letters with maps that provided a summary of the project and requested information regarding comments or concerns the Native American community might have about the project. As a result of the coordination, the California Valley Miwok Tribe, Calaveras Band of Mi-Wuk Indians, and Ione Band of Miwok requested that they be contacted if any artifacts and/or human remains area encountered within the project area (2014).

Environmental Consequences

Consultation and identification efforts for this project resulted in the identification of 31 cultural resources (29 previously recorded, 2 new) within the Area of Potential Effects for the proposed project. Of those resources, six will be evaluated in a phased effort (upon selection of a build alternative), three were determined to not be eligible for listing in the National Register of Historic Places as part of this project (and the State Historic Preservation Officer has concurred with this determination), three have been previously determined to be eligible for listing in the National Register and that determination is still valid, two cultural resources have been previously determined not eligible for listing in the National Register and that determination is still valid, 13 are assumed eligible for this project only and will be avoided or protected through establishment of an Environmentally Sensitive Area, and four cultural resources were exempted from review pursuant to Attachment 4 of the Programmatic Agreement between Caltrans and the State Historic Preservation Officer.

Cultural Resources within Alternative 1

- 3 cultural resources previously determined eligible for the National Register of Historic Places and/or California Register of Historical Resources
- 16 cultural resources either presumed eligible for the National Register of Historic Places and/or California Register of Historical Resources for this project only or requiring additional National Register of Historic Places evaluations
- 2 cultural resources previously determined not eligible for the National Register of Historic Places and/or California Register of Historical Resources
- 3 cultural resources determined not eligible for the National Register of Historic Places and/or California Register of Historical Resources as part of this project
- 2 cultural resources exempt from National Register of Historic Places and/or California Register of Historical Resources evaluation

- 1 cultural resource likely previously destroyed but monitoring recommended
- 4 cultural resources not impacted by Alternative 1

Cultural Resources within Alternative 2

- 3 cultural resources previously determined eligible for the National Register of Historic Places and/or California Register of Historical Resources
- 10 cultural resources either presumed eligible for the National Register of Historic Places and/or California Register of Historical Resources for this project only or requiring additional National Register of Historic Places evaluations
- 2 cultural resources previously determined not eligible for the National Register of Historic Places and/or California Register of Historical Resources
- 2 cultural resources determined not eligible for the National Register of Historic Places and/or California Register of Historical Resources as part of this project
- 3 cultural resources exempt from National Register of Historic Places and/or California Register of Historical Resources evaluation
- 1 cultural resource likely previously destroyed but monitoring recommended
- 10 cultural resources not impacted by Alternative 2

Also, Caltrans has determined that there are three State-owned resources (built environment, archaeological and non-structural resources) within the Area of Potential Effects that do not meet National Register and/or California Historical Landmark eligibility criteria pursuant to California Public Resources Code § 5024(b). Further, Caltrans has determined that there are three additional State-owned archaeological sites, landscapes, non-structural resources within the Area of Potential Effects that meet the National Register of Historic Places criteria and/or California Historic Landmark eligibility criteria pursuant to California Public Resources Code § 5024(f). The project will have no adverse effect to two of the sites and will have an adverse effect to the third.

As part of the Archaeological Survey Report, a geoarchaeological investigation was completed in November 2014 to determine the potential for buried archaeological sites within the project Area of Potential Effects. Eleven geoarchaeological sensitive landforms were identified and categorized as to their sensitivity levels. Three geoarchaeological sensitive landforms (1, 7, 9) have known archaeological deposits. Three geoarchaeological sensitive landforms (2, 8, 9) will require archaeological monitoring during project construction ground-disturbing activities, including one site already known to have deposits. Four more geoarchaeological sensitive landforms (3, 6, 10, 11) will require Extended Phase I efforts to determine presence or absence of deposits. Geoarchaeological sensitive landform 5 has previously been tested for presence or absence and was found to be negative for deposits. Geoarchaeological sensitive landform 4 would not be affected by Alternative 1 or 2.

Table 19 summarizes the sensitivity of these locations and makes recommendations on the proposed project.

Table 19. Geoarchaeological Sensitive Landforms (GSL) Recommendations

GSL Location	Sensitivity Level	Recommendation
1	High	Phase III data recovery is recommended at CAL-1679. CAL-789 will not be impacted by either Alternative 1 or 2. CAL-636H has been previously determined ineligible for the National Register of Historic Places.
2	High	Archaeological monitoring shall occur during the removal of pavement at this location.
3	High	Extended Phase 1 efforts shall take place within the proposed right-of-way, once acquired.
4	Low	Not impacted by either Alternative 1 or 2. No recommendations.
5	Low	Previous subsurface investigations have returned negative results for the presence of cultural resources. No additional investigations are recommended for GSL 5.
6	High	Based on the high level of sensitivity, Extended Phase 1 efforts shall be conducted to determine the presence of buried archaeological deposits.
7	High	Phase II testing should occur at CA-133/H.
8	Moderate	Archaeological monitoring shall occur during the removal of pavement at this location.
9	High	Due to the presence of CAL-640 (see management strategy above) it is recommended that archaeological monitoring occur during the removal of the pavement at this location.
10	High	Extended Phase 1 efforts shall be conducted at this location once right-of-entry is obtained.
11	High	Extended Phase 1 efforts shall be conducted at this location due to the presence of CAL-132 (Habitation) to determine whether any portion of CAL-132 remains, once right-of-way is obtained.

Source: Archaeological Survey Report, 2013

In a letter dated December 17, 2014, provided in Appendix E, the State Historic Preservation Officer concurred with determinations that the three archaeological features, P-05-3088, P-05-3090 and P-053091 are not eligible for inclusion on the National Register of Historic Places under any criteria. Though full cultural resource identification efforts and evaluation of potential historic properties could not be completed at this time for the project due to property access constraints, Caltrans was able to apply the Adverse Criteria and determine that the project as a whole will have an Adverse Effect on historic properties. The State Historic Preservation Officer concurred with this Adverse Effect determination on March 1, 2016 (see Appendix E).

After circulation of the Draft Initial Study/Environmental Assessment, Build Alternative 2 was selected as the preferred alternative. Due to the aforementioned property access constraints, a phased approach is needed to complete cultural resource identification efforts, evaluation of potential historic properties, application of the National Historic Preservation Act Section 106 Criteria of Adverse Effect, and determination of Adverse Effect resolution for the project. The phased approach would be initiated upon acquiring access to the parcels required to construct Build Alternative 2. Stipulations and procedures detailing the necessary steps of the phased approach were drafted in the *Programmatic Agreement Between the California Department of Transportation and the California State Historic Preservation Officer Regarding the State Route 4/Wagon Trail Realignment Project, Calaveras County,*

California (Wagon Trail PA). After consultation on the proposed stipulations and procedures with the State Historic Preservation Officer, the Calaveras County of Public Works, Caltrans, and Native American tribal governments, the Wagon Trail PA was concurred upon and officially executed on March 30, 2016 (Appendix E). The stipulations outlined in the Wagon Trail PA, which are presented below as Minimization Measure CR-1 through CR-3, would ensure that no significant impacts to cultural resources are anticipated permanently or during construction.

The Wagon Trail PA will expire on March 30, 2021 or upon completion of the project. If the terms are not satisfactorily fulfilled at that time, Caltrans District 10, in coordination with the Caltrans Cultural Services Office, shall consult with the signatories and concurring parties listed in the Wagon Trail PA to extend it or reconsider its terms. Reconsideration may include continuation of the Wagon Trail PA as originally executed, amendment of the Wagon Trail PA, or termination. Please see Appendix E for a more detailed accounting of the requirements within the Wagon Trail PA to ensure project compliance with Section 106 of the National Historic Preservation Act/National Environmental Policy Act.

Avoidance, Minimization, and/or Mitigation Measures

The March 30, 2016 executed *Programmatic Agreement Between the California Department of Transportation and the California State Historic Preservation Officer Regarding the State Route 4/Wagon Trail Realignment Project, Calaveras County, California* details the necessary measures required to complete Section 106 compliance for the project and ensure that no significant impacts to cultural resources are anticipated permanently or during construction. The Wagon Trail PA is found within Appendix E and summarized below:

Prior to construction:

Minimization Measure CR-1: Per the Stipulations I and II.B set forth in the Wagon Trial PA, the following steps need to occur prior to construction of the project:

- Confirm Area of Potential Effect based on final design.
- Develop mitigation measures for previously unidentified resources discovered within the Area of Potential Effects.
- Conduct preconstruction archaeological surveys prior to the start of each construction phase or any other ground disturbing activities for the project. The survey efforts and results will be documented in a Cultural Resources Inventory Report.
- Conduct Extended Phase I identification efforts to confirm site boundaries at P-05-3541 (CA-CAL-2126H). The results will be documented in a Cultural Resources Inventory Report.
- Establish Environmentally Sensitive Areas to protect eligible sites where possible.
- Conduct Extended Phase I identification efforts on Geoarchaeologically Sensitive Landforms. The results will be documented in a Cultural Resources Inventory Report.
- Provide archaeological monitoring during geotechnical trenching and boring activities within Geoarchaeologically Sensitive Landforms.

- Conduct Phase II evaluations for sites P-05-468 (CA-CAL-133/H), P-05-2129 (CA-CAL-1756H), and P-05-3541 (CA-CAL-2126H) and for archaeological sites identified during additional pedestrian survey and Extended Phase I Testing which would be adversely affected by construction of the project. The results will be documented in a Cultural Resources Inventory Report.
- Should it be determined that final design of the project would adversely affect sites previously protected by Environmentally Sensitive Area fencing, conduct Phase II testing on those impacted sites. The results will be documented in a Cultural Resources Inventory Report.
- Prepare a Cultural Resources Inventory Report for each phase of the project documenting Section 106 compliance.
- Prepare Phase III data recovery plans on sites where it is more efficient and/or less costly to assume the site is eligible for listing on the National Register of Historic Places under Criterion D.
- Develop a Historic Property Treatment Plan prior to Phase I construction of the project which contains a high level/general archaeological research design, prehistoric and historic research themes and questions, resource significance thresholds required for National Register of Historic Places/California Register of Historic Places evaluations, Environmentally Sensitive Area establishment and protection guidelines, archaeological monitoring guidelines, and late discovery and inadvertent effects procedures. The Historic Property Treatment Plan shall be submitted to the SHPO for review and concurrence.
- Implement Environmentally Sensitive Area fencing prior to each construction phase and archaeological monitoring during adjacent construction activities at the following historic properties and 3 Geoarchaeologically Sensitive Landforms:
    - P-05-467 (CA-CAL-132) (monitoring only, no Environmentally Sensitive Area fencing required);
    - P-05-957 (CA-CAL-639H);
    - P-05-958 (CA-CAL-640);
    - P-05-984 (CA-CAL-666) (monitoring only, no Environmentally Sensitive Area fencing required);
    - P-05-1101 (CA-CAL-784);
    - P-05-1105 (CA-CAL-788);
    - P-05-1106 (CA-CAL-789) (monitoring only, no Environmentally Sensitive Area fencing required);
    - P-05-1962 (CA-CAL-1679) (monitoring only);
    - P-05-2127 (CA-CAL-1755/H);
    - P-05-3093 (monitoring only, no Environmentally Sensitive Area fencing required);
    - P-05-3094 (CA-CAL-2009**);**
    - P-05-3542 (CA-CAL-2127H) (monitoring only, no Environmentally Sensitive Area fencing required);

  - Geoarchaeologically Sensitive Landform 2 (monitoring only, no Environmentally Sensitive Area fencing required);
  - Geoarchaeologically Sensitive Landform 8 (monitoring only, no Environmentally Sensitive Area fencing required); and
  - Geoarchaeologically Sensitive Landform 9 (monitoring only, no Environmentally Sensitive Area fencing required).

- Environmentally Sensitive Area fencing and archaeological monitoring shall also be used for any historic property identified during subsequent pedestrian surveys, Extended Phase I efforts, and/or Phase II efforts, if establishment of an Environmentally Sensitive Area can fully protect the site from adverse effects.

- For each construction phase, a Phase III Data Recovery Plan for significant properties must be prepared. This plan shall include at a minimum:

  a) Identification of historic properties, or portions of historic properties where data recovery is to be carried out and any historic property that shall be adversely affected by the project.
  b) Formal evaluation of archaeological sites according to all National Register of Historic Places criteria.
  c) A well-developed research design, research questions, and data requirements.
  d) The methods and methodology that shall be needed to extract data requirements.
  e) Details related to the establishment of Environmentally Sensitive Area areas, Environmentally Sensitive Area avoidance measures, and archaeological monitoring requirements.
  f) Identification of the curation facility where the recovered materials and records shall be curated in perpetuity in accordance with California Resources Agency "Guidelines for the Curation of Archaeological Collections" (1993).
  g) Proposed schedule for providing the results of the data recovery program to the appropriate Native American consulting parties (as identified in Mitigation Measure CR-16/Wagon Trail PA Stipulation III). This shall follow the guidance presented in the Environmental Handbook, Volume 2, Chapter 5, Sections 8 and 9: Archaeological Data Recovery.
  h) Proposed methods for disseminating information to the interested public about the data recovery. If data recovery involves sensitive and confidential information, there shall be no public disclosure.

- Develop a mitigation plan for historic properties considered significant under Criteria A, B, or C and not also considered significant under criterion D. The mitigation plan will be submitted to the SHPO for review and concurrence.

- Annual updates will be performed containing any scheduling changes proposed, any problems encountered, failures to adopt proposed mitigation measures, and any disputes and objections received in Caltrans District 10's efforts to carry out the terms of the Wagon Trail PA. The update shall be due no later than December 31 of each year, beginning December 31, 2016 and continuing annually thereafter throughout the duration of the Wagon Trail PA. The update shall be provided to all concurring parties and Native American consulting parties, as identified in the Wagon Trail PA.

- Conduct continuing coordination with all parties involved in Section 106 compliance, as identified in the Wagon Trail PA.

During Construction

Mitigation Measure CR-2 (Wagon Trail PA Stipulation IV): As legally mandated, human remains and related items discovered during the implementation of the terms of the Wagon Trail PA and the project shall be treated in accordance with the requirements of Health and Safety Code Section 7050.5(b). The Calaveras County Coroner shall be contacted if human remains are discovered. The Calaveras County Coroner shall have two working days to inspect the remains after receiving notification. During this time, all remains, associated soils, and artifacts shall remain in situ and/or on site, and shall be protected from public viewing. This may include restricting access to the discovery site and the need to hire 24-hour security.

If pursuant to Health and Safety Code Section 7050.5(c) the Calaveras County Coroner determines that the human remains are or may be those of a Native American, then the discovery shall be treated in accordance with the provisions of Public Resources Code Sections 5097.98 (a)(d). The Calaveras County Coroner has 24 hours to notify the Native American Heritage Commission. The Native American Heritage Commission shall then notify a Most Likely Descendant, who has 48 hours to make recommendations to Caltrans District 10. Caltrans shall contact the State Historic Preservation Officer and the Most Likely Descendent(s) within 24 hours of the County Coroner's determination that the remains are Native American in origin. Caltrans shall ensure that, to the extent permitted by applicable law and regulation, the view of the Most Likely Descendant(s) is taken into consideration when decisions are made about the disposition of Native American human remains and associated objects. Caltrans and Calaveras County shall take appropriate measures to protect the discovery site from disturbance during any negotiations. Information concerning the discovery shall not be disclosed to the public pursuant to the specific exemption set forth in California Government Code Section 6254.5(e).

Mitigation Measure CR-3 (Wagon Trail PA Stipulation V): If Caltrans determines after construction of the project commences that the project shall affect a previously unidentified historic property or affect a known historic property in an unanticipated manner, Caltrans shall address the discovery and/or unanticipated effect. In this situation, the Registered Engineer (RE) shall stop all work within a 60-foot radius of the discovery or effect in accordance with Caltrans Specifications for archaeological resources. The protocol outlined in the Wagon Trail PA Stipulations II.A and II.B (Mitigation Measure CR-1) shall then be followed. Caltrans will address the discovery or unanticipated effects in accordance with the procedures outlined in the Historic Property Treatment Plan.

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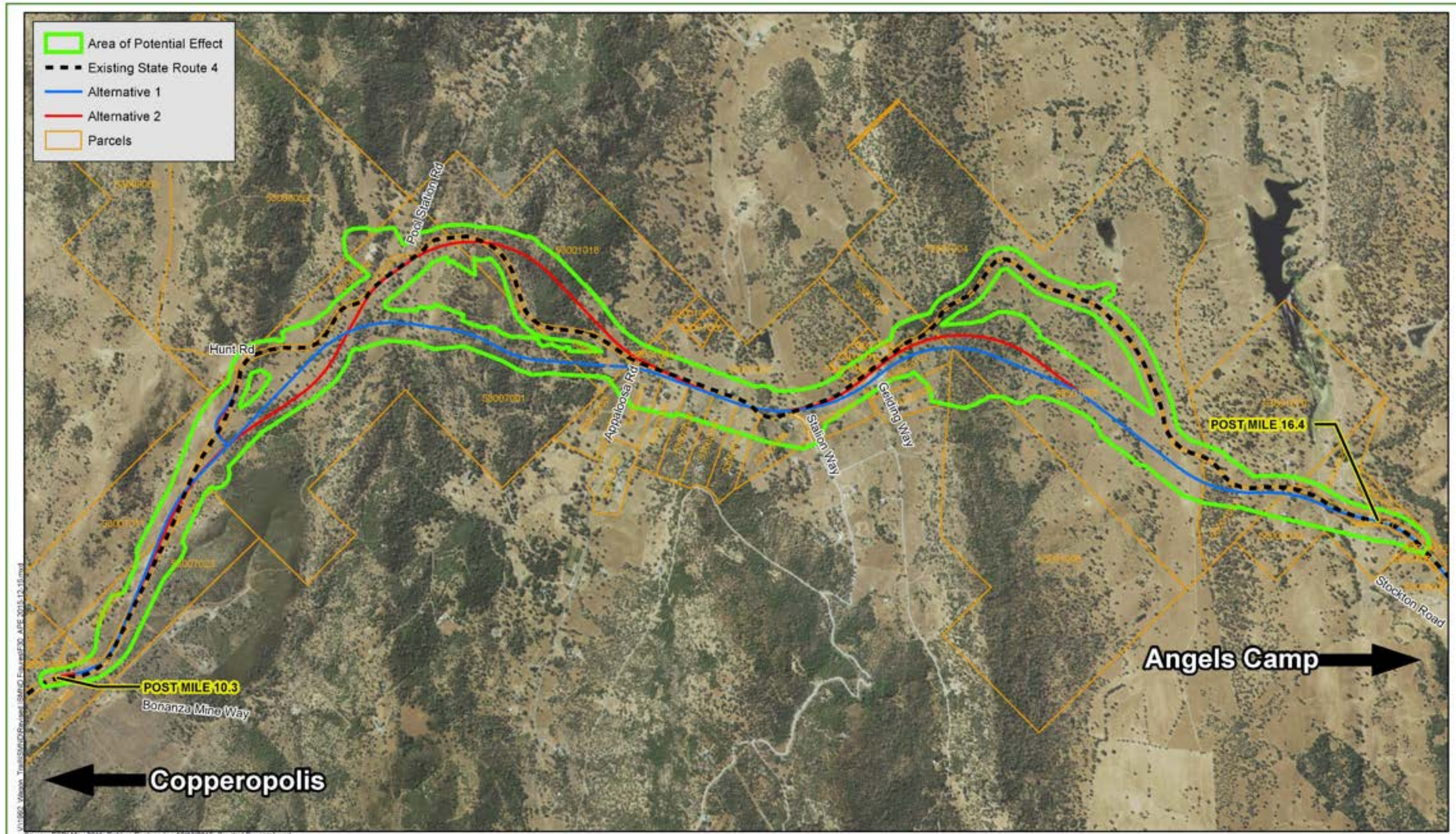

FIGURE 30
Area of Potential Effect
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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2.2 Physical Environment

2.2.1 Hydrology and Floodplain

Regulatory Setting

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration requirements for compliance are outlined in 23 Code of Federal Regulations 650 Subpart A.

To comply, the following must be analyzed:

- Practicability of alternatives to any longitudinal encroachments.
- Risks of the action.
- Impacts on natural and beneficial floodplain values.
- Support of incompatible floodplain development.
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The base floodplain is defined as "the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year." An encroachment is defined as "an action within the limits of the base floodplain."

Affected Environment

The Location Hydraulic Study, approved in July 2015, provided the hydraulic and floodplain information in this section.

There are four major creeks that run through the project area. Waterman Creek, Nassau Creek and Cherokee Creek are within the Upper Calaveras River watershed, and are tributaries to the South Fork Calaveras River. The South Fork Calaveras River drains into the New Hogan Reservoir, northwest of the project. Black Creek lies within the Upper Stanislaus River watershed and flows south into Tulloch Lake, downstream of the New Melones Lake southeast of the project.

Black Creek

The Black Creek watershed resides along the westerly segment of the project. The main channel flows south-southwesterly about parallel with State Route 4, and several of its tributaries cross the existing highway through various cross culverts. The Black Creek channel carries intermittent water flow with dispersed rock and soil, ranging from 0.5 to 10 feet in width with divergences of many tributaries in open pastureland vegetation and foothill mixed oak forests.

Nassau Creek

The Nassau Creek watershed is in the central part of the project. The main channel and its many tributaries generally flow northerly and cross the highway in several locations between Pool Station Road and Stallion Way. The Nassau Creek channel retains its natural banks and ranges from 3 to 25 feet wide with a mix of cobble and rock substrate. The channel flows through dense intermittent valley foothill riparian corridor as it makes its way north to Cherokee Creek and South Fork Calaveras River. Nassau Creek's tributaries originate in open pastureland vegetation and foothill mixed oak forests.

Waterman Creek

The Waterman Creek watershed lies in the easterly area of the project. The main channel and its tributaries flow in a general northerly direction and are conveyed under State Route 4 with a series of culverts and bridges just east of Gelding Road. The main channel of Waterman Creek has natural banks and a cobble bottom. The channel varies from 0.5 to 20 feet in width, going through pasturelands and mixed oak forests as it flows north to Cherokee Creek and South Fork Calaveras River. Waterman Creek contains several tributaries in foothill mixed oak forests and dense valley foothill riparian vegetation.

Cherokee Creek

The Cherokee Creek watershed is at the easterly limits of the project. Flowing northerly, the main channel of Cherokee Creek crosses the existing highway just west of Stockton Road via several large culverts. The channel ranges from 3 to 30 feet in width with an earthen bottom and defined vegetated banks. It crosses mixed oak forests as it meanders north toward Cherokee Creek Lake and eventually to South Fork Calaveras River.

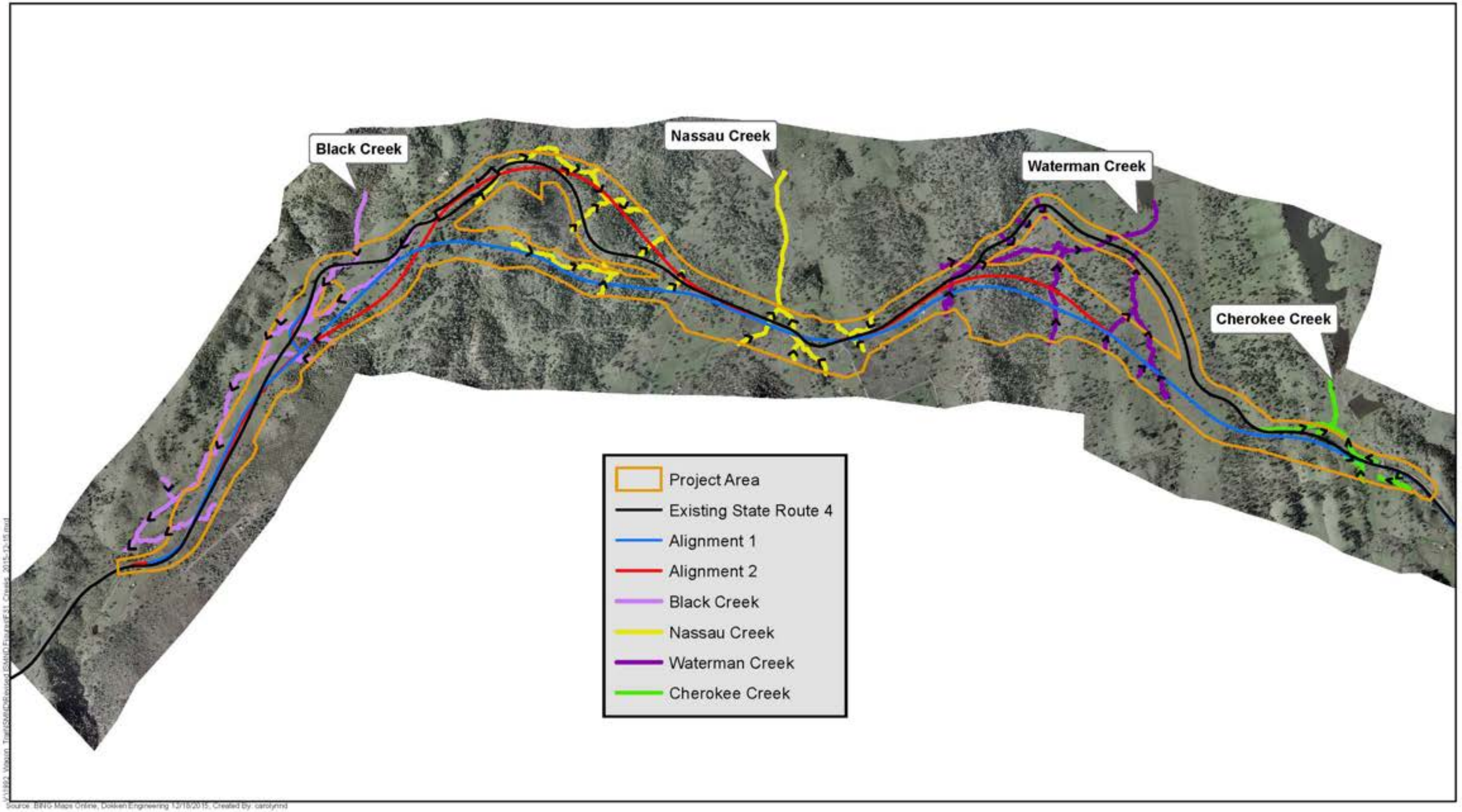

FIGURE 31
Creeks
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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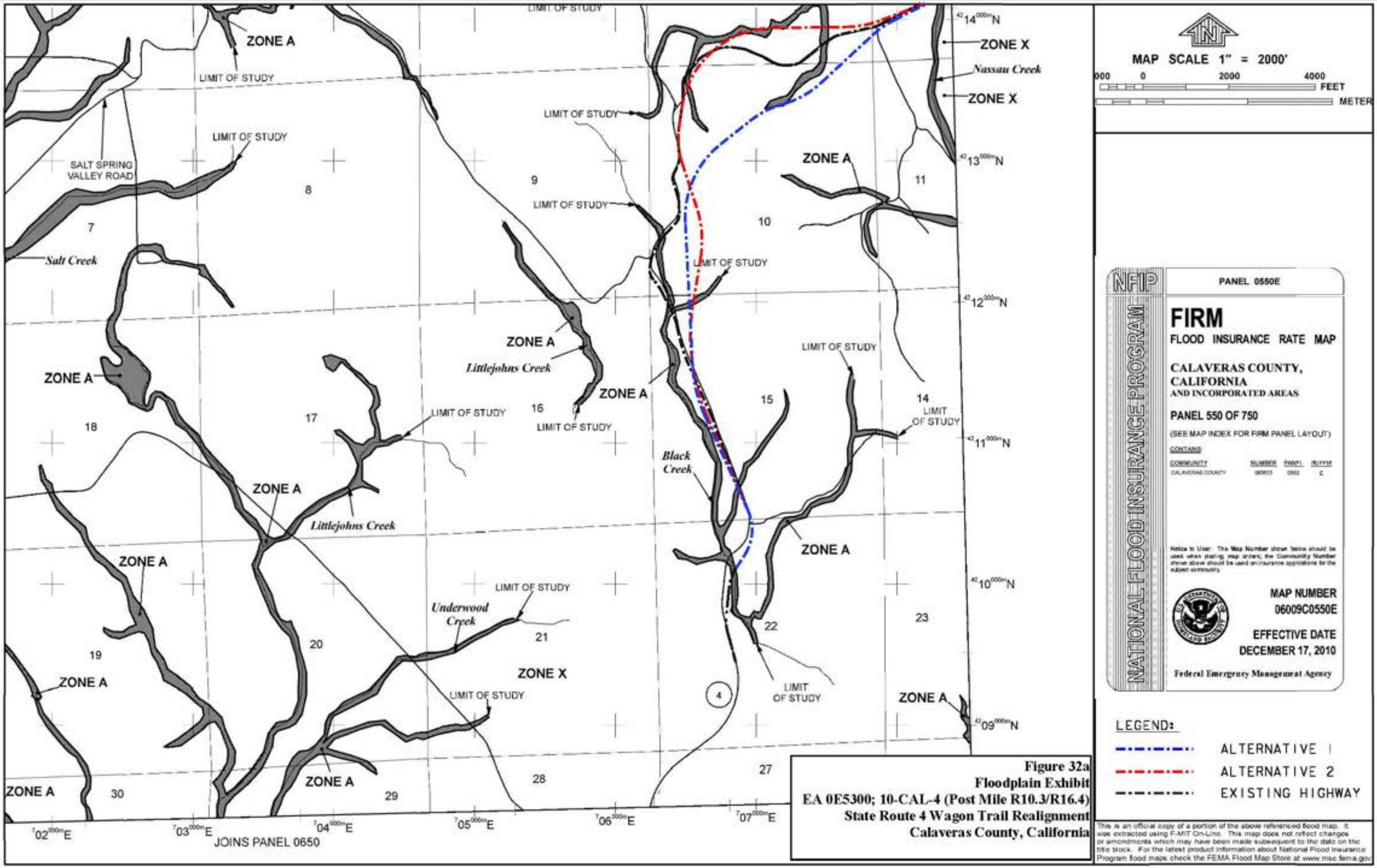

Figure 32a
Floodplain Exhibit
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment
Calaveras County, California

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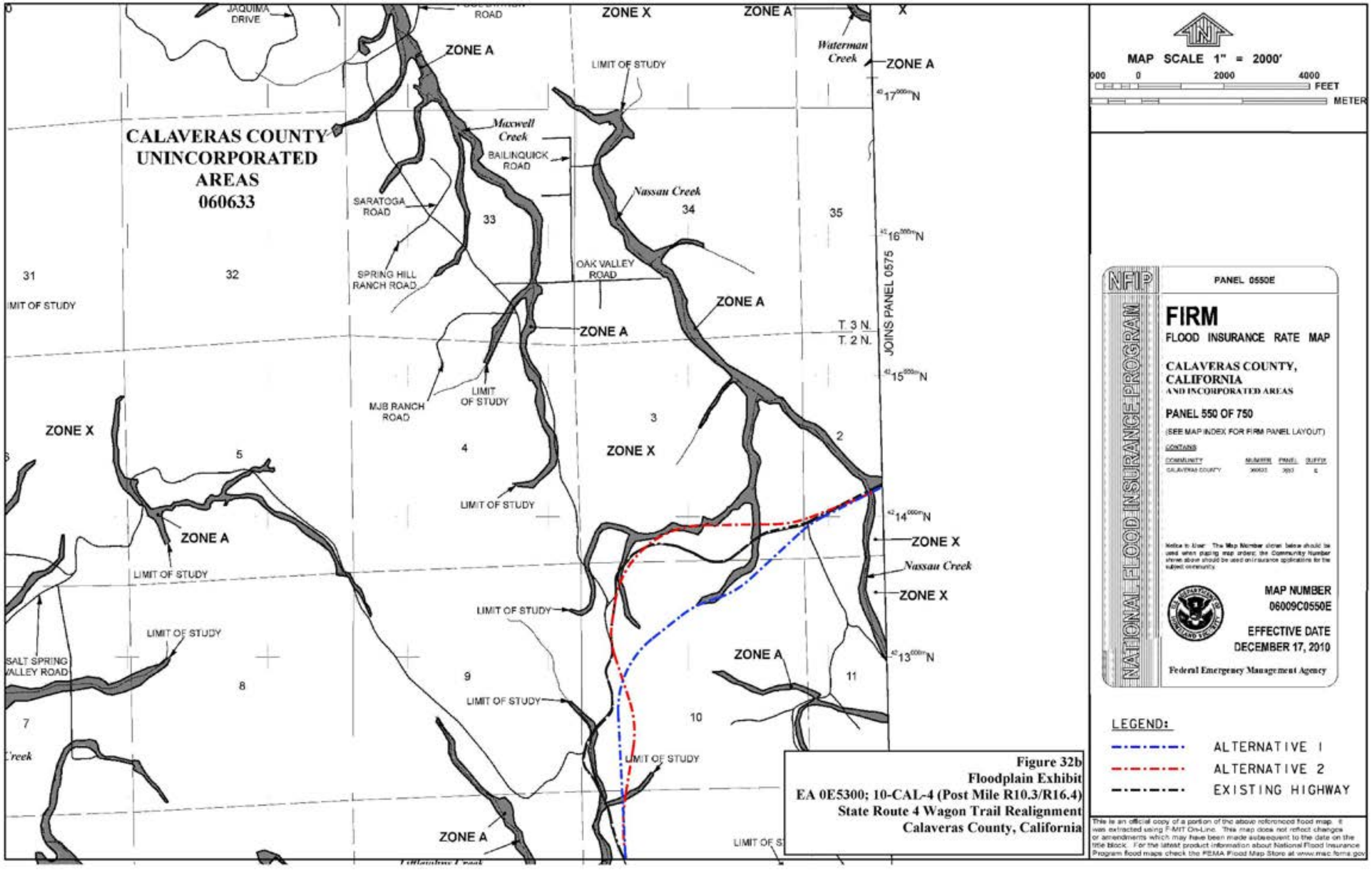

Figure 32b
Floodplain Exhibit
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment
Calaveras County, California

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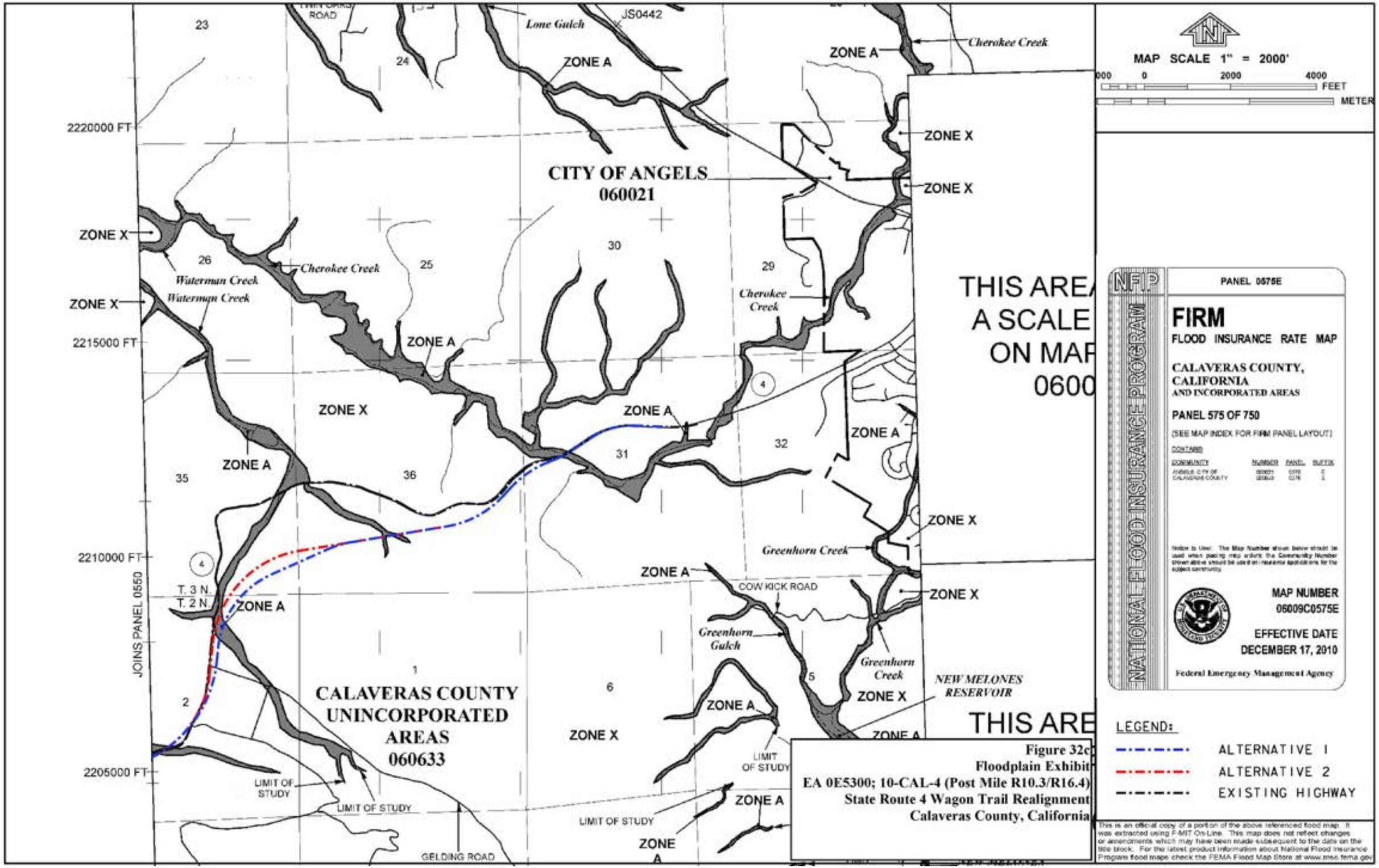

Figure 32c
Floodplain Exhibit
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment
Calaveras County, California

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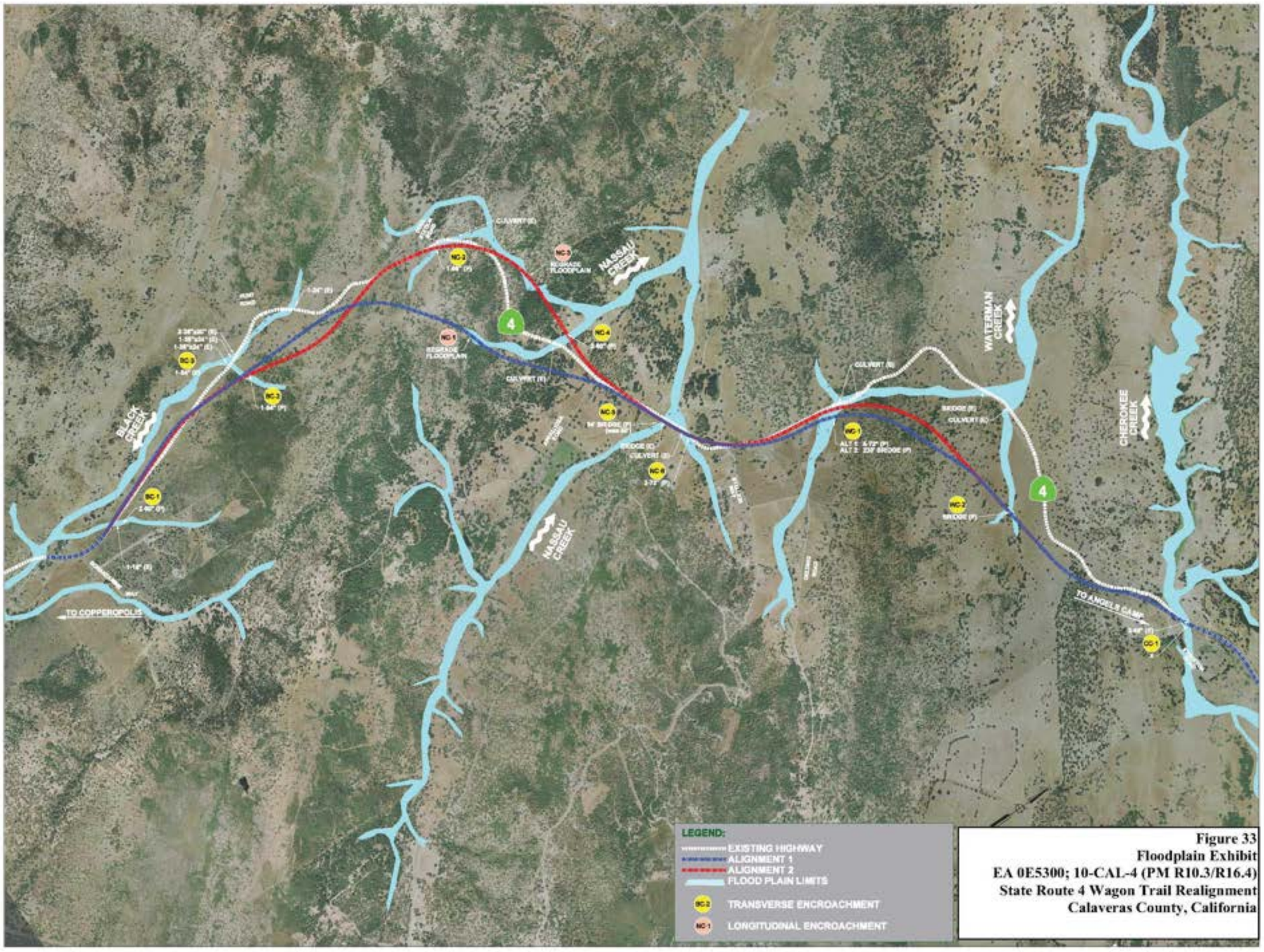

Figure 33
Floodplain Exhibit
EA 0E5300; 10-CAL-4 (PM R10.3/R16.4)
State Route 4 Wagon Trail Realignment
Calaveras County, California

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As shown in the Federal Emergency Management Agency Flood Insurance Rate Maps (FIRMs) #06009C0550E and #06009C0575E for Calaveras County, most of the project is in Zone X, which is defined as the area outside the 0.2% annual chance floodplain (500-year frequency) (see Figures 31 through 33). Where State Route 4 crosses Black Creek, Nassau Creek, Waterman Creek, and Cherokee Creek, the project lies within Zone A. Zone A is defined as a special flood hazard area subject to inundation by the 1% annual chance flood (100-year frequency) with no Base Flood Elevations determined.

Heavy flooding has been observed by the property owners within the project area near the existing State Route 4 crossings of both Waterman Creek and Nassau Creek.

Environmental Consequences

Each of the two Build Alternatives would cross Black Creek, Nassau Creek, Waterman Creek, and Cherokee Creek and their associated tributaries. At each channel crossing, the proposed project would encroach on the floodplain of the waterways. Potential encroachments at the creek crossings would be minor and are not expected to create a risk associated with the project for the following reasons:

- A combination of culverts, bridges, and detention facilities would be used to reduce existing flooding upstream of the highway and to maintain/reduce flows downstream of the highway. As a result, the project would not result in property damage upstream and downstream of the facility caused by flooding,
- The culverts and bridges used to convey these creeks under the highway would be sized to prevent overtopping of the roadway for up to a 100-year storm frequency. Therefore, the potential for damage or loss of the proposed facility due to flooding and the potential for interruption of traffic due to flooding are not substantial.
- The addition of adequately sized culverts/bridges and detention facilities would reduce the instances of flooding in the vicinity of the project area. As a result, there is no potential for loss of service during the service life of the facility as a result of flooding.

Impacts on Floodplain Values

Natural and beneficial floodplain values are defined by the Federal Highway Administration to include, but are not limited to, fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, forestry, natural moderation of floods, water quality maintenance, and groundwater recharge.

The floodplain associated with the four major creeks within the project area varies from 50 to 250 feet in width. The realignment of State Route 4 would encroach on approximately 9.1 acres (Alternative 1) and 7.7 acres (Alternative 2) of existing floodplain with new pavement and fill. The proposed alignment for each alternative would result in the removal of existing pavement when the proposed and existing alignments are concurrent. For the portions of the existing highway that would not be used as part of the proposed highway alignment, it is anticipated that the remaining pavement would be relinquished to the adjacent parcel owners.

Hydrologic Engineering Centers River Analysis System (HEC-RAS) analyses were completed to determine hydraulic impacts to the floodplains at each crossing for each alternative. Figure 33 shows the areas where floodplain encroachment would take place.

Although the alternatives have slightly different alignments and impacts based on their respective profiles, the floodplain values affected remain virtually the same. The project has the potential to affect five floodplain values: wildlife, plants, open space, natural moderation of floods, and water quality maintenance as follows:

Wildlife: Black Creek, Nassau Creek, Waterman Creek and Cherokee Creek also function as wildlife migration corridors because they provide a clear pathway and vegetation cover for animals that move through the area. While each alignment alternative would encroach into the floodplain of these creeks, creating a potential diversion to the wildlife migration corridor, many of the culverts and bridges that would be used to convey storm water under the highway would also function as wildlife crossings, thereby reducing the impediments to the wildlife corridor. In terms of temporary impacts during construction, any wildlife that is encountered would be allowed to leave the construction area unharmed. In addition, all trash would be kept in wildlife-proof receptacles and any non-natural food and water sources would not be left unattended for the duration of the project construction. Therefore, impacts to the natural and beneficial floodplain values associated with wildlife are considered minimal and negligible for the project.

Plants: The proposed alignments of Alternative 1 and 2 encroach on existing floodplains that support plant life, including common spikerush, clustered field sedge, common rush, and a special-status species called the Tuolumne button-celery. The Tuolumne button-celery was observed in the vicinity of Waterman Creek and its tributaries. Alternative 1 would directly impact one Tuolumne button-celery specimen and permanently impact a total of approximately 0.85 acre of habitat for this special plant species. Alternative 2 would have no direct impacts to the Tuolumne button-celery specimen and would permanently impact approximately 0.27 acre of habitat. Mitigation, minimization and avoidance measures would be used to reduce impacts to a less than significant level, including: Environmentally Sensitive Area fencing, relocation of plants to suitable habitat, and environmental awareness training of construction personnel.

Open Space: Both alternatives include segments of roadway that would go through undisturbed land and create new impervious surfaces within the floodplain. Both alternatives include segments of roadway that will create new impervious surfaces. Alternative 1 will result in a total of approximately 47.7 acres of impervious area, and Alternative 2 will result in a total of approximately 45.2 acres of impervious area. These acreages include both new impervious surfaces as well as portions of the existing State Route 4 that would no longer be used. Removal or maintenance of the existing State Route 4 pavement would be at the owners' discretion; therefore, as a conservative measure, the existing State Route 4 pavement is included in the proposed impervious area calculations. Table 20 summarizes the existing and proposed impervious area, in addition to the net new impervious area for each alternative. Open space is identified by Federal Emergency Management Agency as a societal resource with recreational opportunity benefits. Given the project would not

meaningfully change current land uses and potential for recreational opportunities within the project area, it is anticipated that impacts to open space would be non-significant.

Natural Moderation of Floods: Flood flows in the existing project area are currently moderated by undersized culvert and/or bridge crossings of the existing highway as well as the large expanses of land over which the flows can spread. Although the proposed culvert and/or bridge crossings for each alternative alignment would be designed to pass the 100-year flow, if it is determined that this would cause flooding downstream, detention basins would be incorporated to reduce the downstream flows to existing conditions. There would continue to be large areas of land over which flows can spread. However, in the immediate vicinity of the project, those areas would be contained, as needed, to protect nearby residents and roadway infrastructure. As a result, no substantial impact to the natural moderation of flood flows in the project area is anticipated.

Water Quality Maintenance: Both alternatives would go through previously undeveloped land, creating additional impervious surfaces as discussed in the Open Space section above. While this additional impervious surface is expected to slightly increase the amount of storm water runoff, it is not expected to increase the amount of storm water pollutants because the project would not increase traffic capacity. Therefore, the amount of traffic using the roadway would remain the same, as would the amount of pollutants generated by the traffic on the roadway. The project would seek to improve storm water quality by incorporating permanent treatment Best Management Practices. The following permanent treatment Best Management Practices are being considered for this project: infiltration/detention basins and biofiltration swales. In terms of temporary impacts during construction, standard practices for erosion and water quality control, as dictated in the project-specific Storm Water Pollution Prevention Plan, would provide adequate protection against water quality degradation.

Support of Incompatible Development

Incompatible floodplain development is defined as development that is not consistent with a community floodplain development plan Federal Highway Administration Technical Advisory T 6640.8A, 1987). Based on the Calaveras County Land Use Designations, the floodplain is zoned for Agriculture Preserve and Rural Residential. The realignment and widening of State Route 4 and the subsequent encroachment on the floodplain would not support development that is inconsistent with the current Calaveras County General Plan and Land Use Designations.

Minimization of Floodplain Impact

Measures to minimize impacts would be included as part of the project implementation. Temporary impacts due to construction activity would be minimized through the implementation of construction Best Management Practices included in the Storm Water Pollution Prevention Plan and any additional measures specified in the regulatory permits obtained for this project.

Restoration and Preservation of Floodplain Values

Floodplain values would be preserved in accordance with the discussion provided in "Impacts on Floodplain Values."

Construction

During construction, disruption to emergency supply, vehicle access, and/or evacuation routes by way of State Route 4 between Copperopolis and Angels Camp is not expected.

Non-qualified persons would not be allowed onto the jobsite during construction. Exposed slopes as a result of cutting operations would be properly stabilized. Construction of drainage structures would occur during the non-rainy season to prevent need for diversion and possible inundation of storm water into unplanned areas. Risk associated with loss of property or loss of life is not expected.

Flooding

During large storms, State Route 4 in the existing condition does experience traffic interruptions due to flooding because the 100-year water surface elevation exceeds the roadway elevation in many locations along the highway. In the proposed condition, culverts and bridges would be sized to convey the 100-year flood storm event underneath the roadway without overtopping. In the built condition, potential for interruption or termination of a vehicular emergency or evacuation route is not expected.

In locations where proposed culverts would be replacing existing undersized culverts, detention basins would be built either upstream to attenuate the flows before they reach the roadway or downstream to prevent tail water damages from occurring because of the additional volume of water being conveyed past the roadway. Proposed culverts and bridges in locations where the roadway does not currently exist would be sized to perpetuate existing floodplain conveyance conditions. Therefore, the risk associated with the implementation of this project is considered negligible and the potential for loss of life or property is not substantial. Substantial adverse impacts due to flooding on natural or beneficial floodplain values are not expected. Refer to the discussion in "Risk Associated with Implementation."

Alternatives to Longitudinal Encroachment

A longitudinal encroachment is defined by the Federal Highway Administration to be an encroachment that is parallel to the direction of flow. Each of the alternative alignments would have a single longitudinal encroachment along the existing Nassau Creek floodplain. For Alternative 1, the longitudinal encroachment occurs at Crossing NC-1; for Alternative 2, the longitudinal encroachment occurs at Crossing NC-3 (see Figure 33). Numerous geometric alternatives for each roadway alignment have been evaluated to meet the project constraints, and it has been determined that the roadway alignments cannot be adjusted to completely avoid the longitudinal encroachment. Given the rural nature of the area, there are significantly fewer constraints associated with the location of the creek alignment. As a result, the creek channel and associated floodplain are proposed to be realigned to avoid the roadway, thus eliminating the longitudinal encroachment. The realignments are relatively minor in nature and would be accomplished in accordance with the resource agency permits.

The remaining crossings would be transverse, or perpendicular, encroachments and would be able to convey the floodplain across the roadway via culverts and bridges.

The results of the Hydrologic Engineering Centers River Analysis System (HEC-RAS) analysis show that the creek realignment does not affect hydraulics, water surface elevations, or velocities upstream or downstream of the limits of realignment. Within the limits of realignment, the creek geometry is designed to match existing conditions to the extent possible, and results show the flow is contained in the creek and does not result in substantial backwater effects or flooding.

Avoidance, Minimization, and/or Mitigation Measures

Minimization Measure HYD-1: A Storm Water Pollution Prevention Plan would be implemented during construction to provide adequate erosion and water quality control.

Minimization Measure HYD-2: Permanent treatment Best Management Practices would be incorporated consistent with the project's Storm Water Data Report.

Minimization Measure HYD-3: Longitudinal encroachments will be avoided through localized realignment of water features.

Minimization Measure HYD-4: Culverts and basins would be sized and designed to accommodate storm water per Caltrans design standards.

2.2.2 Water Quality and Storm Water Runoff

Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the U.S. from any point source[1] unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System permit. This act and its amendments are known today as the Clean Water Act. Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the National Pollutant Discharge Elimination System permit scheme. The following are important Clean Water Act sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge would comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).

[1] A point source is any discrete conveyance such as a pipe or a human-made ditch.

- Section 402 establishes the National Pollutant Discharge Elimination System, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems.
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers.

The goal of the Clean Water Act is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

The U.S. Army Corps of Engineers issues two types of 404 permits: General and Standard permits. There are two types of General permits: Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of the U.S. Army Corps of Engineer's Standard permits. There are two types of Standard permits: Individual permits and Letters of Permission. For Standard permits, the U.S. Army Corps of Engineers' decision to approve is based on compliance with U.S. Environmental Protection Agency's Section 404 (b)(1) Guidelines (U.S. Environmental Protection Agency Code of Federal Regulations 40 Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines were developed by the U.S. Environmental Protection Agency in conjunction with the U.S. Army Corps of Engineers and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative that would have less adverse effects. The guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The guidelines also restrict permitting activities that violate water quality or toxic effluent[2] standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the U.S. Army Corps of Engineers, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 Code of Federal Regulations 320.4. A discussion of the least environmentally damaging practicable alternative determination, if any, for the document is included in the Wetlands and Other Waters section.

[2] The U.S. EPA defines "effluent" as "wastewater, treated or untreated, that flows out of a treatment plant, sewer or industrial outfall."

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the Clean Water Act and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Also, it prohibits discharges of "waste" as defined, and this definition is broader than the Clean Water Act definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements and may be required even when the discharge is already permitted or exempt under the Clean Water Act.

The State Water Resources Control Board and Regional Water Quality Control Boards are responsible for establishing the water quality standards (objectives and beneficial uses) required by the Clean Water Act and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable Regional Water Quality Control Board Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect these uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the State Water Resources Control Board identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with Clean Water Act Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls (National Pollutant Discharge Elimination System permits or Water Discharge Requirements), the Clean Water Act requires the establishment of Total Maximum Daily Loads. Total Maximum Daily Loads specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The State Water Resources Control Board administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, Total Maximum Daily Loads, and National Pollutant Discharge Elimination System permits. Regional Water Quality Control Boards are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollutant Discharge Elimination System Program

Municipal Separate Storm Sewer Systems

Section 402(p) of the Clean Water Act requires the issuance of National Pollutant Discharge Elimination System permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems. A municipal separate storm sewer systems is defined as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having

jurisdiction over storm water, that is designed or used for collecting or conveying storm water." The State Water Resources Control Board has identified Caltrans as an owner/operator of a municipal separate storm sewer systems under federal regulations. Caltrans' municipal separate storm sewer systems permit covers all department rights-of-way, properties, facilities, and activities in the state. The State Water Resources Control Board or the Regional Water Quality Control Board issues National Pollutant Discharge Elimination System permits for five years, and permit requirements remain active until a new permit has been adopted.

Caltrans' municipal separate storm sewer systems Permit (Order No. 2012-0011-DWQ) was adopted on September 19, 2012 and became effective on July 1, 2013. The permit has three basic requirements:

1. Caltrans must comply with the requirements of the Construction General Permit (see below).

2. Caltrans must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges.

3. Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices, to the Maximum Extent Practicable, and other measures as the State Water Resources Control Board determines to be necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The Statewide Storm Water Management Plan assigns responsibilities within Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The Statewide Storm Water Management Plan describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of Best Management Practices.

Construction General Permit

The Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the Regional Water Quality Control Board. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, and 3. Risk levels are determined during the planning and design phases and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before-construction and after-construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan. In accordance with Caltrans' Standard Specifications, a Water Pollution Control Plan is necessary for projects with Disturbed Soil Area less than one acre.

Section 401 Permitting

Under Section 401 of the Clean Water Act, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project would be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are Clean Water Act Section 404 permits issued by the U.S. Army Corps of Engineers. The 401 permit certifications are obtained from the appropriate Regional Water Quality Control Board, dependent on the project location, and are required before the U.S. Army Corps of Engineers issues a 404 permit.

In some cases, the Regional Water Quality Control Board may have specific concerns with discharges associated with a project. As a result, the Regional Water Quality Control Board may issue a set of requirements known as Waste Discharge Requirements under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. Water Discharge Requirements can be issued to address both permanent and temporary discharges of a project.

Affected Environment

The *Water Quality Assessment* for this project, approved in January 2014, provides the basis for the following discussion.

Water features in the project area include Black Creek, Nassau Creek, Waterman Creek, Cherokee Creek, and their tributaries. Black Creek runs along the southwest side of the project and is the only creek in the project area that flows south to Tulloch Reservoir. Nassau Creek is between Appaloosa Road and Stallion Way, Waterman Creek is about one mile northeast of Gelding Way, and Cherokee Creek is at the east end of the project about 0.45 mile west of Stockton Road. Nassau, Waterman and Cherokee creeks flow north into the South Fork Calaveras River eventually to New Hogan Lake. Where State Route 4 transects these creeks and their tributaries, culverts convey their waters under the highway.

The proposed project sits within the Upper Calaveras River and Upper Stanislaus River sub-basin, which is part of the San Joaquin River basin and sub-region (see Figure 35) (California Watershed Portal 2007). The San Joaquin basin includes the entire area drained by the San Joaquin River, which is approximately 15,880 square miles (see Figure 34). Major tributaries within the basin include the Cosumnes, Mokelumne, Calaveras, Stanislaus, Tuolumne,

Merced, Chowchilla, and Fresno rivers. Major water bodies in the area are New Hogan Lake, Salt Spring Valley Reservoir, New Melones Lake, and Tulloch Reservoir. All drainage water from the San Joaquin and Sacramento rivers ultimately meet and form the Sacramento-San Joaquin Delta, which drains west to the Pacific Ocean through the San Francisco Bay.

The CalWater 2.2.1 delineation classifies the project in the San Joaquin Hydrologic Region, within the San Antonio Creek-South Fork Calaveras River and Upper Stanislaus River Hydrologic Unit (major rivers), in the Cherokee Creek and Black Creek Hydrologic Area (HA [major tributaries]). The San Antonio Creek-South Fork Calaveras River Hydrologic Unit encompasses the upper drainages of the Calaveras River and New Hogan Lake from its origins in the Sierra Nevada Mountains to the base of the Sierra foothills, while the Upper Stanislaus River Hydrologic Units encompasses the upper drainages of the Stanislaus River. These Hydrologic Unis are shown in Figure 35.

Within the project area, the following four prime waters of the U.S. and State were identified: Black Creek, Nassau Creek, Watermen Creek and Cherokee Creek (numerous smaller natural drainages were also identified). None of these features is listed in the States Section 303(d) list of impaired waters. Further detail on these four water features can be found in the Hydrology and Floodplain section of this document.

Downstream of Black Creek, the Tulloch Reservoir is listed as impaired with mercury from an unknown source, as described by the Environmental Protection Agency:

> Under section 303(d) of the Clean Water Act, states, territories, and authorized tribes are required to develop lists of impaired waters. These are waters that are too polluted or otherwise degraded to meet the water quality standards set by states, territories, or authorized tribes. The law requires that these jurisdictions establish priority rankings for waters on the lists and develop TMDLs for these waters. A Total Maximum Daily Load, or TMDL, is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards. (Environmental Protection Agency, 2014).

The Total Maximum Daily Load for Tulloch Reservoir is estimated to be completed (i.e., established) in 2021. Downstream of Nassau Creek, Waterman Creek and Cherokee Creek, the New Hogan Lake is listed as impaired with mercury from resource extractions. The estimated completion date for New Hogan Lake Total Maximum Daily Load is 2021.

There are no sole source aquifers at or near the project area.

FIGURE 34
San Joaquin Basin
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

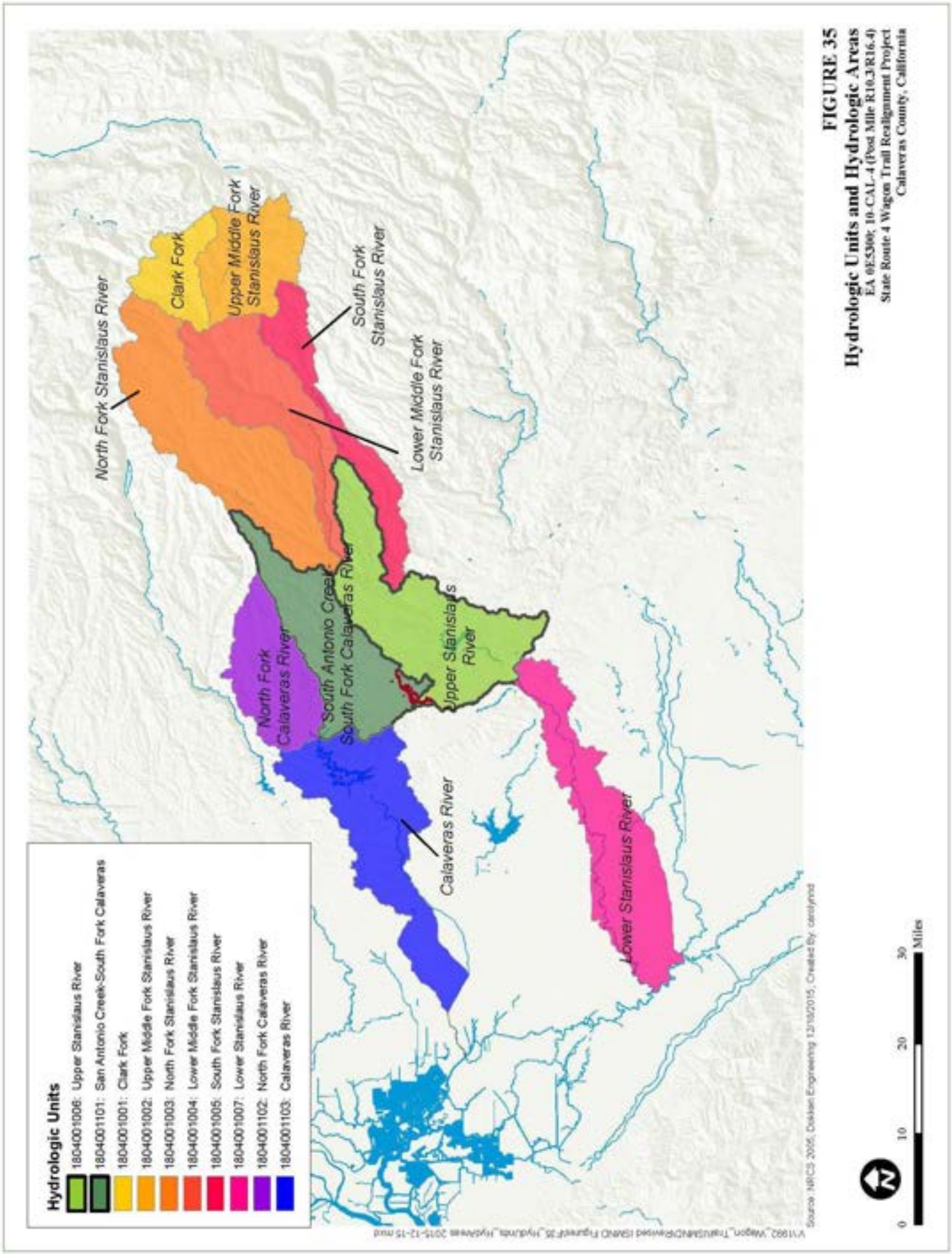


FIGURE 35
Hydrologic Units and Hydrologic Areas
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

Environmental Consequences

Construction

Construction activities associated with the project would include disturbances to the ground surface from earthwork, including grading and fill within Black Creek, Nassau Creek, Waterman Creek, and Cherokee Creek. Removal of some of the existing riparian vegetation would be required due to project construction, which could increase the potential for slope erosion. These activities could potentially increase the amount of sediments entering all four creeks and tributaries. Runoff during the winter season is of greater concern due to the potential erosion of unprotected or graded surfaces during rain events. Sediments could potentially harm aquatic resources and water quality. However, standard Best Management Practices, as included in measures WQ-1 through WQ-6, would be included in the project to avoid or minimize the release of pollutants, including sediments and chemical toxins, into the environment during construction.

Materials used during construction of the project (e.g., concrete curing compounds) could have chemicals that are potentially harmful to aquatic resources and water quality. Accidents or improper use of these materials could result in the release of contaminants into the environment, including the creeks themselves. Also, oil and other petroleum products used to maintain and operate construction equipment could be accidentally released. However, standard Best Management Practices would be included in the project to avoid or minimize the release of pollutants, including chemical toxins, into the environment during construction.

The project would be constructed in accordance with applicable water quality regulations and would not be expected to result in substantial water quality impacts during construction.

Erosion, Turbidity, and Total Dissolved Solids

Suspended material is considered a pollutant of primary concern for construction projects. Exposure of loose soil and erosion during excavation, grading, and filling activities are the primary sources of suspended material. Construction activities for this project would occur on State Route 4 and within the surrounding area. The project would include some construction impacts to Black Creek, Nassau Creek, Waterman Creek and Cherokee Creek and could temporarily increase the sediment load thus increasing the turbidity, and total dissolved solids present in stream water. However, standard Best Management Practices would be included in the project to avoid or minimize the release of pollutants, including sediments and chemical toxins, into the environment during construction.

The suspended solids, dissolved solids, and organic pollutants in surface water bodies could also increase while nearby soils are disturbed and dust is generated. These conditions would likely persist until completion of construction activities and long-term erosion control measures have been implemented.

Oil, Grease, and Chemical Contamination

Accidental spills of petroleum hydrocarbons (fuels and lubricating oils), sanitary wastes, and or concrete waste are also a concern during construction activities. An accidental release of these wastes during construction could adversely affect surface water quality, vegetation, and

wildlife habitat. Impacts are not expected to cause a long-term impact due to the construction time limits and the use of standard Best Management Practices. The extent of potential environmental effects depends on the erodibility of soil types encountered, type of construction practices, extent of disturbed area, duration of construction activities, timing of precipitation, and proximity to drainage channels.

Other short-term negative impacts to surface water quality that could occur during construction include slight changes in temperature, pH, dissolved oxygen, nutrient concentrations, toxicity, and ionic concentrations. Standard Best Management Practices would be included in the project to avoid or minimize the release of pollutants, including chemical toxins, into the environment during construction.

Long-term Water Quality Impacts

The new impervious area was determined by adding the new alignment to the existing area to provide a conservative estimate.

Both alternatives include segments of roadway that will create new impervious surfaces. Alternative 1 will result in a total of approximately 47.7 acres of impervious area, and Alternative 2 will result in a total of approximately 45.2 acres of impervious area. These acreages include both new impervious surfaces as well as portions of the existing State Route 4 that would no longer be used. Removal or maintenance of the existing State Route 4 pavement would be at the owners' discretion; therefore, as a conservative measure, the existing State Route 4 pavement is included in the proposed impervious area calculations. Table 20 shows the existing and proposed impervious area, in addition to the net new impervious area for each alternative.

Table 20. Net New Impervious Area by Alternative

Alternative Number	Existing Impervious Area (acres)	Net New Impervious Area (acres)	Proposed Impervious Area (acres)*
1	18.0	29.7	47.7
2	18.0	27.2	45.2
*Assumes existing impervious area being relinquished to adjacent owners remains in place *Source: Storm Water Data Report, 2015*			

This construction could potentially increase the volume of storm water runoff from the roadways surface that could enter the drainage system and eventually the creeks themselves. The increased amount of storm water runoff would be determined during final design. Roadways may contain oil, grease, petroleum products, zinc, copper, lead, cadmium, iron, or other trace metals, which could harm aquatic life. Concentrations of these pollutants in storm water runoff would be greatest during the "first flush" storm event, generally the first major rains of the season.

As previously noted, none of the four creeks is included in the Regional Water Quality Control Board's list of impaired waters. Although there is the potential for a slight increase in

polluted runoff due to increased impervious surfaces (that would be calculated during final design), the project impacts to water quality would be minimal.

Avoidance, Minimization, and/or Mitigation Measures

The following measures will be included on applicable plans prepared for the project. Best Management Practices will be incorporated into project design and project management to minimize impacts on the environment including reduction of sedimentation and release of pollutants (oil, fuel, etc.). Examples of minimization efforts include the use of silt fencing, temporary energy dissipation facilities, and wattles. Implementation of Best Management Practices will reduce the potential for impacts from 29 occurring outside of the construction footprint. The following measures will be implemented to ensure Best Management Practices. All Best Management Practices and other measures will be prepared in consultation with the project engineer, Calaveras County, the Regional Water Quality Control Board, and other regulatory agencies:

- Minimization Measure WQ-1: A Section 401 Water Quality Certification will be obtained from the Regional Water Quality Control Board.

- Minimization Measure WQ-2: A Section 404 Permit will be obtained from the U.S. Army Corps of Engineers.

- Minimization Measure WQ-3: A National Pollutant Discharge Elimination System Construction General Permit for Discharges of storm water associated with construction activities (CGP 2009-009-DWQ as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ (National Pollutant Discharge Elimination System No. CAS000002) will be obtained through the State Water Resources Control Board.

- Minimization Measure WQ-4: Water pollution control practices will be implemented as required in the Caltrans Standard Specifications.

- Minimization Measure WQ-5: A spill prevention and countermeasure plan will be incorporated into the Storm Water Pollution Prevention Plan.

- Minimization Measure WQ-6: A Section 1602 Streambed Alteration Agreement will be obtained through the California Department of Fish and Wildlife.

2.2.3 Geology, Soils, Seismicity and Topography

Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under the California Environmental Quality Act.

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Caltrans' Office of Earthquake Engineering is responsible for assessing the seismic hazard for Department projects. Structures are designed using Caltrans Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification would determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see Caltrans' Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

Affected Environment

The *Paleontological Identification Report* for this project was approved in December 2013 and provides the basis for the following discussion. The project is in the Sierra Nevada section of the Cascade-Sierra Mountains physiographic province as mapped in Nevin Fenneman's *Physiographic Regions of the Lower 48 United States* (1948). As described by the U.S. Geological Survey (2000), the Sierra Nevada is a "west-tilting 350-mile-long block of granite…[which] intruded the crust in Mesozoic time and was uplifted and faulted in the Tertiary during formation of the Basin and Range province to the east." The local topography of the project site is composed of rolling hills and gradual undulations characteristic of the Sierra Nevada foothills. The build alternatives range in elevation from 1,287 feet above sea level to 1,321 feet above sea level.

Calaveras County is not affected by Alquist-Priolo Earthquake Fault Zones (California Geological Survey, 2014).

The project site is mapped as mostly Paleozoic to Mesozoic rock units of volcanic and metamorphosed sedimentary rocks. Tuffs are common. Details on the following formations and units at the project site follow:

- Green Schist
- Mariposa Formation
- Sedimentary Rocks of Uncertain Stratigraphic Position
- Volcanic Rocks of Uncertain Stratigraphic Position
- Copper Hill Volcanics
- Ultramafic Rocks
- Colluvium
- Soils

Environmental Consequences

The project would be designed in accordance with design and construction requirements of the Caltrans Highway Design Manual, Caltrans Design Specifications, and applicable seismic standards. Structures would be designed according to recommended seismic values as defined by the California Building Code 2007. As a result, no significant exposure to strong

seismic ground shaking or seismic-related ground failure, including liquefaction, and landslides, is anticipated. The proposed project would be designed and constructed in accordance with recommendations provided in the Geotechnical Design Report, which would be prepared during Final Design.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are proposed.

2.2.4 Paleontology

Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils.

A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects:

- 16 U.S. Code 431-433 (the "Antiquities Act") prohibits appropriating, excavating, injuring, or destroying any object of antiquity situated on federal land without the permission of the Secretary of the Department of Government having jurisdiction over the land. Fossils are considered "objects of antiquity" by the Bureau of Land Management, the National Park Service, the Forest Service, and other federal agencies.

- 16 U.S. Code 461-467 (the National Registry of Natural Landmarks) establishes the National Natural Landmarks program. Under this program, property owners agree to protect biological and geological resources such as paleontological features. Federal agencies and their agents must consider the existence and location of designated National Natural Landmarks, and of areas found to meet the criteria for national significance, in assessing the effects of their activities on the environment under the National Environmental Policy Act.

- 16 U.S. Code 470aaa (the Paleontological Resources Preservation Act) prohibits the excavation, removal, or damage of any paleontological resources located on federal land under the jurisdiction of the Secretaries of the Interior or Agriculture without first obtaining an appropriate permit. The statute establishes criminal and civil penalties for fossil theft and vandalism on federal lands.

- 23 U.S. Code 1.9(a) requires that the use of federal-aid funds must be in conformity with federal and state law.

- 23 U.S. Code 305 authorizes the appropriation and use of federal highway funds for paleontological salvage as necessary by the highway department of any state, in compliance with 16 U.S. Code 431-433 above and state law.

Under California law, paleontological resources are protected by the California Environmental Quality Act.

Affected Environment

The *Paleontological Identification Report*, approved in 2013, provided the basis for the following discussion.

The Paleontological Study Area is mapped as mostly Paleozoic to Mesozoic rock units of volcanic and metamorphosed sedimentary rocks. Section 2.2.3 Geology, Soils, Seismicity and Topography, describe the geological units in the study area. The following geologic units are in the Paleontological Study Area:

- Green Schist
- Mariposa Formation
- Sedimentary Rocks of Uncertain Stratigraphic Position
- Volcanic Rocks of Uncertain Stratigraphic Position
- Copper Hill Volcanics
- Ultramafic Rocks
- Colluvium

A search of records at the University of California Museum of Paleontology determined that vertebrate Pleistocene fossils have been recovered in the county. However, nearly every fossil recovered has been found in the county's numerous caves and caverns. Only a single occurrence of a fossil older that Pleistocene has been recorded. Although older fossils might exist, they would likely be recovered from colluvium, but could lack integrity and context due to decomposition and mass wasting processes.

Invertebrate fossils are known from the Mariposa Formation in California but not locally. No scientifically significant fossils are known within a mile of the project area.

Environmental Consequences

Paleontological resources are considered to be significant if they provide new data on fossil animals, distribution, evolution or other scientifically important information. Knowledge of the geological formations gleaned from the survey and records of previous fossils recovered from an area are the basis for determining the paleontological sensitivity of projects. Caltrans uses a three-part scale to characterize paleontological sensitivity (Table 21, Caltrans 2003, updated 2008).

Table 21. Paleontology Sensitivity Scale

Sensitivity	Description
High	Rock units which, based on previous studies, contain or are likely to contain significant vertebrate, significant invertebrate or significant plant fossils. These units include sedimentary formations that contain significant nonrenewable resources anywhere within the geographical extent.
Low	Rock units that are not known to have produced significant fossils in the past but possess a potential to contain fossils or those that yield common fossil invertebrates.
No	Rock units of igneous origin or metamorphosed transformation.
Source: Paleontological Identification Report, 2013	

The Paleontological Identification Report documented that all rock units in the Paleontological Study Area have low or no sensitivity with regard to producing significant fossils (see Table 22).

Table 22. Paleontology Sensitivity

Caltrans Sensitivity	High	Low	No
Rock units			
Green schist			X
Mariposa Formation		X	
Cretaceous quartz diorite		X	
Sedimentary rocks of uncertain stratigraphic position		X	
Volcanic rocks of uncertain stratigraphic position			X
Copper Hill volcanics		X	
Ultramafic rocks			X
Colluvium		X	
Source: Paleontological Identification Report, 2013			

No significant fossils are expected to be disturbed by the proposed project. No further paleontological work is required. If unexpected paleontological resources are observed during project construction, work would be suspended in the immediate vicinity of the find until it can be evaluated by a qualified paleontologist per measure PAL-1.

Avoidance, Minimization, and/or Mitigation Measures

Minimization Measure PAL-1: If unanticipated paleontological resources are observed during project construction, work would be suspended in the immediate vicinity of the find until it can be evaluated by a qualified paleontologist.

2.2.5 Hazardous Waste and Materials

Regulatory Setting

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health and land use.

The main federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 and the Resource Conservation and Recovery Act of 1976. The purpose of Comprehensive Environmental Response, Compensation and Liability Act, often referred to as "Superfund," is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. The Resource Conservation and Recovery Act provides for "cradle to grave" regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act

- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts listed above, Executive Order 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the California Health and Safety Code and is also authorized by the federal government to implement the Resource Conservation and Recovery Act in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

Affected Environment

The Hazardous Waste Initial Site Assessment for this project, approved in January 2014, and the Aerially Deposited Lead, Metals, and Naturally Occurring Asbestos Site Investigations Report, approved in March 2015, provided the background and technical information for this section. The objective of the Initial Site Assessment was to determine the potential presence of "recognized environmental conditions" as defined by the American Society for Testing and Materials Designation E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

The Hazardous Waste Initial Site Assessment included a governmental records search, aerial photograph and topographic map review, and site reconnaissance and field surveys.

Records Search/Database Review

A search of federal, state, and local databases was performed for the project site and surrounding area. The objective of the records search was to obtain and review records that would help identify recognized environmental conditions at or potentially affecting the project site. However, no properties/facilities within the project study area were identified in the database searches. The searches did identify 31 properties in the Orphan Summary. These are properties that have incomplete address information and could not be specifically plotted. Based on what location information was available for orphan properties, no adverse impacts are expected for the project.

The U.S. Geological Survey Mineral Resource Data System (http://mrdata.usgs.gov/mineral-resources/mrds-us.html) was also reviewed for information regarding former and current

mining locations in the project site. Nineteen mining sites (classified as Unknown, Producer, Past Producer, Prospect or Occurrence) were identified. The primary commodity for the identified mine sites was gold. Other listed commodities include chromium, copper, asbestos, silver, manganese, iron and zinc.

Site Reconnaissance and Field Surveys

A site reconnaissance was performed along the existing State Route 4 alignment on October 15, 2013. Except for tailings associated with historical mining activities and the presence of naturally occurring asbestos along the bedrock cut slope along State Route 4 near Pool Station Road, evidence of potential hazardous material/waste impacts or recognized environmental conditions was not observed.

Field surveys were performed in April and May 2013 along the Alternative 1 and Alternative 2 alignments within privately owned parcels that granted right-of-entry access. Site Owner Questionnaires were provided to each of the parcel owners within the project site to help determine potential hazardous material/waste impacts. Questionnaires were completed by seven parcel owners. Past historical land use was reported as livestock grazing, stage stop/livery stable (Elkhorn Station), gold exploration, and a charcoal factory. Other reported parcel features included ponds, reservoirs, seasonal creeks, springs, wetlands, septic tanks, leach fields, and common household chemicals/hazardous materials. Except for historical mining activities and aboveground fuel/oil storage, no evidence of hazardous material/waste impacts or recognized environmental conditions with potential to impact the project site was observed.

Historical Mining Activities

The primary commodity for the identified mine sites was gold. Other listed commodities include chromium, copper, asbestos, silver, manganese, iron and zinc. Tailings from historical mining activities occur within the project area which potentially indicate toxic metal residue presence.

Aerially Deposited Lead and Heavy Metals

An Aerially Deposited Lead, Metals, and Naturally Occurring Asbestos Site Investigation Report was approved in February 2015. Twenty-two borings were collected at various depths within the project study area. These borings were used for 64 soil samples that were analyzed to evaluate whether aerially deposited lead, heavy metals, or naturally occurring asbestos were present in soil within the existing State Route 4 right-of-way. The report documented soil testing results.

Aerially Deposited Lead

Elevated aerially deposited lead levels associated with historical leaded gasoline emissions may be present in shallow soil in the unpaved shoulders of the existing State Route 4 alignment.

Heavy Metals

The project sits in a mining region with the potential for elevated levels of naturally occurring metals. Heavy metals may be present in burn ash deposits seen next to the State Route 4 shoulder near the western end of the site.

Naturally Occurring Asbestos

The project is in an area known to have ultramafic/serpentinite rock in which asbestos is commonly found. A Naturally Occurring Asbestos and Title 22 Metals Site Investigation was completed for Caltrans for the State Route 4 alignment between post miles 12.5 and 13.0 next to the southern project site boundary. One soil/rock sample detected asbestos (chrysotile).

An Initial Site Assessment dated January 30, 2014 identified recommendations for naturally occurring asbestos at the site. Serpentine bedrock outcrops containing exposed naturally occurring asbestos were seen in cut slopes along State Route 4 near Pool Station Road, which could pose a potential health hazard when the asbestos becomes an airborne particulate.

Asbestos and Lead-Containing Paint

Asbestos-containing materials and lead-based paint were commonly used in the construction of older bridges. An asbestos and lead-containing paint survey was conducted of three bridges and three concrete box culverts along the existing State Route 4 that are subject to demolition or modification. Chrysotile asbestos at a concentration of less than 0.1% was detected in samples representing concrete used on Bridge #30-0036 and on the box culvert at post mile R16.15 (post mile 17.71). Asbestos was not detected on any of the other bridges or culverts.

Two paint samples collected from the West Branch Cherokee Creek Bridge (Bridge #30-0036) contained lead at concentrations exceeding California and federal hazardous waste levels. Deteriorated paint observed on this bridge would require abatement before demolition.

Environmental Consequences

General

The Initial Site Assessment recommended testing to verify the presence/extent of Recognized Environmental Conditions. This included testing for aerially deposited lead and heavy metals and asbestos-containing material and lead-based paint. The Initial Site Assessment also identified potential hazardous waste risks or impacts at multiple private properties within the project site that would require further evaluation, including parcels containing historical mining sites/features and aboveground fuel/oil tanks. These sites were found during the October 2013 site reconnaissance on either side of State Route 4 between Hunt Road and Appaloosa Road. Further, vehicle and equipment storage (pick-up and box trucks, trailers, jet skis, storage container, etc.) was observed at the northeast corner of the intersection of State Route 4 and Bonanza Mine Way on the Frazier parcel (Assessor's Parcel Number 053-007-023). Three 55-gallon drums labeled as "Racing Fuel" were noted on the Frazier parcel. A damaged, open-top 55-gallon drum was further noted. No obvious leakage/impacts were noted near the drums.

Both Alternatives 1 and 2 will affect this property (Assessor's Parcel Number 053-007-023) similarly.

Historical Mining Activities

Identified mine shafts, prospecting pits or other open excavations within the existing or planned right-of-way acquisition parcels should be properly abandoned (filled in) or sealed (engineered plug/cap) for public safety or to support planned highway improvements.

Aerially Deposited Lead

Soils along the existing alignment were tested for aerially deposited lead. Aerially deposited lead concentrations were less than the California hazardous waste criteria screening levels. Soil excavated from the top 2.0 feet or shallower within the proposed realignment would not be classified as a California hazardous waste and could be reused, relinquished to the contractor, or disposed of as non-hazardous soils with respect to lead content.

Heavy Metals

Soils along the existing alignment were tested for heavy metals. While elevated chromium and nickel concentrations were found, the concentrations are within the range of naturally occurring background levels for this region. Arsenic was detected in the soil samples with reported concentrations greater than the California Human Health Screening Levels and Environmental Screening Levels for residential and commercial/industrial land use; however, the reported levels of arsenic fall within the range of naturally occurring background levels. The remaining heavy metals concentrations generally fall within the range of naturally occurring background levels. It is unlikely that excavated soils generated within the project boundaries would be classified as hazardous waste. However, the designated disposal facility may require additional testing to confirm waste classification based on chromium content. Although elevated chromium concentrations of 1.1 milligrams per liter (mg/L) were detected, the concentration did not exceed state or federal hazardous waste thresholds of 5.0 mg/L. Soil excavated to a depth of 2.0 feet or shallower with respect to chromium could be reused, relinquished to the contractor, or disposed of as non-hazardous soil (for Alternative 1 or 2).

Based on the statistical analysis for nickel, soil excavated to a depth of 2.0 feet or shallower would not be classified as a California hazardous waste. Consequently, soil excavated to a depth of 2.0 feet or shallower could be reused, relinquished to the contractor, or disposed of as non-hazardous soil with respect to nickel content (for Alternative 1 or 2).

Naturally Occurring Asbestos

Naturally occurring asbestos generally exists around and south-southwest of Pool Station Road. Alternatives 1 and 2, which both have cut/fill and ground disturbance in this area, are expected to have it also.

Based on field observations, published geologic mapping, and professional experience, the project site was recommended to be divided into two segments for the purpose of soil management during the proposed realignment. Approximately the western one-third of the site is underlain by geologic materials considered likely to contain naturally occurring asbestos, while materials underlying approximately the eastern two-thirds of the site are considered relatively less likely to contain naturally occurring asbestos.

Due to the presence of ultramafic rock and an observed vein of naturally occurring asbestos in bedrock, earthen material generated during construction activities from Bonanza Mine Way to north of Pool Station Road is considered Restricted Material. Therefore, the contractor(s) should implement asbestos worker protection measures and naturally occurring asbestos-containing soil management practices. See proposed mitigation measures HAZ-3, HAZ-4, and HAZ-5.

The geologic materials within the remaining portion of the project (north of Pool Station to Stockton Road) consist of a mix of Paleozoic-Mesozoic metavolcanic and metasedimentary rocks in the eastern two-thirds of the site. This segment is relatively less likely to contain naturally occurring asbestos, and it was not detected at concentrations of 0.25% or greater in the 13 samples of soil/rock collected from borings within this segment. Therefore, native earthen material generated from the proposed realignment project within this highway segment can be reused or disposed of without restrictions with regard to naturally occurring asbestos.

Asbestos and Lead-Containing Paint

Asbestos: National Emissions Standards for Hazardous Air Pollutants regulations do not require that materials containing 1% or less of asbestos (i.e., concrete identified on Bridge 30-0036 and on the box culvert at post mile R16.15 (post mile 17.71) be removed prior to demolition, renovation, or be treated as hazardous waste. Demolition of concrete containing less than 0.1% asbestos would not require asbestos registration or certification with the State of California Occupational Safety and Health Administration; however, the demolition contractor must follow certain requirements of the State of California Occupational Safety and Health Administration asbestos standard (i.e., the use of wet methods, prompt cleanup, etc.) when disturbing the concrete, per measure HAZ-3. Contractors are responsible for informing the landfill of the contractor's intent to dispose of asbestos waste. Some landfills may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal. Bridge 30-0036 is expected to be demolished with either Alternative 1 or 2 unless that portion of the roadway is relinquished to local property owners. Both alternatives would cross the West Branch Cherokee Creek just south of the existing location of Bridge 30-0063.

Lead Paint: Deteriorated white paint on the Bridge 30-0036 barriers represented by samples collected during the survey would be classified as a California and federal hazardous waste based on lead content. As such, the deteriorated paint must be removed and disposed of before renovation, demolition, or other activities that would disturb the paint. Bridge 30-0036 is expected to be demolished with either Alternative 1 or 2 unless that portion of the roadway is relinquished to local property owners

Gray paint on the Bridge 30-0036 steel girders represented by samples collected during the survey would be classified as a California hazardous waste (and assumed to be a federal hazardous waste) based on lead content if stripped, blasted, or otherwise separated from the substrate. Bridge 30-0036 is expected to be demolished with either Alternative 1 or 2 unless that portion of the roadway is relinquished to local property owners.

Avoidance, Minimization, and/or Mitigation Measures

Minimization Measure HAZ-1: Excavation/earthwork activities in the western one-third of the site should be observed and documented by a Professional Geologist experienced in the recognition of naturally occurring asbestos.

Minimization Measure HAZ-2: Soil/rock excavated from such areas, specifically at Pool Station Road, should be placed as deep fill elsewhere within the segment at a location where it is unlikely to be disturbed by future excavation/construction activities.

Minimization Measure HAZ-3: Contractors working in areas identified as containing or likely to contain naturally occurring asbestos will consult California- Occupational Safety and Health Act to establish the appropriate regulatory protocol and actions necessary for excavation and/or disturbance of asbestos-containing soils.

Minimization Measure HAZ-4: Prior to construction activities, the contractor(s) shall prepare and implement an Asbestos Dust Mitigation Plan (ADMP) that describes measures that will be taken to control the potential release of naturally occurring asbestos-containing dust from the soil/rock as a result of construction excavation activities. Asbestos dust control and soil management activities to be implemented shall be in compliance with applicable state, federal, and local laws. Special provisions will be included in the construction contract.

Minimization Measure HAZ-5: Prior to beginning construction activities, the contractor(s) must prepare and implement a Lead and Asbestos Compliance-Health and Safety Plan. Special provisions will be included in the construction contract.

Minimization Measure HAZ-6: Contractors that would be conducting renovation or related activities in areas or on structures shall be notified of the presence of asbestos in their work areas (i.e., the contractor[s] shall be provided a copy of the Site Investigation and bridge survey data and a list of asbestos removed during subsequent activities). Contractors not trained for asbestos work shall be instructed not to disturb asbestos during their activities.

Minimization Measure HAZ-7: National Emissions Standards for Hazardous Air Pollutants notification will be made to the Calaveras County Air Pollution Control District 10 days prior to bridge demolition or renovation activities whether asbestos is present or not.

Minimization Measure HAZ-8: All paints at the project location (signage, graffiti, graffiti abatement, etc.) shall be treated as lead-containing for purposes of determining the applicability of the California- Occupational Safety and Health Act lead standard during maintenance, renovation, and demolition activities. In accordance with Title 8, CCR, §1532.1(p), written notification to the nearest California- Occupational Safety and Health Act district office is required and shall be conducted at least 24 hours prior to certain lead-related work. Contractors are responsible for segregating and characterizing waste streams prior to disposal. Special provisions will be included in the construction contract.

Minimization Measure HAZ-9: Following the completion of private parcel right-of-way acquisition for the selected alternative alignment, additional site investigation may be necessary to address potential impacts associated with aboveground fuel/oil tanks or other identified potential contamination sources, including the active vineyard next to Appaloosa Road.

Minimization Measure HAZ-10: Sampling may be required to obtain a discharge permit for disposal of any extracted groundwater generated during bridge demolition/construction activities.

Minimization Measure HAZ-11: Due to the potential for elevated lead and chromium levels associated with yellow striping paint, centerline paint removed during planned roadway improvement activities may require sampling, analytical testing, and/or special handling and disposal requirements unless combined with sufficient asphalt grindings. Special Provisions will be included in the construction contract.

Minimization Measure HAZ-12: Asbestos-containing pipe may be encountered during construction of the planned highway and bridge improvements. Any encountered asbestos-containing pipe would require proper handling and disposal in accordance with regulatory requirements.

Minimization and Avoidance Measure HAZ-13: If present or encountered within the new right-of-way, undocumented underground storage tanks, septic systems, and unused domestic agricultural wells or cisterns should be properly removed or abandoned in accordance with Calaveras County requirements.

2.2.6 Air Quality

Regulatory Setting

The Federal Clean Air Act, as amended, is the main federal law that governs air quality while the California Clean Air Act is its companion state law. These laws, and related regulations by the U.S. Environmental Protection Agency and California Air Resources Board, set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards. National Ambient Air Quality Standards and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter, which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$), and sulfur dioxide (SO_2). In addition, national and state standards exist for lead (PB) and state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride.

The National Ambient Air Quality Standards and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act. In addition to this environmental analysis, a parallel “conformity” requirement under the Federal Clean Air Act also applies.

Conformity

The conformity requirement is based on Federal Clean Air Act Section 176(c), which prohibits the U.S. Department of Transportation and other federal agencies from funding, authorizing, or approving plans, programs or projects that do not conform to State Implementation Plan for attainting the National Ambient Air Quality Standards. "Transportation Conformity" applies to highway and transit projects and takes place on two levels: the regional—or, planning and programming—level and the project level. The proposed project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and "maintenance" (former nonattainment) areas for the National Ambient Air Quality Standards, and only for the specific National Ambient Air Quality Standards that are or were violated. U.S. Environmental Protection Agency regulations at 40 Code of Federal Regulations 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for National Ambient Air Quality Standards and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the National Ambient Air Quality Standards for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas (although not in California) sulfur dioxide (SO_2). California has attainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the Federal Clean Air Act to be covered in transportation conformity analysis.

Regional conformity is based on emission analysis of Regional Transportation Plans and Federal Transportation Improvement Programs that include all transportation projects planned for a region over a period of at least 20 years for the Regional Transportation Plan) and 4 years (for the Transportation Improvement Program). Regional Transportation Plan and Federal Transportation Improvement Project conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the Clean Air Act and the State Improvement Program are met. If the conformity analysis is successful, the Metropolitan Planning Organization, Federal Highway Administration, and Federal Transit Administration, make determinations that the Regional Transportation Plan and Federal Transportation Improvement Program are in conformity with the State Implementation Plan for achieving the goals of the Federal Clean Air Act. Otherwise, the projects in the Regional Transportation Plan and/or Federal Transportation Improvement Program must be modified until conformity is attained.

If the design concept, scope, and "open-to-traffic" schedule of a proposed transportation project are the same as described in the Regional Transportation Plan and Federal Transportation Improvement Program, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Conformity analysis at the project level includes verification that the project is included in the regional conformity analysis and a "hot-spot" analysis if an area is "nonattainment" or "maintenance" for carbon monoxide (CO) and/or particulate matter (PM_{10} or $PM_{2.5}$). A

region is in "nonattainment" if one or more of the monitoring stations in the region measures a violation of the relevant standard and the U.S. Environmental Protection Agency officially designates the area nonattainment. Areas that were previously designated as nonattainment areas but subsequently meet the standard may be officially re-designated to attainment by U.S. Environmental Protection Agency and are then called "maintenance" areas. "Hot-spot" analysis is essentially the same, for technical purposes, as CO or particulate matter analysis performed for National Environmental Policy Act purposes. Conformity does include some specific procedural and documentation standards for projects that require a hot-spot analysis. In general, projects must not cause the "hot-spot"-related standard to be violated, and must not cause any increase in the number and severity of violations in nonattainment areas. If a known CO or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s).

Affected Environment

The *Air Quality Report*, approved in May 2014, provided the information for this section along with standard air pollutant emissions information from the Calaveras County Air Pollution Control District website.

The proposed project sits in the foothills of the Sierra Nevada at an elevation ranging from about 1,500 to 1,750 feet above mean sea level. According to the Natural Resources Conservation Service National Water and Climate Center, temperatures average a high of 92.3 degrees Fahrenheit and a low of 76.2 degrees Fahrenheit during the summer. In winter, the average high temperature is 47.9 degrees Fahrenheit and the low is 39.9 degrees Fahrenheit. Winds are generally from the west and northwest. This is of particular importance regarding the dispersal of pollutants, as Calaveras County is influenced by the generation of ozone precursors from the urbanized areas of Sacramento, Stockton, and the Bay Area. These precursors are blown eastward, react with sunlight, and can result in high levels of ozone in Calaveras County as well as other mountain counties.

The project is in the Mountain Counties Air Basin, as shown in Figure 36. The Calaveras County Air Pollution Control District is the agency responsible for monitoring and regulating air pollutant emissions from stationary, area, and indirect sources within Calaveras County. The district also has responsibility for monitoring air quality and setting and enforcing limits for source emissions. The California Air Resources Board is the agency with the legal responsibility for regulating mobile source emissions. The district is precluded from such activities under state law. The Calaveras County Air Pollution Control District is the agency responsible for preparing regional air quality plans under the state and federal Clean Air Acts.

The current regional clean air plan addresses ozone and PM_{10} and identifies strategies for progressive reduction in emissions of ozone precursors and particulate matter.

Under the National Ambient Air Quality Standards, Calaveras County is in nonattainment for 8-hour ozone and is in attainment or is unclassified for other federal criteria pollutants. Under the California Ambient Air Quality Standards, Calaveras County is in nonattainment for ozone and PM_{10}. It is in attainment or is unclassified for all other state criteria pollutants. Table 23 shows the ambient air quality designations for Calaveras County.

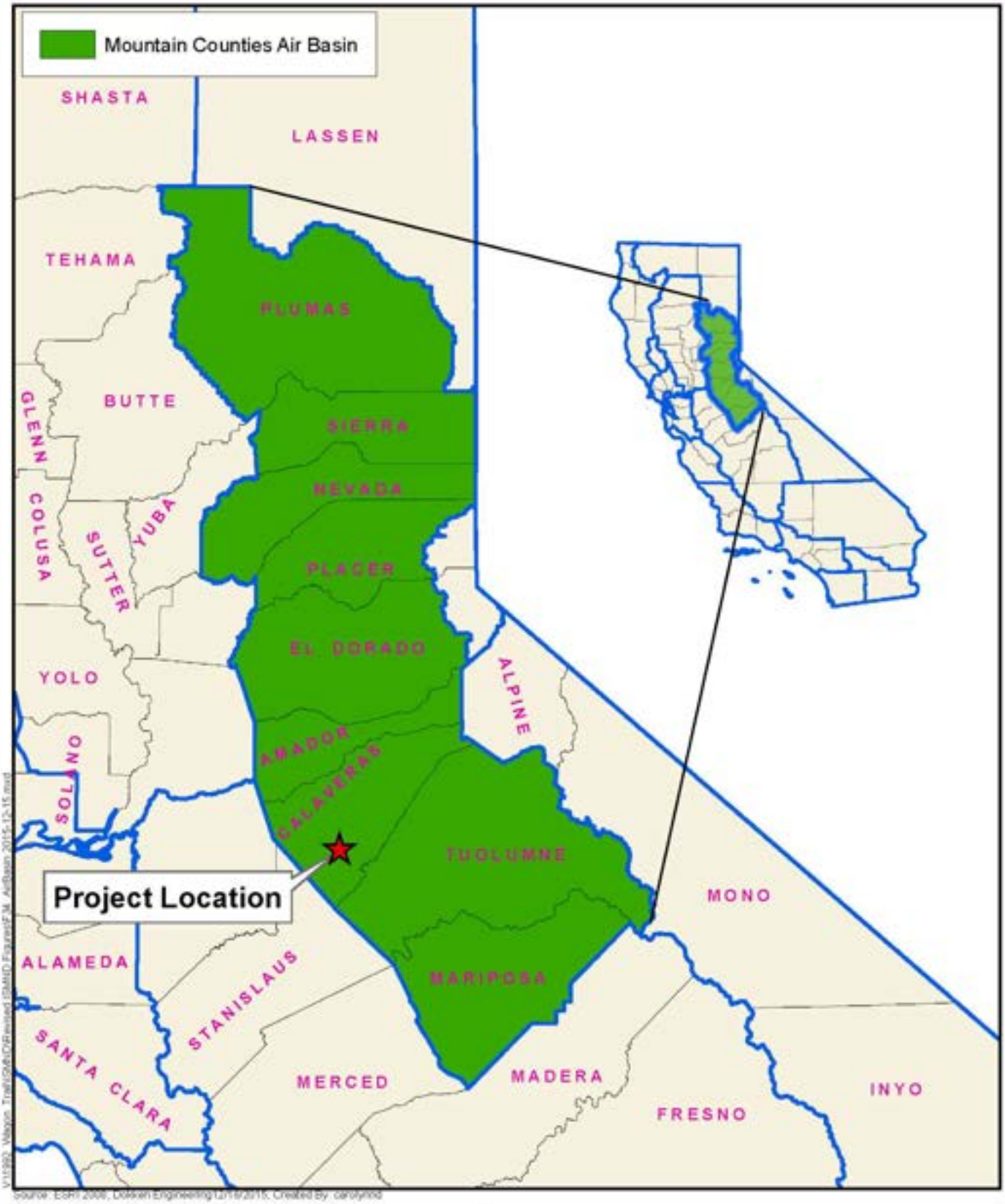


Figure 36
Mountain Counties Air Basin
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

Table 23. Calaveras County Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone – 8-Hour	Nonattainment	Nonattainment
Ozone – 1-Hour	N/A	Nonattainment
PM_{10}	Unclassified	Nonattainment
$PM_{2.5}$	Unclassified/Attainment	Unclassified
Carbon Monoxide	Unclassified/Attainment	Unclassified
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified	Attainment
Sulfates	N/A	Attainment
Lead	Unclassified/Attainment	Attainment
Hydrogen Sulfide	N/A	Unclassified
Visibility Reducing Particles	N/A	Unclassified
Source: California Air Resources Board 2014		

Table 24 summarizes all of the National Ambient Air Quality Standards and California Ambient Air Quality Standards for criteria pollutants.

Table 24. State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State [8] Standard	Federal [8] Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status
Ozone (O_3) [2]	1 hour 8 hours	0.09 ppm 0.070 ppm	---[4] 0.075 ppm (4th highest in 3 years)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds (ROG or VOC) and nitrogen oxides (NOx) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.	1 hour: Federal: n/a State: Nonattainment 8 hour: Federal: Nonattainment State: Nonattainment
Carbon Monoxide (CO)	1 hour 8 hours 8 hours (Lake Tahoe)	20 ppm 9.0 ppm [1] 6 ppm	35 ppm 9 ppm ---	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	Federal: Unclassified/Attainment State: Unclassified

Pollutant	Averaging Time	State [8] Standard	Federal [8] Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status
Respirable Particulate Matter (PM_{10}) [2]	24 hours Annual	50 µg/m^3 20 µg/m^3	150 µg/m^3 --- [2] (expected number of days above standard < or equal to 1)	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic & other aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke & vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.	Federal: Unclassified State: Nonattainment
Fine Particulate Matter ($PM_{2.5}$) [2]	24 hours Annual 24 hours (conformity process [5]) Secondary Standard (annual; also for conformity process [5])	--- 12 µg/m^3 --- ---	35 µg/m^3 12.0 µg/m^3 65 µg/m^3 15 µg/m^3 (98th percentile over 3 years)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the $PM_{2.5}$ size range. Many toxic & other aerosol and solid compounds are part of $PM_{2.5}$.	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NOx, sulfur oxides (SOx), ammonia, and ROG.	Federal: Unclassified/Attainment State: Unclassified
Nitrogen Dioxide (NO_2)	1 hour Annual	0.18 ppm 0.030 ppm	0.100 ppm [6] (98th percentile over 3 years) 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain & nitrate contamination of stormwater. Part of the "NOx" group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.	Federal: Unclassified/Attainment State: Attainment
Sulfur Dioxide (SO_2)	1 hour 3 hours 24 hours	0.25 ppm --- 0.04 ppm	0.075 ppm [7] (99th percentile over 3 years) 0.5 ppm [9]	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	Federal: Unclassified State: Attainment
Lead (Pb) [3]	Monthly Rolling 3-month average	1.5 µg/m^3 ---	--- 0.15 µg/m^3 [11]	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.	Federal: Unclassified/Attainment State: Attainment

Pollutant	Averaging Time	State [8] Standard	Federal [8] Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status
Sulfate	24 hours	25 µg/m^3	---	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	Federal: n/a State: Attainment
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm	---	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.	Federal: n/a State: Unclassified
Visibility Reducing Particles (VRP)	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70%	---	Reduces visibility. Produces haze. NOTE: not directly related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.	Federal: n/a State: Unclassified

Adapted from Sonoma-Marin Narrows Draft EIR and California ARB Air Quality Standards chart (http://www.arb.ca.gov/research/aaqs/aaqs2.pdf).

Notes: ppm = parts per million; µg/m^3 = micrograms per cubic meter; ppb=parts per billion (thousand million)

1 Rounding to an integer value is not allowed for the State 8-hour CO standard. A violation occurs at or above 9.05 ppm.

2 Annual PM_{10} NAAQS revoked October 2006; was 50 µg/m^3. 24-hr. $PM_{2.5}$ NAAQS tightened October 2006; was 65 µg/m^3. Annual $PM_{2.5}$ NAAQS tightened from 15 µg/m^3 to 12 µg/m^3 December 2012 and secondary annual standard set at 15 µg/m^3.

3 The ARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $PM_{2.5}$. Both the ARB and U.S. EPA have identified lead and various organic compounds that are precursors to ozone and $PM_{2.5}$ as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.

4 Prior to 6/2005, the 1-hour ozone NAAQS was 0.12 ppm. Emission budgets for 1-hour ozone are still be in use in some areas where 8-hour ozone emission budgets have not been developed, such as the S.F. Bay Area.

5 $PM_{2.5}$ (24-hr) NAAQS was not revoked when the 35 µg/m^3 NAAQS was promulgated in 2006. The 15 µg/m^3 annual $PM_{2.5}$ standard was not revoked when the 12 µg/m^3 standard was promulgated in 2012. The 0.08 ppm 1997 ozone standard is revoked FOR CONFORMITY PURPOSES ONLY when area designations for the 2008 0.75 ppm standard become effective for conformity use (7/20/2013). Conformity requirements apply for all NAAQS, including revoked NAAQS, until emission budgets for newer NAAQS are found adequate, SIP amendments for the newer NAAQS are approved with a emission budget, EPA specifically revokes conformity requirements for an older standard, or the area becomes attainment/unclassified. SIP-approved emission budgets remain in force indefinitely unless explicitly replaced or eliminated by a subsequent approved SIP amendment. During the "Interim" period prior to availability of emission budgets, conformity tests may include some combination of build vs. no build, build vs. baseline, or compliance with prior emission budgets for the same pollutant.

6 Final 1-hour NO_2 NAAQS published in the Federal Register on 2/9/2010, effective 3/9/2010. Initial area designation for California (2012) was attainment/unclassifiable throughout. Project-level hot spot analysis requirements do not currently exist. Near-road monitoring starting in 2013 may cause redesignation to nonattainment in some areas after 2016.

7 EPA finalized a 1-hour SO_2 standard of 75 ppb in June 2010. Nonattainment areas have not yet been designated as of 9/2012.
8 State standards are "not to exceed" or "not to be equaled or exceeded" unless stated otherwise. Federal standards are "not to exceed more than once a year" or as described above.
9 Secondary standard, set to protect public welfare rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.
10 Standards no longer apply in CA starting in 2013 (1 year after designations to attainment/unclassified statewide) were completed. Do not use or quote any more. Will be removed in 2013 edition of this table.
11 Lead NAAQS are not considered in Transportation Conformity analysis.

Greenhouse Gases and Climate Change:

Greenhouse gases do not have concentration standards for that purpose. Conformity requirements do not apply to greenhouse gases.

Environmental Consequences

Regional Conformity

This project is exempt from regional conformity (40 Code of Federal Regulations 93.127) requirements since it does not add through lanes and is only composed of "changes in vertical and horizontal alignment." Separate listing of the project in the *Regional Transportation Plan* and Transportation Improvement Program, and their regional conformity analyses, is not necessary. The project would not interfere with timely implementation of Transportation Control Measures identified in the applicable State Implementation Plan and regional conformity analysis.

Project-Level Conformity

Carbon Monoxide

Calaveras County is in a carbon monoxide (CO) attainment area. In CO attainment areas, only projects that are likely to worsen air quality necessitate further analysis. Projects that worsen air quality are defined as those that significantly increase the percentage of vehicles in cold start mode, those that significantly increase traffic volumes, and those that worsen traffic flow. These criteria are evaluated when comparing build and no-build scenarios. The determination of project-level CO impacts was carried out according to the Local Analysis flowchart that was provided in the CO Protocol document.

A series of questions must be answered to determine the project's requirements:

Question 3.1.1: Is the project exempt from all emissions analyses?

The proposed project description does not fit any of the projects listed in Table 1 of the protocol and therefore must proceed to question 3.1.2.

Question 3.1.2: Is the project exempt from regional emissions analyses?

Yes, the proposed project is exempt from regional emissions analysis. The project is exempt from regional conformity per 40 Code of Federal Regulations 93.127 under project type "Changes in vertical and horizontal alignment."

Question 4.7.1: Does the project worsen air quality?

No, the proposed project does not worsen air quality. The following criteria from the CO Protocol is discussed to help determine whether the project is likely to worsen air quality for the area:

Does the project significantly increase the percentage of vehicles operating in cold start mode? Increasing the number of vehicles operating in cold start mode by as little as 2% should be considered potentially significant.

The project does not increase the number of vehicles operating in cold start mode because it accommodates projected future traffic that is anticipated with or without the project. The project also does not introduce new residential or commercial land uses.

Does the project significantly increase traffic volumes? Increases in traffic volume in excess of 5% should be considered potentially significant. Increasing the traffic volume by less than 5% may still be potentially significant if there is also a reduction in average speeds.

The project does not increase traffic volumes through the project site. Future traffic volumes are the same with the no-build and build Alternatives.

Does the project worsen traffic flow? For uninterrupted roadway segments, a reduction in average speeds (within a range of 3 to 50 mph) should be regarded as worsening traffic flow. For intersection segments, a reduction in average speed or an increase in average delay should be considered as worsening traffic flow.

The project would not worsen traffic flow. Based on the Traffic Operations Analysis Report (2014), average speeds would increase or stay the same. Delay Per Vehicle is also estimated to be reduced by approximately 20% to 30%.

Based on these answers, the flowchart concludes with "Project satisfactory, no further analysis needed."

PM_{10} and $PM_{2.5}$ Hot-Spot Analysis

The project is not in a PM_{10} and $PM_{2.5}$ nonattainment area. Calaveras County is unclassified for federal PM_{10} and $PM_{2.5}$ standards. As a result, PM_{10} and $PM_{2.5}$ conformity analysis is not required.

Construction

Construction air quality impacts are generally attributable to dust generated by equipment and vehicles. Fugitive dust is emitted both during construction activity and as a result of wind erosion over exposed earth surfaces. Clearing and earth-moving activities are major sources of construction dust emissions, but traffic and general disturbances of soil surfaces also generate significant dust emissions. Dust generation also depends on soil type and soil moisture. Adverse effects of construction activities cause increased dust-fall and locally elevated levels of total suspended particulate. Dust-fall can be a nuisance to neighboring properties or previously completed developments surrounding or within the project area and may require frequent washing during the construction period. Asphalt-paving materials used during construction would present temporary, minor sources of hydrocarbons that are precursors of ozone.

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other construction-related activities. Emissions from construction equipment also are expected and would include carbon monoxide (CO), nitrogen oxides (NO_x), volatile organic compounds (VOCs), directly emitted particulate matter (PM_{10} and $PM_{2.5}$), and toxic air contaminants such as diesel exhaust particulate matter. Ozone is a regional pollutant that comes from NO_x and VOCs in the presence of sunlight and heat.

The project's construction emissions were estimated using the Roadway Construction Emissions Model by the Sacramento Metropolitan Air Quality Management District. As shown in Table 25, construction activities from the project would not exceed emission thresholds established by the Calaveras County Air Pollution Control District.

Table 25. Calaveras County Air Pollution Control District California Environmental Quality Act Construction Thresholds of Significance

	Project Construction Emissions (pounds/day)	Local Threshold (pounds/day)
Reactive Organic Gases	13.2	150
NO_X	136.9	150
PM_{10}	106.3	150
Source: *Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects* (Calaveras County, 2014) and Road Construction Emissions Model, Version 5.2 (Sacramento Metropolitan Air Quality Management District, 2013)		

Measures AQ-1 through AQ-8 would be implemented during construction of the project. These measures are from the recommended dust control plan conditions noted in Calaveras County Air Pollution Control District's *Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects*.

Construction activities would not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 Code of Federal Regulations 93.123(c)(5)).

Naturally Occurring Asbestos

Naturally occurring asbestos occurs at the project site. Hazardous waste measures would be implemented to mitigate potential impacts from naturally occurring asbestos and are discussed in detail in the Hazardous Waste section of this document.

Mobile Source Air Toxics

Neither Alternative 1 nor 2 would have meaningful potential Mobile Source Air Toxics effects. The purpose of this project is to: enhance safety by providing a standard pavement width of 40 feet (two 12-foot lanes and two 8-foot shoulders) with an additional 12 feet to provide passing lanes or turn lanes where needed; improve sight distance through engineered alignments that reduce the number of curves, and increase curve radii with longer, smoother curves; and limit access to State Route 4 by reducing the number of access points and using frontage roads to consolidate private driveways. This project has been determined to generate minimal air quality impacts for Clean Air Act and Air Pollution criteria pollutants and has

not been linked with any special Mobile Source Air Toxics concerns. As such, this project would not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in Mobile Source Air Toxics impacts of the project from that of the No-Build Alternative.

Moreover, Environmental Protection Agency regulations for vehicle engines and fuels would cause overall Mobile Source Air Toxics emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with the Environmental Protection Agency's MOVES model forecasts a combined reduction of over 80% in the total annual emission rate for the priority Mobile Source Air Toxics from 2010 to 2050 while vehicle miles of travel are projected to increase by over 100%. This would both reduce the background level of Mobile Source Air Toxics as well as the possibility of even minor Mobile Source Air Toxics emissions from this project.

Avoidance, Minimization, and/or Mitigation Measures

The following measures are will be implemented during construction of the project. Measures AQ-2 through AQ-10 are from the dust control plan conditions noted in Calaveras County Air Pollution Control District's *Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects*.

Minimization Measure AQ-1: To control exposure to potentially naturally occurring asbestos-containing dust, engineering controls will be implemented, such as wetting of materials disturbed.

Minimization Measure AQ-2: According to the Department's Standard Specifications, the contractor must comply with all local Air Pollution Control District rules, ordinances, and regulations for air quality restrictions.

Minimization Measure AQ-3: The applicant shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of project development and construction.

Minimization Measure AQ-4: All material excavated, stockpiled, or graded shall be sufficiently watered, treated, or covered to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering should occur at least twice daily, with complete site coverage.

Minimization Measure AQ-5: All areas with vehicle traffic shall be watered or have dust palliative applied as necessary for regular stabilization of dust emissions.

Minimization Measure AQ-6: All on-site vehicle traffic shall be limited to a speed of 15 miles per hour on unpaved roads.

Minimization Measure AQ-7: All land clearing, grading, earth moving, or excavation activities on a project shall be suspended as necessary to prevent excessive windblown dust when winds are expected to exceed 20 miles per hour.

Minimization Measure AQ-8: All inactive portions of the development site shall be covered, seeded, or watered until a suitable cover is established. Alternatively, the applicant may apply County-approved non-toxic soil stabilizers (according to manufacturer's specifications) to all inactive construction areas (previously graded areas which remain inactive for 96 hours) in accordance with the local grading ordinance.

Minimization Measure AQ-9: All material transported off-site shall be either sufficiently watered or securely covered to prevent public nuisance, and there must be a minimum of six (6) inches of freeboard in the bed of the transport vehicle.

Minimization Measure AQ-10: Paved streets adjacent to the project shall be swept or washed at the end of each day, or more frequently if necessary, to remove excessive or visibly raised accumulations of dirt and/or mud that may have resulted from activities at the project site.

Minimization Measure AQ-11: Prior to final occupancy, the applicant shall reestablish ground cover on the site through seeding and watering in accordance with the local grading ordinance.

Climate Change

Climate change is analyzed at the end of this chapter. Neither the U.S. Environmental Protection Agency nor Federal Highway Administration has issued explicit guidance or methods to conduct project-level greenhouse gas analysis. As stated on Federal Highway Administration's climate change website (http://www.fhwa.dot.gov/hep/climate/index.htm), climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process would aid decision-making and improve efficiency at the program level, and would inform the analysis and stewardship needs of project-level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

Because there have been more requirements set forth in California legislation and executive orders on climate change, the issue is addressed in a separate California Environmental Quality Act discussion at the end of this chapter and may be used to inform the National Environmental Policy Act decision. The four strategies set forth by the Federal Highway Administration to lessen climate change impacts do correlate with efforts that the State has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours traveled.

2.2.7 Noise

Regulatory Setting

The National Environmental Policy Act of 1969 and the California Environmental Quality Act provide the broad basis for analyzing and abating highway traffic noise effects. The

intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between National Environmental Policy Act and California Environmental Quality Act.

California Environmental Quality Act

The California Environmental Quality Act requires a strictly baseline versus build analysis to assess whether a proposed project would have a noise impact. If a proposed project is determined to have a significant noise impact under the California Environmental Quality Act, then the act dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The California Environmental Quality Act noise analysis is included at the end of this section.

National Environmental Policy Act and 23 Code of Federal Regulations 772

For highway transportation projects with Federal Highway Administration (and Caltrans, as assigned) involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 Code of Federal Regulations 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project.

The regulations include noise abatement criteria that are used to determine when a noise impact would occur. The noise abatement criteria differ depending on the type of land use under analysis. For example, the noise abatement criterion for residences (67 decibel) is lower than the noise abatement criterion for commercial areas (72 decibels).

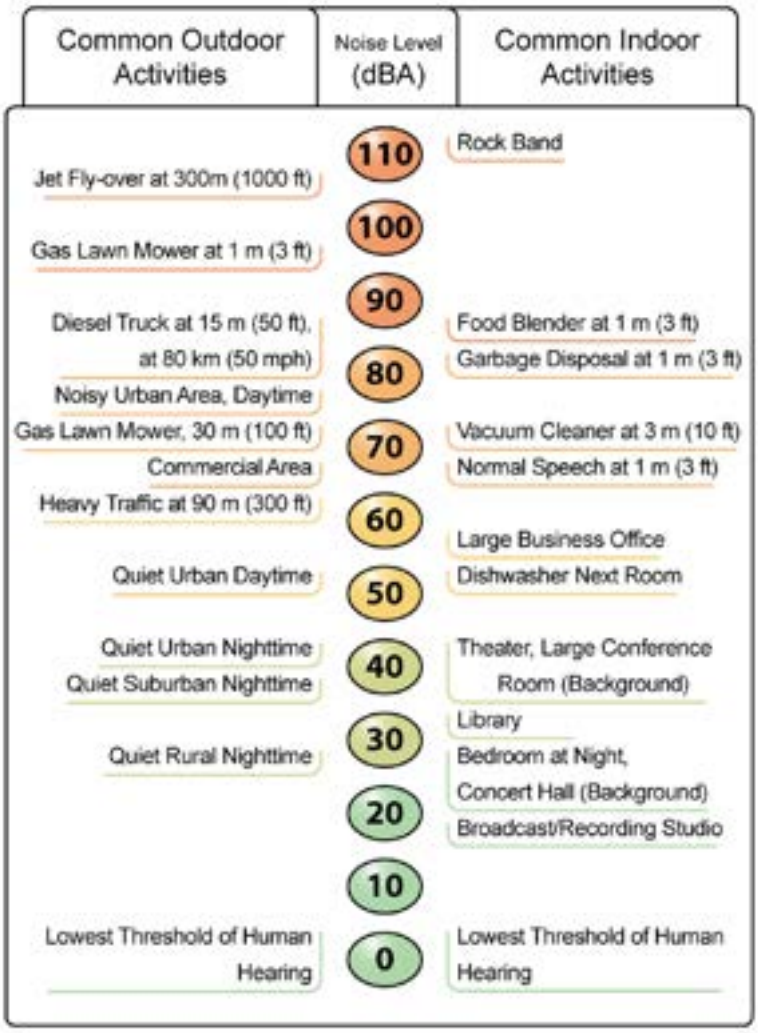
Table 26 lists the noise abatement criteria for use in the National Environmental Policy Act 23 Code of Federal Regulations 772 analysis.

Table 26. Noise Abatement Criteria

Activity Category	Noise Abatement Criteria, Hourly A-Weighted Noise Level, L (h)	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67 (Exterior)	Residential.
C1	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No noise abatement criteria—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No noise abatement criteria—reporting only	Undeveloped lands that are not permitted.
[1] Includes undeveloped lands permitted for this activity category.		
Source: Noise Study Report, June 2015		

Figure 37 lists the noise levels of common activities to help you compare the actual and predicted highway noise levels discussed in this section with common activities.

Figure 37. Noise Levels of Common Activities



According to Caltrans' 2011 Noise Protocol Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 decibel or more increase) or when the future noise level with the project approaches or exceeds the noise abatement criteria. Approaching the noise abatement criteria is defined as coming within 1 decibel of the noise abatement criteria.

If it is determined that the project would have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

Caltrans' Traffic Noise Analysis Protocol sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 7 decibel in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents' acceptance and the cost per benefited residence.

Affected Environment

The Noise Study Report for this project, approved in June 2014, provided the basis for this section. The noise setting consists of sparsely populated ranches and single-family residential properties. The dominant noise source for sensitive land uses within the proposed project area is traffic traveling on State Route 4. Fourteen single-family sensitive noise receptors were identified in those areas where outdoor frequent human use would occur. Locations of receptors are shown in Figure 38.

Environmental Consequences

The project is a Type 1 project per 23 Code of Federal Regulations 772 because it consists of a substantial horizontal or vertical alteration of an existing highway. Existing noise levels were measured at representative locations along the proposed alignments. Using the measurements, noise levels at sensitive receptors were modeled for the existing conditions and for the Design Year 2040 for Alternatives 1 and 2 as well as the No-Build Alternative. The design-year is the year the project is designed to, considering regional transportation plans; and it is typically a minimum of 20 years out from the beginning of the project. Results are presented in Tables 28 and 29.

The design-year traffic noise modeling results for Alternative 1 range from 49 to 60 decibels as shown in Table 27. Noise levels for the design-year under Alternative 1 are expected to increase up to 5 decibels over design-year no-build noise levels. Although evaluated receivers would experience an increase in design-year build noise levels, the increases do not cause noise levels to approach or exceed their respective noise abatement criteria Activity Category criterion. Noise levels from existing to build conditions are expected to increase up to 8 decibels. The increase in noise levels from existing to build conditions is due to the doubling of traffic volumes from existing to no-build conditions. While the new segment of roadway would bring traffic closer to existing sensitive receiver locations, the increases do not cause a substantial increase, or cause the noise levels to approach or exceed their respective noise abatement criteria activity criterion of 67 decibels for the exterior of a residence. A noise abatement evaluation was not required.

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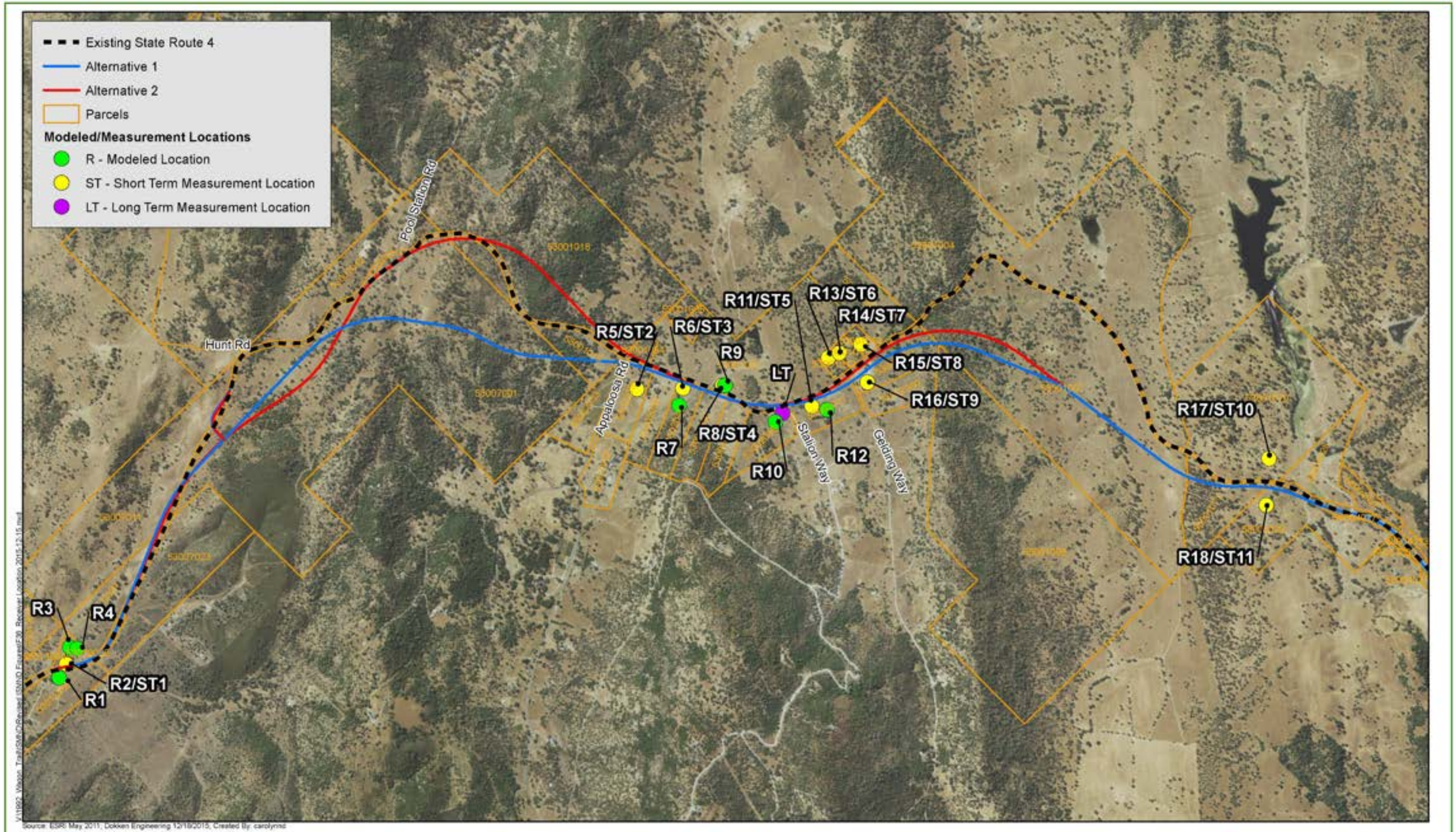

FIGURE 38
Modeled/Measurement Locations
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

Table 27. Noise Modeling Results - Alternative 1

Receptor # and Location	Existing Noise Level (decibel)	Predicted Noise Level without Project (decibel)	Predicted Noise Level with Project (decibel)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (decibel)			Reasonable and Feasible	Difference between Existing and Future Predicted with Project
					6-foot Wall	9-foot Wall	12-foot Wall		
R1	56	59	60	No	N/A			N/A	4
R3	51	55	55	No					4
R4	54	57	59	No					5
R5/ST2	44	46	49	No					5
R7	47	49	51	No					4
R9	57	60	59	No					2
R10	51	54	53	No					2
R12	51	54	56	No					5
R13/ST6	51	54	54	No					3
R14/ST7	53	56	55	No					2
R15/ST8	53	56	53	No					0
R16/ST9	52	55	60	No					8
R17/ST10	56	59	58	No					2
R18/ST11	50	53	55	No					5

Source: Noise Study Report, June 2014

The design-year traffic noise modeling results for Alternative 2 range from 51 to 60 decibels as shown in Table 28. Noise levels for the design-year under Alternative 2 are expected to increase up to 2 decibels over design-year no-build noise levels. Although evaluated receivers would experience an increase in design-year build noise levels, the increases do not cause noise levels to approach or exceed their respective noise abatement criteria Activity Category criterion.

Noise levels from existing to build conditions are expected to increase up to 5 decibel. The increase in noise levels from existing to build conditions is due to the doubling of traffic volumes from existing to no-build conditions. The new segment of roadway would bring traffic closer to existing sensitive receiver locations occurring under build conditions. However, Alternative 2 would not cause a substantial increase, or cause the noise levels to approach or exceed their respective noise abatement criteria Activity Category criterion. Therefore, a noise abatement evaluation was not required.

Table 28. Noise Modeling Results - Alternative 2

Receptor # and Location	Existing Noise Level (decibel)	Predicted Noise Level without Project (decibel)	Predicted Noise Level with Project (decibel)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (decibel)			Reasonable and Feasible	Difference between Existing and Future Predicted with Project
					6-foot Wall	9-foot Wall	12-foot Wall		
R1	56	59	60	No	N/A			N/A	4
R3	51	55	56	No					5
R4	54	57	59	No					5
R5/ST2	44	46	46	No					2
R7	47	49	51	No					4
R9	57	60	59	No					2
R10	51	54	53	No					2
R12	51	54	54	No					3
R13/ST6	51	54	55	No					4
R14/ST7	53	56	56	No					3
R15/ST8	53	56	56	No					3
R16/ST9	52	55	56	No					4
R17/ST10	56	59	59	No					3
R18/ST11	50	53	55	No					5

Construction

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Table 29 shows noise levels produced by construction equipment that is commonly used on roadway construction projects. Construction equipment is expected to generate noise levels ranging from 70 to 90 decibels at a distance of 50 feet, and noise produced by construction equipment would be reduced over distance at a rate of about 6 decibel per doubling of distance.

Table 29. Construction Equipment Noise

Equipment	Maximum Noise Level (decibel at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82
Source: Federal Transit Administration (1995)	

No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Standard Specification 14-8.02, SSP 14-8.02 and applicable local noise standards. Construction noise would be short term, intermittent, and overshadowed by local traffic noise.

To minimize the construction-generated noise, abatement measures in Standard Specification 14-8.02, “Noise Control” and Standard Special Provision (SSP) 14-8.02 must be followed, as described in measure NOI-1.

California Environmental Quality Act Noise Analysis

In a comparison of the baseline existing noise level and the design-year build noise level, Alternative 1 would result in perceptible yet non-significant increases at receptors R1, R3, R4, R5/ST2, R7, R12, R13/ST6, R16/ST9, and R18/ST11 during peak noise hour. R16 would experience the most difference with an 8 dB increase. As a result, no significant noise impacts under the California Environmental Quality Act are anticipated.

Avoidance, Minimization, and/or Noise Abatement Measures

Only measures to minimize construction noise were needed.

Minimization Measure NOI-1: To minimize the construction-generated noise, abatement measures in Standard Specification 14-8.02, "Noise Control" and Standard Special Provision (SSP) 14-8.02 must be followed:

- Do not exceed 86 decibels at 50 feet from the job site activities from 9 p.m. to 6 a.m.
- Equip an internal combustion engine with the manufacturer-recommended muffler.
- Do not operate an internal combustion engine on the job site without the appropriate muffler.

Standard Special Provision (SSP) 14-8.02 would be edited specifically for this project during the Plans, Specifications and Estimate phase.

2.3 Biological Environment

2.3.1 Natural Communities

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in the Threatened and Endangered Species section, Section 2.3.5. Wetlands and other waters are also discussed in Section 2.3.2.

Affected Environment

As discussed in the Natural Environment Study (August 2014) and the Natural Environment Study Addendum (November 2016) for this project, the only natural community of concern within the Biological Study Area is native mixed oak woodland. Mixed oak woodland communities (see Figure 39) are composed of broad-leaved deciduous trees, including blue oak, interior live oak, valley oak, California buckeye, ponderosa pine, madrone, and foothill pine (an evergreen) with an understory of poison oak, coyote brush, and wild oat. This

community typically inhabits uplands with valleys and gentle to steep slopes between 250 to 2,000 feet above mean sea level.

Native mixed oak woodlands are well established and dominated by blue oak, valley oak, foothill pine, and interior live oak within the Biological Study Area. Trees were observed to have a diameter at breast height of up to 51 inches, with an average diameter of about 16 inches during the tree density surveys. The Biological Study Area is estimated to contain approximately 4,000 oak trees and approximately 340 acres of oak woodland habitat.

Other natural communities in the Biological Study Area are mixed chaparral, California annual non-native grassland, and valley foothill riparian. The chaparral community within the Biological Study Area encompasses approximately 6.6 acres at the southwestern side and is dominated by coyote bush, interior live oak, buckbrush, and manzanita. Mixed grassland community makes up approximately 395 acres and is dominated by smooth brome, filaree, needle goldfields, lupine, rabbitfoot grass, medusa head, and barbed goatgrass. Riparian communities are associated with lakes, ponds, seeps, rivers and streams and are typically composed of trees and shrubs. The riparian community within the Biological Study Area encompasses approximately 13 acres and is dominated by valley oak, willows, and California buckeye.

Wildlife corridors are currently found within the Biological Study Area along creeks, drainages and forested areas of native oak woodland, chaparral, and riparian habitats. These areas provide a clear pathway and vegetation cover as animals move throughout the area. Roadway wildlife crossings in the form of box culverts or bridges currently are located at Nassau Creek, Waterman Creek and Cherokee Creek.

FIGURE 39
Vegetation Communities
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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Environmental Consequences

Alternatives 1 and 2 would have permanent and temporary construction impacts to native oak woodlands (see Figures 40 and 41). Permanently impacted areas are those along the roadway alignments requiring tree removal. The temporarily impacted areas are those requiring cut/fill and would be used for access roadways and staging areas. These impacts are considered temporary due to the restoration and natural re-vegetation of native oak trees after the completion of construction. It is anticipated that oak mitigation would take place off-site. Approximate acreages impacted by the project are shown in Table 30.

Table 30. Native Mixed Oak Woodland Impacts

Alternative	Permanent Impacts (acres)	Temporary Impacts (acres)	Estimated Number of Oak Trees
Alternative 1	58	2	1,147
Alternative 2	46	5	965
Source: Natural Environment Study, 2014			

The project has been designed to minimize temporary and permanent impacts to mixed oak woodlands to the maximum extent practicable. The project would comply with measures BIO-1, BIO-2, BIO-3, and BIO-4, which require environmentally sensitive area fencing, avoidance of native oak woodlands to the greatest extent practicable, minimizing vegetation clearing, and the oak woodland mitigation plan. Measure BIO-4 includes further details on oak planting.

For Alternative 1, approximately 826 trees between 5 to 15 inches in diameter at breast height, 195 trees between 16 to 30 inches in diameter at breast height, and 126 trees over 31 inches in diameter at breast height are expected to be affected. For Alternative 2, an estimated 695 trees between 5 to15 inches in diameter at breast height, 164 trees between 16 to 30 inches in diameter at breast height, and 106 trees over 31 inches in diameter at breast height are expected to be affected. Estimates of required mitigation for oak trees removed for Alternatives 1 and 2 are shown in Table 31.

Table 31. Anticipated Oak Tree Mitigation

Alternative	5-15 inch diameter breast height		16-30 inch diameter breast height		31+ inch diameter breast height		Total Replantings
	Mitigation Ratio	Replant	Mitigation Ratio	Replant	Mitigation Ratio	Replant	
Alternative 1	1:1	826	2:1	390	3:1	378	1,594
Alternative 2	1:1	695	2:1	328	3:1	318	1,341
Source: Natural Environment Study, 2014							

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Figure 40
Mixed Oak Woodland Impacts Alternative 1
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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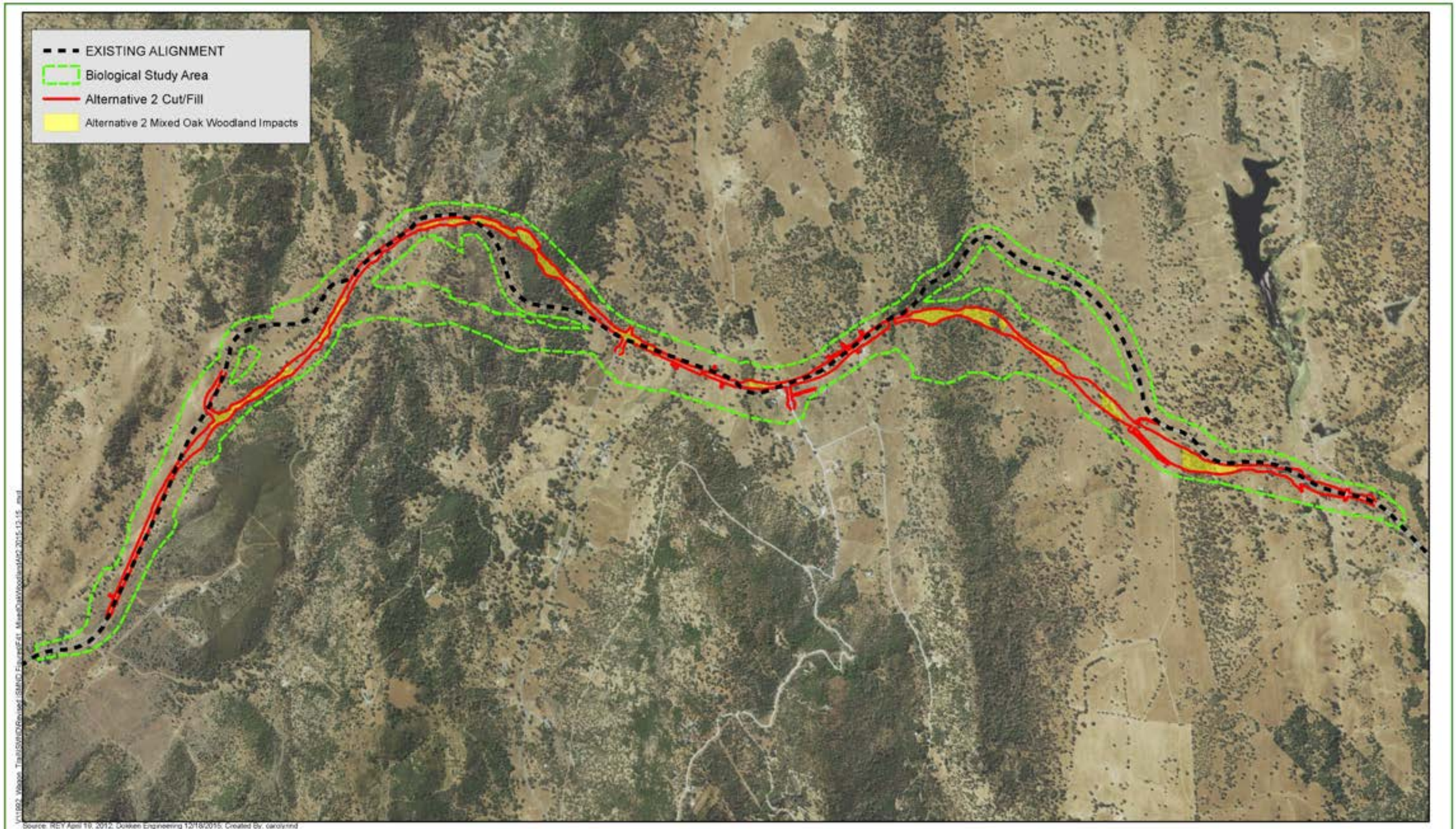

Figure 41
Mixed Oak Woodland Impacts of Alternative 2
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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Approximately 1,147 trees are expected to be affected with implementation of Alternative 1, and approximately 965 trees are expected to be affected with Alternative 2. Impacts to oak trees would be minimized through project design by preserving habitat (through avoidance), planting oaks, or a combination of both.

The existing alignment of State Route 4 currently bisects natural habitat areas and contributes to habitat fragmentation; however, two bridges and five culverts allow for some wildlife passage under the road. Neither build alternative would increase habitat fragmentation compared with the existing condition. Both build alternatives include three box culverts, five oversized culverts, and two bridges (see Figure 42). These design features would allow wildlife passage, allowing connectivity under the road and minimizing habitat fragmentation. The crossings would continue to accommodate wildlife movement in areas with a focus on movement along creek/drainage corridors. Also, approved wildlife fencing will be placed in areas where potential impacts to forested wildlife corridors would occur.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance Measure BIO-1 (Natural Environment Study Addendum BIO-1): Environmentally Sensitive Area fencing would be established at the driplines of oak trees that would be avoided within or adjacent to construction to ensure no further encroachment on the trees.

Avoidance Measure BIO-2 (Natural Environment Study Addendum BIO-2): Native oak woodlands shall be avoided to the greatest extent practicable.

Minimization Measure BIO-3 (Natural Environment Study Addendum BIO-3): Vegetation clearing would only occur within the delineated project boundaries in an effort to minimize the impacts. Oak trees located in areas along the edge of the construction zone would be trimmed whenever possible, and only those oak trees that lie within the active construction areas would be removed.

Mitigation Measure BIO-4 (Natural Environment Study Addendum BIO-4): Caltrans will permanently preserve mixed oak woodland habitat at a minimum acreage ratio of 1.5:1 (as determined appropriate by the Project Development Team), will plant oaks at a ratio described below, or will mitigate through a combination of both methods.

Diameter at Breast Height (in inches)	Mitigation Ratio
5-15	1:1
16-30	2:1
31+	3:1
Source: Natural Environment Study, August 2014	

If oak planting is to occur, the following requirements should be followed:

- Native oak planting should come from local stock and can use acorns or potted plants.
- Native oak planting should begin at the onset of the rainy season.

- Browse protection from wildlife and livestock should be installed around newly planted native oaks and will remain maintained for 7 years.
- Planted oak trees should be monitored and replanted (if necessary) for a minimum of three years.

Mitigation Measure BIO-5 (Natural Environment Study Addendum BIO-5): The project will incorporate design features to accommodate for wildlife movement. Oversized culverts and/or bridges and wildlife fencing will be considered during final design for the wildlife crossing areas identified in Figure 42.

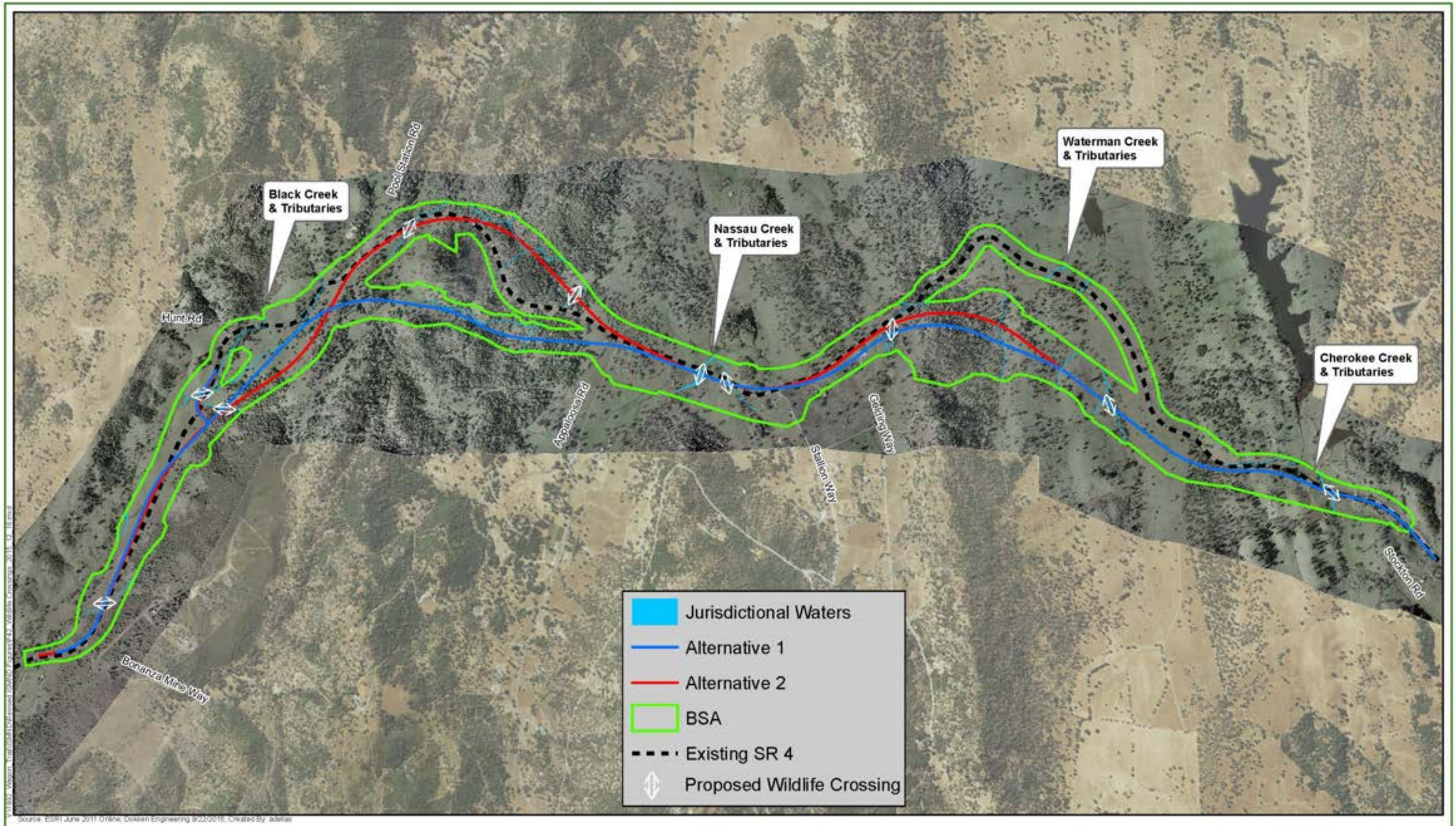

Figure 42
Potential Wildlife Crossings
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
SR 4 Wagon Trail Realignment Project
Calaveras County, California

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2.3.2 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (33 U.S. Code 1344), is the main law regulating wetlands and surface waters. One purpose of the Clean Water Act is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of: hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers with oversight by the U.S. Environmental Protection Agency.

The U.S. Army Corps of Engineers issues two types of 404 permits: General and Standard permits. There are two types of General permits: Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of the U.S Army Corps of Engineer's Standard permits. There are two types of Standard permits: Individual permits and Letters of Permission. For Standard permits, the U.S. Army Corps of Engineers' decision to approve is based on compliance with U.S. Environmental Protection Agency's Section 404(b)(1) Guidelines (U.S. Environmental Protection Agency 40 Code of Federal Regulations Part 230), and whether permit approval is in the public interest.

The Section 404 (b)(1) Guidelines were developed by the U.S. Environmental Protection Agency in conjunction with the U.S. Army Corps of Engineers, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative that would have less adverse effects. The guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (Executive Order 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as the Federal Highway Administration and/or Caltrans, as

assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated mainly by the State Water Resources Control Board, the Regional Water Quality Control Boards and the California Department of Fish and Wildlife. In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that would substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify the California Department of Fish and Wildlife before beginning construction. If the California Department of Fish and Wildlife determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement would be required. California Department of Fish and Wildlife jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the U.S. Army Corps of Engineers may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the California Department of Fish and Wildlife.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements and may be required even when the discharge is already permitted or exempt under the Clean Water Act. In compliance with Section 401 of the Clean Water Act, the Regional Water Quality Control Boards also issue water quality certifications for activities that may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. See the Water Quality section for additional details.

Affected Environment

A Jurisdictional Delineation Report was prepared for the project in August 2014. A Jurisdictional Delineation was conducted within the Biological Study Area to identify potential waters of the U.S. and waters of the State. Surveys identified Black Creek, Nassau Creek, Waterman Creek and Cherokee Creek, associated tributaries, and wetlands within the Biological Study Area. All water features were provided preliminary jurisdictional status based on aerial photographs, investigations for connectivity to known jurisdictional waters, topography of the site in relation to the feature, presence or absence of aquatic vegetation and the likely source of flow (natural depression and creek channel etc.).

During surveys conducted on March 26, April 1-2, April 10, and April 15-16 in 2013 and on April 29, 2014 within the Biological Study Area, 80 features were identified as potential waters of the U.S. (see Figure 43 and Figure 44).

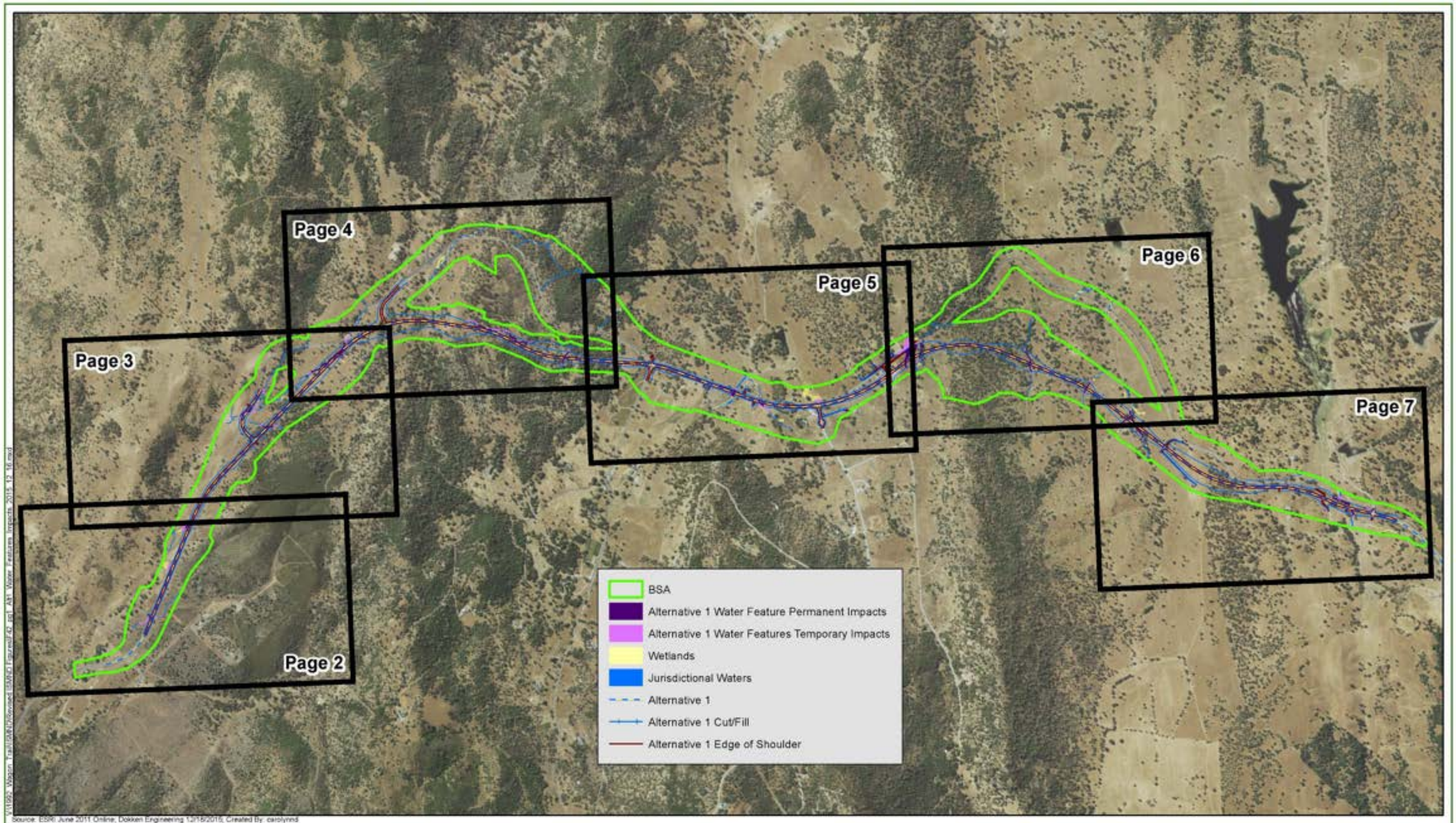

FIGURE 43
Page 1 of 7
Water Features Impacts Alternative 1
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
SR 4 Wagon Trail Realignment Project
Calaveras County, California

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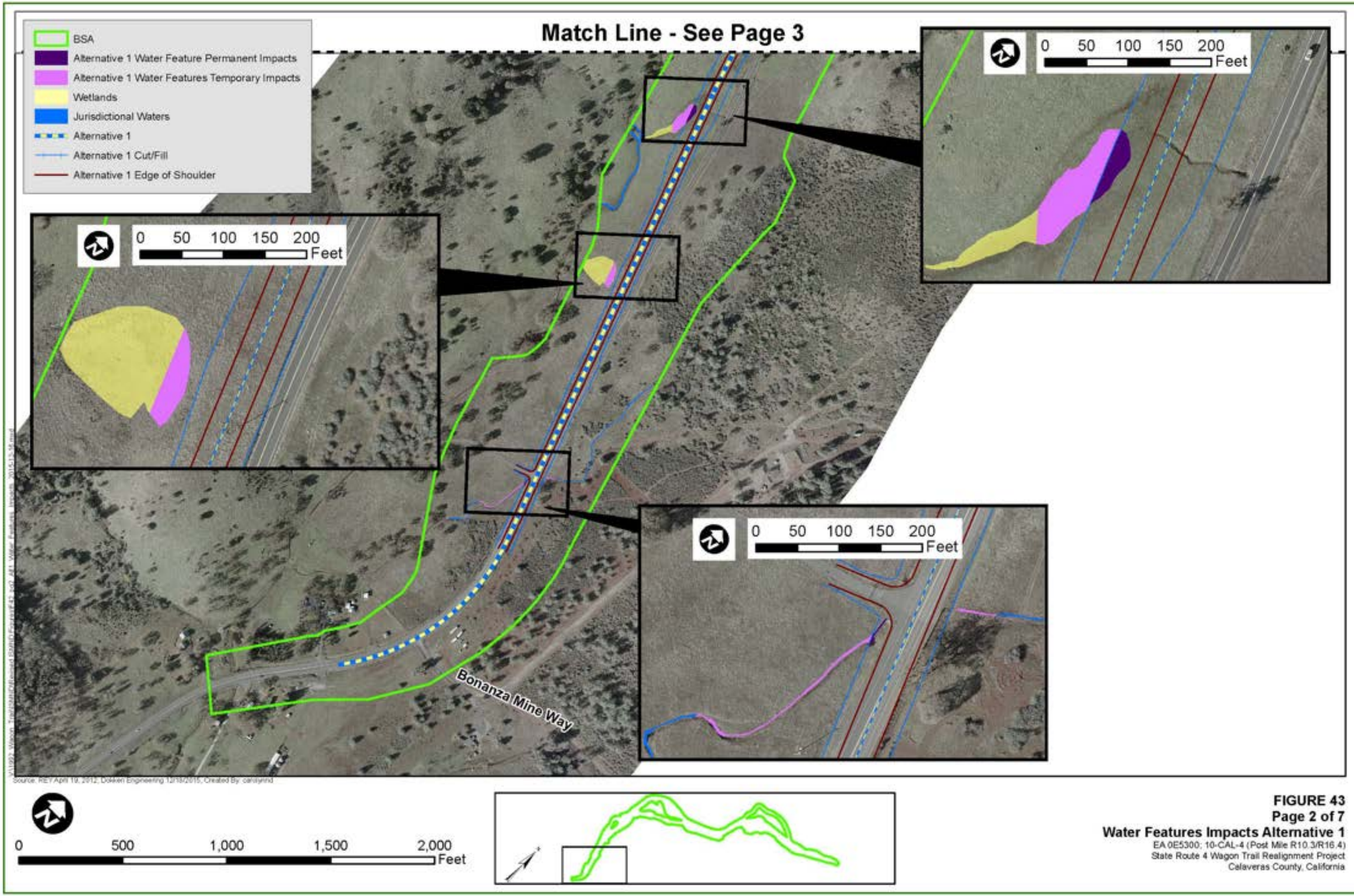

FIGURE 43
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Water Features Impacts Alternative 1
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
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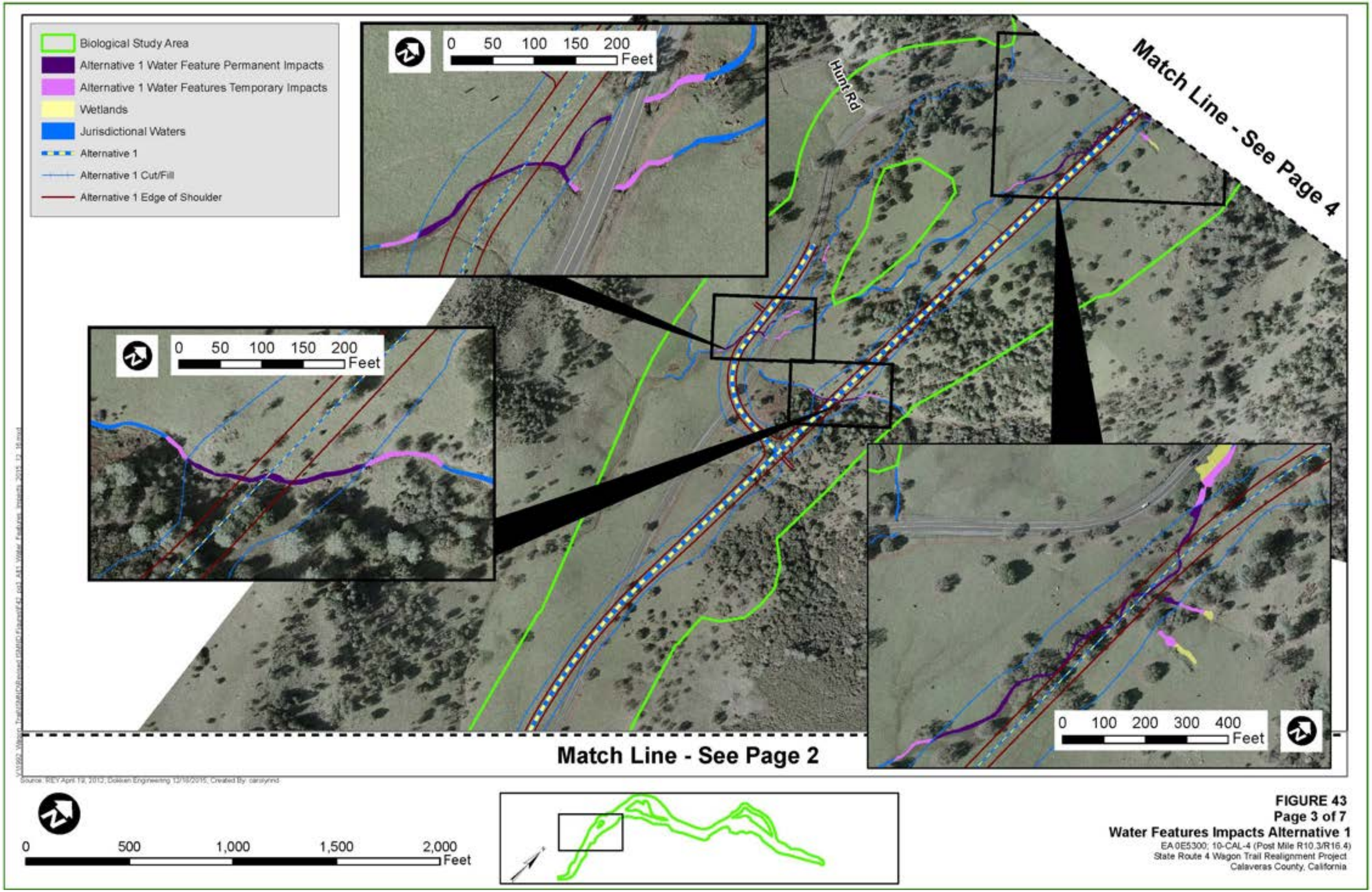

FIGURE 43
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Water Features Impacts Alternative 1
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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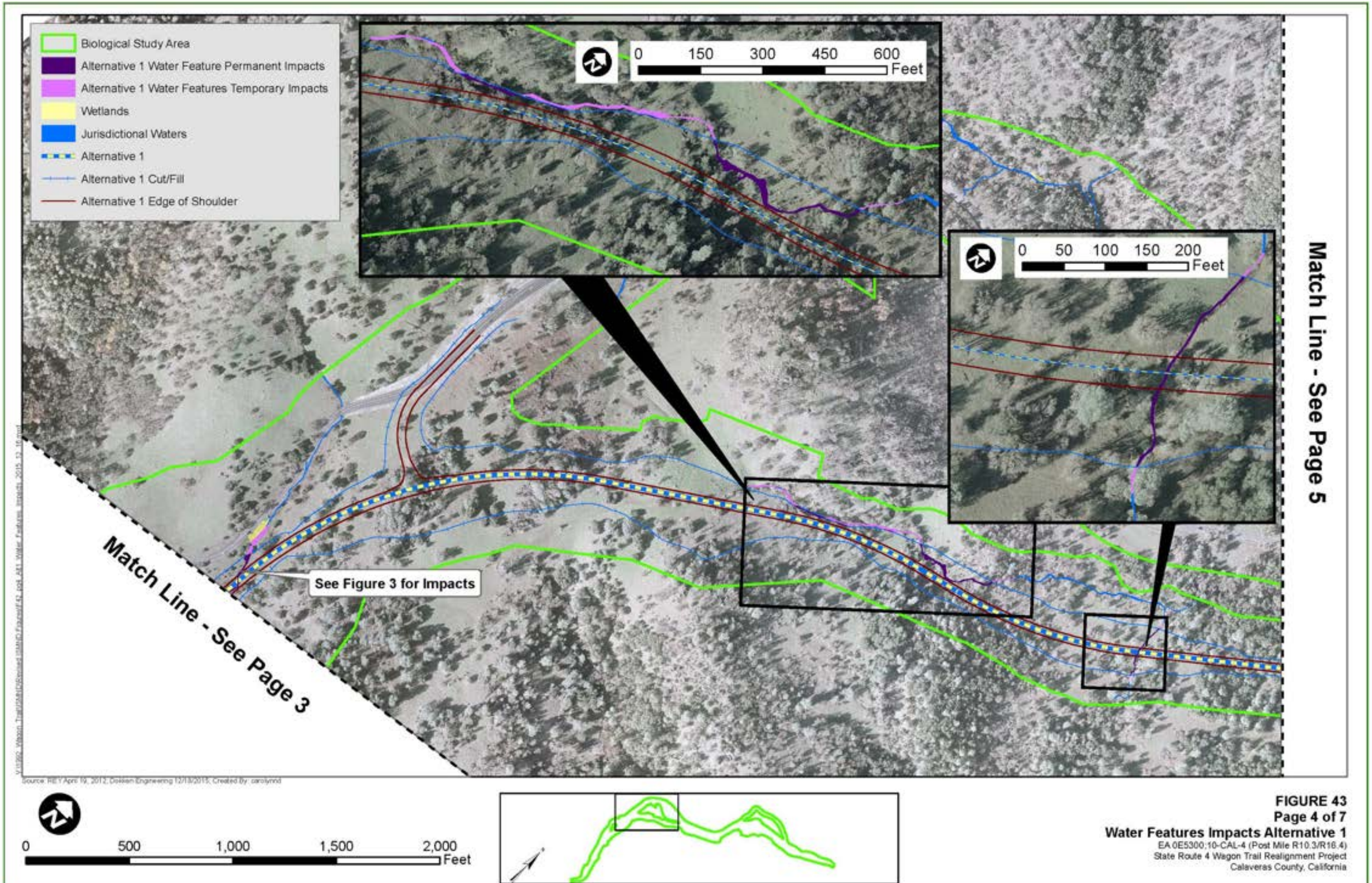

FIGURE 43
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Water Features Impacts Alternative 1
EA 0E5300;10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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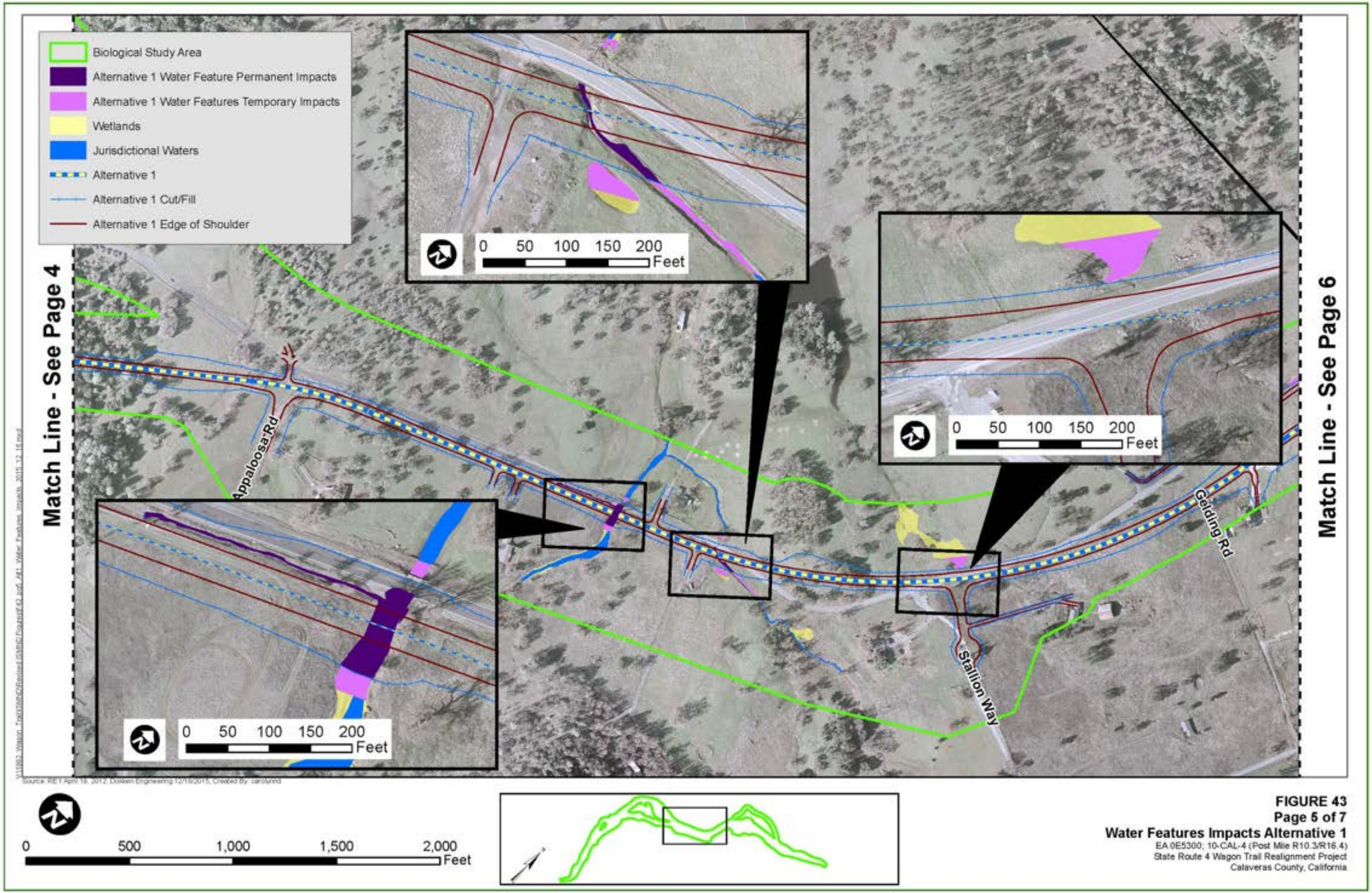

FIGURE 43
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Water Features Impacts Alternative 1
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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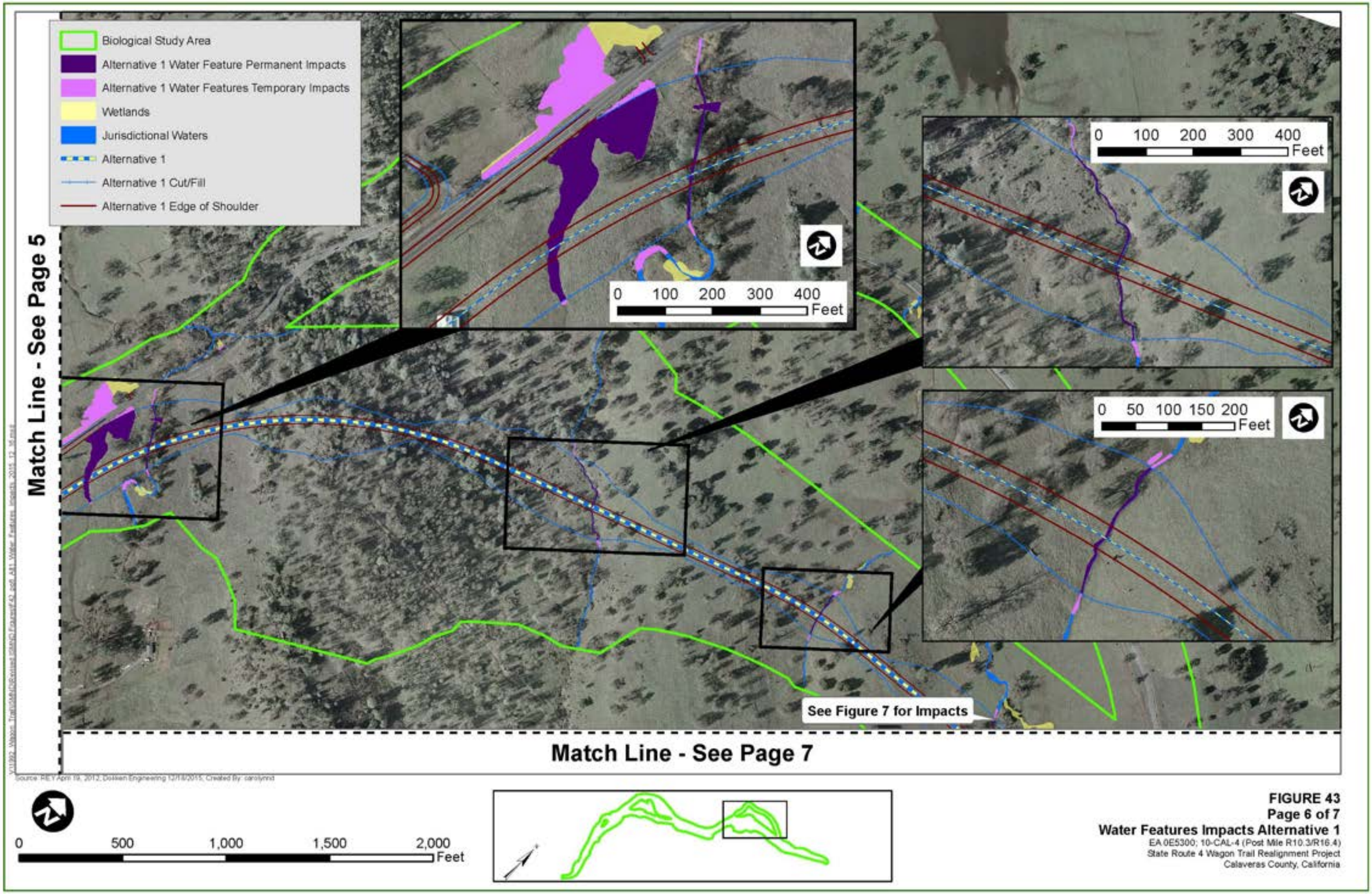

FIGURE 43
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Water Features Impacts Alternative 1
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
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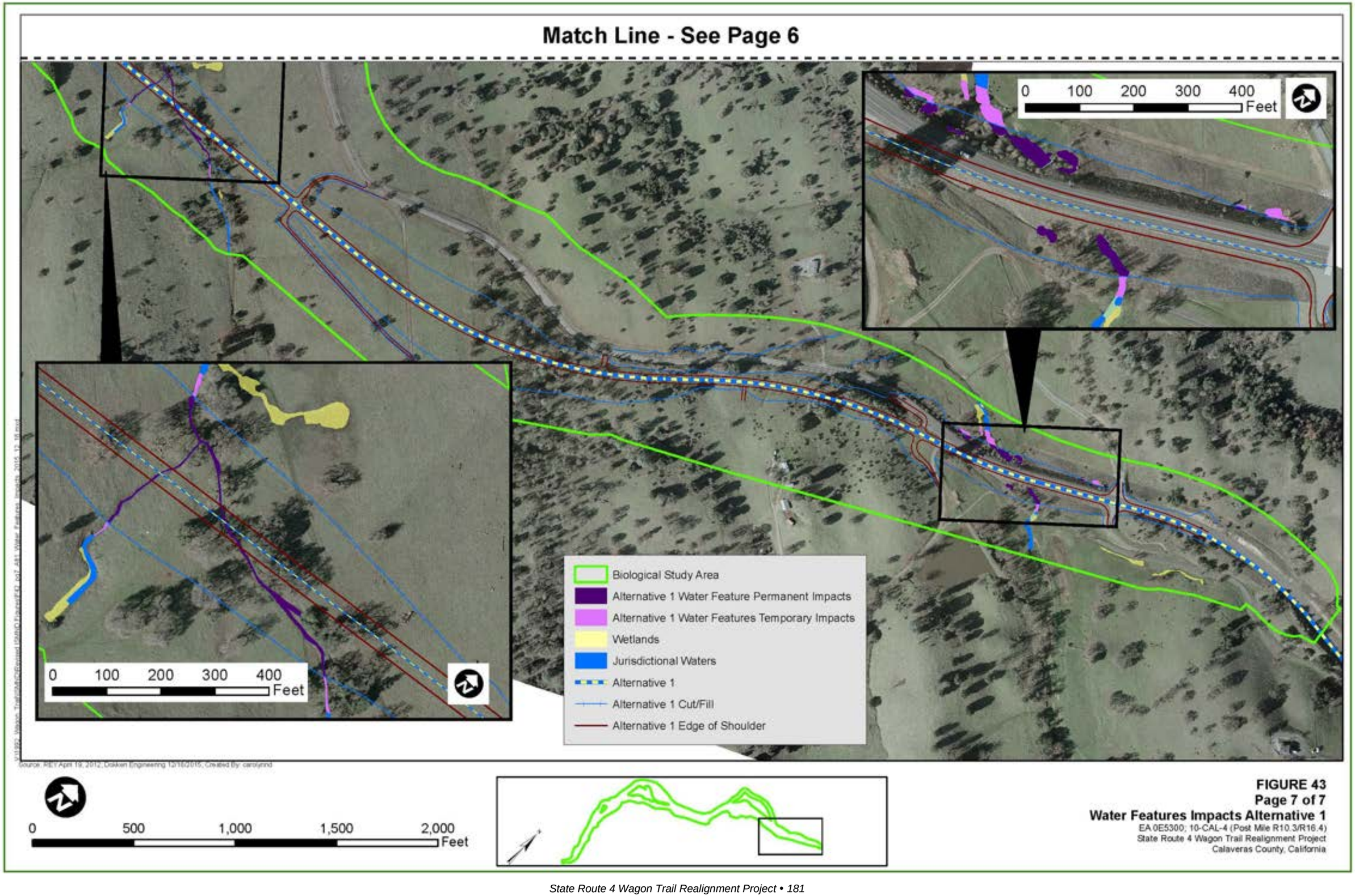

FIGURE 43
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Water Features Impacts Alternative 1
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
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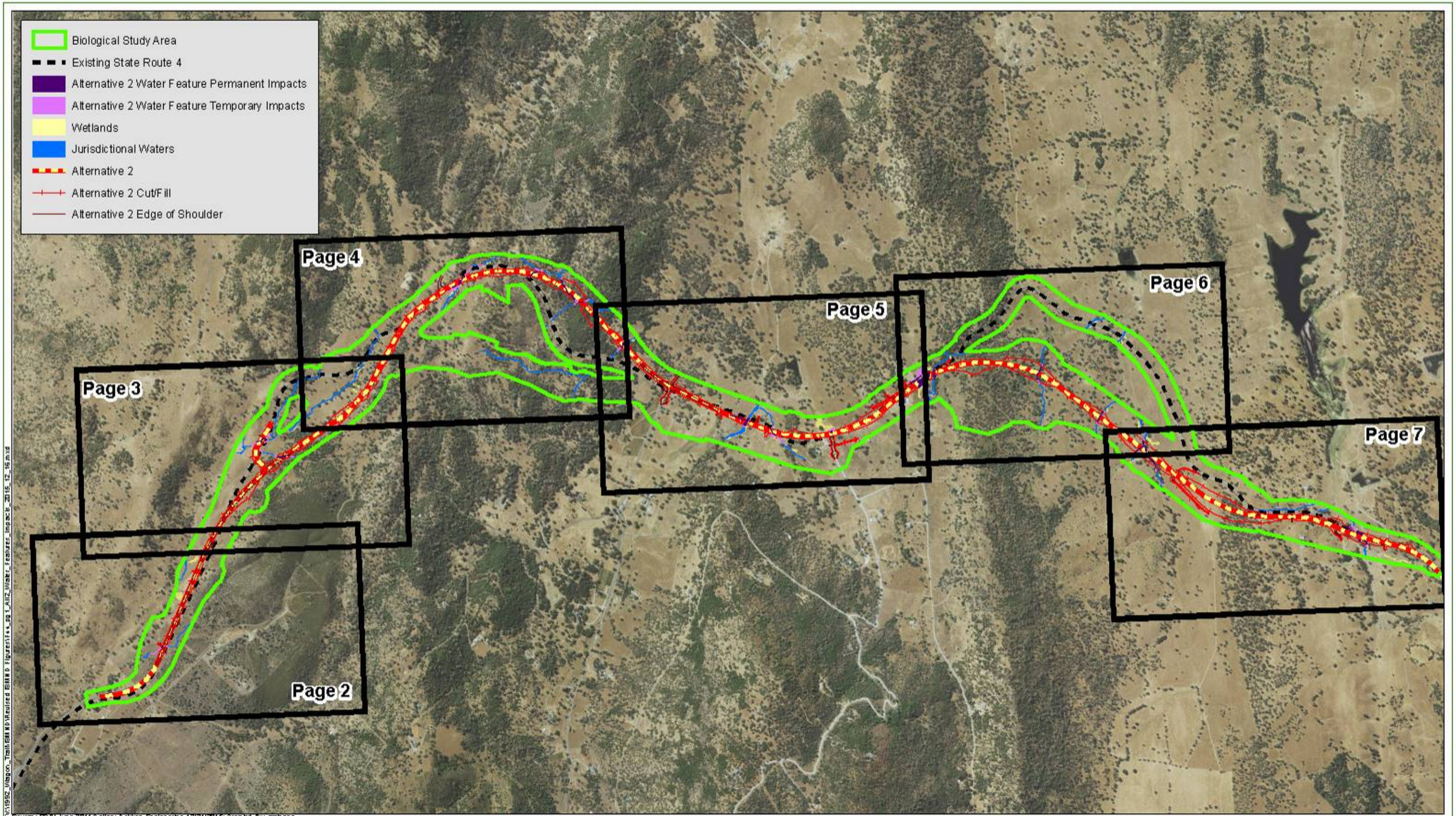

FIGURE 44
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Water Features Impacts Alternative 2
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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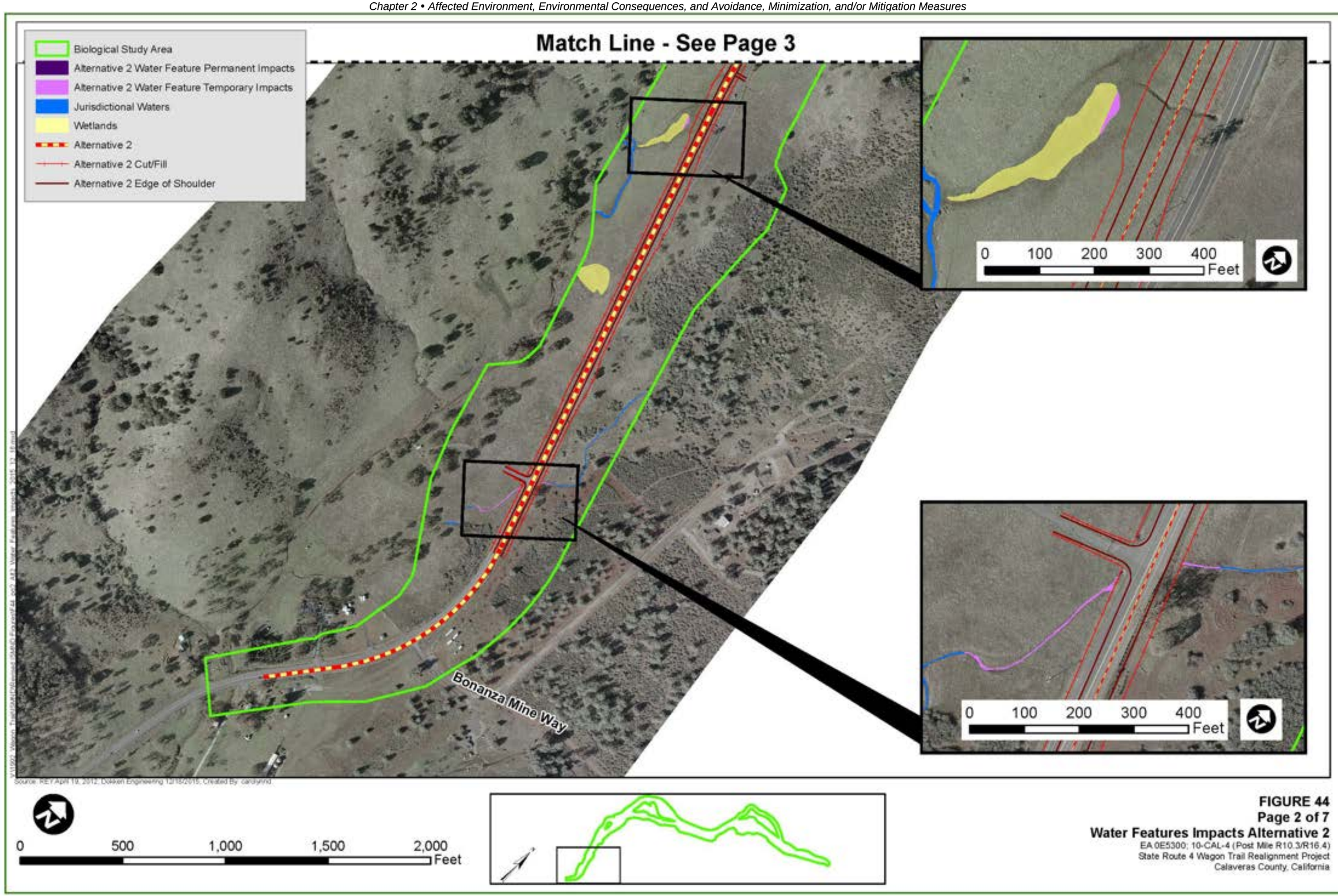

FIGURE 44
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Water Features Impacts Alternative 2
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State Route 4 Wagon Trail Realignment Project
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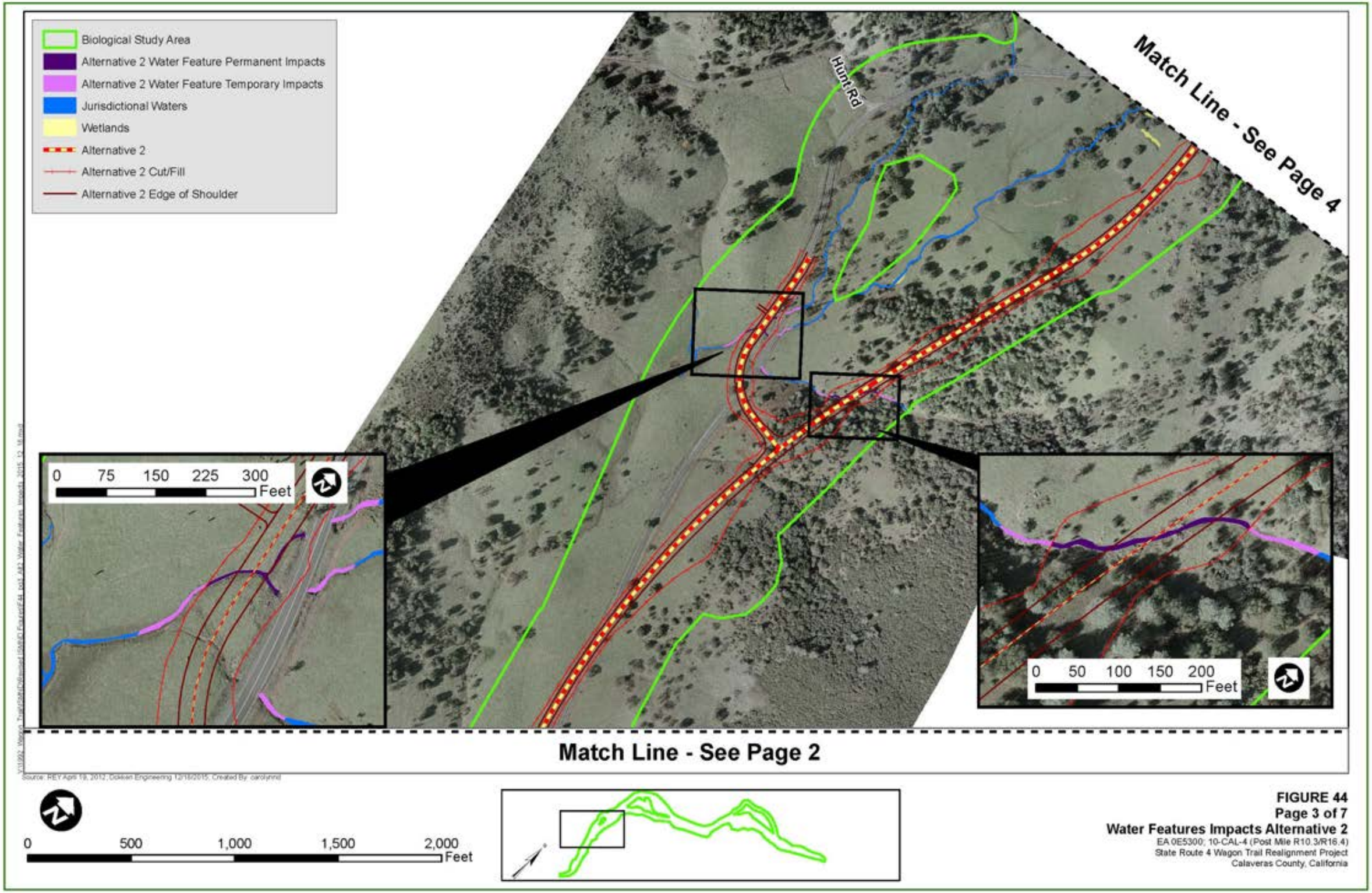

FIGURE 44
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Water Features Impacts Alternative 2
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State Route 4 Wagon Trail Realignment Project
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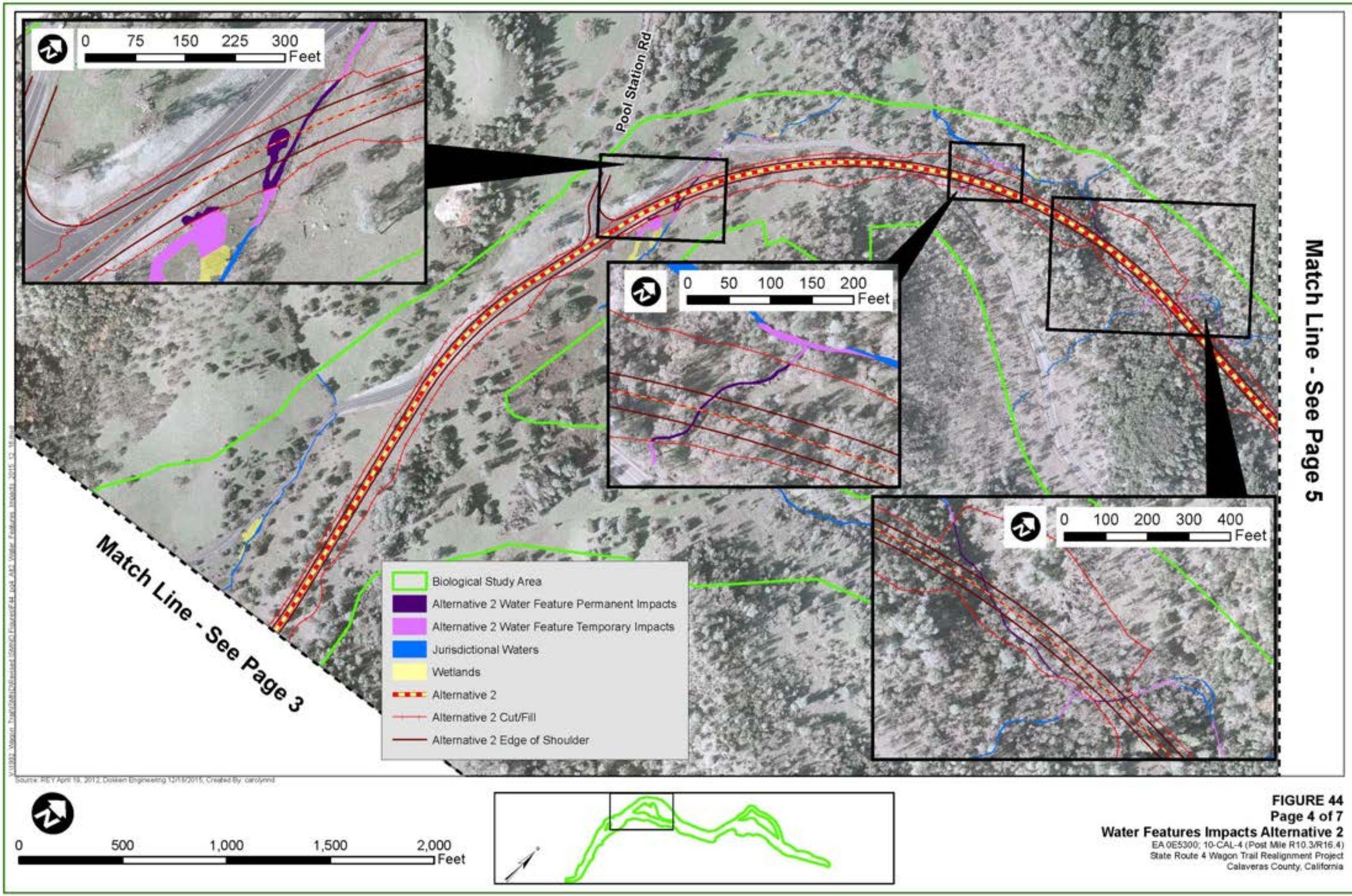

FIGURE 44
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Water Features Impacts Alternative 2
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
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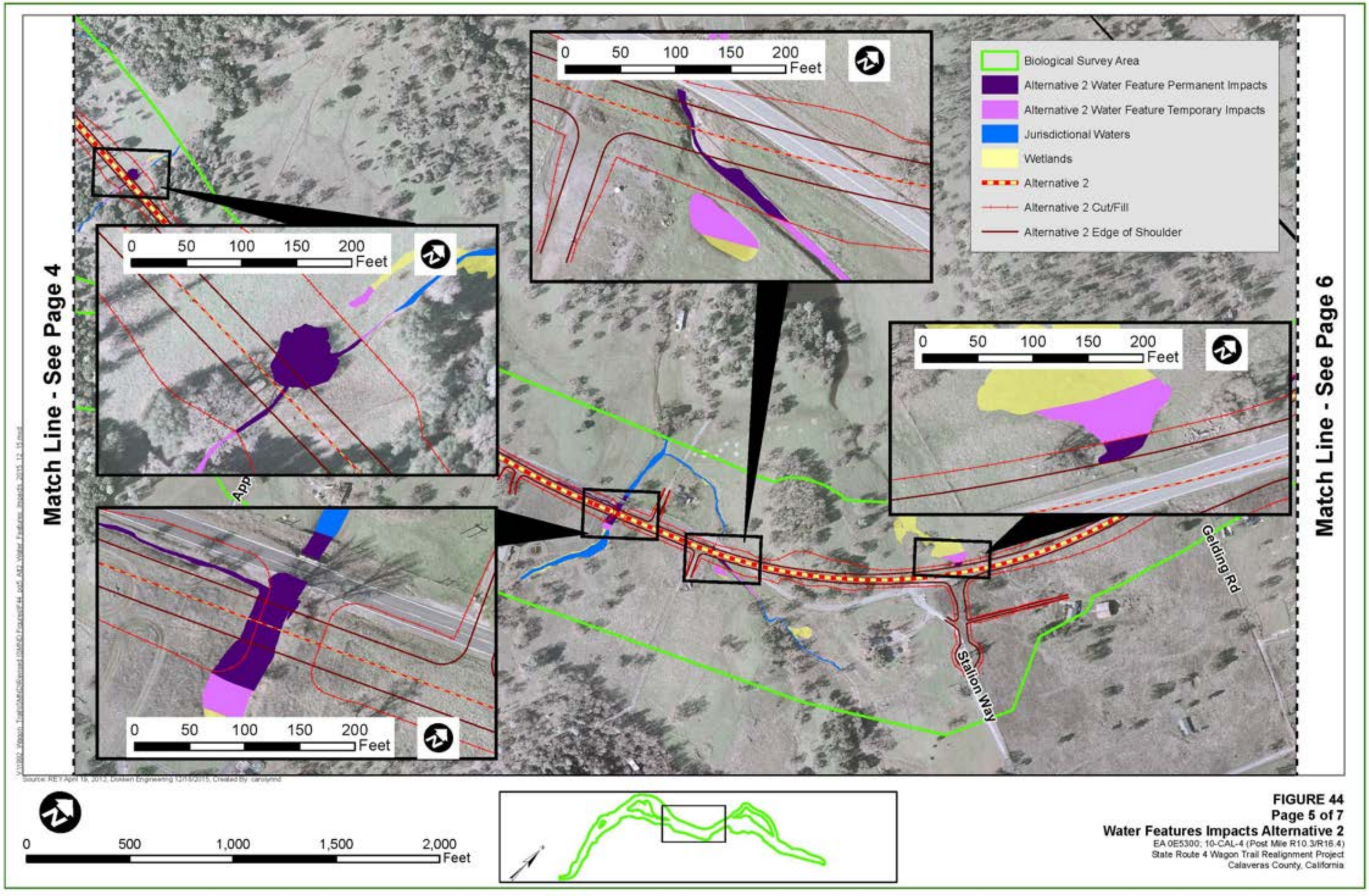

FIGURE 44
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Water Features Impacts Alternative 2
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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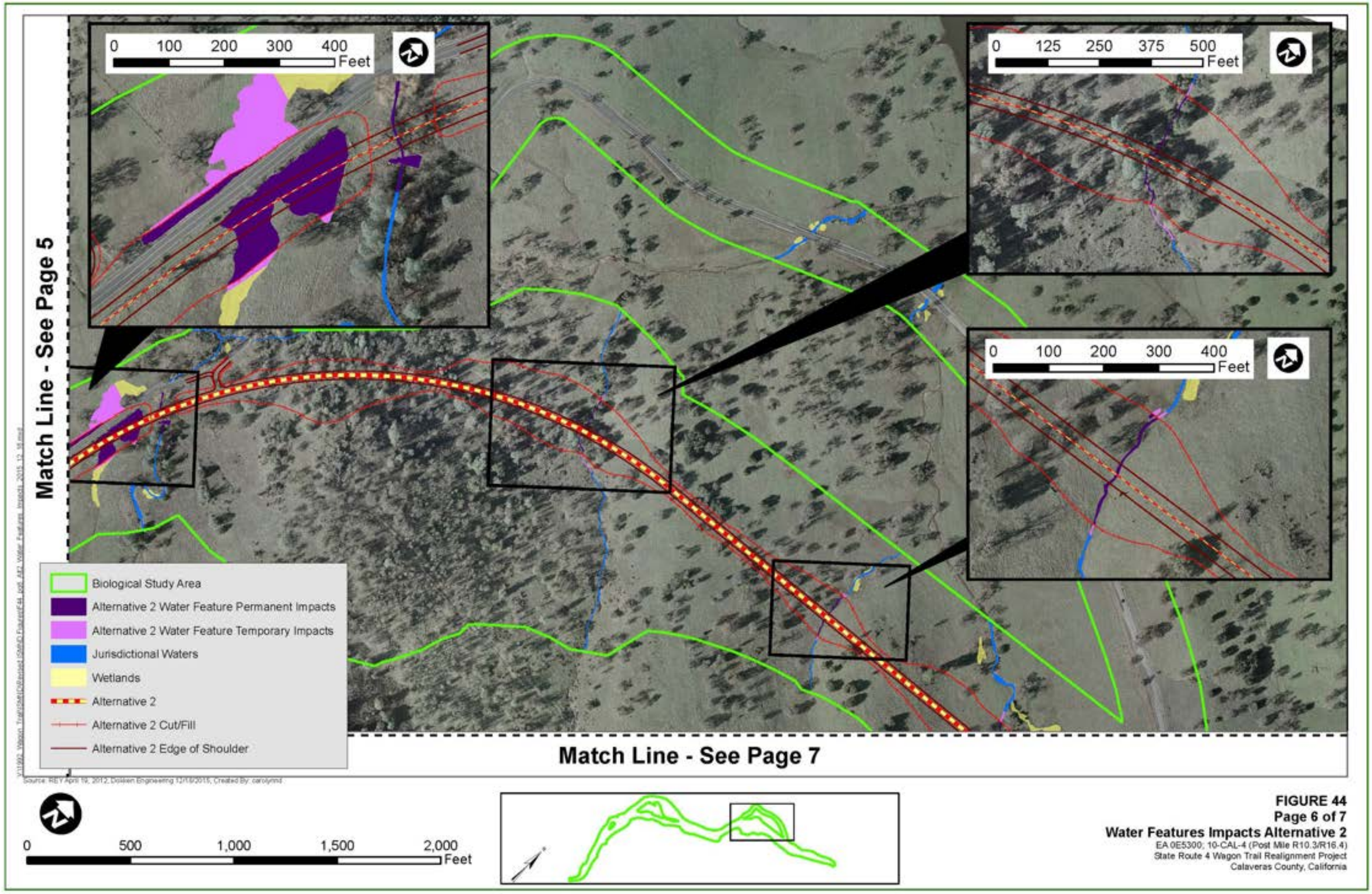

FIGURE 44
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Water Features Impacts Alternative 2
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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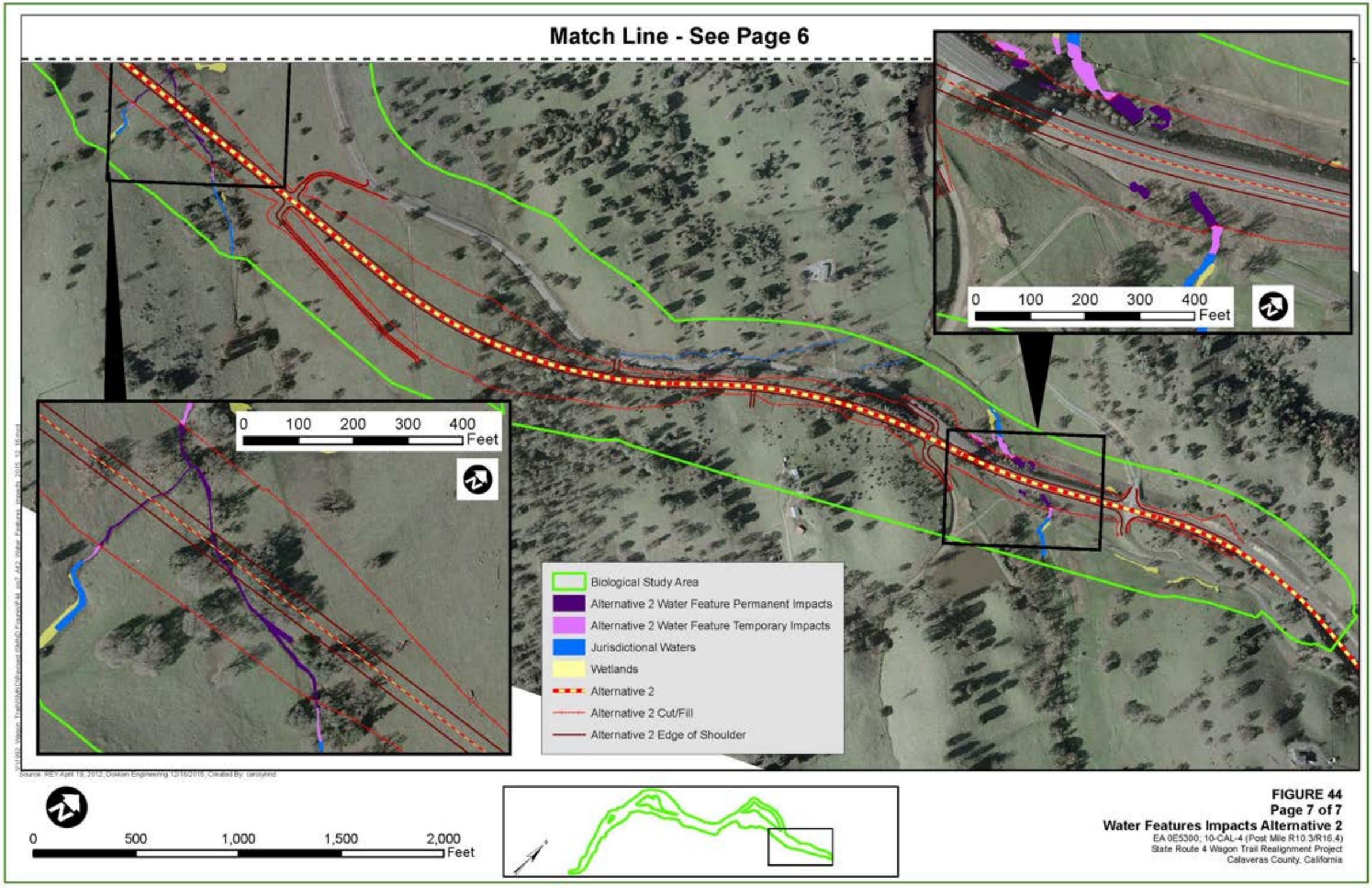

FIGURE 44
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Water Features Impacts Alternative 2
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
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Black Creek, Nassau Creek, Waterman Creek and Cherokee Creek, along with associated relatively permanent water tributaries, were classified as waters of the U.S. A total of approximately 5.7 miles and 3.65 acres of proposed jurisdictional creeks/tributaries are within the Biological Study Area.

The U.S. Army Corps of Engineers was given the Jurisdictional Delineation Report (June 2014), electronic mapping files of the waters, and additional photographs/information regarding the on-site waters. Following a site visit and ongoing coordination, the U.S. Army Corps of Engineers issued a Preliminary Jurisdictional Determination (see Appendix F) on July 31, 2015. In the Preliminary Jurisdictional Determination, the U.S. Army Corps of Engineers concurred with the amount and location of wetlands and other water bodies on the site.

Waters of the State includes all jurisdictional creek features as well as valley foothill riparian habitat. Valley foothill riparian habitat is composed of trees and shrubs with association to lakes, ponds, seeps and in this project, creeks or tributaries. Dominate species in the localized narrow valley foothill riparian habitat include valley oaks, willows and California buckeye.

Wetlands

Wetlands were identified by wetland vegetation, inundation, and soil complex during surveys conducted on March 26, April 1-2, April 10, and April 15-16, 2013. Within the project area, a total of 54 wetlands were observed. Forty-seven of these wetlands were associated with jurisdictional features and presented the required wetland vegetation, hydric soils, and inundation qualifications. Approximately 4.29 acres of jurisdictional wetlands lie in the project area.

Environmental Consequences

Both build alternatives would result in permanent and temporary impacts to waters of the U.S. and waters of the State due to cut/fill limits and new pavement.

Impacts to potentially jurisdictional waters that cross either alternative would include permanent culverts to allow unrestricted flow of the features. Tables 32 through 35 summarize the anticipated temporary and permanent impacts to potential waters of the U.S and State.

Alternatives 1 and 2 have been designed to minimize temporary and permanent impacts to potential jurisdictional waters to the maximum extent practicable. Refer to Section 1.7 Alternatives Considered but Withdrawn on page 20 of this document to read about the other alternatives that were eliminated from consideration. Before any water features would be affected, regulatory permits would be obtained from the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and Regional Water Quality Control Board. Project measures and Best Management Practices incorporated into the design would minimize construction impacts to potentially jurisdictional waters within the Biological Study Area. Measure BIO-6 would be implemented with the project.

Alternative 1 would have 0.32 acre of temporary impacts and 0.61 acre of permanent impacts on creeks that are waters of the U.S. Alternative 1 would have 1.06 acres of temporary

impacts and 1.87 acres of permanent impacts on creeks that are waters of the State (see Table 32).

Alternative 1 would have 0.89 acre of temporary impacts and 0.83 acre of permanent impacts on wetlands that are waters of the U.S. Alternative 1 would have 0.89 acre of temporary impacts and 0.83 acre of permanent impacts on waters of the State (see Table 33).

Table 32. Anticipated Alternative 1 Impacts to Creeks

Feature	Waters of the U.S.		**Waters of the State	
	Temporary Impacts (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)	Permanent Impacts (acres)
Black Creek and Tributaries	0.10	0.18	0.10	0.13
Nassau Creek and Tributaries	0.13	0.19	0.35	0.33
Waterman Creek and Tributaries	0.06	0.16	0.56	1.10
Cherokee Creek and Tributaries	0.03	0.08	0.05	0.31
Total	0.32	0.61	1.06	1.87
**Waters of the State include Waters of the U.S. impacts plus any additional impacts to foothill riparian features.				
Source: Natural Environment Study, 2014				

Table 33. Anticipated Alternative 1 Impacts to Wetland Features

Water Features	Waters of the U.S.		**Waters of the State	
	Temporary Impacts (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)	Permanent Impacts (acres)
Wetlands associated with Black Creek	0.23	0.04	0.23	0.04
Wetlands associated with Nassau Creek	0.13	0.07	0.13	0.07
Wetlands associated with Waterman Creek	0.48	0.67	0.48	0.67
Wetlands associated with Cherokee Creek	0.05	0.05	0.05	0.05
Total	0.89	0.83	0.89	0.83
**Waters of the State include Waters of the U.S. impacts plus any additional impacts to foothill riparian features.				
Source: Natural Environment Study, 2014				

Alternative 2 would have 0.27 acre of temporary impacts and 0.40 of permanent impacts on creeks that are waters of the U.S. Alternative 2 would have 1.12 acre of temporary impacts and 2.95 acres of impacts on waters of the State (see Table 34).

Alternative 2 would have 0.69 acre of temporary impacts and 0.80 acre of permanent impacts on wetlands that are waters of the U.S. Alternative 2 would have 0.69 acre of temporary impacts and 0.80 acre of permanent impacts on wetlands that are waters of the State (see Table 35).

Table 34. Anticipated Alternative 2 Impacts to Creeks

Creek Features	Waters of the U.S.		**Waters of the State	
	Temporary Impacts (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)	Permanent Impacts (acres)
Black Creek and Tributaries	0.07	0.05	0.07	0.05
Nassau Creek and Tributaries	0.13	0.14	0.79	0.80
Waterman Creek and Tributaries	0.03	0.14	0.14	1.85
Cherokee Creek and Tributaries	0.04	0.07	0.12	0.25
Total	0.27	0.40	1.12	2.95
**Waters of the State include Waters of the U.S. impacts plus any additional impacts to foothill riparian features.				
Source: Natural Environment Study, 2014				

Table 35. Anticipated Alternative 2 Impacts to Wetland Features

Creek Features	Waters of the U.S.		**Waters of the State	
	Temporary Impacts (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)	Permanent Impacts (acres)
Wetlands associated with Black Creek	0.01	0.00	0.01	0.00
Wetlands associated with Nassau Creek	0.23	0.13	0.23	0.13
Wetlands associated with Waterman Creek	0.41	0.63	0.41	0.66
Wetlands associated with Cherokee Creek	0.04	0.04	0.04	0.04
Total	0.69	0.80	0.69	0.80
**Waters of the State include Waters of the U.S. impacts plus any additional impacts to foothill riparian features.				
Source: Natural Environment Study, 2014				

Least Environmentally Damaging Practicable Alternative

Alternative 2 has been selected as the Least Environmentally Damaging Practicable Alternative (LEDPA). Alternative 2 has fewer temporary and permanent impacts on waters of the U.S. and has fewer permanent impacts on wetland features. Alternative 2 would affect fewer acres of Williamson Act farmland, fewer oak trees, and fewer acres of sensitive plant and wildlife habitat. Alternative 2 would also have less property acquisition and fewer acres of encroachment on the floodplain. See Table 3 for a full comparison of all alternatives. Design features, such as bridges and open bottomed culverts, have been incorporated into Alternative 2 to reduce impacts to waters and wetlands where possible. During the final design and permitting phase of the project, the project team will continue to refine the design to reduce impacts.

Avoidance, Minimization, and/or Mitigation Measures

Minimization and Avoidance Measure BIO-6 (Natural Environment Study Addendum BIO-6): The project limits in proximity to Black Creek, Nassau Creek, Waterman Creek,

Cherokee Creek and associated tributaries and wetlands would be marked with highly visible Environmentally Sensitive Area fencing to ensure construction would not further encroach into water features.

Mitigation Measure BIO-7 (Natural Environment Study Addendum BIO-7): Impacts to jurisdictional waters may be mitigated at a 1:1 ratio for temporary impacts and a 2:1 ratio for permanent impacts or as determined appropriate by permitting agencies. Exact mitigation ratios and locations will be consistent with permit requirements. Impacts may be mitigated at an on- or off-site agency-approved location, through the in-lieu fee program, or with a combination of all three.

As part of the Storm Water Pollution Prevention Plan, the following measures would be included for waters and wetlands:

Mitigation Measure BIO-8 (Natural Environment Study Addendum BIO-8): Erosion Control Measures must be implemented during construction. To minimize the mobilization of sediment to adjacent water bodies, the following erosion-control and sediment-control measures will be included in the Storm Water Pollution Prevention Plan based on standard Caltrans measures and standard dust-reduction measures:

- Soil exposure must be minimized through the use of temporary Best Management Practices, groundcover, and stabilization measures.
- The contractor must conduct periodic maintenance of erosion- and sediment-control measures.

Mitigation Measure BIO-9 (Natural Environment Study Addendum BIO-9): To minimize the mobilization of sediment to adjacent water features, the following erosion-control and sediment-control measures will be included in the Storm Water Pollution Prevention Plan. To conform to water quality requirements, the Storm Water Pollution Prevention Plan will include the following:

- Vehicle maintenance, staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants shall be a minimum of 100 feet from riparian or aquatic habitats. Any necessary equipment washing shall occur where the water cannot flow into Black Creek, Nassau Creek, Waterman Creek, Cherokee Creek, associated tributaries or wetlands. The project proponent will prepare a spill prevention and clean-up plan.
- Construction equipment will not be operated in flowing water.
- Construction work must be conducted according to site-specific construction plans that minimize the potential for sediment input to Black Creek, Nassau Creek, Waterman Creek, Cherokee Creek, associated tributaries and wetlands.
- Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life shall be prevented from contaminating the soil or entering Black Creek, Nassau Creek, Waterman Creek, Cherokee Creek, associated tributaries and wetlands.

Equipment used in and around Black Creek, Nassau Creek, Waterman Creek, Cherokee Creek, associated tributaries or wetlands must be in good working order and free of dripping or leaking engine fluids.

- Any surplus concrete rubble, asphalt, or other debris from construction must be taken to an approved disposal site.

Wetlands Only Practicable Finding

Executive Order for the Protection of Wetlands (Executive Order 11990) regulates the activities of federal agencies with regard to wetlands. This executive order states that a federal agency, such as the Federal Highway Administration, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm. As discussed in Section 1.6 above, Alternative 2 has been chosen as the Preferred Alternative. Both build alternatives would have permanent and temporary impacts to wetlands and other waters of the U.S. Alternative 2 has fewer permanent impacts on wetland features (0.80 acre for Alternative 2 and 0.83 acre for Alternative 1) and fewer temporary impacts on wetland features (0.69 acre for Alternative 2 and 0.89 acre for Alternative 1). Alternative 2 has been designed to use as much of the existing roadway as possible, to minimize the project's footprint, and to avoid environmentally sensitive resources. Overall, Alternative 2 has fewer adverse impacts to the human, physical, and biological environments.

To minimize harm to wetlands, the following measures will be included in the project: BIO-6 through BIO-9 and WQ-1 through WQ-6, and any additional measures identified in the Section 401 and 404 permits under the Clean Water Act and the Section 1602 under the California Department of Fish and Wildlife. Following determinations made in the permits, impacts to wetlands will be mitigated at a ratio determined by the permitting agencies.

Based on the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

2.3.3 Plant Species

Regulatory Setting

The U.S. Fish and Wildlife Service and California Department of Fish and Wildlife have regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special-status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act and/or the California Endangered Species Act. Please see the Threatened and Endangered Species section (section 2.3.5) in this document for detailed information about these species.

This section of the document discusses all other special-status plant species, including California Department of Fish and Wildlife species of special concern, U.S. Fish and

Wildlife Service candidate species, and California Native Plant Society rare and endangered plants.

The regulatory requirements for the Federal Endangered Species Act can be found at U.S. Code 16, Section 1531, et seq. See also 50 Code of Federal Regulations Part 402. The regulatory requirements for California Endangered Species Act can be found at California Fish and Game Code, Section 2050, et seq. Caltrans projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and California Environmental Quality Act, CA Public Resources Code, Sections 2100-21177.

Affected Environment

The Natural Environment Study for this project, approved in August 2014, along with the Addendum to the August 2014 Natural Environment Study approved in November 2016, provided the basis for the following discussion. Prior to field surveys, research was compiled from the U.S. Fish and Wildlife Service, California Natural Diversity Database, Jepson Herbarium manual, California Native Plant Society, Calflora, and other references for a comprehensive floral inventory of the Biological Study Area (see Appendix C). The following five sensitive plant species were found to have the potential to occur, and/or were found to occur, within the project area: Tuolumne button-celery (*Eryngium pinnatisectum*), Red Hills soaproot (*Chlorogalum grandiflorum*), Mariposa cryptantha (*Cryptantha mariposae*), forked hare-leaf (*Lagophylla dichotoma*), and Congdon's lomatium (*Lomatium congdonii*).

A rare plant focused survey was conducted during blooming season from May 9 to 14, 2013 by walking transects throughout all areas of the Biological Study Area where access was granted. Plant surveys were consistent with the California Department of Fish and Wildlife's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. Additional focused botanical surveys would be conducted prior to construction during the blooming season for the areas that were not previously surveyed. The sensitive plants species found, or that have the potential to occur in the project area, include the following:

Tuolumne Button-celery

The Tuolumne button-celery is listed under the California Native Plant Society Inventory of Rare and Endangered Plants as a 1B.2 species of concern. A 1B.2 species of concern is a plant that is fairly endangered in California, and between 20%-80% of occurrences are threatened. This annual/perennial herb prefers vernal pools, swales, intermittent streams, cismontane woodlands and lower montane coniferous forests. It is typically found between 230 and 3,002 feet above mean sea level and blooms June to August.

Two healthy populations of Tuolumne button-celery were observed within the Biological Study Area near Waterman Creek and its tributaries, and are estimated to consist of a total of approximately 748 individuals (see Figures 45 and 46). The first population (approximately 682 individuals) within 1.4 acres was observed within and next to a wetland feature and a Waterman Creek tributary, about 140 feet east of the existing State Route 4. The second population (approximately 66 individuals) within 0.08 acre was observed next to and within Waterman Creek, about 55 feet south of the existing State Route 4.

Red Hills Soaproot

The Red Hills soaproot is listed under the California Native Plant Society Inventory of Rare and Endangered Plants as a 1B.2 species of concern. This perennial bulbiferous herb prefers serpentinite, gabbroic soils within chaparral, cismontane woodlands, and lower montane coniferous forest. It is typically found between elevations of 800 and 4,067 feet above mean sea level and blooms May to June.

While focused plant surveys did not observe the Red Hills soaproot, the project site does contain chaparral and mixed oak woodland. The closest recorded occurrences have been found about 0.3 mile east of the project. Due to right-of-entry restrictions, a pre-construction Red Hills soaproot survey would be conducted on un-surveyed parcels before construction.

Mariposa Cryptantha

The Mariposa cryptantha is listed under the California Native Plant Society Inventory of Rare and Endangered Plants as a 1B.3 species of concern. This annual herb prefers serpentinite ridges, slopes and rocky soils within chaparral communities. It is typically found between elevations of 656 and 2,132 feet above mean sea level and blooms from April to June.

While focused plant surveys did not result in observations of Mariposa cryptantha, the project site contains a small acreage of mixed chaparral habitat that could not be surveyed. The closest occurrences have been found about 0.30 mile east of the project area. While impacts to Mariposa cryptantha are not expected, due to right-of-entry restrictions, a pre-construction Mariposa cryptantha survey would be conducted on un-surveyed parcels with potential chaparral habitat.

Forked Hare-leaf

The forked hare-leaf is listed under the California Native Plant Society Inventory of Rare and Endangered Plants as a 1B.2 species of concern. This annual herb is occasionally found on clay soils within cismontane woodlands and valley foothill grassland communities. It is typically found between elevations of 164 and 2,493 feet above mean sea level of the Sierra Nevada foothills, eastern San Joaquin Valley, and inner south Coast Ranges. The blooming season typically runs from April to September.

While focused plant surveys did not result in observations of the forked hare-leaf, the project site contains large acreages of valley foothill grassland habitat and mixed oak woodlands. The closest recorded occurrences have been found along the Black Creek about 6 miles south of the project area. While impacts to the forked hare-leaf are not expected, due to right-of-entry restrictions, a pre-construction forked hare-leaf survey would be conducted on un-surveyed parcels.

Congdon's Lomatium

Congdon's lomatium is listed under the California Native Plant Society as a 1B.2 species of concern. This perennial herb strictly favors serpentine soils within chaparral and cismontane woodland communities. It is confined to two Sierra Nevada foothill counties—Tuolumne and

Mariposa—at elevations ranging from 983 to 3,937 feet above mean sea level. The typical blooming period is from March to June.

While focused plant surveys did not result in observations of Congdon's lomatium, the project site contains cismontane woodlands and small acreages of chaparral habitat. The closest recorded occurrences are found about 0.1 mile east of the project area within mixed chaparral habitat at the western end of the project. While no impacts to Congdon's lomatium are expected, due to right-of-entry restrictions, a pre-construction Congdon's lomatium survey would be conducted on un-surveyed parcels.

Environmental Consequences

Tuolumne Button-celery

Alternative 1 would affect the Tuolumne button-celery population 1. One specimen would be directly affected, and about 0.85 acre of potential habitat would be permanently impacted by Alternative 1, as shown in Figure 46. Alternative 2, as the preferred alternative, would avoid affecting all known populations of Tuolumne button celery, but would permanently affect about 0.27 acre of population 1 potential habitat. Compensatory mitigation for impacts to potential Tuolumne button-celery habitat is not required or proposed for this project.

In addition to the populations observed during the 2013 focused rare plant surveys in the project area, there are several populations of Tuolumne button-celery within 5 miles of the project. All of the observances occur on privately owned parcels, and no impacts to these populations as a result of County action are currently anticipated. Therefore, considering no specimens will be affected by the preferred alternative, Alternative 2, and with the implementation of minimization and avoidance measures BIO-10 through BIO-14, and the installation of Environmentally Sensitive Area fencing, no cumulative impacts are expected.

Red Hills Soaproot

Although no sign of Red Hills soaproot was observed, the species could occur in the project area. Potential Red Hills soaproot habitat, consisting of approximately 57.78 acres of mixed oak woodland, would be permanently affected with Alternative 1. With Alternative 2, approximately 46.35 acres of potential habitat, consisting of mixed oak woodland would be permanently affected. Compensatory mitigation for impacts to potential Red Hills soaproot habitat is not required or proposed for this project.

The nearest population of Red Hills soaproot is about 0.3 mile from the project on land owned by the Bureau of Land Management. Impacts to this population are not expected, and no additional populations have been observed within 5 miles of the project. Therefore, considering no specimens were observed during the 2013 focused rare plant surveys within the project area, and with implementation of minimization and avoidance measures BIO-15 and BIO-16, and the use of Caltrans Standard Best Management Practices, the project would not affect the viability of the overall population of or have cumulative effects to Red Hills soaproot.

Mariposa Cryptantha

While no sign of Mariposa cryptantha was observed, Alternative 1 and Alternative 2 are not expected to have permanent impacts to mixed chaparral. Compensatory mitigation for impacts to potential Mariposa cryptantha habitat is not required or proposed for this project.

The nearest population of Mariposa cryptantha is about 0.3 mile from the project on land owned by the Bureau of Land Management. Impacts to this population are not anticipated, and only one additional small population (observed in 1865 and mapped as a best guess by the California Natural Diversity Database with an outstanding question regarding its parcel location) has been observed within 5 miles of the project. Therefore, considering no specimens were observed during the 2013 focused rare plant surveys within the project area, and with the implementation of minimization and avoidance measures BIO-15 and BIO-16, and the use of Caltrans Standard Best Management Practices, the project would not affect the viability of the overall population of or have cumulative effects to Mariposa cryptantha.

Forked Hare-leaf

While no sign of forked hare-leaf was observed, the species could occur in the project area. Potential fork hare-leaf habitat, consisting of 57.70 acres of grassland, would be permanently affected with Alternative 1, and approximately 48.64 acres would be permanently affected with Alternative 2. Compensatory mitigation for impacts to potential forked hare-leaf habitat is not required or proposed for this project.

Considering the nearest population of forked hare-leaf is more than 5 miles from the project and no specimens were observed during the 2013 focused rare plant surveys in the project area, and with implementation of minimization and avoidance measures BIO-15 and BIO-16, and the use of Caltrans Standard Best Management Practices, the project would not affect the viability of the overall population of or have cumulative effects on the forked hare-leaf.

Congdon's Lomatium

While no sign of Congdon's lomatium was observed, Alternative 1 would permanently affect approximately 57.78 acres of mixed oak woodlands, which is potential Congdon's lomatium habitat. Alternative 2 would permanently affect 46.35 acres of mixed oak woodlands. Compensatory mitigation for impacts to potential Congdon's lomatium habitat is not required or proposed for this project.

The nearest known population of Congdon's lomatium is about 0.1 mile east of the project (observed in 1998 and mapped as a best guess by the California Natural Diversity Database) on privately own lands. Since the 1998 occurrence, habitat within the 0.5-mile occurrence radius east of the project, where the specimens were estimated to occur, has been partially developed. Due to the imprecise occurrence location, it is unknown if the development resulted in an extirpation of the population or if the population remains intact. Regardless, impacts to this population as a result of County action are not anticipated and no additional populations have been observed within 5 miles of the project. Therefore, considering no specimens were observed during the 2013 focused rare plant surveys within the project area, and with the implementation of minimization and avoidance measures BIO-15 and BIO-16, and the use of Caltrans Standard Best Management Practices, the project would not affect the

viability of the overall population of or have cumulative effects to Congdon's lomatium.

Avoidance, Minimization, and/or Mitigation Measures

Tuolumne Button-celery

Minimization and Avoidance Measure BIO-10 (Natural Environment Study Addendum BIO-10): Prior to initiating construction where feasible, Environmentally Sensitive Area fence shall be installed at the edge of the project limits where Tuolumne button-celery populations exist. The project biologist shall be present during the installation of the Tuolumne button-celery Environmentally Sensitive Area fencing (see Figure 46).

Minimization and Avoidance Measure BIO-11 (Natural Environment Study Addendum BIO-11): Prior to construction in areas within 100 feet of existing Tuolumne button-celery populations, a focused survey shall be done to calculate the project's impacts on the existing population. The survey shall be done during the blooming season (May 1–August 31) in the season immediately preceding construction. Surveys would be completed by a qualified biologist. Results of this pre-construction survey shall be submitted to the California Department of Fish and Wildlife.

Minimization and Avoidance Measure BIO-12 (Natural Environment Study Addendum BIO-12): All construction personnel shall attend an environmental awareness training. During the environmental awareness training, construction personnel would be briefed on the project's sensitive status plant and animal species including the Tuolumne button-celery, foothill yellow-legged frog, and western pond turtle.

Minimization and Avoidance Measure BIO-13 (Natural Environment Study Addendum BIO-13): Those Tuolumne button-celery individuals that are impacted would be relocated to suitable habitats including swales, vernal pools, or wetlands within the project area or off-site.

Minimization and Avoidance Measure BIO-14 (Natural Environment Study Addendum BIO-14): Should relocation of Tuolumne button-celery plants be necessary, the relocation would be done by a licensed landscape contractor, under the supervision of a qualified biologist, during the winter dormant season.

Red Hills Soaproot, Mariposa Cryptantha, Forked Hare-leaf, and Congdon's Lomatium

Avoidance Measure BIO-15 (Natural Environment Study Addendum BIO-15): Prior to initial ground-disturbance activities, pre-construction blooming surveys for Red Hills soaproot (May 1–June 30), Mariposa cryptantha (April 1–June 30), forked hare-leaf (April 1–May 31), and Congdon's lomatium (April 1–May 31) would be conducted on un-surveyed parcels by a qualified biologist.

Avoidance Measure BIO-16 (Natural Environment Study Addendum BIO-16): Should a Red Hills soaproot, Mariposa cryptantha, forked hare-leaf, or Congdon's lomatium be found during pre-construction surveys, Environmentally Sensitive Area fencing would be erected to avoid the sensitive plant or the specimens would be relocated to appropriate environments.

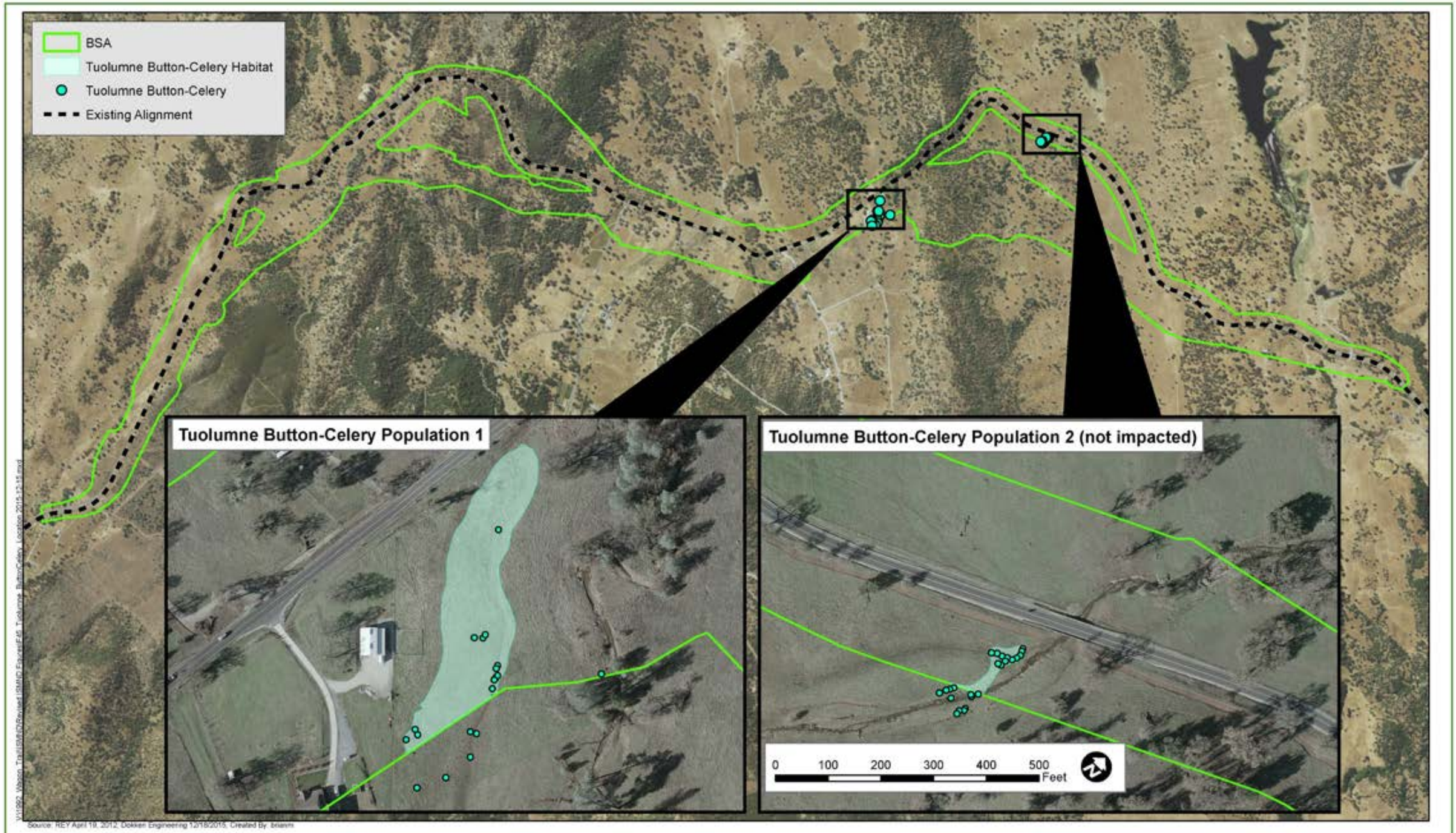

FIGURE 45
Tuolumne Button-Celery Locations
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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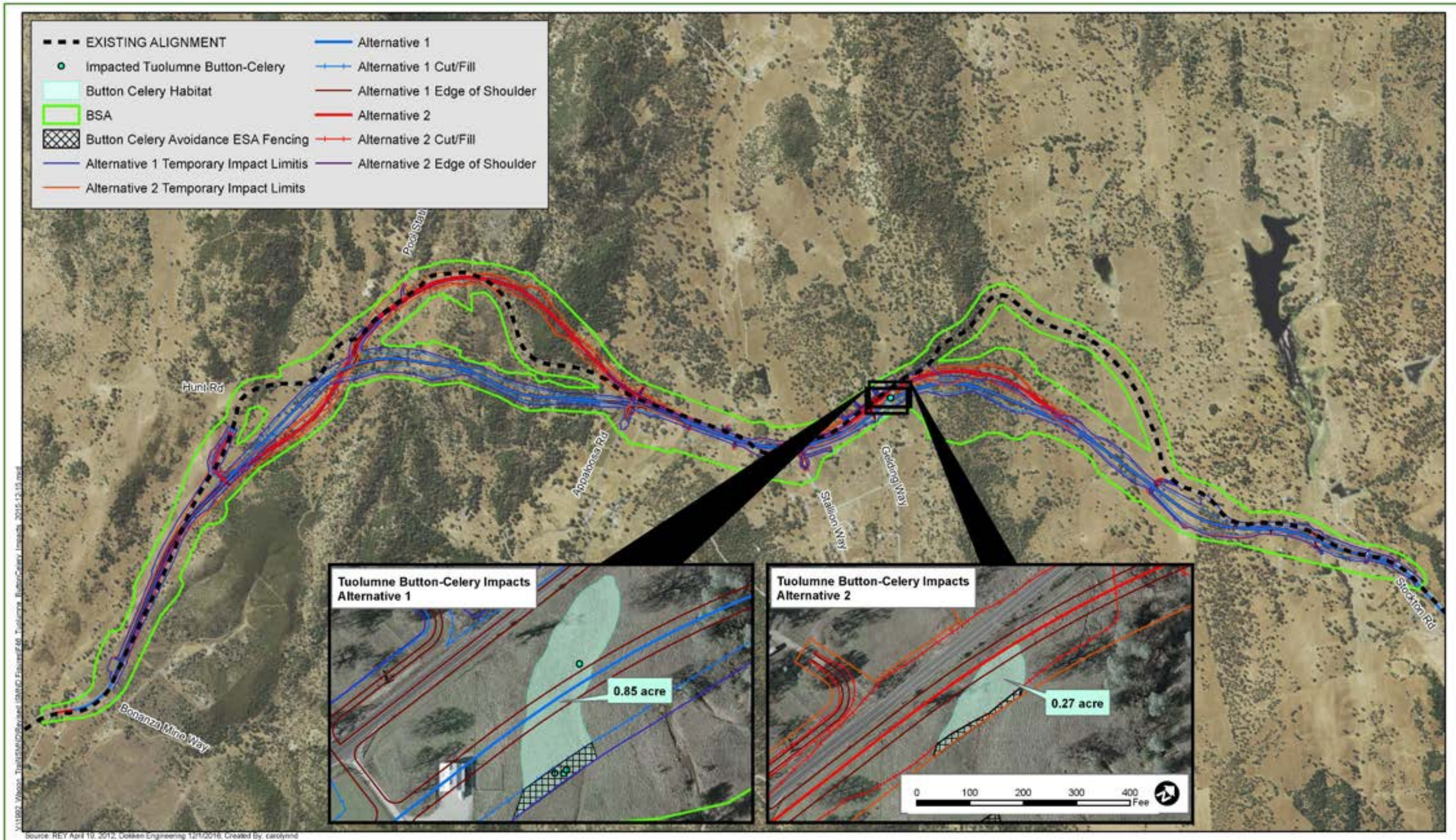

FIGURE 46
Tuolumne Button-Celery Impacts
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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2.3.4 Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration's National Marine Fisheries Service and California Department of Fish and Wildlife are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.5. All other special-status animal species are discussed here, including California Department of Fish and Wildlife fully protected species and species of special concern, and U.S. Fish and Wildlife Service or National Oceanic and Atmospheric Administration Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Sections 1600–1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

Affected Environment

The Natural Environment Study for this project, approved in August 2014 and the Addendum to the August 2014 Natural Environment Study approved in November 2016, provided the basis for the following discussion.

Biological surveys of the Biological Study Area were conducted between March and June 2013. While no special-status species were observed during the biological surveys, potentially suitable habitat for the valley elderberry longhorn beetle, foothill yellow-legged frog, western pond turtle, and western red bat occurs within the Biological Study Area. After a habitat assessment was conducted for the California red-legged frog, California tiger salamander, vernal pool tadpole shrimp and vernal pool fairy shrimp, it was confirmed the Biological Study Area contains potentially suitable habitat for these species. Protocol surveys were then conducted. Even though some of these species are presumed absent, they are addressed here.

Migratory Birds

Native birds, which are protected under the Migratory Bird Treaty Act and similar provisions under the California Department of Fish and Game code, currently nest or have the potential to nest within the Biological Study Area and the project impact area. During the 2013 biological surveys, habitat was determined to be favorable to canopy, cavity, and structural

nesting birds. Evidence of cliff swallow (*Petrochelidon pyrrhonota*) nesting was present in the Cherokee Creek culverts and Nassau Creek culverts under State Route 4.

Foothill Yellow-legged Frog

The foothill yellow-legged frog is a California Department of Fish and Wildlife Species of Special Concern. The foothill yellow-legged frog can be found in partly shaded, shallow streams and rocky riffles in a variety of habitats, including valley-foothill hardwood, valley-foothill riparian, mixed conifer, coastal scrub, and mixed chaparral. The species requires some cobble-sized substrate for egg-laying and a water source persisting for at least 15 weeks for larval metamorphosis. The foothill yellow-legged frog occurs from elevations near sea level to 6,370 feet above mean sea level with the association of a breeding water source within approximately 33 feet. The main predators for the foothill yellow-legged frog are invasive non-native species (garter snakes, bullfrogs, and centrarchid fish), which were introduced into Sierra Nevada foothill streams.

During the biological surveys conducted between March and June 2013, no sign of the foothill yellow-legged frog was observed. Black Creek, Nassau Creek, Waterman Creek, and Cherokee Creek all contain sections of partly shaded, shallow water with rocky substrate and water presence more than 15 weeks, which are the ideal habitats for the foothill yellow-legged frog. The closest recorded occurrence of the foothill yellow-legged frog is about 6 miles southeast of the project. There is a low/moderate potential for occurrence of the foothill yellow-legged frog within the project vicinity.

Western Pond Turtle

The western pond turtle is a California Department of Fish and Wildlife Species of Special Concern. This turtle is a semi-aquatic turtle that inhabits ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. The species requires suitable basking sites such as logs, rocks and exposed banks and associated upland habitat consisting of grassy open fields for reproduction. The species is omnivorous and eats aquatic wildlife and vegetation. The western pond turtle is known to hibernate underwater beneath a muddy bottom in colder climates; it reproduces from March to August.

No occurrence of the species has been documented in or near the project area, and biological surveys found no sign of the western pond turtle within the Biological Study Area. Although no sign of the western pond turtle was observed, Black Creek, Nassau Creek, Waterman Creek, and Cherokee Creek all contain sections of suitable basking sites with logs, rocks and associated upland habitat of grassy open fields, which is the ideal upland habitat for the western pond turtle. There are also several suitable stock ponds in the vicinity of the project, one about 350 feet south of the project area near Cherokee Creek, that contain ideal aquatic habitat for the western pond turtle. With habitat next to the project, there is a low/moderate potential for occurrence within the project vicinity.

Western Red Bat

The western red bat is a California Department of Fish and Wildlife Species of Special Concern. This bat typically roosts in forests and woodlands in proximity to foraging habitats, which include grasslands, shrub lands, open woodlands and croplands. The species is mostly an insectivore, consuming moths, crickets, beetles, and cicadas. The western red bat is known

to migrate between summer and winter to lowlands and coastal regions for breeding, which typically occurs in low elevation cottonwood/sycamore and oak-dominated riparian habitats.

No signs of the western red bat were observed during biological surveys. The project site contains mature mixed oak and conifer forest habitat next to open grassland habitat, potentially suitable for the western red bat's foraging and roosting needs. The closest recorded occurrence of the western red bat is more than 5 miles south of the project area. There is a low/moderate chance for the species to occur within the project area.

Environmental Consequences

Migratory Birds

Potential impacts to migratory birds would be avoided, minimized, or mitigated through the implementation of measures BIO-17, BIO-18, and BIO-19. If vegetation removal cannot avoid the nesting season, a pre-construction nesting survey would be conducted. Active nests would be given a buffer to avoid impacts. Migratory swallows would be avoided through exclusion devices or removal or partially constructed nests. Active occupied nests would not be removed until after the young have fledged.

Foothill Yellow-legged Frog

While no foothill yellow-legged frogs or signs of foothill yellow-legged frogs were observed during surveys, construction activities would have a permanent and temporary impact on Black Creek, Nassau Creek, Waterman Creek, Cherokee Creek and associated tributaries and wetlands (see Tables 32 through 35), which are potential foothill yellow-legged frog habitat. Direct impacts include vegetation disruption to creeks and wetlands as potential habitat for the foothill yellow-legged frog. Construction will proceed with noise, lights, silt increase, turbidity and other human activities that could disturb these frogs should they occur in the project vicinity.

With implementation of avoidance/minimization measures, the proposed project is not expected to cause direct impacts, and will reduce potential for indirect impacts, to individual foothill yellow-legged frogs. While potentially suitable breeding and dispersal habitat exists within the Biological Study Area, minimization measures BIO-20 through BIO-23 and the use of Best Management Practices would be implemented to reduce the potential for negative impacts. The project would not reduce the viability of the overall population, and cumulative effects are not expected.

Western Pond Turtle

While no sign of the western pond turtle was observed in the Biological Study Area during surveys, the project does contain ideal upland habitat for the turtle. The project is not expected to contain suitable aquatic habitat for the turtle. Because the stock ponds in Biological Study Are dry up annually, they do not have suitable fish/aquatic prey for western pond turtles. While the proposed project is not expected to cause direct impacts to individual western pond turtles, the project would disturb potentially suitable dispersal habitat. Approximately 57.70 acres of grasslands would be permanently affected by Alternative 1, and approximately 48.64 acres of grasslands would be permanently affected by Alternative 2. Indirect impacts due to construction activities would occur. Construction would proceed with

noise, lights, silt increase, turbidity and other human activities that could disturb western pond turtles should they occur in the project vicinity. Minimization measures BIO-20 through 23 and the use of Best Management Practices would be implemented and maintained during construction where dispersal habitat may be disturbed to reduce the potential for negative direct and indirect impacts to western pond turtles.

Western Red Bat

While no western red bats or signs of western red bat were observed during surveys, potential foraging habitat consisting of oak woodlands would be affected with Alternatives 1 and 2. Alternative 1 would permanently affect approximately 57.78 acres of mixed oak woodlands, and Alternative 2 would permanently affect approximately 46.35 acres. The project is not expected to cause direct impacts to individual western red bats. With minimization measures BIO-1, BIO-24, and the use of Best Management Practices, the potential for negative impacts to the western red bat would be reduced. The project would not affect the viability of the overall population, and no cumulative impacts are expected.

Avoidance, Minimization, and/or Mitigation Measures

Migratory Birds

Minimization and Avoidance Measure BIO-17 (Natural Environment Study Addendum BIO-17): To the greatest extent practicable, all vegetation removal would occur during the non-nesting season (September 1–February 15). If vegetation removal is to take place during the nesting season (February 15–September 1), a pre-construction nesting bird survey must be conducted within 7 days prior to vegetation removal by a qualified biologist (familiar with avian biology, nesting bird ecology, and standard survey techniques). Within 2 weeks of the nesting bird survey, all vegetation cleared by the biologist must be removed by the contractor.

A minimum 100-foot no-disturbance buffer would be established around any active nest of migratory birds, and a minimum of 300-foot no-disturbance buffer would be established around any nesting raptor species to limit the impacts of construction activities. The contractor must immediately stop work in the nesting area until the appropriate buffers are established and is prohibited from conducting work that could disturb the birds (as determined by the project biologist and in coordination with wildlife agencies) in the buffer area until a qualified biologist determines the young have fledged.

Avoidance Measure BIO-18 (Natural Environment Study Addendum BIO-18): If demolition/rehabilitation of existing culverts or bridges are planned to occur during the nesting season, measures shall be taken to avoid impacts to migratory swallows. To protect migratory swallows, unoccupied nests would be removed from existing bridge/culvert structures prior to the nesting season (February 15–September 1). During the nesting season, bridge/culvert structures shall be maintained to avoid the completion of a nest. After a nest is completed, it cannot be disturbed until nesting season is over.

Avoidance Measure BIO-19 (Natural Environment Study Addendum BIO-19): If construction is to occur during the swallow nesting season, a qualified biologist would survey the existing bridge structures to determine the presence of nesting swallows. If active and occupied nests are discovered, disruptive work in proximity to active nests would stop as

determined appropriate by the qualified biologist. Nests would not be removed until after the young have fledged.

Foothill Yellow-legged Frog and Western Pond Turtle

Also see BIO-12.

Avoidance Measure BIO-20 (Natural Environment Study Addendum BIO-20): Prior to vegetation removal in Black Creek, Nassau Creek, Waterman Creek, and Cherokee Creek, a pre-construction survey for foothill yellow-legged frog would be conducted by a qualified biologist.

Avoidance Measure BIO-21 (Natural Environment Study Addendum BIO-21): In areas adjacent to Black Creek, Nassau Creek, Waterman Creek, and Cherokee Creek where low-lying shrubs/vegetation are present, vegetation would be removed within 33 feet of the top of the water features by hand.

Avoidance Measure BIO-22 (Natural Environment Study Addendum BIO-22): If any wildlife is encountered during the course of construction, said wildlife would be allowed to leave the construction area unharmed.

Minimization Measure BIO-23 (Natural Environment Study Addendum BIO-23): All trash must be kept in wildlife-proof receptacles, and any non-natural food and water sources would not be left unattended for the duration of the project construction.

Western Red Bat

To minimize potential impacts to the western red bat, measure BIO-1 protecting mixed oak habitat and the following measures have been included into the project design:

Minimization Measure BIO-24 (Natural Environment Study Addendum BIO-24): Prior to tree removal, pre-construction tree surveys for the western red bat would be conducted by a qualified biologist.

Minimization Measure BIO-25 (Natural Environment Study Addendum BIO-25): Should western red bat day or night roosting sites be identified during pre-construction surveys, the California Department of Fish and Wildlife will be notified immediately to receive further guidance.

2.3.5 Threatened and Endangered Species

Regulatory Setting

The main federal law protecting threatened and endangered species is the Federal Endangered Species Act: 16 U.S. Code Section 1531, et seq. See also 50 Code of Federal Regulations Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration, are required to consult with the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical

habitat is defined as geographic locations critical to the existence of a threatened or endangered species.

The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement, a Letter of Concurrence and/or documentation of a No Effect finding. Section 3 of the Federal Endangered Species Act defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act, California Fish and Game Code Section 2050, et seq. The California Endangered Species Act emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife is the agency responsible for implementing the California Endangered Species Act.

Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions, an incidental take permit is issued by the California Department of Fish and Wildlife.

For species listed under both the Federal Endangered Species Act and the California Endangered Species Act requiring a Biological Opinion under Section 7 of the Federal Endangered Species Act, the California Department of Fish and Wildlife may also authorize impacts to California Endangered Species Act species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

Affected Environment

The Natural Environment Study for this project was approved in August 2014 and the Addendum to the August 2014 Natural Environment Study approved in November 2016 provided the basis for the following discussion. As part of the background research for the project, a list of potential threatened and endangered species was obtained from the U.S. Fish and Wildlife Service; it is included in Appendix C. Correspondence with the resource agencies is detailed in Chapter 3 of this document. Final effect determinations can be found in Appendix I.

Chinese Camp Brodiaea

The Chinese Camp brodiaea (*Brodiaea pallida*) is a federally threatened and state endangered species that is also listed by the California Native Plant Society as a 1B.1 species of concern. This perennial bulbiferous plant prefers serpentinite soils within wetland riparian communities or vernal streambeds, but occasionally can be found in valley foothill grasslands and cismontane woodlands. The plant is commonly found between elevations of 525 and 1,280 feet above mean sea level. It has a relatively short blooming season of May to June in the Sierra Nevada foothills.

While focused plant surveys did not result in observations of Chinese Camp brodiaea, the project site contains potential habitat composed of wetlands, grasslands and cismontane woodland communities. The closest recorded occurrences have been located about 4 miles away along Black Creek at the confluence with New Melones Lake south of the project area. Due to right-of-entry restrictions, a pre-construction Chinese Camp brodiaea survey would be conducted on un-surveyed parcels.

Should pre-construction surveys encounter Chinese Camp brodiaea, the project will consult with the California Department of Fish and Wildlife through the California Fish and Game Code Section 2081 process.

Informal Section 7 consultation was conducted with the U.S. Fish and Wildlife Service on November 29, 2016 and determined that the project may affect, but is not likely to adversely affect Chinese Camp brodiaea.

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is currently listed as a federally threatened species. Critical habitat was designated by the U.S. Fish and Wildlife Service on August 8, 1980 (45 Federal Register 52803). Elderberry shrubs are obligate hosts for valley elderberry longhorn beetle larvae. Elderberry shrubs are often associated with cottonwood, willow ash (*Fraxinus s*p.), oak and walnut species common to the riparian forests and adjacent uplands in the Central Valley and foothills. The valley elderberry longhorn beetle's range has been reduced and greatly fragmented due to a loss of elderberry-inhabited communities, especially riparian habitat loss. Habitat loss comes from agricultural development, urbanization, and levee maintenance and pesticide drift where aerial application or fogging of crops occurs near riparian habitats. Adult valley elderberry longhorn beetles feed on elderberry foliage and are present from March through early June. Elderberry stems with emergence holes indicate current and/or previous valley elderberry longhorn beetle presence.

During the biological surveys, elderberry shrubs with stems greater than 1 inch were observed within the Biological Study Area. All elderberry shrubs were observed in healthy condition in mixed oak woodland and annual grassland communities, occasionally in proximity to a water feature. No recent occurrences of the valley elderberry longhorn beetle have been documented within 10 miles of the project area. Pursuant to consultation with the U.S. Fish and Wildlife Service, the project is located between 1,140 and 1,905 feet above sea level, approximately 640 feet above the elevation limit of the species. The species is presumed absent.

California Red-legged Frog

The California red-legged frog (*Rana draytonii*) is federally listed as threatened and is a California Department of Fish and Wildlife Species of Special Concern. Habitat for California red-legged frogs consists of a combination of specific aquatic and riparian components. California red-legged frogs reside in permanent and semi-permanent aquatic habitats, such as creeks and cold-water ponds with emergent and submergent vegetation. Adult California red-legged frogs breed from November through April and use dense, shrubby, or emergent riparian vegetation near to still or slow-moving water including pools and backwaters within streams, creeks, ponds, marshes, springs, sag ponds, dune ponds, lagoons, and artificial impoundments). Upland areas next to riparian zones provide estivation and dispersal habitats; California red-legged frogs are typically found within 98 feet of a water source).

A literature review of California red-legged frog historic and known occurrences within 5 miles of the project found that while the location of the project is not within the current range of the California red-legged frog, it is within the frog's historic range with the closest recorded occurrence located 8.0 miles southeast of the project area (California Natural Diversity Database 2013). In addition, the project is located within recovery unit 1. Upland and aquatic habitat assessments and reconnaissance-level surveys were conducted based on aerial maps, and seven aquatic features were identified within a 1-mile radius of the project footprint to be potentially suitable California red-legged frog habitat. Nassau Creek, Waterman Creek, Cherokee Creek and four ponds were surveyed through walking and driving transects to observe aquatic vegetation and potential predators. Many predators (bullfrogs, crayfish and fish species) were observed in potential aquatic habitats, thus decreasing the likelihood of California red-legged frog presence.

A formal Habitat Assessment was conducted to assess the project site's suitability for California red-legged frogs within a 1-mile radius of the Biological Study Area. The formal Habitat Assessment was conducted in accordance with the U.S. Fish and Wildlife Service's *Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog* (U.S. Fish and Wildlife Service, 2005).

As noted above, a literature review of the California red-legged frog historic and known occurrences within 5 miles of the project was completed and concluded the location of the project is not within the current range of the California red-legged frog, but it is in the historic range and within a recovery unit; the closest occurrence is located 8.0 miles southeast of the project area. Formal protocol surveys were conducted March 15, March 26, April 15, May 9, and July 2, 2013. A total of four day surveys and four night surveys were conducted during the breeding season. One day survey and one night survey were conducted during the non-breeding season (July 1–September 30). The number of surveys met or exceeded the U.S. Fish and Wildlife Service recommendations for number of surveys within both the breeding and non-breeding season. Surveys were conducted at least 1 week apart, and at least one survey was conducted prior to August 15. The total time between the first and last survey was more than 14 weeks. The protocol surveys met the recommendations made in the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (U.S. Fish and Wildlife Service, 2005). During protocol surveys, the California red-legged frog was not observed. Throughout the protocol surveys, dispersal habitat for the

California red-legged frog was observed, therefore the California red-legged frog has a low potential to occur within the project area in the future.

Section 7 consultation was conducted with the U.S. Fish and Wildlife Service on November 29, 2016, and determined that the project may affect, and is likely to adversely affect California red-legged frog.

California Tiger Salamander

The California tiger salamander (*Ambystoma californiense*) is a federal and state listed threatened species. The project lies approximately 11.5 miles east of California tiger salamander critical habitat. Habitat for the species consists of a combination of specific aquatic and upland grassland and oak woodland components. Upland areas next to breeding ponds provide estivation and dispersal habitats. California tiger salamanders reside in rodent burrows throughout the summer, about 3,300 feet, from a breeding water feature.

Based on the results of the habitat assessment, protocol surveys were initiated on March 15, 2013. California tiger salamander aquatic protocol surveys were completed, but upland protocol surveys were not initiated. Aquatic surveys found a low level of suitability for California tiger salamanders because the water features are stocked with predatory species such as largemouth bass, sunfish, bullfrogs and crayfish. Before the upland survey, subsequent coordination with the California Department of Fish and Game determined that the nearest occurrence of a California tiger salamander was much farther away than originally thought. The project sits just outside the species elevation range and about 11.5 miles east of the nearest occurrence (California Natural Diversity Database, 2013). As a result, the project is not within the current range of the California tiger salamander. Based on the survey results and the new information that became available, Caltrans made the decision that no additional protocol surveys were necessary. Caltrans notified the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife of this decision and of its "no effect" determination. On October 17, 2013, the California Department of Fish and Wildlife concurred that no additional protocol surveys were necessary, and the U.S. Fish and Wildlife Service did not object.

Vernal Pool Tadpole Shrimp

The vernal pool tadpole shrimp (*Lepidurus packardi*) is a federally endangered listed species. Distribution of the vernal pool tadpole shrimp is patchy from Shasta County to Tulare County. The vernal pool tadpole shrimp is a freshwater crustacean inhabiting mostly vernal pools but can also be found in ephemeral drainages, stock ponds, reservoirs, and ditches. The species requires a seasonal vernal pool and aquatic vegetation for reproduction. Tadpole shrimp eggs are known to remain dormant on top of or within vernal pool soils until pools are ideal for emergence, which could be up to 10 years. The species is omnivorous, consuming vernal pool and pond debris, vegetation, and other aquatic living organisms. The main threat to tadpole shrimp is the loss of vernal pools due to development or landform changes.

A formal Habitat Assessment was conducted on February 28, 2013 to assess the site's suitability for vernal pool tadpole shrimp within the Biological Study Area. A single depressional feature was found next to the project area footprint (about 80 feet from the

existing State Route 4) (see Figure 43 page 5, and Figure 44, page 5). The depressional feature is about 75 feet by 40 feet (0.05 acre) at capacity. Sign of common invertebrates (i.e., Ostracoda) was noted in the damp pool bottom during the Habitat Assessment.

Protocol surveys (dry and wet seasons) were conducted in 2013-2014. Dry season protocol surveys were conducted July 2, 2013; results were negative. Wet season surveys were conducted December 19, 2013, and February 20, March 6, March 20, April 3, and April 17, 2014; results were negative. The depressional feature was documented to lack vernal pool vegetation and adequate inundation for the species. It was subsequently concluded that the feature was not a true vernal pool, so it was classified as a seasonal wetland.

Vernal Pool Fairy Shrimp

The vernal pool fairy shrimp (*Branchinecta lynchi*) is a federally threatened listed species. Distribution of the known 32 populations of vernal pool fairy shrimp are from Shasta County to Tulare County and along the Central Coast Range from Solano County to San Benito County. The vernal pool fairy shrimp is a freshwater crustacean inhabiting ephemeral freshwater habitats including vernal pools. The species requires a seasonal vernal pool for reproduction. Fairy shrimp eggs are drought-resistant and can survive the hot dry summers and cold wet winters. When pooling habitat is ideal, the eggs will hatch and thrive until the pond is dry. The species feeds on algae, bacteria, protozoa, rotifers, and bits of pond debris. The main threat to fairy shrimp is the loss of vernal pools due to development or changes to pools.

A formal Habitat Assessment was conducted on February 28, 2013 to assess the site's suitability for vernal pool fairy shrimp within the Biological Study Area. A single depressional feature was found next to the project area footprint (about 80 feet from the existing State Route 4) (see Figure 43, page 5 and Figure 44, page 5). The depressional feature is approximately 75 feet by 40 feet (0.05 acre) at capacity. Sign of common invertebrates (i.e., Ostracoda) was noted in the damp pool bottom during the Habitat Assessment.

Protocol surveys (dry and wet seasons) were conducted in 2013-2014. Dry season protocol surveys were conducted July 2, 2013; results were negative. Wet season surveys were conducted December 19, 2013, and February 20, March 6, March 20, April 3, and April 17, 2014; results were negative. The depressional feature was documented to lack vernal pool vegetation and adequate inundation for the species. It was subsequently concluded that the feature was not a true vernal pool, so it was classified as a seasonal wetland.

Environmental Consequences

Chinese Camp Brodiaea

While no sign of the Chinese Camp brodiaea was observed, the species could occur in the project vicinity. Of the 13.90 acres of potential Chinese Camp brodiaea habitat (0.90 acre and 0.55 mile of Black Creek) approximately 0.76 acre would be permanently affected with Alternative 1 and approximately 0.37 acre would be affected with Alternative 2.

Informal Section 7 consultation was conducted with the U.S. Fish and Wildlife Service for Alternative 2. On November 29, 2016, the U.S. Fish and Wildlife Service concurred that the

project may affect, but is not likely to adversely affect Chinese Camp brodiaea because there is a low likelihood that the species exists within the project area and the suitable habitat will be re-surveyed prior to construction to verify species presence.

Among the cumulative effects to Chinese Camp brodiaea are the removal of habitat from expanding residential development near Copperopolis and the change in stream contours associated with the expanding development. Residential developments near Copperopolis contain the Black Creek/Sawmill Creek population. The residential area sits about 550 feet north of the population. The nearest occurrence (Black Creek/Sawmill Creek population) is 4.00 miles downstream, and no specimens were observed during the 2013 focused rare plant surveys within the project area. Therefore, considering the avoidance of individuals, the performance of pre-construction surveys, the implementation of measures BIO-26 through BIO-28 and the use of Caltrans Standard Best Management Practices, the project may effect, but would not likely adversely affect the Chinese Camp brodiaea, nor would the project affect the viability of the overall population or have a cumulative effect.

Valley Elderberry Longhorn Beetle

During Section 7 consultation with the U.S. Fish and Wildlife Service on September 12, 2016, the U.S. Fish and Wildlife Service determined the project area is outside of the species elevational range (the species occurs at elevations no greater than 500 feet above sea level). The project is located between approximately 1,140 and 1,905 feet above sea level; therefore, the species is presumed absent within the project.

California Red-legged Frog

A formal Habitat Assessment was conducted to assess the project site's suitability for the California red-legged frog within a 1-mile radius of the Biological Study Area. The formal Habitat Assessment was conducted in accordance with the U.S. Fish and Wildlife Service's *Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog* (U.S. Fish and Wildlife Service, 2005).

Upland and aquatic habitat assessments and reconnaissance-level surveys were conducted based on aerial maps, and seven aquatic features were identified within a 1-mile radius of the project footprint to be potentially suitable California red-legged frog habitat. Nassau Creek, Waterman Creek, Cherokee Creek and four ponds were surveyed through walking and driving transects to observe aquatic vegetation and potential predators. Many predators (bullfrogs, crayfish and fish species) were observed in potential aquatic habitats, thus decreasing the likelihood of California red-legged frog presence.

No California red-legged frogs were observed in the Biological Study Area during protocol surveys. While no California red-legged frog was observed, the species has potential to use the project area as dispersal habitat and the project is located within a recovery unit. A total of 795 acres of California red-legged frog dispersal habitat exists within the Biological Study Area. Alternative 2 is anticipated to temporarily impact 78 acres and permanently impact 95 acres of California red-legged frog dispersal habitat (see Figure 47 for Alternative 1 and Figure 48 for Alternative 2). Only Alternative 2, as the preferred alternative, was evaluated in detail for consultation with the U.S. Fish and Wildlife Service. Also, potential construction-related indirect effects to the California red-legged frog include the removal of rangeland, which is potential dispersal habitat. Formal Section 7 consultation was conducted with the

U.S. Fish and Wildlife Service for Alternative 2, and on November 29, 2016, the U.S. Fish and Wildlife Service concurred that the project may affect, and is likely to adversely affect the California red-legged frog due to possible dispersal habitat effects. The California red-legged frog mitigation plan includes placing a grazing agreement on off-site lands approved by the U.S. Fish and Wildlife Service. The off-site grazing easement will be within Calaveras County and within designated California red-legged frog critical habitat. The assessment and conservation measures contained in the Biological Opinion were developed to accommodate for impacts to critical habitat that are associated with implementing the project's mitigation. With the implementation of measures BIO-20 through BIO-23 and BIO-29 through BIO-57, effects to California red-legged frog dispersal habitat would be minimized.

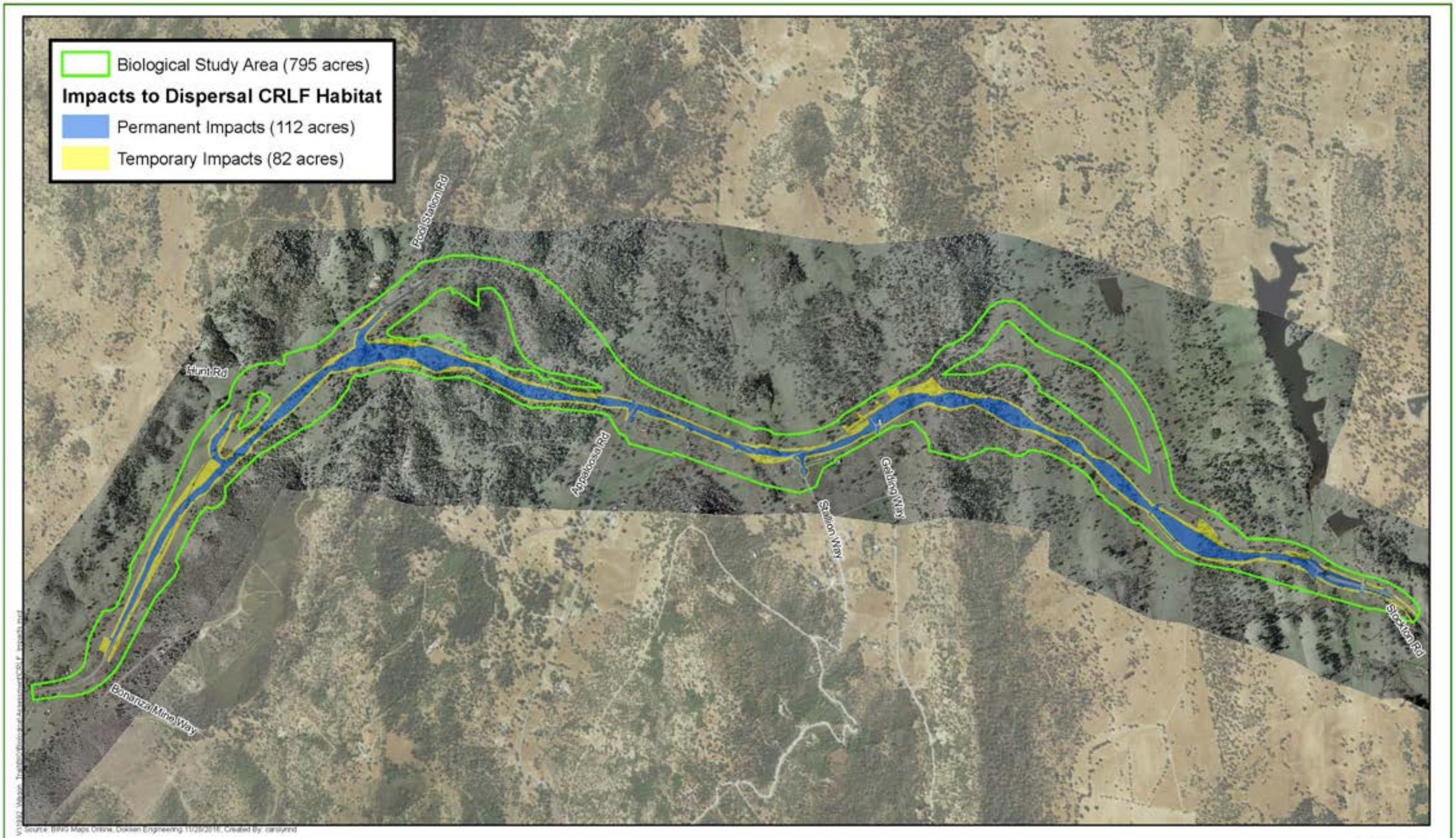

FIGURE 47
Dispersal CRLF Habitat Impacts Alternative 1
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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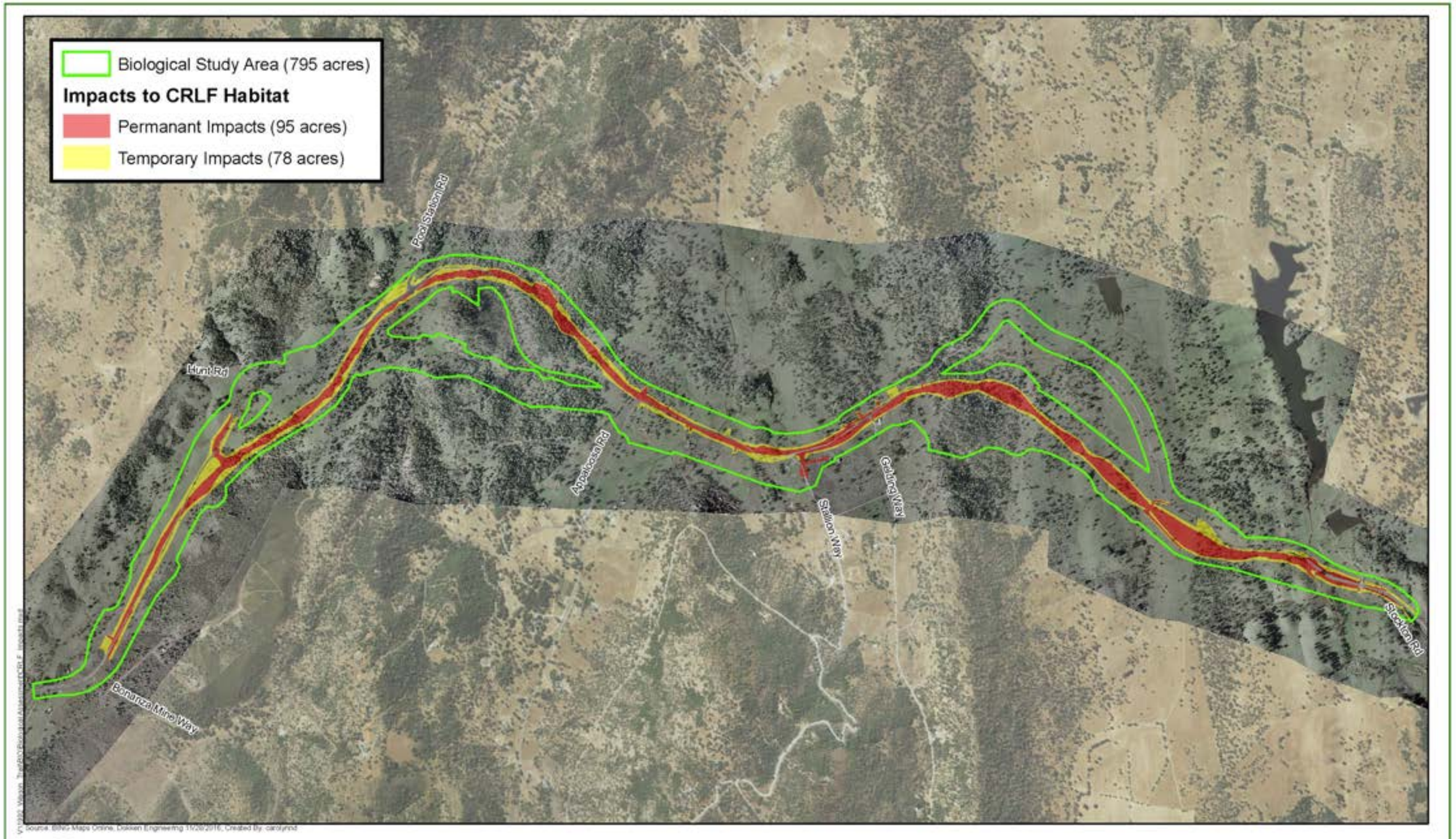

FIGURE 48
Dispersal CRLF Habitat Impacts Alternative 2
EA 0E5300; 10-CAL-4 (Post Mile R10.3/R16.4)
State Route 4 Wagon Trail Realignment Project
Calaveras County, California

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California Tiger Salamander

A formal Habitat Assessment assessed the site's suitability for the California tiger salamander within a 1.24-mile radius of the project area. The formal Habitat Assessment was conducted in accordance with the U.S. Fish and Wildlife Service's *Revised Guidance on Site Assessments and Field Surveys for the California tiger salamander* (U.S. Fish and Wildlife Service 2005b). Upland and aquatic habitat assessments were conducted based on aerial maps, and seven aquatic features were identified within a 1.24-mile radius of the project footprint as potentially suitable for California tiger salamander habitat.

The project is not expected to affect the California tiger salamander because habitat assessments and aquatic protocol surveys concluded that much of the potential aquatic breeding habitat is either unsuitable or has a very low level of suitability. In addition, the project lies well outside the salamander's critical habitat. Although the physical characteristics of upland habitat could potentially support California tiger salamander dispersal and estivation habitat, the species is more likely to occur in the valley rather than in the Calaveras foothills. No California tiger salamanders were seen during field surveys, habitat assessments, or the 2013 aquatic protocol surveys. The project would have no effect on California tiger salamanders.

Measures BIO-39 and BIO-20 through BIO-23 would be implemented to further minimize impacts.

Vernal Pool Tadpole Shrimp

No impacts to the vernal pool tadpole shrimp are expected because dry-season and wet-season protocol survey results were negative and the feature on-site is not categorized as a true vernal pool. As a result, it is expected that the project would have no effect on the vernal pool tadpole shrimp.

Vernal Pool Fairy Shrimp

No impacts to the vernal pool fairy shrimp are expected because dry-season and wet-season protocol survey results were negative and because the feature on-site is not categorized as a true vernal pool. As a result, it is expected that the project would have no effect on the vernal pool fairy shrimp.

Avoidance, Minimization, and/or Mitigation Measures

Chinese Camp Brodiaea

Avoidance Measure BIO-26 (Biological Opinion file No. 08ESMF00-2016-F-0444): Caltrans will commit to conducting protocol-level preconstruction botanical surveys in all areas of the project that may be suitable for the species (with a particular focus on all previously inaccessible parcels). Surveys will occur during the appropriate blooming period (May 1–June 30) for the species, prior to initial groundbreaking, and in accordance with the most recent protocols/guidelines accepted by the U. S. Fish and Wildlife Service (USFWS).

Minimization Measure BIO-27 (Biological Opinion file No. 08ESMF00-2016-F-0444): In the event that the listed plant is found during future preconstruction surveys, Caltrans will

reinitiate formal consultation pursuant to 50 Code of Federal Regulations 402.16 before moving forward with the work activities in the area of the Chinese Camp brodiaea and with the understanding that the presence of the species on the project site could lead to the implementation of additional conservation measures that will be determined in conjunction with the USFWS.

California Red-Legged Frog

See BIO-20 through BIO-23 measures.

Avoidance Measure BIO-28 (Biological Opinion file No. 08ESMF00-2016-F-0444): At least 15 working days prior to the date of initial earth disturbance on the project site, Caltrans will submit to the USFWS for approval the curriculum vitae of the biologist(s) it wishes to conduct monitoring and associated activities for the California red-legged frog. The information included in the request for authorization will include, at a minimum: (1) relevant education; (2) relevant training on California red-legged frog identification, survey techniques, any authorized handling of California red-legged frogs of different age classes, and handling of different life history stages; (3) a summary of field experience conducting monitoring activities (including project/research information) for the California red-legged frog; and (4) any relevant professional references with contact information. No ground-disturbing activities or construction at the project site will begin until Caltrans has received written approval from the USFWS for the biologist(s) to conduct monitoring activities.

Minimization Measure BIO-29 (Biological Opinion file No. 08ESMF00-2016-F-0444): Caltrans will ensure that a USFWS-approved biologist(s) will be on-site during all activities that may result in adverse effects to the California red-legged frog. The USFWS-approved biologist(s) also will conduct pre-project surveys and appropriate monitoring of this species to ensure compliance with the conservation measures in this Biological Opinion. The level and extent of monitoring for the California red-legged frog will be determined through coordination between the USFWS-approved biologist(s) and the USFWS, subject to the final approval of the USFWS.

Avoidance Measure BIO-30 (Biological Opinion file No. 08ESMF00-2016-F-0444): To minimize the adverse effects of the project on the California red-legged frog, Caltrans will ensure that a USFWS-approved biologist(s) will perform a clearance survey for the species no more than 30 minutes prior to any initial ground disturbance, tree and vegetation removal, and understory vegetation clearance, or borrow pit activities. Entrances and mouths of animal burrows, disturbed soil, root wads, large cracks in the soil, logs, downed large branches, and other suitable aestivation and cover sites for the California red-legged frog will be examined for signs of the species. The procedures in Measure #49 below will be followed in the event that any individuals are found.

Minimization Measure BIO-31 (Biological Opinion file No. 08ESMF00-2016-F-0444): If requested verbally by the USFWS or the California Department of Fish and Wildlife before, during, or upon completion of groundbreaking, tree and vegetation removal, borrow pit excavation, and construction activities, Caltrans will provide immediate access to the project site to personnel from one or both of these agencies so that they can inspect potential project effects to the California red-legged frog and its aquatic and upland habitats.

Avoidance Measure BIO-32 (Biological Opinion file No. 08ESMF00-2016-F-0444): Caltrans will require all contractors and subcontractors to comply with the Biological Opinion for the California red-legged frog during the performance of their contracts. The contracts will include specific language that requires them to work within the specific boundaries of the project footprint. The footprint includes those areas in which all construction activities will occur, and in which vehicle parking, borrow sites, staging areas, and access routes will be established.

Minimization Measure BIO-33 (Biological Opinion file No. 08ESMF00-2016-F-0444): Caltrans, in coordination with the County, will ensure that all construction personnel attend a California red-legged frog education program delivered by the USFWS-approved biologist(s) prior to their being allowed to work on the project site. The training will include information on the California red-legged frog, including its life history and habitat requirements. Emphasis will be placed on the suitable habitats and life stage requirements, and will include project maps showing areas where avoidance and minimization measures are being implemented. The training will include information on applicable federal and state laws protecting endangered species and the importance of compliance with the Biological Opinion.

Avoidance Measure BIO-34 (Biological Opinion file No. 08ESMF00-2016-F-0444): The boundary of the construction area will be delineated with conspicuous bright orange plastic fencing or permanent property fencing to prevent entry by construction equipment and workers. The fencing will be kept in good repair during all construction-related work.

Minimization Measure BIO-35 (Biological Opinion file No. 08ESMF00-2016-F-0444): The clearing of vegetation will occur only within the project boundaries, as delineated. Oak trees located in areas along the edge of the construction area will be trimmed rather than removed; only those oak trees that are situated within the active construction area will be removed. Vegetation in proximity to Black Creek, Nassau Creek, Waterman Creek, and Cherokee Creek will be removed by hand.

Minimization Measure BIO-36 (Biological Opinion file No. 08ESMF00-2016-F-0444): In the event that dewatering of the creeks or other water features is required, Caltrans, in coordination with the County, will ensure that the contractor prepares a dewatering plan that complies with any applicable permit conditions and describes how any California red-legged frogs that are discovered during the dewatering process will be captured and released; the plan will be consistent with Measure #49 below. A USFWS-approved biologist(s) will conduct a survey of the area to be dewatered immediately following the installation of the dewatering device, and prior to the continuation of dewatering activities.

Avoidance Measure BIO-37 (Biological Opinion file No. 08ESMF00-2016-F-0444): To minimize the potential for project-related vehicles running over California red-legged frogs, Caltrans, in coordination with the County, will restrict vehicle traffic to designated access roads, staging, parking, and construction areas, and other specifically identified areas. Project and associated private vehicles will observe a 20-mile-per-hour speed limit while on the project site. Project employees will be provided with written guidance governing vehicle use, speed limits on unpaved roads, fire prevention, and other hazards.

Avoidance Measure BIO-38 (Biological Opinion file No. 08ESMF00-2016-F-0444): To prevent the entrapment of California red-legged frogs, all steep-walled holes, trenches, pits or any other excavated area more than 6-inches deep will be covered at the close of each working day with plywood or similar material, or provided with one or more escape ramps constructed of earthen fill or wooden planks. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the USFWS-approved biologist(s). If at any time a trapped California red-legged frog is discovered, the USFWS-approved biologist will immediately place escape ramps or other appropriate structures to allow the animal to escape, remove it by hand following the procedures in Measure #49 below, or contact the USFWS for guidance. After the California red-legged frog is determined to be secure, Caltrans will contact the USFWS immediately to report the encounter; if the incident occurs after normal working hours, Caltrans will contact the USFWS at the earliest possible opportunity the next working day. The USFWS contacts are Jen Schofield at telephone (916) 414-6604 or via electronic mail (jen_schofield@fws.gov), or the Chief of the Forest Foothills Division.

Minimization Measure BIO-39 (Biological Opinion file No. 08ESMF00-2016-F-0444): For on-site storage of pipes, conduits, and other materials that could provide shelter for California red-legged frogs, open-top trailers will be used to elevate the materials above ground so that the potential for animals to climb into the piping or other materials is reduced. If any animals are found, Caltrans, in coordination with the County, will ensure that the procedures in Measure #49 below will be followed.

Avoidance Measure BIO-40 (Biological Opinion file No. 08ESMF00-2016-F-0444): To minimize the potential for California red-legged frogs being poisoned, no pesticides or herbicides will be used at the project site without the written approval of the USFWS.

Minimization Measure BIO-41 (Biological Opinion file No. 08ESMF00-2016-F-0444): To eliminate the attraction of potential predators of the California red-legged frog to the project site, and to avoid degradation of its habitat, Caltrans, in coordination with the County, will ensure that all food-related trash items such as wrappers, cans, bottles, and food scraps are disposed of in closed containers and removed from the project site at the end of each working day. For example, raccoons and skunks (Fellers, 2005), crows, and ravens (Beedy and Pandolfino, 2013) are attracted to trash and also prey on amphibians like the California red-legged frog.

Minimization Measure BIO-42 (Biological Opinion file No. 08ESMF00-2016-F-0444): To minimize the potential for harm to the California red-legged frog, no pets or firearms (except those carried by authorized law enforcement officials) will be allowed on-site at State Route 4.

Minimization Measure BIO-43 (Biological Opinion file No. 08ESMF00-2016-F-0444): To minimize the adverse effects of chemical pollutants on the California red-legged frog, dedicated fueling, and refueling practices will be designated as part of the approved storm water pollution and prevention plan. Dedicated fueling areas will be protected from stormwater run-on and run-off and will be located at least 100 feet from downslope drainage facilities and watercourses like Black Creek, Nassau Creek, Waterman Creek, and Cherokee

Creek. Fueling will be performed on level-grade areas. On-site fueling will be used only where it is impractical to send vehicles and equipment off-site for fueling. Drip pans or absorbent pads will be used during on-site vehicle and equipment fueling. When fueling must occur on-site, the locations will be designated in the Storm Water Pollution Prevention Plan that will be approved by the County. Caltrans, in coordination with the County, will ensure that all equipment used in areas within or near waterbodies or waterways do not leak oil, fuel, anti-freeze, or other fluids.

Minimization Measure BIO-44 (Biological Opinion file No. 08ESMF00-2016-F-0444): To minimize the spread of noxious weeds, construction equipment will be pressure washed prior to arriving and leaving the project site in order to remove any invasive plant and/or seed material. Washing will occur in areas where the wastewater cannot flow directly into drainages or waterways.

Minimization Measure BIO-45 (Biological Opinion file No. 08ESMF00-2016-F-0444): All clearing, grubbing, scraping, excavation, land-leveling, grading, cut and fill, demolition, and other dust-generating activities will be controlled for airborne dust emissions by using appropriate water application methods, organic soil stabilizers, or by pre-soaking.

Minimization Measure BIO-46 (Biological Opinion file No. 08ESMF00-2016-F-0444): To minimize the effects of the project on the California red-legged frog within and adjacent to its habitats, Caltrans, in coordination with the County, will ensure that all apparatus within the project area with the potential to provide aestivation, resting, or cover habitat for the species (such as construction or borrow equipment, or debris) will be inspected by the USFWS-approved biologist(s) prior to being moved or disturbed. If any animals are found, the procedures in Measure #49 below will be followed.

Minimization Measure BIO-47 (Biological Opinion file No. 08ESMF00-2016-F-0444): Nighttime construction will be minimized, especially in those areas within or adjacent to California red-legged frog habitats to minimize the effects of nighttime lighting on the California red-legged frog; such lighting may affect its feeding behavior. Nighttime lighting also may disorient the animal, leading to it being preyed upon by nocturnal predators (Buchanan, 2006), such as skunks and raccoons. Caltrans, in coordination with the County, will make a best effort to ensure that lights will face away from California red-legged frog habitat when nighttime work is conducted in areas adjacent to this habitat.

Minimization Measure BIO-48 (Biological Opinion file No. 08ESMF00-2016-F-0444): Plastic netting and similar materials that are used for erosion control and other reasons could result in the entanglement and death of the California red-legged frog, as well as birds and other wildlife, due to exposure, starvation, strangulation and/or predation (Stuart et al., 2001). Caltrans, in coordination with the County, will ensure that plastic monofilament netting ("poly netting"), coir nets, will not be used at the project site. Instead, Caltrans, in coordination with the County, will use alternative materials such as coconut coir matting, blankets, or logs without plastic monofilament netting or coir nets, or tackified hydroseeding compounds.

Alternatively, erosion control may be accomplished by laying tree branches flat on the ground and perpendicular to the adjacent or nearby creek or waterbody, with branches slightly crisscrossed. The large end of the branch will be placed at the toe of the slope. Branches will be added until the soil surface below the branches is covered. Brush mats will then be installed over rooted plants and live stakes planted on a slope. The mat will be anchored in place with stakes or live stakes and biodegradable twine or rope. The stakes will be placed on 3-foot centers, with twine attached around each stake to form a crisscross pattern; then the stakes will be driven into the substrate as deeply as possible, pulling the branches tightly against the soil. A small amount of soil will be placed over the mat so that the lowest layer of branches is partially buried to encourage rooting. The brush mat will be lightly watered to compress the added soil; more soil is then added if necessary. The completed compressed mat will be approximately 3-4 inches thick. If high water occurs before the brush mat is established, the topsoil on the lower portions of the mat may wash away.

Minimization Measure BIO-49 (Biological Opinion file No. 08ESMF00-2016-F-0444): Caltrans, in coordination with the County, will ensure that the Resident Engineer and/or on-site Project Manager stop work at the request of the USFWS-approved biologist(s), the USFWS, or the California Department of Fish and Wildlife if activities are identified that may result in adverse effects to the California red-legged frog. The Resident Engineer and/or on-site Project Manager will temporarily suspend activities in the immediate area where activities associated with construction, tree or vegetation removal, borrow excavation, or staging could result in adverse effects to the species. Work will be suspended until the California red-legged frog leaves the site of its own volition or is removed by the USFWS-approved biologist(s), the USFWS, or the California Department of Fish and Wildlife to an appropriate release site using USFWS-approved techniques.

Each California red-legged frog that is encountered on the project site will be treated on a case-by-case basis by the USFWS-approved biologist(s), in coordination with the USFWS (note: in cases of dispute, the USFWS will have the final authority). The general protocol is as follows: (1) leave the non-injured animal alone if it is not in danger; or (2) move the animal to a nearby secure location if it is in danger. These two options are described in further detail below:

a. When a California red-legged frog is encountered within the project area, the first priority will be to temporarily stop activities that are likely to result in harm, harassment, injury, or death of the individual (as determined by the USFWS-approved biologist(s)). The USFWS-approved biologist(s) then will assess the situation to select a course of action that will minimize adverse effects to the animal.

   The USFWS-approved biologist(s) will determine if the appropriate course of action is to avoid contact with the California red-legged frog and to allow it to move away from the hazard on its own to a safe location. The animal will not be picked up and moved simply because it is not moving fast enough or allowing it to move on its own is inconvenient for the project schedule. This protocol applies only to situations in which a California red-legged frog is encountered while

moving to a location containing habitat that will not be damaged or destroyed by the project.

b. If the USFWS-approved biologist(s) determines that a California red-legged frog needs to be moved in order to prevent its immediate injury or death, the frog will be captured and moved to a suitable habitat location that is not expected to be disturbed by construction, tree or vegetation removal, borrow excavation, or other activities. The USFWS-approved biologist(s) will monitor the animal for an appropriate period of time to ensure it does not re-enter the work area. If secure suitable habitat is located immediately adjacent to, or in proximity to, where the animal is captured, the preferred action is to relocate the individual to that location. Generally speaking, an animal should not be moved outside of the area in which it was traveling on its own. Under no circumstances will a California red-legged frog be relocated to private property without the landowner's written permission. It is Caltrans' responsibility to arrange for this permission.

   Only the USFWS-approved biologist(s) may capture and handle California red-legged frogs. Nets or bare hands may be used to capture the animals. Soaps, oils, creams, lotions, repellents, or solvents of any sort will not be used on hands within two hours of capturing and relocating a California red-legged frog. To avoid transferring diseases or pathogens between sites when handling the animals, the USFWS-approved biologist(s) will follow the appropriate recommendations in the Declining Amphibian Population Task Force Fieldwork Code of Practice: (https://www.fws.gov/ventura/docs/species/protocols/DAFTA.pdf).

c. Following confirmation that the California red-legged frog is secure at its original location, or once the individual has been moved to a new location by the USFWS-approved biologist(s) (and the USFWS has not been involved), Caltrans will contact the USFWS immediately to report the encounter. If the incident occurs after normal working hours, Caltrans will contact the USFWS at the earliest possible opportunity the next working day. The USFWS contact is Jen Schofield, via electronic mail (jen_schofield@fws.gov) or by telephone at (916) 414-6604.

Minimization Measure BIO-50 (Biological Opinion file No. 08ESMF00-2016-F-0444): Exotic aquatic predators, such as bullfrogs and crayfish, prey on the California red-legged frog, and may benefit from disturbed and altered aquatic habitats resulting from the project. Caltrans, in coordination with the County, will ensure that the USFWS-approved biologist(s) will permanently remove from the project site, any exotic aquatic wildlife species. The USFWS-approved biologist(s) will obtain the appropriate licenses and permits for this activity from the California Department of Fish and Wildlife.

Mitigation Measure BIO-51 (Biological Opinion file No. 08ESMF00-2016-F-0444): Caltrans will verify that the County implements biologically based compensatory mitigation to minimize the adverse effects of the permanent loss of, and temporary disturbance to, California red-legged frog habitat resulting from the project. The County will implement a two-step approach: 1) for Phase 1 of the project (covering the alignment from Bonanza Mine

Way to Appaloosa Road), it will place a rangeland easement on 41 acres of land on the Rana Ranch property (within parcel #40002027), which is located near Valley Springs and is within California red-legged frog critical habitat unit CAL-1; and 2) for all subsequent phases of the project (covering the alignment from Appaloosa Road, east to the northern end of the project), it will place a second rangeland easement on 75 acres of land (either on the Rana Ranch property or on another property with a willing landowner located within California red-legged frog critical habitat unit CAL-1). The County will implement a USFWS-approved long-term management plan for each of the two rangeland easements, which will focus on livestock grazing and the California red-legged frog. The management plan will not require the County to survey or monitor for the California red-legged frog, meet performance standards for plantings, install new fencing, or remove non-native plants or animals. Mitigation activities for the Federal and State Clean Water Acts, and for the loss of oak trees (including pond creation, riparian restoration, and oak plantings), will be implemented on the 41-acre easement; a USFWS-approved restoration plan will be developed and implemented for this site. The rangeland easement, endowment, and management/restoration documents associated with each project phase will be finalized and implemented at least 60 calendar days prior to the date of initiation of ground disturbance for each particular phase.

Minimization Measure BIO-52 (Biological Opinion file No. 08ESMF00-2016-F-0444): To minimize the effects of the project on nesting migratory birds, surveys for nesting migratory birds will be completed by the USFWS-approved biologist(s) no more than 24 hours prior to the start of ground-breaking, including construction, tree and understory clearing, or borrow excavation. Caltrans, in coordination with the County, will avoid burning, moving, or otherwise disturbing piles of trees, limbs, tree tops, brush skeletons, or other materials that migratory birds have been found to use for nesting from March 1 to August 1 (nesting season) in order to avoid potential violations of the Migratory Bird Treaty Act (16 U.S. Code 703 *et seq*.).

Minimization Measure BIO-53 (Biological Opinion file No. 08ESMF00-2016-F-0444): Following the completion of construction, Caltrans, in coordination with the County will re-contour all temporarily affected areas to pre-construction conditions, as well as re-vegetate these areas with an appropriate, weed-free native plant seed mixture. All seed mixes will be consistent with habitats found within the project area and within the surrounding areas.

Minimization Measure BIO-54 (Biological Opinion file No. 08ESMF00-2016-F-0444): To ensure that the effects of the project on the California red-legged frog are being minimized and the conservation measures in the Biological Opinion are being implemented, Caltrans will submit compliance reports on construction and borrow excavation activities. These will be prepared by the USFWS-approved biologist(s) within 30 working days of the last field day of each construction/borrow season, or within 30 working days of any break in work lasting more than 10 working days. The reports will detail (1) dates on which relevant project activities occurred; (2) pertinent information concerning the success of the project in meeting the conservation measures; (3) an explanation of the failure to meet such measures, if any; (4) known effects on the California red-legged frog; (5) observed incidents of harm, harassment, injury to, or mortality of the California red-legged frog; (6) an accounting of the total acreage of habitat that has been permanently and temporarily impacted; (7) information

about changes in project implementation that result in habitat disturbance not described in the project description of the Biological Opinion; (8) documentation of employee environmental education; and (9) any other pertinent information, including photographs of the project. The reports will be submitted to the Forest-Foothills Division at the Sacramento Fish and Wildlife Office.

Minimization Measure BIO-55 (Biological Opinion file No. 08ESMF00-2016-F-0444): Using the appropriate data sheets, the USFWS-approved biologist(s) will report sightings of any California red-legged frogs, or other sensitive wildlife, including their sign, to the California Department of Fish and Wildlife's Natural Diversity Database. A copy of the reporting form and a topographic map clearly marked with the location in which the animal was observed also should be provided to the USFWS.

Minimization Measure BIO-56 (Biological Opinion file No. 08ESMF00-2016-F-0444): Caltrans will contact the USFWS immediately to report the discovery of the death of, or injury to, a California red-legged frog that has resulted from project-related activities, or is simply observed at the project site. If the incident occurs after normal working hours, Caltrans will contact the USFWS at the earliest possible opportunity the next working day. The USFWS contacts are Jen Schofield by telephone (916) 414-6604 or via electronic mail (jen_schofield@fws.gov), or the Chief of the Forest Foothills Division. Notification will include the date, time, and location of the incident, or of the discovery of the dead or injured animal. This information should be clearly indicated on a U.S. Geological Survey 7.5-minute quadrangle, or on other maps at a finer scale, as requested by the USFWS. Injured California red-legged frogs will be cared for by the USFWS-approved biologist(s). Dead California red-legged frogs will be placed in a sealed plastic bag with a piece of paper describing where and when the animal was found, along with the name of the person who found it. The bag will be placed in a freezer in a secure location until instructions are received from the USFWS or the California Department of Fish and Wildlife regarding the disposition of the specimen, or until the USFWS or the California Department of Fish and Wildlife takes custody of the specimen.

Minimization Measure BIO-57 (Biological Opinion file No. 08ESMF00-2016-F-0444): In order to monitor whether the amount or extent of incidental take anticipated from implementation of the project is approached or exceeded, Caltrans shall adhere to the Terms and Conditions listed with the Biological Opinion (08ESMF00-2016-F-044) page 31-32.

California Tiger Salamander

See BIO-20 through BIO-23 measures.

Avoidance Measure BIO-58 (Natural Environment Study Addendum BIO-30): Plastic mono-filament netting would not be used for erosion control or other purposes at the proposed project site. The California tiger salamander may become entangled in it. Acceptable substitutes include coconut coir matting or tackified hydroseeding.

Vernal Pool Tadpole Shrimp

No avoidance, minimization, or mitigation would be needed for this species.

Vernal Pool Fairy Shrimp

No avoidance, minimization, or mitigation would be needed for this species.

2.3.6 Invasive Species

Regulatory Setting

On February 3, 1999, President Bill Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration guidance issued August 10, 1999 directs the use of the State's invasive species list maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the National Environmental Policy Act analysis for a proposed project.

Affected Environment

The Natural Environment Study for the project, approved in 2014, provided the information for this section.

Non-native and invasive species were observed within the Biological Study Area during botanical surveys conducted on August 12 and August 28, 2008 and on May 10, May 13, and May 14, 2013. Invasive plant species included field mustard (*Brassica rapa*), Italian thistle (*Carduus pycnocephalus*), bull thistle (*Cirsium vulgare*), foxtail barley (*Hordeum murinum*), curly dock (*Rumex crispus*), rose clover (*Trifolium hirtum*), little rattlesnake grass (*Briza minor*), cutleaf geranium (*Geranium dissectum*), waxy mannagrass (*Glyceria declinata*), hyssop loosestrife (*Lythrum hyssopifolia*), pennyroyal (*Mentha pulegium*), English plantain (*Plantago lanceolata*), and woolly mullein (*Verbascum thapsus*), barbed goatgrass (*Aegilops triuncialis*), medusa head (*Elymus caput-medusae*), and redstem stork's bill (*Erodium cicutarium*). No invasive animals were observed within the Biological Study Area.

Environmental Consequences

Due to disturbance of the ground during construction, there is potential to spread invasive species.

With the implementation of measures BIO-59 and BIO-60, the spread of invasive species would be prevented and no significant impact is anticipated. Furthermore, none of the species on the California list of invasive species are used by Caltrans for erosion control or landscaping.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance Measure BIO-59 (Natural Environment Study Addendum BIO-31): The Resident Engineer of the project would ensure that prior to arrival at the project site and prior to departure from the project site, construction equipment that may contain invasive plants and/or seeds would be cleaned to reduce the spread of noxious weeds.

Minimization Measure BIO-60 (Natural Environment Study Addendum BIO-32): All hydroseed and plant mixes must consist of a biologist- approved plant palette seed mix from native, locally adapted species.

2.4 Cumulative Impacts

Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

California Environmental Quality Act Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under the California Environmental Quality Act can be found in Section 15355 of the guidelines. A definition of cumulative impacts under the National Environmental Policy Act can be found in 40 Code of Federal Regulations, Section 1508.7 of the Council on Environmental Quality Regulations.

Affected Environment

The cumulative impact analysis included in this section is based on known projects that are currently proposed, approved, or under construction within a 2-mile radius of the project area. No projects are planned within a 2-mile radius of the project area.

Resource areas for which the project could cause direct or indirect impacts are evaluated for potential cumulative impacts. These resource areas are listed below:

- Agricultural/Grazing land – Grazing lands within the project area are actively grazed by cattle; no land is formally designated as prime, unique, or important farmlands.
- Visual/Aesthetics – The projects area's visual landscape is characterized by hilly terrain, mixed oak woodlands, grasslands, mixed chaparral, and riparian vegetation adjacent to State Route 4.
- Wetlands and Other Waters – A total of approximately 4 miles and 2.9 acres of proposed jurisdictional creeks/tributaries are within the Biological Study Area

including: Black Creek, Nassau Creek, Waterman Creek and Cherokee Creek, along with six associated relatively permanent tributaries.

- Natural Communities, Plant and Animal Species – The project area is made up of native mixed oak woodland. The following five sensitive plant species were found to have the potential to occur, and/or were found to occur, within the project area: Tuolumne button-celery (*Eryngium pinnatisectum*), Red Hills soaproot (*Chlorogalum grandiflorum*), Mariposa cryptantha (*Cryptantha mariposae*), forked hare-leaf (*Lagophylla dichotoma*), and Congdon's lomatium (*Lomatium congdonii*). No special-status animal species were observed during field surveys.
- Threatened and Endangered Species – The project has the potential for Chinese Camp brodiaea and California red-legged frog to occur.

Environmental Consequences

Transportation projects and other actions requiring federal approval are generally subject to laws and permit processes requiring consideration of and mitigation for impacts to special-status species and their habitats, wetlands/water of the U.S., water quality, cultural resources, and parklands. These laws and requirements assure that impacts of such undertakings would be fully mitigated. Minimization and mitigation for these projects ensure that they have no contribution to cumulative impacts.

As a result of the planned development and the State Route 4 Wagon Trail Realignment project, there are several environmental resources that could be subject to cumulative impacts. Only environmental resources that have potential to incur project-specific impacts are discussed below.

Agricultural/Grazing Land

Resource Study Area

The resource study area for project-related grazing land impacts includes the project site and land immediately adjacent.

Direct Impacts to Resources of Concern

The proposed project, in combination with other development projects in the area, would contribute to the overall removal of grazing land. Approximately 100 acres of land are proposed to be converted from grazing land into public right-of-way. However, due to the amount of grazing land present within the county and surrounding areas, direct impacts to grazing land would not be cumulative.

Indirect Impacts to Resources of Concern

Indirect impacts to grazing land could occur due to temporary construction activities obstructing the grazing potential, but construction would not have a cumulatively considerable contribution to the decline of grazing land in the region. So, there would not be a cumulative impact on grazing land.

Cumulative Impacts

The project does not have the potential to substantially change grazing land in the project area. The project would necessitate the removal of some grazing land, but would not substantially degrade or change the overall land use throughout the project area. As a result, there is no potential for cumulative impacts to agricultural/grazing lands.

Visual/Aesthetics

Resource Study Area

The resource study area for project-related visual/aesthetic impacts includes the project site and properties immediately adjacent.

Direct Impacts to Resources of Concern

The proposed project, in combination with other development projects in the area, would contribute to the overall removal of riparian and woodland habitat. While a large number of oak trees within the project area would be removed, they would be removed from a large area and many oak trees would still remain viewable in the project area.

Indirect Impacts to Resources of Concern

Indirect impacts to visual/aesthetic resources could occur due to temporary construction activities obstructing the normal view, but construction would not have a cumulatively considerable contribution to the decline of visual/aesthetic resources in the region. So, there would not be a cumulative impact on visual/aesthetic resources.

Cumulative Impacts

The project would necessitate the removal of some riparian and woodland habitat, but would not substantially degrade or change the visual character in the project area. As a result, there is no potential for cumulative impacts to visual resources.

Wetlands and Other Waters

Resource Study Area

The resource study area for project-related wetland and other waters impacts includes the project site and properties immediately adjacent.

Direct Impacts to Resources of Concern

Both build alternatives would result in permanent and temporary impacts to waters of the U.S. and waters of the State due to cut/fill limits and new pavement. Alternative 1 would temporarily affect 1.21 acres and permanently affect 1.44 acres of waters of the U.S. Alternative 1 would temporarily affect 0.74 acre and permanently affect 1.32 acres of waters of the State. Alternative 2 would temporarily affect 0.96 acre and permanently affect 1.20 acre of waters of the U.S. Alternative 2 would temporarily affect 2.06 acre and permanently affect 3.75 acres of waters of the State.

Indirect Impacts to Resources of Concern

There will be no indirect impacts to wetlands and other waters as a result of the project.

Cumulative Impacts

No cumulative significant impacts to wetlands and other waters are expected because the project would implement mitigation measures per U.S. Army Corps of Engineers Section 404 permit requirements. So, no cumulative impacts would result.

Animal Species

Resource Study Area

The resource study area for project-related animal species impacts includes the project site and properties immediately adjacent.

Direct Impacts to Resources of Concern

Implementation of the project would result in a minor loss of foothill yellow-legged frog, western pond turtle and western red bat habitat in both Alternatives 1 and 2. No cumulative impacts to natural communities, plant and animal species are expected to occur.

Indirect Impacts to Resources of Concern

Indirect impacts to foothill yellow-legged frog, western pond turtle, and western red bat habitat could result from loss of habitat and construction-related disturbance, but activities would be confined to as small an area as possible. Environmentally Sensitive Area fencing would be used to protect sensitive habitat wherever possible. Vegetation would be trimmed, rather than removed, where possible. Construction would not have a cumulatively considerable contribution to the decline of sensitive habitats in the region. Other projects in the region would also be required (by U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and local jurisdictions) to avoid, minimize, and/or mitigate for construction impacts on habitats that are potentially suitable for protected species. Consequently, there would not be a cumulative impact on sensitive habitats.

Cumulative Impacts

No foothill yellow-legged frogs, western pond turtles, or western red bats were observed during biological surveys. With measures implemented to minimize, avoid, and mitigate potential impacts to these species and migratory birds, no cumulatively considerable impacts are expected.

Threatened and Endangered Species

Resource Study Area

The resource study area for project-related threatened and endangered species impacts includes the project site and properties immediately adjacent.

Direct Impacts to Resources of Concern

As part of the Natural Environment Study, a habitat assessment for the California red-legged frog and valley elderberry longhorn beetle was prepared for the project in 2014. This assessment determined that there is suitable dispersal habitat for the California red-legged frog, but no suitable breeding habitat in the project area. There is a low potential for encountering the California red-legged frog during construction, but the conservation measures within the project's Biological Opinion will be implemented; therefore, no cumulative direct impacts to the species are expected.

During Section 7 consultation with U.S. Fish and Wildlife Service on September 12, 2016, the valley elderberry longhorn beetle was determined to occur at elevations no greater than 500 feet above sea level. The project is located between approximately 1,140 and 1,905 feet above sea level; therefore, the species is presumed absent within the project, and no direct impacts to the species are anticipated. By avoiding direct impacts to the species, no cumulative direct impacts are expected to occur.

A focused rare plant survey was conducted in May 2013 for the Chinese Camp brodiaea. While no sign of the Chinese Camp brodiaea was observed, the species could occur in the project vicinity. Permanent impacts to grasslands and mixed oak woodlands would result from the project. Chinese Camp brodiaea habitat within the project area includes 13.90 acres. This calculation includes the Black Creek streambed (0.90 acre and 0.55 mile) plus a 30-foot buffer. With Alternative 2 chosen as the preferred alternative, the project will permanently affect approximately 0.40 acre adjacent to Black Creek and temporarily affect approximately 0.37 acre of potential Chinese Camp brodiaea habitat. As discussed in the Biological Opinion, a pre-construction survey for Chinese Camp brodiaea will be conducted. With the implementation of measures and the use of Caltrans Standard Best Management Practices, the project would not affect the viability of the overall population and would not have a cumulative effect on the Chinese Camp brodiaea.

Indirect Impacts to Resources of Concern

Indirect impacts to the Chinese Camp brodiaea and California red-legged frog could result from loss of habitat and construction-related disturbance. Habitat would be restored after completion of construction, which would minimize the effects of habitat loss. The measures proposed would also greatly lessen the potential for construction impacts to threatened and endangered species should they be present in the project vicinity.

Cumulative Impacts

Pre-construction surveys would be conducted for the Chinese Camp brodiaea and California red-legged frog. With implementation of biological measures discussed under the Threatened and Endangered Species section of this report, no cumulatively considerable impacts are expected.

Minimization, Avoidance, and/or Mitigation Measures

Please refer to each resource area discussion for measures.

2.5 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are mostly concerned with the emissions of greenhouse gases generated by human activity, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of greenhouse gas emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) make up the largest source of greenhouse gas-emitting sources. The dominant greenhouse gas emitted is CO_2, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change: "Greenhouse Gas Mitigation" and "Adaptation." "Greenhouse Gas Mitigation" is a term for reducing greenhouse gas emissions to reduce or "mitigate" the impacts of climate change. "Adaptation" refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)[3].

There are four main strategies for reducing greenhouse gas emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing travel activity, 3) transitioning to lower greenhouse gas-emitting fuels, and 4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued cooperatively.[4]

Regulatory Setting

State

With passage of several pieces of legislation including State Senate and Assembly bills and Executive Orders, California launched an innovative and proactive approach to dealing with greenhouse gas emissions and climate change.

[3] http://climatechange.transportation.org/ghg_mitigation/
[4] http://www.fhwa.dot.gov/environment/climate_change/mitigation/

Assembly Bill 1493, Pavley, Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

Executive Order S-3-05 (June 1, 2005): The goal of this order is to reduce California's greenhouse gas emissions to 1) year 2000 levels by 2010, 2) year 1990 levels by 2020, and 3) 80% below the year 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

Assembly Bill 32, Núñez and Pavley, The Global Warming Solutions Act of 2006: Assembly Bill 32 sets the same overall greenhouse gas emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that the Air Resources Board create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

Executive Order S-20-06 (October 18, 2006): This order establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency and state agencies with regard to climate change.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard for California. Under this order, the carbon intensity of California's transportation fuels is to be reduced by at least 10% by 2020.

Senate Bill 97 Chapter 185, 2007, Greenhouse Gas Emissions: This bill required the Governor's Office of Planning and Research to develop recommended amendments to the California Environmental Quality Act Guidelines for addressing greenhouse gas emissions. The amendments became effective on March 18, 2010.

Senate Bill 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the California Air Resources Board to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization for each region must then develop a "Sustainable Communities Strategy" that integrates transportation, land-use, and housing policies to plan for the achievement of the emissions target for its region.

Senate Bill 391 Chapter 585, 2009 California Transportation Plan: This bill requires the State's long-range transportation plan to meet California's climate change goals under Assembly Bill 32.

Federal

Although climate change and greenhouse gas reduction are a concern at the federal level, currently no regulations or legislation have been enacted specifically addressing greenhouse gas emissions reductions and climate change at the project level. Neither the U.S. Environmental Protection Agency nor the Federal Highway Administration has issued explicit guidance or methods to conduct project-level greenhouse gas analysis.[5] The Federal

[5] To date, no national standards have been established regarding mobile source greenhouse gasses, nor has the U.S. EPA established any ambient standards, criteria or thresholds for greenhouse gases resulting from mobile sources.

Highway Administration supports the approach that climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process would assist in decision-making and improve efficiency at the program level, and would inform the analysis and stewardship needs of project-level decision-making. Climate change considerations can be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies outlined by the Federal Highway Administration to lessen climate change impacts correlate with efforts that the state is undertaking to deal with transportation and climate change; these strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in travel activity.

Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and Executive Order 13514 - *Federal Leadership in Environmental, Energy and Economic Performance*.

Executive Order 13514 (October 5, 2009): This order is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

The U.S. Environmental Protection Agency's authority to regulate greenhouse gas emissions stems from the U.S. Supreme Court decision in *Massachusetts v. Environmental Protection Agency* (2007). The Supreme Court ruled that greenhouse gases meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the court's ruling, the U.S. Environmental Protection Agency finalized an endangerment finding in December 2009. Based on scientific evidence, it found that six greenhouse gases constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing act and the U.S. Environmental Protection Agency's assessment of the scientific evidence that form the basis for Environmental Protection Agency's regulatory actions. The U.S. Environmental Protection Agency in conjunction with National Highway Traffic Safety Administration issued the first of a series of greenhouse gas emission standards for new cars and light-duty vehicles in April 2010. [6]

The U.S. Environmental Protection Agency and the National Highway Traffic Safety Administration are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced greenhouse gas emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever greenhouse gas regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle greenhouse regulations.

[6] http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq

The final combined standards that made up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce greenhouse gas emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On August 28, 2012, the U.S. Environmental Protection Agency and the National Highway Traffic Safety Administration issued a joint Final Rulemaking to extend the National Program for fuel economy standards to model year 2017 through 2025 passenger vehicles. Over the lifetime of the model year 2017-2025 standards, this program is projected to save approximately four billion barrels of oil and two billion metric tons of greenhouse gas emissions.

The complementary U.S. Environmental Protection Agency and National Highway Traffic Safety Administration standards that make up the Heavy-Duty National Program apply to combination tractors (semi-trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards would cut greenhouse gas emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish greenhouse gas emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate that the combined standards would reduce CO_2 emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014 to 2018 heavy-duty vehicles.

Project Analysis

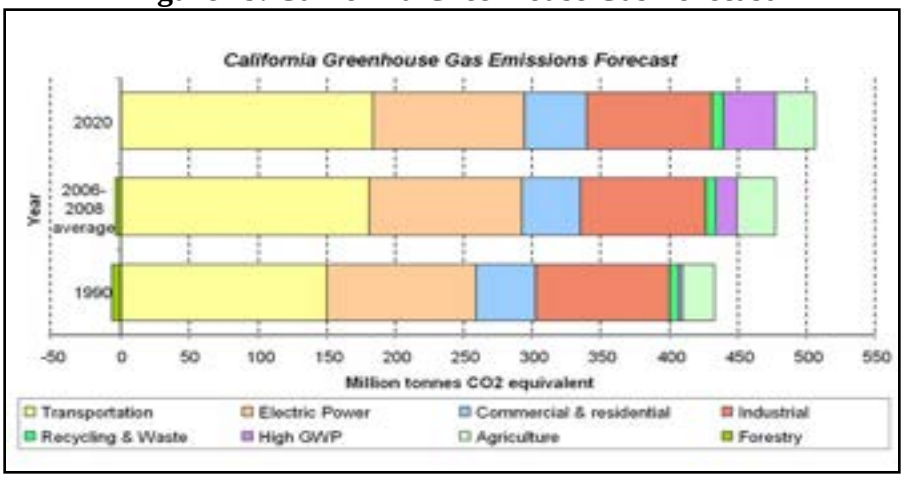
An individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contributions of all other sources of greenhouse gas. [7] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (California Environmental Quality Act Guidelines Sections 15064(h)(1) and 15130). To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

The Assembly Bill 32 Scoping Plan mandated by Assembly Bill 32 includes the main strategies California would use to reduce greenhouse gas emissions. As part of its supporting documentation for the Draft Scoping Plan, the California Air Resources Board released the greenhouse gas inventory for California (forecast last updated: October 28, 2010). The forecast is an estimate of the emissions expected to occur in 2020 if none of the foreseeable

[7] This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in California Environmental Quality Act Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The California Environmental Quality Act Guide, April 2011) and the U.S. Forest Service (Climate Change Considerations in Project Level National Environmental Policy Act Analysis, July 13, 2009).

measures included in the Scoping Plan were implemented (see Figure 49). The base year used for forecasting emissions is the average of statewide emissions in the greenhouse gas inventory for 2006, 2007, and 2008.

Figure 49. California Greenhouse Gas Forecast



Source: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

Caltrans and its parent agency, the State Transportation Agency, have taken an active role in addressing greenhouse gas emission reduction and climate change. Recognizing that 98% of California's greenhouse gas emissions are from the burning of fossil fuels and 40% of all human-made greenhouse gas emissions are from transportation, Caltrans has created and implemented the Climate Action Program at Caltrans that was published in December 2006. [8]

Quantitative Analysis

Modeling using CT-EMFAC 2011 indicates the build alternatives (Alternatives 1 and 2) and No-Build Alternative would have similar CO_2 emissions in the design year, 2040. CO_2 emissions for the alternatives are summarized in Table 36.

Table 36. Estimated CO_2 Emissions

	Existing/Baseline	No-Build Alternative	Build Alternatives (Alternative 1 and 2)
CO_2 Emissions	16.97 tons/year	42.60 tons/year	42.24 tons/year
Source: CT-EMFAC 2011 and traffic data from Traffic Operations Analysis (2014)			

These CO_2 emissions estimates are only useful for comparison between alternatives. The numbers are not necessarily an accurate reflection of what the true CO_2 emissions would be because CO_2 emissions depend on other factors that are not part of the model such as the fuel

[8] Caltrans Climate Action Program is located at the following web address: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

mix (EMFAC model emission rates are only for direct engine-out CO_2 emissions, not full fuel cycle; fuel cycle emission rates can vary dramatically depending on the amount of additives like ethanol and the source of the fuel components), rate of acceleration, and the aerodynamics and efficiency of the vehicles.

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction greenhouse gas emissions include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

Also, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the greenhouse gas emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

California Environmental Quality Act Conclusion

While Caltrans has included this good faith effort to provide the public and decision-makers as much information as possible about the project, it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and California Environmental Quality Act significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are CC-1.

Greenhouse Gas Reduction Strategies

Caltrans continues to be involved on the Governor's Climate Action Team as the California Air Resources Board works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in Assembly Bill 32. Many of the strategies Caltrans is using to help meet the targets in Assembly Bill 32 come from then-Governor Arnold Schwarzenegger's Strategic Growth Plan for California. The Strategic Growth Plan targeted a significant decrease in traffic congestion below 2008 levels and a corresponding reduction in greenhouse gas emissions, while accommodating growth in population and the economy. The Strategic Growth Plan relies on a complete systems approach to attain CO_2 reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as shown in Figure 50: Mobility Pyramid.

Figure 50. Mobility Pyramid

Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high-density housing along transit corridors. Caltrans works closely with local jurisdictions on planning activities, but does not have local land use planning authority. Caltrans assists efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; Caltrans is doing this by supporting ongoing research efforts at universities, by supporting legislative efforts to increase fuel economy, and by participating on the Climate Action Team. It is important to note, however, that control of fuel economy standards is held by the U.S. Environmental Protection Agency and the California Air Resources Board.

Caltrans is also working toward enhancing the State's transportation planning process to respond to future challenges. Similar to requirements for regional transportation plans under Senate Bill 375 (Steinberg 2008), Senate Bill 391 (Liu 2009) requires the State's long-range transportation plan to meet California's climate change goals under Assembly Bill 32. The California Transportation Plan is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas emissions. The California Transportation Plan defines performance-based goals, policies, and strategies to achieve our collective vision for California's future statewide integrated multimodal transportation system.

The purpose of the California Transportation Plan is to provide a common policy framework that would guide transportation investments and decisions by all levels of government, the private sector, and other transportation stakeholders. Through this policy framework, the California Transportation Plan 2040 would identify the statewide transportation system needed to achieve maximum feasible greenhouse gas emission reductions while meeting the State's transportation needs.

Table 37 shows Caltrans' and statewide efforts to reduce greenhouse gas emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

Table 37. Climate Change/CO_2 Reduction Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO_2 Savings Million Metric Tons (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Transportation System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State Intelligent Transportation System; Congestion Management Plan	0.07	2.17
Mainstream Energy & Greenhouse Gas into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, California Environmental Protection Agency, California Air Resources Board, California Energy Commission		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.045 0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 0.36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal Environmental Protection Agency, ARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

Source: Climate Action Program, 2006

Caltrans Director's Policy 30 Climate Change (June 22, 2012) is intended to establish a Department policy that would ensure coordinated efforts to incorporate climate change into Departmental decisions and activities.

Caltrans Activities to Address Climate Change (April 2013) [9] provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce greenhouse gas emissions resulting from agency operations.

The following measure would also be included in the project to reduce the greenhouse gas emissions and potential climate change impacts from the project:

CC-1: According to Caltrans' Standard Specifications, the contractor must comply with all local Air Pollution Control District's rules, ordinances, and regulations for air quality restrictions.

Adaptation Strategies

"Adaptation strategies" refer to how Caltrans and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects would vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality, the Office of Science and Technology Policy, and the National Oceanic and Atmospheric Administration, released its interagency task force progress report on October 28, 2011[10], outlining the federal government's progress in expanding and strengthening the nation's capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provides an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical natural resources such as freshwater, and providing accessible climate information and tools to help decision-makers manage climate risks.

Climate change adaptation must also involve the natural environment as well. Efforts are underway on a statewide level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts would help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, then-Governor Arnold Schwarzenegger signed Executive Order S-13-08, which directed a number of state agencies to address California's vulnerability to sea

[9] http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/projects_and_studies.shtml
[10] http://www.whitehouse.gov/administration/eop/ceq/initiatives/adaptation

level rise caused by climate change. This executive order set in motion several agencies and actions to address the concern of sea level rise.

In addition to addressing projected sea level rise, the California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state and federal public and private entities to develop the California Climate Adaptation Strategy (Dec 2009) [11], which summarizes the best-known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to Executive Order S-13-08 that specifically asked the California Natural Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Many state agencies were involved in the creation of the Adaptation Strategy document, including the California Environmental Protection Agency; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that include: public health; biodiversity and habitat; ocean and coastal resources; water management; agriculture; forestry; and transportation and energy infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

The National Academy of Science was directed to prepare a Sea Level Rise Assessment Report[12] to recommend how California should plan for future sea level rise. The report was released in June 2012 and included the following:

- Relative sea level rise projections for California, Oregon and Washington taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates.
- Range of uncertainty in selected sea level rise projections.
- Synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems.
- Discussion of future research needs regarding sea level rise.

In 2010, interim guidance was released by the Coastal Ocean Climate Action Team as well as Caltrans as a method to initiate action and discussion of potential risks to the state's infrastructure due to projected sea level rise. Subsequently, the Coastal Ocean Climate Action Team updated the Sea Level Rise guidance to include information presented in the National Academy's study.

[11] http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF
[12] *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012) is available at http://www.nap.edu/catalog.php?record_id=13389.

All state agencies that are planning to construct projects in areas vulnerable to future sea level rise are directed to consider a range of sea level rise scenarios for the years 2050 and 2100 to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data.

All projects that have filed a Notice of Preparation as of the date of Executive Order S-13-08, and/or are programmed for construction funding from 2008 through 2013, or are routine maintenance projects may, but are not required to, consider these planning guidelines. The proposed project is outside the coastal zone, and direct impacts to transportation facilities due to projected sea level rise are not expected.

Executive Order S-13-08 also directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance and operational improvements of the system, and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, Caltrans is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change effects, Caltrans has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, Caltrans would be able to review its current design standards to determine what changes, if any, may be needed to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increasing precipitation and flooding; increasing frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being conducted in response to Executive Order S-13-08 and is mobilizing to be able to respond to the National Academy of Science Sea Level Rise Assessment Report.

Chapter 3 Comments and Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and identify potential impacts and avoidance, minimization and/or mitigation measures and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including Project Development Team meetings, interagency coordination meetings, and public outreach. This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

Table 38 shows the public meetings and workshops that have been held.

Table 38. Public Meetings and Workshops Held

Outreach	Date	Goal	Results
Workshop #1	November 19, 2009 6:00 p.m. to 8:00 p.m.	Discuss potential corridors; identify project issues; explore opportunities; document community values; discuss project constraints.	Attended by approximately 40 community members. Presented goal topics.
Workshop #2	May 25, 2010 6:00 p.m. to 8:00 p.m., Bret Harte High School Theater	Review refined project alternatives; back-check with community values; discuss new community concerns.	Attended by approximately 40 community members. Comments included: avoid impacts to residential property; avoid impacts to natural features and areas; involve the property owners so that all impacts may be reviewed; focus on safety; keep speeds low; look at alternative routes.
Workshop #3	September 9, 2010 6:00 p.m. to 8:00 p.m., Bret Harte High School Multi-Purpose Room	Review draft project alternatives; back-check community values; discuss alignments that would be carried forward through the environmental approval process.	Attended by approximately 53 community members. Comments included: avoid impacts to residential property; avoid impacts to open space and wildlife corridors; involve the property owners so that all impacts may be reviewed; focus on safety; keep speeds low; look at alternative routes.

Outreach	Date	Goal	Results
Property Owner Meeting	May 26, 2011 6:00 p.m. to 8:00 p.m., Copperopolis Armory	Introduce new Calaveras Council of Governments Executive Director; answer questions related to the project; answer questions related to the request by Caltrans and Calaveras Council of Governments to secure right-of-entry onto property.	Question and answer session regarding the new Board members and concern about level of County involvement. Concerns about level of access to the new highway was addressed as well.
Project Update Meeting	December 15, 2011	Project feasibility analysis and two identified alternatives.	Slide presentation, question and answer session regarding road realignment and parcel acquisition.
Workshop #4	April 10, 2013 at Copperopolis Armory	Provided summary of project status, history of computer modeling that identified proposed alignments, project schedule, anticipated future communications and schedule of environmental document.	Attended by approximately 46 community members. Presented final roadway alignments.
Open House Public Meeting	October 24, 2013 at Bret Harte High School	A presentation and summary of the project's status was given. Attendees were invited to review project exhibits on display and provide input and discuss concerns with project team members.	Attended by approximately 40 community members. Community input was collected in the form of comment cards and oral conversations. In response to the feedback received, the design team worked to refine the proposed alignments to minimize the impacts to property owners and the environment while at the same time meeting Caltrans design requirements.
Public Hearing	October 8, 2015 at Bret Harte High School 6:00 p.m. to 9:00 p.m.	Public hearing to conform to the requirements of applicable federal and state laws, National Environmental Policy Act and the California Environmental Quality Act.	Attended by approximately 75 people (64 members of the public and 11 project team members). The meeting was conducted as an open house/map showing.

Meetings/discussions with 15 property owners took place from August 2013 through January 2014 to obtain input and discuss any project questions or concerns. Key topics brought up by the owners included the following:

- New Pool Station Road intersection should be used.
- Farmland impacts should be reduced.
- Not disturbing existing wells.
- Concern of being surrounded by highway and losing the rural character of the area.
- Encroachment of alignment to parcel-specific structures and features.
- Driveway access.
- Drainage concerns.
- Concerns regarding left-turn pockets and turn-outs in front of property.
- Noise concerns.
- Lack of privacy with raised profiles.
- Property acquisition should not be just for construction staging. Construction staging locations should consider leaving areas preserved for harvesting row crops.

As a result of the discussions, several refinements were made to the proposed project. The designs were updated to shift the beginning of the project to reduce impacts to properties and to reduce impacts to farmlands to the extent feasible. Driveway access input was welcomed and will be finalized during right-of-way discussions. Input from local residents was taken into account when designing drainage features and basins. Noise concerns were looked at in the technical studies, and soundwalls were not found necessary. The roadway profile was also adjusted to avoid and reduce impacts. The proposed staging plan is not expected to use private property solely for staging, and the project will stage on areas that are already being acquired for the ultimate project roadway. Impacts to existing wells were also avoided.

Based on the public meetings, the alignment for Alternative 2 was found to be preferred by the public.

Public Hearing Summary

Caltrans, Calaveras County, and the Calaveras Council of Governments held a public hearing on October 8, 2015 from 6:00 p.m. to 8:00 p.m. at the following site:

Bret Harte Union High School
364 Murphys Grade Road
Angels Camp, CA 95222

The public meeting was publicized through a postcard invitation that was sent by first-class U.S. mail to a mailing list of approximately 75 property owners, residents, and stakeholders such as local, state, and federal agencies; emergency responders; civic and community groups; chambers of commerce and other business groups; environmental groups; and other potentially interested individuals and organizations.

A public notice was published in the *Calaveras Enterprise* on September 25, 2015.

Approximately 75 people signed attendance sheets at the public hearing. That total consisted of 64 members of the public and 11 members of the project team. The meeting was conducted as an open house/map showing. Project team members were available at each station to explain the displays, answer questions, and receive public input. See Appendix D for a record of the comments received at the meeting.

The overall feedback from attendees about the breadth and depth of the information provided and the accessibility of project team members was generally positive. Nine people dictated comments to the public stenographer.

The following were the main concerns and comments expressed at the meeting:

- Ingress and egress to properties
- General access issues
- Favor for Alternative 2
- Right-of-way implications

Consultation and Coordination with Public Agencies

U.S. Army Corps of Engineers

On June 6, 2014, a request for an approved jurisdictional delineation was sent to the U.S. Army Corps of Engineers by Caltrans.

On September 22, 2014, a field meeting was held with U.S. Army Corps of Engineers, Caltrans, and Dokken Engineering.

On July 31, 2015, the U.S. Army Corps of Engineers Regulatory Division sent approval of the preliminary jurisdictional delineation to Caltrans and concurred with the amount and locations of wetlands and other water bodies on the site.

U.S. Fish and Wildlife Service

On January 7, 2013, an official species list was obtained from the U.S. Fish and Wildlife Service of federal endangered and threatened species that could occur in the vicinity of the proposed project. On August 5, 2014, an updated species list was obtained from the U.S. Fish and Wildlife Service. On July 7, 2015, an updated species list was obtained from the U.S. Fish and Wildlife Service. On September 23, 2016, an updated species list was obtained from the U.S. Fish and Wildlife Service.

On February 28, 2013, the California Red-legged Frog/California Tiger Salamander Habitat Assessment prepared for the project was sent to the U.S. Fish and Wildlife Service biologist, Jen Schofield.

On March 6, 2013, Jeff Alvarez's resume was sent to the U.S. Fish and Wildlife Service for approval to conduct branchiopod, California red-legged frog and California tiger salamander surveys.

On December 2, 2013, Caltrans notified the U.S. Fish and Wildlife Service (Ryan Olah) that no additional protocol surveys for the California tiger salamander are required and a No Effect determination had been established for the species.

On October 29, 2014, LSA biologist Laura Belt's resume was sent to U.S. Fish and Wildlife Service for approval to conduct branchiopod wet season surveys.

On October 13, 2015, a field meeting was held with the U.S. Fish and Wildlife Service to discuss the overall project. The U.S. Fish and Wildlife Service concurred on the California tiger salamander determination.

On December 2, 2015, Caltrans submitted a Biological Assessment initiating Section 7 Consultation with the U.S. Fish and Wildlife Service for the Chinese Camp brodiaea, valley elderberry longhorn beetle, and California red-legged frog.

On December 21, 2015, a conference call was held to discuss the Biological Assessment/Biological Opinion. The result was to schedule a field meeting to discuss impacts to the California red-legged frog.

On January 7, 2016, Caltrans submitted a revised letter to the U.S. Fish and Wildlife Service requesting formal consultation for the California red-legged frog and valley elderberry longhorn beetle and informal consultation for the Chinese Camp brodiaea.

On January 12, 2016, a field meeting was held in response to the December 21, 2015 conference call with the U.S. Fish and Wildlife Service. This meeting took place on-site. The discussions related to the California red-legged frog impacts and the Biological Assessment/Biological Opinion.

On March 10, 2016, a meeting was held with Caltrans, the U.S. Fish and Wildlife Service, and Dokken Engineering to review California red-legged frog impacts, including sufficiency of the biological surveys and biological assessment. The U.S. Fish and Wildlife Service disagreed with the project's findings related to the California red-legged frog. The U.S. Fish and Wildlife Service stated that a "may affect, likely to adversely affect" determination is appropriate and off-site compensatory mitigation will be required.

On May 10, 2016, a meeting was held with Caltrans, the U.S. Fish and Wildlife Service, and Dokken Engineering to further negotiate California red-legged frog impacts and proposed mitigation plans.

On September 12, 2016, a field meeting was held with Caltrans, the U.S. Fish and Wildlife Service, Calaveras County, and Dokken Engineering to visit potential mitigation sites and to identify areas for California red-legged frog grazing easements and enhancement. It was concluded that the project will mitigate for California red-legged frog dispersal habitat impacts through off-site grazing easements. In addition, the U.S. Fish and Wildlife Service noted that the project no longer requires consultation on valley elderberry longhorn beetle since the project is above the newly published elevation limits of the species.

On October 14, 2016, a meeting was held with Caltrans, the U.S. Fish and Wildlife Service, Calaveras County, Dokken Engineering, and the property owner of the mitigation site to finalize plans for California red-legged frog mitigation.

On November 29, 2016, the Biological Opinion was received for the Chinese Camp brodiaea and California red-legged frog (see Appendix H).

California Department of Fish and Wildlife

On January 7, 2013, a nine-quadrangle (Copperopolis, Angels Camp, Salt Spring Valley, Columbia, New Melones Dam, Murphys, San Andreas, Calaveritas and Sonora) list of sensitive species potentially occurring in the project vicinity was obtained from the California Department of Fish and Wildlife's California Natural Diversity Database. On August 5, 2014, an updated species list was obtained from the California Department of Fish and Wildlife's California Natural Diversity Database. On September 23, 2016, an updated species list was obtained from the California Natural Diversity Database.

On February 28, 2013, the California Red-legged Frog/California Tiger Salamander Habitat Assessment prepared for the project was sent to the California Department of Fish and Wildlife biologist, Tim Nosal.

On October 17, 2013, California Department of Fish and Wildlife biologist Tim Nosal concluded sufficient evidence to declare a negative finding for the California tiger salamander within the project area and no additional surveys would be required for the species.

Native American Coordination

Caltrans consulted with the following Native American groups as part of the National Historic Preservation Act Section 106 compliance (Note: There are various spellings of Mi-Wuk, Me-wuk, MiWok, and Miwok):

- Native American Heritage Commission
- Buena Vista Rancheria
- Buena Vista Rancheria Me-Wuk Indians
- Calaveras Band of Mi-wuk Indians
- Calaveras County Mountain MiWok Indian Council
- California Valley Miwok Tribe

- Ione Band of the Miwok Indians
- Nototomne/Northern Valley Yokuts Tribe
- Washoe Tribe of Nevada and California
- Wilton Rancheria

On March 15, 2013, each contact on the lists provided by the Native American Heritage Commission was sent maps and an initial consultation project letter that provided a summary of the proposed project and requested information regarding comments or concerns the Native American community might have about the project. Phone calls were placed on March 22, 2013, July 18, 2013, and July 23, 2013 to those individuals that did not respond to the letter. On February 13, 2014, a second letter summarizing field survey results was sent to all contacts.

Of the Native American groups consulted, representatives from the Calaveras Band of Mi-Wuk Indians, Buena Vista Rancheria Me-Wuk Indians, California Valley Miwok Tribe, and the Ione Bank of Miwok Indians requested to be kept informed about the project. The Nototomne/Northern Valley Yokuts Tribe also requested that Native American monitoring of the project area be conducted at an undetermined date.

In February 2016, these tribes were provided a letter that discussed the likely adverse effects that the project as a whole would have on historic properties. They also received a copy of the *Programmatic Agreement Between the California Department of Transportation and the California State Historic Preservation Officer Regarding the State Route 4/Wagon Trail Realignment Project, Calaveras County, California* (Wagon Trail PA) (Appendix E) for review. Emails and follow-up phone calls were made in February 2016 and March 2016 to inquire whether the letter and Wagon Trail PA had been received and whether the tribes had any comments on the proposed stipulations and measures detailed in the Wagon Trail PA. No comments regarding the proposed stipulations and measures detailed in the Wagon Trail PA were received. The tribes reiterated their request to be kept informed of the project's progress and schedule. As requested, these tribes will be kept apprised of the project's schedule.

State Historic Preservation Officer

In a letter dated December 17, 2014 (see Appendix E), the State Historic Preservation Officer concurred with determinations that the three archaeological features—P-05-3088, P-05-3090 and P-053091 (identified above)—are not eligible for inclusion on the National Register of Historic Places under any criteria. Although full cultural resource identification efforts and evaluation of potential historic properties could not be completed at this time for the project due to property access constraints, Caltrans was able to apply the Adverse Criteria and determine that the project as a whole will have an Adverse Effect on historic properties. The State Historic Preservation Officer concurred with this Adverse Effect determination on March 1, 2016 (see Appendix E). Procedures outlining a phased approach and mitigation measures required to complete Section 106 compliance to address effects to cultural resources impacted by Build Alternative 2 are detailed in the *Programmatic Agreement Between the*

California Department of Transportation and the California State Historic Preservation Officer Regarding the State Route 4/Wagon Trail Realignment Project, Calaveras County, California (Wagon Trail PA), executed on March 30, 2016 after consultation with the State Historic Preservation Officer, Caltrans, Calaveras County of Public Works, and participating Native American tribal governments (see Appendix E). Stipulations of the Wagon Trail PA include Minimization Measures CR-1 through CR-3 contained within the Initial Study/Environmental Assessment. The Wagon Trail PA will expire on March 30, 2021 or upon completion of the project. If the terms are not satisfactorily fulfilled at that time, Caltrans District 10, in coordination with the Caltrans Cultural Services Office, shall consult with the signatories and concurring parties listed in the Wagon Trail PA to extend it or reconsider its terms. Reconsideration may include continuation of the Wagon Trail PA as originally executed, amendment of the Wagon Trail PA, or termination. Please see Appendix E for a more detailed accounting of the requirements within the Wagon Trail PA to ensure project compliance with Section 106 of the National Historic Preservation Act/National Environmental Policy Act.

Chapter 4 List of Preparers

This document was prepared by the following Caltrans Central Region staff and consultants:

Caltrans Staff

Juan Torres, Associate Environmental Planner. B.A., Environmental Studies, University of the Pacific, Stockton; 16 years environmental planning experience. Contribution: Environmental coordination and oversight review of the Initial Study/Environmental Assessment.

Abdulrahim N. Chafi, P.E., INCE. Ph.D., Environmental Engineering Management, California Coast University; B.S. and M.S., Chemistry, California State University, Fresno. M.S., Civil/Environmental Engineer, California State University, Fresno. Over 17 years of experience performing transportation analysis studies for air quality, noise impact, and water quality. Contribution: Oversight review of the Air Quality Report.

Dena Gonzalez, Branch Chief, Central Region Biology. B.S. degree in Biology. California State University, Fresno; 15 years of biology experience. Contribution: Oversight review of the Natural Environment Study and coordination with United States Fish and Wildlife Service and United States Army Corps of Engineers.

Scott Smith, Branch Chief, Large Projects. B.A., Economics, California State University, Fresno; 13 years of environmental planning experience. Contribution: Oversight.

Lea Spann, Associate Environmental Planner, Hazardous Waste. B.A., Environmental Studies, University of California at Santa Barbara; 21 years of hazardous waste experience. Contribution: Oversight review of Aerially Deposited Lead, Metals, and Naturally Occurring Asbestos Site Investigation Report.

Charles Walbridge, Associate Environmental Planner/Biologist. B.S., Biological Sciences, California State University, Fresno; 12 years of environmental planning experience. Contribution: Oversight review of the Natural Environment Study.

Richard C. Stewart, Engineering Geologist, P.G. B.S., Geology, California State University, Fresno; 23 years of hazardous waste and water quality experience; 6 years of paleontology/geology experience. Contribution: Oversight review of the Paleontological Initial Report/Paleontological Evaluation Report.

Raymond Benson, Associate Environmental Planner (Archaeology). M.A., Cultural Resources Management, Sonoma State University, Rohnert Park; 25 years of

cultural resources management experience. Contribution: Oversight review of cultural resources study.

Dokken Engineering

Pamela Dalcin-Walling, P.E., Project Manager. B.S., Civil Engineering; 24 years of experience in civil engineering and project management. Contribution: Consultant Project Manager.

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Amy Dunay, Environmental Planner/Archaeologist. M.A., Archaeology; 7 years of experience in cultural resources/environmental planning. Contribution: Cultural resources.

Sarah Holm, Senior Environmental Planner. B.A., Biology and B.S., Environmental Science; 9 years of environmental planning experience. Contribution: Environmental Management, Initial Study/Environmental Assessment, Natural Environment Study, and agency coordination.

Carlene Saxton, Associate Environmental Planner. M.S., Environment and Sustainable Development; B.S., Environmental Science; 6 years of experience in environmental planning. Contribution: Initial Study/Environmental Assessment QA/QC.

Orsee Design

Tim Hiraoka, Landscape Architect, License #2658. M.B.A., California State University, Sacramento; B.S., Landscape Architecture, University of California, Davis; A.S., Landscape Horticulture, Merritt College, Oakland, California. Over 25 years of experience in landscape architecture. Contribution: Visual Impact Assessment.

Entech Consulting Group

Michelle Jones, Principal Engineer. B.S., Civil Engineering, University of Washington; over 20 years of experience in noise analysis. Contribution: Noise Study Report.

Geocon Consultants, Incorporated

John E. Juhrend, P.E., CEG, Principal/Senior Engineer.

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Attn: Peter N. Maurer, Planning Director
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Calaveras County Public Works
891 Mountain Ranch Road
San Andreas, CA 95249

City of Angels Camp Public Works
Attn: David Myers, City Engineer
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584 S. Main Street
Angels Camp, CA 95222

Community Development
Attn: David Hanham, Planning Director
City of Angels Camp
P.O. Box 667
200 'B' Monte Verda Avenue
Angels Camp, CA 95222

Calaveras Council of Governments
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444 East Saint Charles St./Highway 49
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San Andreas, CA 95249

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Sacramento, CA 95814-2922

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California Department of Water Resources
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Department of Conservation
801 K Street, MS 24-01
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California Air Resources Board
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Sacramento, CA 95814

Department of Food and Agriculture
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California Valley Miwok Tribe
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Appendix A California Environmental Quality Act Checklist

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CEQA Environmental Checklist

10-CAL-4	R10.3/R16.4 (12.66/19.10)	0E5300
Dist.-Co.-Rte.	P.M/P.M.	E.A.

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☒	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☒	☐
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	☒

X. LAND USE AND PLANNING: Would the project:

a) Physically divide an established community?	☐	☐	☐	☒
b)Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

XI. MINERAL RESOURCES: Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

XII. NOISE: Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
XIV. PUBLIC SERVICES:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☒	☐
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

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Appendix B Title VI Policy Statement

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STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY 711
www.dot.ca.gov

Flex your power!
Be energy efficient!

March 2013

NON-DISCRIMINATION
POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone: (916) 324-0449, TTY: 711, or via Fax: (916) 324-1949.

MALCOLM DOUGHERTY
Director

"Caltrans improves mobility across California"

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Appendix C Biological Species Lists

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Angels Camp (3812015) OR Calaveritas (3812025) OR Columbia (3812014) OR Copperopolis (3712086) OR Murphys (3812024) OR New Melones Dam (3712085) OR Salt Spring Valley (3812016) OR San Andreas (3812026) OR Sonora (3712084))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	None	G2G3	S1S2	SSC
Agrostis hendersonii Henderson's bent grass	PMPOA040K0	None	None	G2Q	S2	3.2
Allium jepsonii Jepson's onion	PMLIL022V0	None	None	G2	S2	1B.2
Allium tuolumnense Rawhide Hill onion	PMLIL022W0	None	None	G2	S2	1B.2
Ammonitella yatesii tight coin (='Yates' snail)	IMGASB0010	None	None	G1	S1	
Anodonta californiensis California floater	IMBIV04020	None	None	G3Q	S2?	
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Aphrastochthonius grubbsi Grubbs' Cave pseudoscorpion	ILARA37010	None	None	G1G2	S1S2	
Arctostaphylos myrtifolia Ione manzanita	PDERI04240	Threatened	None	G1G2	S1S2	1B.2
Arctostaphylos nissenana Nissenan manzanita	PDERI040V0	None	None	G1	S1	1B.2
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Banksula martinorum Martins' cave harvestman	ILARA14070	None	None	G1	S1	
Banksula melones Melones Cave harvestman	ILARA14010	None	None	G1	S1	
Banksula tutankhamen King Tut Cave harvestman	ILARA14200	None	None	G1	S1	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	None	G2G3	S1	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Brodiaea pallida Chinese Camp brodiaea	PMLIL0C0C0	Threatened	Endangered	G1	S1	1B.1

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Chlorogalum grandiflorum Red Hills soaproot	PMLIL0G020	None	None	G2	S2	1B.2
Clarkia biloba ssp. australis Mariposa clarkia	PDONA05051	None	None	G4G5T2T3	S2S3	1B.2
Clarkia rostrata beaked clarkia	PDONA050Y0	None	None	G2G3	S2S3	1B.3
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	Candidate Threatened	G3G4	S2	SSC
Crocanthemum suffrutescens Bisbee Peak rush-rose	PDCIS020F0	None	None	G2Q	S2	3.2
Cryptantha mariposae Mariposa cryptantha	PDBOR0A1Q0	None	None	G3	S3	1B.3
Cryptantha spithamea Red Hills cryptantha	PDBOR0A2M2	None	None	G2	S2	1B.3
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eryngium pinnatisectum Tuolumne button-celery	PDAPI0Z0P0	None	None	G2	S2	1B.2
Eryngium racemosum Delta button-celery	PDAPI0Z0S0	None	Endangered	G1Q	S1	1B.1
Eryngium spinosepalum spiny-sepaled button-celery	PDAPI0Z0Y0	None	None	G2	S2	1B.2
Erythronium tuolumnense Tuolumne fawn lily	PMLIL0U0H0	None	None	G2G3	S2S3	1B.2
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G5T4	S3S4	SSC
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL
Fritillaria agrestis stinkbells	PMLIL0V010	None	None	G3	S3	4.2
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Horkelia parryi Parry's horkelia	PDROS0W0C0	None	None	G2	S2	1B.2
Ione Chaparral Ione Chaparral	CTT37D00CA	None	None	G1	S1.1	
Lagophylla dichotoma forked hare-leaf	PDAST5J070	None	None	G1	S1	1B.1
Lasiurus blossevillii western red bat	AMACC05060	None	None	G5	S3	SSC

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Lavinia symmetricus ssp. 1 San Joaquin roach	AFCJB19021	None	None	G4T3Q	S3	SSC
Lavinia symmetricus ssp. 3 Red Hills roach	AFCJB19028	None	None	G4T1	S1	SSC
Lomatium congdonii Congdon's lomatium	PDAPI1B0B0	None	None	G2	S2	1B.2
Lupinus spectabilis shaggyhair lupine	PDFAB2B3P0	None	None	G2	S2	1B.2
Margaritifera falcata western pearlshell	IMBIV27020	None	None	G4G5	S1S2	
Mimulus pulchellus yellow-lip pansy monkeyflower	PDSCR1B280	None	None	G2	S2	1B.2
Mimulus whipplei Whipple's monkeyflower	PDSCR1B2U0	None	None	GXQ	SX	1A
Monadenia mormonum buttoni Button's Sierra sideband	IMGASC7071	None	None	G2T1	S1S2	
Monadenia mormonum hirsuta hirsute Sierra sideband	IMGASC7072	None	None	G2T1	S1	
Monardella venosa veiny monardella	PDLAM18082	None	None	G1	S1	1B.1
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Punctum hannai Trinity Spot	IMGAS47080	None	None	G1G2	S1S2	
Rana boylii foothill yellow-legged frog	AAABH01050	None	None	G3	S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Scopelophila cataractae tongue-leaf copper moss	NBMUS6U010	None	None	G3G4	S1	2B.2
Stygobromus gradyi Grady's Cave amphipod	ICMAL05460	None	None	G1	S1	
Verbena californica Red Hills vervain	PDVER0N050	Threatened	Threatened	G2	S2	1B.1

Record Count: 60

CNPS California Native Plant Society Rare and Endangered Plant Inventory

Plant List

29 matches found. *Click on scientific name for details*

Search Criteria

Rare Plant Rank is one of [1A, 1B, 2A, 2B, 3], Found in 9 Quads around 38120A5

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Agrostis hendersonii	Henderson's bent grass	Poaceae	annual herb	3.2	S2	G2Q
Allium jepsonii	Jepson's onion	Alliaceae	perennial bulbiferous herb	1B.2	S2	G2
Allium tuolumnense	Rawhide Hill onion	Alliaceae	perennial bulbiferous herb	1B.2	S2	G2
Arctostaphylos myrtifolia	Ione manzanita	Ericaceae	perennial evergreen shrub	1B.2	S1S2	G1G2
Arctostaphylos nissenana	Nissenan manzanita	Ericaceae	perennial evergreen shrub	1B.2	S1	G1
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	1B.2	S2	G2
Brodiaea pallida	Chinese Camp brodiaea	Themidaceae	perennial bulbiferous herb	1B.1	S1	G1
Chlorogalum grandiflorum	Red Hills soaproot	Agavaceae	perennial bulbiferous herb	1B.2	S2	G2
Clarkia biloba ssp. australis	Mariposa clarkia	Onagraceae	annual herb	1B.2	S2S3	G4G5T2T3
Clarkia rostrata	beaked clarkia	Onagraceae	annual herb	1B.3	S2S3	G2G3
Crocanthemum suffrutescens	Bisbee Peak rush-rose	Cistaceae	perennial evergreen shrub	3.2	S2	G2Q
Cryptantha mariposae	Mariposa cryptantha	Boraginaceae	annual herb	1B.3	S3	G3
Cryptantha spithamaea	Red Hills cryptantha	Boraginaceae	annual herb	1B.3	S2	G2
Diplacus pulchellus	yellow-lip pansy monkeyflower	Phrymaceae	annual herb	1B.2	S2	G2
Eryngium jepsonii	Jepson's coyote thistle	Apiaceae	perennial herb	1B.2	S1	G1
Eryngium pinnatisectum	Tuolumne button-celery	Apiaceae	annual / perennial herb	1B.2	S2	G2
Eryngium racemosum	Delta button-celery	Apiaceae	annual / perennial herb	1B.1	S1	G1
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	annual / perennial herb	1B.2	S2	G2
Erythranthe marmorata	Stanislaus monkeyflower	Phrymaceae	annual herb	1B.1	SX	GXQ
Erythronium tuolumnense	Tuolumne fawn lily	Liliaceae	perennial bulbiferous herb	1B.2	S2S3	G2G3
Horkelia parryi	Parry's horkelia	Rosaceae	perennial herb	1B.2	S2	G2
Iris hartwegii ssp. columbiana	Tuolumne iris	Iridaceae	perennial rhizomatous herb	1B.2	S1	G4T1
Lagophylla dichotoma	forked hare-leaf	Asteraceae	annual herb	1B.1	S2	G2
Lomatium congdonii	Congdon's lomatium	Apiaceae	perennial herb	1B.2	S2	G2

Lupinus spectabilis	shaggyhair lupine	Fabaceae	annual herb	1B.2	S2	G2
Monardella venosa	veiny monardella	Lamiaceae	annual herb	1B.1	S1	G1
Navarretia paradoxiclara	Patterson's navarretia	Polemoniaceae	annual herb	1B.3	S2	G2
Scopelophila cataractae	tongue-leaf copper-moss	Pottiaceae	moss	2B.2	S1	G3G4
Verbena californica	Red Hills vervain	Verbenaceae	perennial herb	1B.1	S2	G2

Suggested Citation

CNPS, Rare Plant Program. 2016. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website http://www.rareplants.cnps.org [accessed 19 December 2016].

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
FEDERAL BUILDING, 2800 COTTAGE WAY, ROOM W-2605
SACRAMENTO, CA 95825
PHONE: (916)414-6600 FAX: (916)414-6713

Consultation Code: 08ESMF00-2016-SLI-2286 September 23, 2016
Event Code: 08ESMF00-2016-E-05097
Project Name: State Route 4 Wagon Trail Realignment Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2)

of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: State Route 4 Wagon Trail Realignment Project

Official Species List

Provided by:

Sacramento Fish and Wildlife Office
FEDERAL BUILDING
2800 COTTAGE WAY, ROOM W-2605
SACRAMENTO, CA 95825
(916) 414-6600

Consultation Code: 08ESMF00-2016-SLI-2286
Event Code: 08ESMF00-2016-E-05097

Project Type: TRANSPORTATION

Project Name: State Route 4 Wagon Trail Realignment Project
Project Description: Realignment of State Route 4 between the communities of Angels Camp and Copperopolis.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

United States Department of Interior
Fish and Wildlife Service

Project name: State Route 4 Wagon Trail Realignment Project

Project Location Map:

Project Coordinates: The coordinates are too numerous to display here.

Project Counties: Calaveras, CA

United States Department of Interior
Fish and Wildlife Service

Project name: State Route 4 Wagon Trail Realignment Project

Endangered Species Act Species List

There are a total of 4 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Amphibians	Status	Has Critical Habitat	Condition(s)
California red-legged frog *(Rana draytonii)* Population: Wherever found	Threatened	Final designated	
California tiger Salamander *(Ambystoma californiense)* Population: U.S.A. (Central CA DPS)	Threatened	Final designated	
Fishes			
Delta smelt *(Hypomesus transpacificus)* Population: Wherever found	Threatened	Final designated	
steelhead *(Oncorhynchus (=salmo) mykiss)* Population: Northern California DPS	Threatened		

United States Department of Interior
Fish and Wildlife Service

Project name: State Route 4 Wagon Trail Realignment Project

Critical habitats that lie within your project area

There are no critical habitats within your project area.

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Appendix D Responses to Public Comments

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Comment A: Scott Morgan, State Clearinghouse

Edmund G. Brown Jr.
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Ken Alex
Director

October 27, 2015

Scott Smith
California Department of Transportation, District 6
855 M Street
Fresno, CA 93721

Subject: State Route 4 Wagon Trail Realignment Project
SCH#: 2015092066

Dear Scott Smith:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on October 26, 2015, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH#	2015062066
Project Title	State Route 4 Wagon Trail Realignment Project
Lead Agency	Caltrans #6
Type	MND Mitigated Negative Declaration
Description	The California Department of Transportation (Caltrans), in cooperation with Calaveras County, proposes to improve a segment of SR 4 in Calaveras County from about 2.6 miles east of Copperopolis (near Bonanza Mine Way) to about 1.6 miles west of the SR 4/49 junction (near Stockton Road), from post miles R10.3 to R15.4. The project process to construct a new alignment with two standards-width lanes and paved shoulders. The project would improve sight distance by increasing curve radii with the incorporation of longer, smoother curves. The project is intended to enhance safety by improving alignment geometrics.

Lead Agency Contact

Name	Scott Smith
Agency	California Department of Transportation, District 6
Phone	559 445 6172 **Fax**
email	
Address	855 M Street
City	Fresno **State** CA **Zip** 93721

Project Location

County	Calaveras
City	Angels Camp
Region	
Lat / Long	38° 4' 1.4" N / 120° 37' 6" W
Cross Streets	SR 4 between Stockton Road and Bonanza Mine Way
Parcel No.	
Township	2-3N **Range** 12-13E **Section** 1-3,10 **Base** MDBSM

Proximity to:

Highways	Hwy 4
Airports	
Railways	
Waterways	Waterman Creek, Nassau Creek, Cherokee Creek
Schools	
Land Use	Agriculture / Single Family Residential
Project Issues	Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Noise; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Landuse
Reviewing Agencies	Resources Agency; Department of Fish and Wildlife, Region 2; Cal Fire; Department of Parks and Recreation; Department of Water Resources; Office of Emergency Services, California; California Highway Patrol; Air Resources Board, Transportation Projects; Regional Water Quality Control Bd., Region 5 (Sacramento); Native American Heritage Commission
Date Received	06/25/2015 **Start of Review** 06/25/2015 **End of Review** 10/26/2015

Note: Blanks in data fields result from insufficient information provided by lead agency.

Response A:
The State Clearinghouse letter acknowledges that Caltrans has complied with review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. No agencies provided comments on the document through the State Clearinghouse.

Comment B: Juan Lopez Torres, California Department of Fish and Wildlife (October 23, 2015)

From: Torres, Juan@Wildlife
Sent: Friday, October 23, 2015 2:12 PM
To: Smith, Scott S@DOT <scott.smith@dot.ca.gov>
Cc: Wildlife R2 CEQA <R2CEQA@wildlife.ca.gov>
Subject: IS/MND for the State Route 4 Wagon Trail Realignment Project CDFW Comments

The California Department of Fish and Wildlife (CDFW) appreciates the opportunity to comment on the Initial Study with Proposed Mitigated Negative Declaration (IS/MND) for the State Route 4 Wagon Trail Realignment Project (Project) [State Clearinghouse No. 2015092066]. CDFW is responding to the IS/MND as a Trustee Agency for fish and wildlife resources (California Fish and Game Code Sections 711.7 and 1802, and the California Environmental Quality Act [CEQA] Guidelines Section 15386), and as a Responsible Agency regarding any discretionary actions (CEQA Guidelines Section 15381), such as the issuance of a Lake or Streambed Alteration Agreement (California Fish and Game Code Sections 1600 et seq.) and/or a California Endangered Species Act (CESA) Permit for Incidental Take of Endangered, Threatened, and/or Candidate species (California Fish and Game Code Sections 2080 and 2080.1).

The California Department of Transportation (Caltrans) proposes to realign a segment of State Route 4 in Calaveras County from approximately 2.6 miles east of Copperopolis to approximately 1.6 miles west of the State Route 4/49 junction, from post mile R10.3 to R16.4. Two alternatives are proposed for this project.

CDFW has the following concerns about the Project, and requests that these concerns be addressed in the CEQA document:

1. Wildlife Movement. The IS/MND does not include information about wildlife movement. The document shall include information clarifying if the construction of the project will result in habitat fragmentation for wildlife species. The Department recommends that Caltrans considers the installation of oversized culverts and/or bridges as well as wildlife fencing if potential significant impacts could occur as a result of the implementation of the project. Please clarify if the existing alignment will be removed and restored or if it will be left in place. B1
2. Oak Trees Mitigation. The Department recommends that mitigation for oak woodland includes preservation of existing oak woodland and creation of oak woodland to offset permanent impacts. Mitigation should be focused on creation and preservation of similar or better quality habitat as the one present within the project limits. Due to oak growth characteristics the habitat monitoring may need to be monitored more than 3 years. B2
3. Wetland and Other Waters. The IS/MND shall include a description of the habitats presents within the Department jurisdictional features. Please note that some of the features listed as non-jurisdictional in figures 40 and 41 may be jurisdictional. The Department recommends that a field verification occurs with Department's staff prior to the submittal of the Notification for a Streambed Alteration Agreement. B3
4. Plant Species. In order to identify potential significant cumulative impacts to plant species the IS/MND shall include information about other known existing populations and if there are foreseeable projects that may affect the populations. B4
5. Western Red Bats. The IS/MND shall include additional measures to implement in case bats are found within the project footprint. Please note that there should be contingency measures in case a night or day roosting site is discovered while conducting preconstruction surveys. B5
6. Chinese Camp Brodiaea. Please see comment 4 of this letter. If the project will result in take of this species an Incidental Take Permit shall be obtained from the Department. Additional mitigation measures such as the preservation of other existing populations may be required to fully mitigate impacts to this species. Caltrans shall not relocate this species until an ITP is obtained by Caltrans. B6

Please note that when acting as a responsible agency, CEQA guidelines section 15096, subdivision (f) requires the Department to consider the CEQA environmental document prepared by the lead agency prior to reaching a decision on the project. Addressing the Department's comments and disclosing potential Project impacts on CESA-listed species and any river, lake, or stream, and provide adequate avoidance, minimization, mitigation, monitoring and reporting measures, will assist the Department with the consideration of the IS/MND and reduce potential delays when issuing an ITP and/or an LSA Agreement.

If you should have any questions pertaining to these comments, please contact me at (916) 358-2951 or Juan.Torres@wildlife.ca.gov

Sincerely,

Juan Lopez Torres
Senior Environmental Scientist (Specialist)

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE
NORTH CENTRAL REGION
HABITAT CONSERVATION PROGRAM
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670
Office: (916) 358-2951
Fax: (916) 358-2912
Juan.Torres@wildlife.ca.gov
www.wildlife.ca.gov

Response B:
Thank you for your comments.

Response B1:
A discussion about wildlife movement and habitat fragmentation was added to Section 2.3.1 of the final environmental document.

During final design, wildlife movement would be considered including the installation of oversized culverts and/or bridges in locations that exhibit likely migration corridors for wildlife. In Section 2.3.1, Figure 42 shows the locations of potential bridges or oversized culverts to accommodate wildlife movement. Approved wildlife fencing will be placed in areas where potential significant impacts could occur. Mitigation Measure BIO-5 was added to the final environmental document to further address this comment.

The relinquishment of the current State Route 4 would need to go through the official process as stated in the California Highway Code and Project Development Procedures Manual, which includes a provision to give first right of refusal to the County. This means the County would have the first opportunity to acquire the right-of-way on which the current State Route 4 exists. The County is not expected to accept the right-of-way, and it is likely that the land will revert back to the adjacent property owners (see Section 2.1.1).

Response B2:
The County and Caltrans will prepare an oak woodland mitigation plan as defined in Mitigation Measure BIO-3. This plan is expected to include a combination of on- and off-site preservation and creation for the project. Preservation will be completed at a minimum acreage ratio of 1.5:1 (as determined appropriate by the Project Development Team). Creation will involve planting at mitigation ratios depending on the size of the oaks removed (outlined in Section 2.3.1, Natural Communities, of the final environmental document). The goal of the mitigation will be to preserve/create similar or better quality habitat than what is present now.

An additional measure has been added within Section 2.3.1, Natural Communities, of the final environmental document stating that oak woodlands shall be avoided to the greatest extent possible. During the final design stage of the project, specific mitigations would be determined.

Response B3:
As requested, a field meeting to confirm identified waters of the State would be scheduled prior to the submittal of a Streambed Alteration Agreement Application for the project. A discussion/ description of habitats within waters of the State has been included in the final environmental document in Section 2.3.2, Wetlands and Other Waters.

Response B4:
Additional discussion of nearby existing plant populations and any potential foreseeable project effects to these populations has been included in Section 2.3.3, Plant Species, of the final environmental document.

Response B5:
Additional measures in Section 2.3.4, Animal Species, have been added to the final environmental document as a contingency should the western red bat be found within the project area.

Response B6:
Additional measures within Section 2.3.5, Threatened and Endangered Species, have been added to require preconstruction surveys for Chinese Camp brodiaea and consultation should any be found. Further coordination with the California Department of Fish and Wildlife shall occur if Caltrans determines that an Incidental Take Permit is necessary. Caltrans will not relocate the species without an Incidental Take Permit.

Comment C: Stephanie Tadlock, Central Valley Regional Water Quality Control Board (October 20, 2015)

California Water Boards

Edmund G. Brown Jr., Governor

Matthew Rodriguez, Secretary for Environmental Protection

Central Valley Regional Water Quality Control Board

20 October 2015

Scott Smith
State of California Department of Transportation
855 M Street
Fresno, CA 93721

CERTIFIED MAIL
91 7199 9991 7035 8417 6108

COMMENTS TO REQUEST FOR REVIEW FOR THE MITIGATED NEGATIVE DECLARATION, STATE ROUTE 4 WAGON TRAIL REALIGNMENT PROJECT, SCH# 2015092066, CALAVERAS COUNTY

Pursuant to the State Clearinghouse's 25 September 2015 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Mitigated Negative Declaration* for the State Route 4 Wagon Trail Realignment Project, located in Calaveras County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases,

Karl E. Longley ScD, P.E., chair | Pamela C. Creedon P.E., BCEE, executive officer

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the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues.

For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/.

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Policy is available on page IV-15.01 at:
http://www.waterboards.ca.gov/centralvalleywater_issues/basin_plans/sacsjr.pdf

In part it states:

> *Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.*
>
> *This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.*

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

C1

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan

(SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]
The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/.

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

C1

Industrial Storm Water General Permit
Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml.

Clean Water Act Section 404 Permit
If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification
If an USACOE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

Waste Discharge Requirements – Discharges to Waters of the State
If USACOE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

C1

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml.

Regulatory Compliance for Commercially Irrigated Agriculture
If the property will be used for commercial irrigated agricultural, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program. There are two options to comply:

1. **Obtain Coverage Under a Coalition Group.** Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board's website at: http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/app_approval/index.shtml; or contact water board staff at (916) 464-4611 or via email at IrrLands@waterboards.ca.gov.

2. **Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order R5-2013-0100**. Dischargers not participating

in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fees for farm sizes from 10-100 acres are currently $1,084 + $6.70/Acre); the cost to prepare annual monitoring reports; and water quality monitoring costs. To enroll as an Individual Discharger under the Irrigated Lands Regulatory Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at IrrLands@waterboards.ca.gov.

Low or Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Dewatering and Other Low Threat Discharges to Surface Waters* (Low Threat General Order) or the General Order for *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water* (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.

C1

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0074.pdf

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073.pdf

If you have questions regarding these comments, please contact me at (916) 464-4644 or Stephanie.Tadlock@waterboards.ca.gov.

Stephanie Tadlock

Stephanie Tadlock
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

Response C1:
Thank you for your comments.

Compliance with a construction storm water general permit, Municipal Separate Storm Sewer Systems, Clean Water Act Section 404 permit, Clean Water Act Section 401 permit will be required. Therefore, as discussed in Section 1.8, the project will be required to obtain a National Pollution Discharge Elimination System permit, a Section 401 Certification, a Section 404 permit, and a 1602 Streambed Alteration Agreement.

Comment D: Randy Bowersox, Northern California Power Agency (October 13, 2015)

From: Randy Bowersox [mailto:Randy.Bowersox@ncpa.com]
Sent: Tuesday, October 13, 2015 8:49 AM
To: Smith, Scott S@DOT <scott.smith@dot.ca.gov>
Subject: State Route 4 Wagon Trail Realignment Project

Hi Scott,

We received a copy of the Initial Study and Proposed Mitigated Negative Declaration. We have no comments from a CEQA perspective; however, I was hoping you could provide just a little more clarity on the potential impact (if any) to the NCPA Transmission Towers. I see our name mentioned in a few locations, and I note in Table 3 (Summary of Potential Impacts), the relocation of PG&E Transmission Towers, but I was not able to conclusively determine whether or not there are any anticipated direct impacts (i.e. relocation) to NCPA towers. I guessing that there probably aren't any impacts since our towers are so broadly spaced, but I would appreciate any additional insight and/or confirmation that you can provide specific to our existing towers.

D1

Regards,
Randy

=====
Randy Bowersox, P.E.
Manager, Hydroelectric Facilities
Northern California Power Agency
ph: (209) 728-1387 ext. 335

Response D1:
Thank you for your comment. Alternative 2 has been selected as the project's Preferred Alternative. Please see Section 1.6, Identification of the Preferred Alternative, for the rationale for the selection of this alternative.

Alternative 2 would not have any impacts to the NCPA Transmission Towers.

Alternative 1 would have potentially had an impact at the base of a tower due to a cut slope for the project; however, Alternative 2 was selected as the Preferred Alternative and potential impacts as a result of Alternative 1 no longer apply.

Comment E: Barbara and Calvin Berger (October 9, 2015)

From: Barbara Berger [mailto:know42@aol.com]
Sent: Friday, October 09, 2015 10:54 AM
To: Smith, Scott S@DOT <scott.smith@dot.ca.gov>
Subject: Highway 4 Project

Mr. Smith,

We own property on the east end of the Wagon Trail Project, and have a question regarding the present Highway 4 and it's acquisition/relinquishment.

Our property was passed down through the family from those who homesteaded it to ourselves. Therefore per "prescriptive rights" we still own the land the present Highway 4 is built on.

It has come to our attention that there are regulations in the CA Highway Code that may allow the California Transportation Commission (CTC) to relinquish state highways to counties upon their request when the old road is abandoned. Also, The Caltrans Project Development Procedures Manual covers relinquishing right-of-way.

When the process of planning Wagon Trail began, there were COCG meetings on the Project and this subject was discussed and **we voiced our opposition to a suggested plan for an equestrian trail on the abandoned Hwy 4.** It is our understanding that at this time, Calaveras County has rejected this plan along with any intention to claim the abandoned highway in the future. **We would like to see this addressed in the "STATE ROUTE 4 WAGON TRAIL REALIGNMENT PROJECT INITIAL STUDY WITH PROPOSED MITIGATED NEGATIVE DECLARATION/ENVIRONMENTAL ASSESSMENT" document.** E1

Are we correct in the belief that because we own the land the present Highway 4 is on, that the State cannot pass the abandoned highway to the County and that it will be relinquished back to us? Your help in making this totally clear would be appreciated. We do not wish to have this be a point of contention when the funds will eventually be available to complete this section of the project. We look forward to hearing from you as to how this situation can be resolved. E2

Thank you,

Barbara & Calvin Berger
1982 Berger Trust
4310 Marshall Ave.

Response E1:
Thank you for your comment.

Right-of-way negotiations will not take place until final design of the project is underway, after the environmental document has been adopted. The plan for an equestrian trail has been abandoned; however, the County has not formally declined its interest in the land identified for relinquishment.

Response E2:
Relinquishment of the current State Route 4 would need to go through the official process as stated in the California Highway Code and the Project Development Procedures Manual, which includes a provision to give first right of refusal to the County. This means the County would have the first opportunity to acquire the right-of-way on which the current State Route 4 exists. The County is not expected to accept the right-of-way, and it is likely that the land will revert back to the adjacent property owners (see Section 2.1.1).

Comment F: Nuala and Greg Jordan (October 17, 2015)

From: Nuala <nualajordan@comcast.net>
Date: October 17, 2015 at 10:54:41 AM PDT
To: <scott.smith@dot.ca.gov>
Cc: Matt Satow <MSatow@drakehaglan.com>, gregorydjordan <gregorydjordan@gmail.com>
Subject: Re: Wagon Trail Project

Wagon Wheel
Dear Mr. Scott Smith and Matt Satow
Nuala and I are strongly opposed to "Wagon Wheel "Alternative 1 and somewhat opposed to Alternative 2. We see no reason why the current road cannot be widened to meet all the requirements of the "Wagon Wheel" project without infringing on our property. The center line of the current road to our property line is approximately 50 feet. It is also 50 feet to the private property on the opposite side of the road.
Listed below are our financial and personal reasons for being adamantly opposed to Alternative 1 and somewhat opposed to Alternative 2.

Alternative 1
Alternative 1 will completely destroy our Barbara vineyard and significantly affect 1000 vines of our Sauvignon Blanc vineyard.
Alternative 1 will also negatively affect our "Bed and Breakfast" business. The noise and traffic so close to the home will deter guests from staying and enjoying our vineyards. The revenue could possibly be reduced from $30,000 per year to $0.

The cost of moving the Barbara vineyard is significant. Approximately $30,000 for deer fence, $20,000 for irrigation, $20,000 for a new well, $25,000 for 3 year old vines, S25,000 for soil ripping, $10,000 for soil testing and $25,000 for new trellising. F1

Alternative 1 will require replacing our existing road, gates, entrance and additional fencing. The cost is significant, approximately $25,000.

The cost of moving 1000 Sauvignon Blanc vines is also significant. Again new deer fencing $30,000, new irrigation $20,000, new trellising $30,000, soil ripping $30,000, soil testing $10,000, 3 year old vines $30,000.

Noise and vision abatement will require a number of trees, plants, irrigation etc. $20,000, Ten Mature Oak trees will be destroyed and have to be replaced $20,000. We've invested 1.5 million dollars and 10,000 hours of our time in this vineyard and "Bed and Breakfast" home and business. Alternative 1 will require approximately $500,000 to put our vineyard, home and "Bed and Breakfast" business in its existing condition. It will also require thousands of hours of our time and result in significant revenue loss.

Comment F Continued: Nuala and Greg Jordan

Alternative 2
Alternative 2 appears to be less intrusive than Alternative 1. It appears that we may be able to save some of the Barbara vineyard, save some oak trees, save more of the Sauvignon Blanc vines. New deer fencing, new irrigation, new trellising, new road, new gates etc. will still be required. The cost is still significant.

Alternative 2 may be far enough away not to completely destroy the "Bed and Breakfast" business. F1

Summary
Nuala and I feel that Alternative 1 is unacceptable and will destroy our "Bed and Breakfast" business, our Barbara vineyard and a significant amount of our Sauvignon Blanc vineyard. Alternative 2 appears to be better but is still not a good solution. Using the existing center line appears to meet the requirements of the "Wagon Wheel" project and is the least intrusive to our vineyards. Please consider using the existing center lines!

Matt, Nuala and I would like to meet with you at our property or in your office the week of 10/26. F2
Thanks Greg Jordan

Response F1:
Thank you for providing financial information regarding potential costs to move portions of your vineyard, property improvements (such as roads and fences), and other associated impacts to your property. Right-of-way negotiations would take place after the final environmental document is adopted, when the final design of the project is underway. Alternative 2 has been selected as the Preferred Alternative and is discussed further in Section 1.6, Identification of the Preferred Alternative.

Response F2:
Matt Satow (County representative) met with Nuala and Greg Jordan on November 4, 2015 to explain the history of the project and to discuss how the project is expected to affect their parcel. Mr. Satow also explained the right-of-way and compensation process.

Comment G: Anthony Young (October 23, 2015)

Sent: Friday, October 23, 2015 4:44 PM
To: Smith, Scott S@DOT
Subject: State Route 4 Wagon Trail Realignment Project - Contact Form Mail

Below is the result of your feedback form. It was submitted by
() on Friday, October 23, 2015 at 16:44:39
---

name: Anthony Young

owner_address: 213 Gelding, Angels Camp Ca 95222

owner_email: Ayoung7444@aol.com

mailing_list: yes

comment: The best option would not do anything at all, except add turning lanes into Stallion and Appaloosa. Of the two proposals we believe that option 2 would be the best for area. This be less evasive to the existing private homes in the area.

G1

Sent: Friday, October 23, 2015 4:49 PM
To: Smith, Scott S@DOT
Subject: State Route 4 Wagon Trail Realignment Project - Contact Form Mail

Below is the result of your feedback form. It was submitted by
() on Friday, October 23, 2015 at 16:49:43
---

name: Anthony Young

owner_address: 213 Gelding, Angels Camp Ca 95222

owner_email: ayoung7444@aol.com

mailing_list: no

comment: CORRECTION TO COMMENT PREVIOUSLY SUBMITTED: Alignment 2 would be less invasive to existing homes.

Response G1:
Thank you for your comment. Alternative 2 has been selected as the project's Preferred Alternative. Please see Section 1.6, Identification of the Preferred Alternative, for the rationale for the selection of this alternative.

Left-turn lanes into Stallion Road and Appaloosa Road are proposed with this project, and the sight distance for all turns (left and right) will improve with the new roadway geometrics.

Comment H: Chuck Filson (October 23, 2015)

Sent: Friday, October 23, 2015 10:13 AM
To: Smith, Scott S@DOT <scott.smith@dot.ca.gov>
Subject: State Route 4 Wagon Trail Realignment Project - Contact Form Mail

Below is the result of your feedback form. It was submitted by
() on Friday, October 23, 2015 at 10:13:21
---

name: Chuck Filson

resident_address: 1469 Sorrel Way

resident_email: cmfilson@gmail.com

owner_address: same

owner_email: same

mailing_list: yes

comment: Looking at the two proposed routes, I would choose red route. I don't understand why cal-trans is proposing a bus turn around into our subdivision. Buses pullover on highways all over the state. We already have areas on both sides of the highway for turnouts

H1

Response H1:
Thank you for your comment. Alternative 2 (the "red alternative") has been selected as the project's Preferred Alternative. Please see Section 1.6, Identification of the Preferred Alternative, for the rationale for the selection of this alternative.

The proposed project does not include bus pullovers as part of the design. Bus pullouts are not permitted on access-controlled expressways, such as State Route 4. The local school district requested the bus pullover to be placed off State Route 4, and this project provides an opportunity to improve safety and to address the school district's request. These bus turnarounds are specifically for school buses.

Comment I: Desiree Young and Josh Fleck

Sent: Saturday, October 24, 2015 5:00 PM
To: Smith, Scott S@DOT
Subject: State Route 4 Wagon Trail Realignment Project - Contact Form Mail

Below is the result of your feedback form. It was submitted by
() on Saturday, October 24, 2015 at 17:00:54
---

name: Desiree Young and Josh Fleck

resident_address: 213 Gelding Road, Angels Camp Ca. 95222

resident_email: Youngfleck@sbcglobal.net

mailing_list: yes

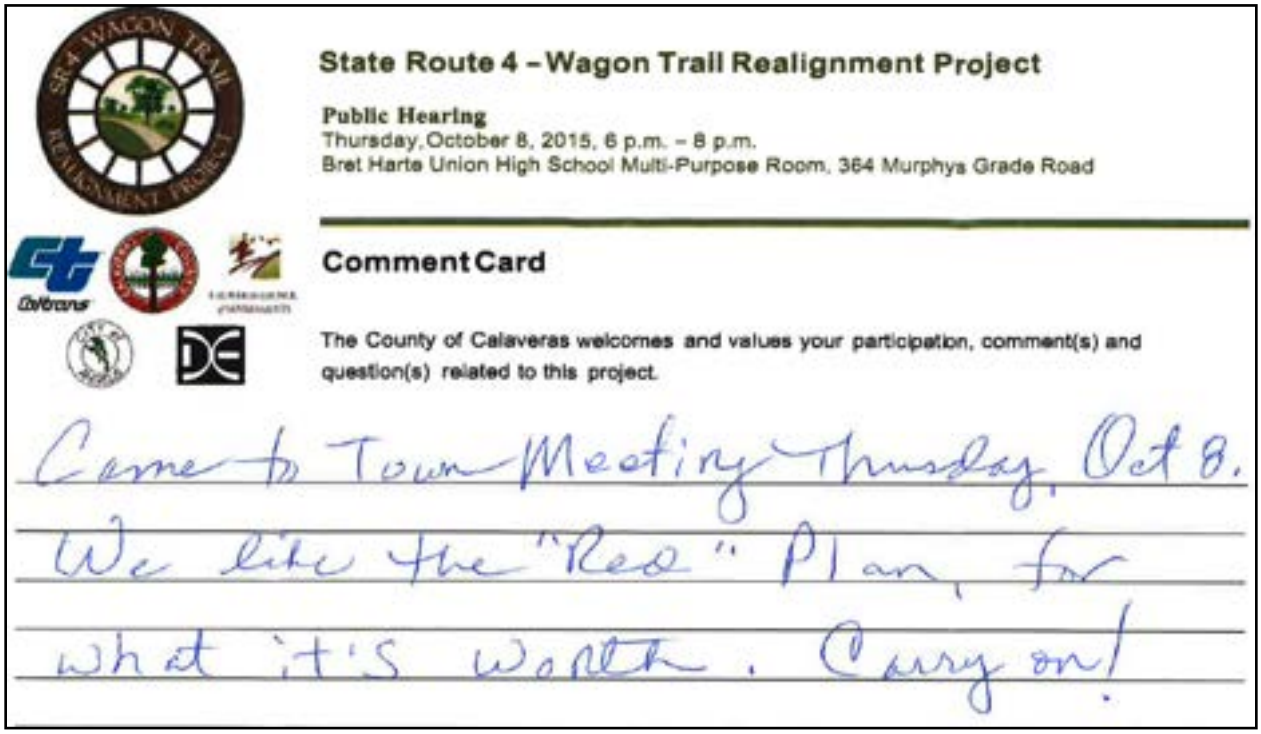
comment: Our family resides near the affected area. We both commute highway 4 to the Bay Area and Stockton weekly. Ideally we would like the road to remain the way it is currently. We feel the drivers, and not the road, are what causes so many accidents on the road. We believe straightening the roadway will lead to more dangerous driving and an increase in motor vehicle accidents. However, of the two routes proposed we are in favor of Alternative 2. The reason we feel this way is because this route utilizes more of the existing road and has less of an impact on nearby residences.

I1

Response I1:
Thank you for your comment. Your support for Alternative 2 is acknowledged. Alternative 2 has been selected as the project's Preferred Alternative. Please see Section 1.6, Identification of the Preferred Alternative, for the rationale for the selection of this alternative.

As discussed in Section 2.1.4.5 in Table 15, the accident rate within the project area is over twice the statewide average. The project proposes to construct a new alignment with two standard-width lanes and paved shoulders. The project would improve sight distance by increasing curve radii with the incorporation of longer, smoother curves; this is intended to enhance safety by improving alignment geometrics.

Comment J: Westermann Family



State Route 4 – Wagon Trail Realignment Project

Public Hearing
Thursday, October 8, 2015, 6 p.m. – 8 p.m.
Bret Harte Union High School Multi-Purpose Room, 364 Murphys Grade Road

Comment Card

The County of Calaveras welcomes and values your participation, comment(s) and question(s) related to this project.

Come to Town Meeting Thursday, Oct 8.
We like the "Red" Plan, for
what it's worth. Carry on!

J1

Response J1:
Thank you for your comment. Alternative 2 (the "red alternative") has been selected as the project's Preferred Alternative. Please see Section 1.6, Identification of the Preferred Alternative, for the rationale for the selection of this alternative.

Comment received after Public Circulation of the Draft Environmental Document

Comment K: Greg Jordan (November 11, 2015)

From: gregory jordan [mailto:gregorydjordan@gmail.com]
Sent: Sunday, November 15, 2015 8:16 PM
To: Matt Satow <MSatow@drakehaglan.com>; dponte@co.calaveras.ca.us; Smith, Scott S@DOT <scott.smith@dot.ca.gov>
Cc: nuala@jordanoaks.com; gregory jordan <gregorydjordan@gmail.com>
Subject: Wagon Wheel Alternative 2 vs. Shifted Alternative 2 for Jordan Oaks Vineyard

Wagon Wheel
Dear Mr. Scott Smith, Mr. Matt Satow, Ms Ponte

After reviewing current Alternative 2 at our property with Matt, Nuala and I are strongly opposed to "Wagon Wheel " Current Alternative 2 and in favor of the SHIFTED ALTERNATIVE 2. We see no reason why SHIFTED ALTERNATIVE 2 will not meet all the requirements of the "Wagon Wheel" project while infringing a lot less on our vineyard.

Listed below are our financial and personal reasons for being adamantly opposed to Current Alternative 2 and in favor of SHIFTED ALTERNATIVE 2.

Current Alternative 2
Current Alternative 2 will completely destroy our Barbara vineyard and significantly affect 1000 vines of our Sauvignon Blanc vineyard.
Current Alternative 2 will also negatively affect our "Vaction Rental" business. The noise and traffic so close to the home will deter guests from staying and enjoying our vineyards. The revenue could possibly be reduced from $50,000 per year to $0.

The cost of moving the Barbara vineyard is significant. Approximately $30,000 for deer fence, $20,000 for irrigation, $20,000 for a new well, $25,000 for 3 year old vines, $25,000 for soil ripping, $10,000 for soil testing and $25,000 for new trellising.

K1

Current Alternative 2 will require replacing our existing road, gates, entrance and additional fencing. The cost is significant, at least $25,000.

The cost of moving 1000 Sauvignon Blanc vines is also significant. Again new deer fencing $30,000, new irrigation $20,000, new trellising $30,000, soil ripping $30,000, soil testing $10,000, 3 year old vines $30,000.

Noise and vision abatement will require a number of trees, plants, irrigation etc. $20,000, Ten Mature Oak trees will be destroyed and have to be replaced $20,000.

We've invested 1.5 million dollars and thousands of hours of our time in this vineyard and "Vacation Rental" home and business. Current Alternative 2 will require approximately $500,000 to put our vineyard, home and "Vacation Rental" business in its existing condition. It will also require thousands of hours of our time and result in significant revenue loss.

Our business plan includes raising and selling 8 acres of gapes, Barbara, Sauvignon Blanc , Petite Syarah in 2016 as well as renting the Vacation Home for weekends and special events in 2015. Already the vacation home has attracted numerous guests to Calaveras county as well as hosting

Comment K Continued: Greg Jordan

many special venets. The vineyard empoyees a number of Calaveras county citizens and supplies grapes to at least three Calaveras county vintners.

Shifted Alternative 2

SHIFTED ALTERNATIVE 2 is much less intrusive than Current Alternative 2. It appears that we may be able to save THE ENTIRE BARBARA VINEYARD, save some oak trees, save more of the Sauvignon Blanc vines. A lot less deer fencing , new irrigation, new trellising, etc. will be required for SHIFTED ALTERNATIVE 2. Our current entrance should also be preserved allowing us to keep our road and avoiding more expense. The cost of implementing SHIFTED ALTERNATIVE 2 is significantly less and avoids dramatic changes to our business and properties.

SHIFTED ALTERNATIVE 2 and our current entrance will be far enough away not to completely destroy the "Vacation Rentalt" business.

K1

Summary

Nuala and I feel that Current Alternative 2 is unacceptable and will destroy our "Vacation Rental" business, our Barbara vineyard and a significant amount of our Sauvignon Blanc vineyard. SHIFTED ALTERNATIVE 2 appears to be better solution. Using SHIFTED ALTERNATIVE 2 meets the requirements of the "Wagon Wheel" project and is the least intrusive to our vineyards and "Vacation Rental" business. Our business plan includes raising and selling 8 acres of gapes, Barbara, Sauvignon Blanc , Petite Sirah in 2016 as well as renting the Vacation Home for weekends and special events in 2015. Already the vacation home has attracted numerous guests to Calaveras county as well as hosting many special venets. The vineyard employs a number of Calaveras county citizens and supplies grapes to at least three Calaveras county vintners. Please use the SHIFTED ALTERNATIVE 2 and preserve our current entrance!

Thanks Greg and Jordan
Jordan Oaks Vineyard
209 736 0840

Response K1:

Thank you for your comment. Alternative 2 has been selected as the Preferred Alternative by Caltrans. Please see Section 1.6, Identification of the Preferred Alternative, for the rationale for the selection of this alternative.

Alternative 2 will continue to be refined throughout the project's final design phase. The project team may explore design options (such as "shifting Alternative 2") to minimize impacts to your property as long as the design fits within the limits and environmental findings covered in the final environmental document for Alternative 2. There will continue to be an entrance to your vineyard off of State Route 4; the exact location of the entrance will be determined during final design.

We appreciate the financial information you have included and will consider the particulars of the property costs during right-of-way negotiations. Right-of-way negotiations will not take place until the final design of the project is underway, after the environmental document has been adopted.

Comments L through T were received during the Public Hearing for the project and were recorded by Karen Harper, court reporter.

STATE ROUTE 4 WAGON TRAIL REALIGNMENT PROJECT

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COMMENTS FROM THE PUBLIC HEARING

Bret Harte High School, Thursday October 8, 2015

--oOo--

Reported by: Karen Harper, CSR 6225

1

MR. TORRES: My name is Juan Torres. I am an Associated Environmental Planner with Cal Trans, and we are officially opening the public hearing for the Highway 4 Wagon Trail Realignment Project, on October 8, 2015, 6 o'clock p.m. at Bret Harte High School.

BARBARA BERGER: (READING) "To Scott Smith, CalTrans, re Hwy 4 Cal Trans, Mr. Smith we own property on the east end of the Wagon Trail Project, and have a question regarding the present Highway 4 and its acquisition/relinquishment.

Our property was passed down through the family from those who homesteaded it to ourselves. Therefore, per "prescriptive rights" we still own the land the present Highway 4 is built on.

It has come to our attention that there are regulations in the California Highway Code that allows the California Transportation Commission CTC to relinquish state highways to counties upon their request when the old road is abandoned. Also, the CalTrans Project Development Procedures Manual covers relinquishing right-of-way.

When the process of planning Wagon Trail began, there were COCG meetings on the project and this subject was discussed and we voiced our opposition to a suggested plan for an equestrian trail on the abandoned Highway 4. It is

L1

2

our understanding that Calaveras County has abandoned this plan along with any intention to claim the abandoned highway in the future.

We would like to see this addressed in the State Route 4 Wagon Trail Realignment Project Initial Study with Proposed Mitigated Negative Declaration Environmental Assessment document.

Are we correct in the belief that because we own the land the present Highway 4 is on that the state cannot pass the abandoned highway on to the county and that it will be relinquished back to us? Your help in making this totally clear would be appreciated. We do not wish to have this be a point of contention when the funds will eventually be available to complete the section of the project. Thank you. Barbara and Calvin Berger, 1982 Berger Trust 4310, Marshall Avenue, Carmichael, California, 95608. 916-966-9826 home, 916-605-9005, Barbara's cell, 916-743-9139 Cal's cell. E-mail know42@aol.com."

RONALD DAVIS: 415 Appaloosa Road, Angels Camp, 95222. Okay. In talking with the gentlemen there in talking with Matt, he has came out and looked at our property and did all the creek studies and stuff but I would like to just put my plus in for Alternate Two. If you know, I think it's number one, it's twenty million dollars less than Alternate

M1

One, and it environmentally it just doesn't disturb as much land and pasture land and so forth.

But I think Alternate Two after what he was showing me it, it the least effect Appaloosa Road. We have a hundred and fifty-two twenty acre plus parcels out on Appaloosa Road along so they are not all developed but we get a lot of traffic comes up and down Appaloosa our road committee we have maintained that road and we, we have eight miles of that road we have chip-sealed, double chip-sealed back there and we paid off the three hundred fifty thousand dollar note this year, and next year we are going to now pave from the entrance about half a mile which I own all that, but because that is an artery, you lose Appaloosa and you, you got little veins, but you have to have the artery so finally we are going to have to pave that now, re-pave it to the twenty-two foot wide, nice shoulder, so I think that would tie in nicely there would be some re working a little of it with Alternate Two, but I think it's the best.

M1

MS. MARNELLE WHITE: Marnelle White. I can hardly get in there now and if it's faster I am not going to be able to get on and off and on the road from where my driveway is and my driveway is Bonanza Mine Way. And you are starting just after, so I need a, I need a turn lane in there or, or some kind of a shoulder more then what I have got to get out

N1

and in and out because coming down from Angels isn't so bad, but going up to Copper it's really hard to get off there because they are right behind you and you have to slow or you aren't making the turn. And there is really no place to get off.

You need some widening that puts something out there so I have a fighting chance if that is what you are going to do I guess you were going to do it below me and I was concerned but now, you are not, so now I figure I am going to have a problem getting on and off the road. N1

RICHARD KOTOWSKI: Richard Kotowski, K-o-t-o-w-s-k-i Alignment One, Alignment Two. Red, blue. Doesn't make any difference. Ground zero of the intersection of Highway 4 and Appaloosa Road needs to be three lanes. Because people coming off Angles going west need to turn left and people coming out Appaloosa going to Copperopolis turn left. And so that's why it needs to be at least three lanes. Cause that turn lane has to be in the middle there to encroach on and to get off Appaloosa. O1

CORA BRANSON: Cora Branson. Just a strong preference for the, I guess the red line is the Number Two, Alternative Two is the one that I like. P1

VIKI JACOBSON: Viki Jacobson, V-i-k-i J-a-c-o-b-s-o-n and definitely prefer Alternative Two. Q1

JEFF MILLAR: Jeff Millar. I live at 4085 Highway 4, and I am the most impacted person on the whole route. And I prefer Option Two for the following reasons: One, it impacts fewer parcels, significantly lower costs, the phasing is earlier as the project is built, it's significantly fewer acres to acquire. I think it's like thirty acres difference. And it utilizes existing improvements on Pool Station Road. So thank you. R1

DAVID WHITE: Well my concern is that I, my driveway is Bonanza Mine Way. And the traffic going through there, you don't have a prayer of getting off that road there because there is no turn pockets, there is no, I mean the traffic is coming down there seventy miles an hour behind you and there's no where to go and you can't see on-coming traffic because of the curve. And then immediately down that road about five, six hundred feet there's a big box culvert and when it freezes it gets black ice on there and I don't know how many accidents they have had in the snow and the what have you, and it's something that really needs to be addressed. S1

But my main concern is my being able to get on and

6

off there at Bonanza Mine Way without getting run over.

LEANN MILLAR: My name is LeAnn M-i-l-l-a-r, and I prefer Option Two. In looking at the documents that were posted on line, Option Two impacts fewer parcels which is attractive, there's less cost, phasing appears to be easier, takes away less acreage from landowners, and it utilizes the existing improvements that they have done at Pool Station Road.

So to me that would be a waste to throw what they have just done at Pool Station away. So I would prefer Option Two. Thank you.

END OF PUBLIC COMMENTS

S1

T1

Response to Comments from Barbara Berger

Response L1:
Thank you for your comment. The plan for an equestrian trail has been abandoned; however, the County has not formally declined its interest in the land identified for relinquishment. The relinquishment of the current State Route 4 would need to go through the official process as stated in the California Highway Code and Project Development Procedures Manual, which includes a provision to give first right of refusal to the County. This means the County would have the first opportunity to acquire the right-of-way on which the current State Route 4 exists. The County is not expected to accept the right-of-way, and it is likely that the land will revert back to the adjacent property owners.

Response to Comments from Ronald Davis

Response M1:
Thank you for your comment. Alternative 2 has been selected as the project's Preferred Alternative. Please see Section 1.6, Identification of the Preferred Alternative, for the rationale for the selection of this alternative.

The project would tie into any improvements that exist at the time of construction, including those at Appaloosa Road. Also, the proposed project would replace the existing roadway surface in kind.

Response to Comments from Ms. Marnelle White

Response N1:
Thank you for your comment.

The intersection of State Route 4 and Bonanza Mine Way is outside the scope of this project as previous improvements have been made at this location, and this project ties into those improvements. However, your concerns have been elevated to traffic operations and maintenance for further evaluation.

Response to Comments from Richard Kotowski

Response O1:
Thank you for your comment.

Traffic studies indicated that the intersection of State Route 4 and Appaloosa Road currently has a Level of Service A. See Section 2.1.4.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, Table 14. By 2040, one turning movement, northbound left-turn movement, would be Level of Service B in the morning and Level of Service C in the evening without the project. With the project, the Level of Service would be B for both morning and evening (as shown on Table 16). All other movements are anticipated to remain Level of Service A in coming years.

As a result, three lanes are not warranted for Appaloosa Road. For westbound left turns from State Route 4 onto Appaloosa Road, the project would improve the intersection by adding a 560-foot turn lane. Both the right-turn approach onto Appaloosa Road and the right turn onto State Route 4 from Appaloosa Road would be widened.

Response to Comments from Cora Branson

Response P1:
Thank you for your comment. Alternative 2 has been selected as the project's Preferred Alternative. Please see Section 1.6, Identification of the Preferred Alternative, for the rationale for the selection of this alternative.

Response to Comments from Viki Jacobson

Response Q1:
Thank you for your comment. Alternative 2 has been selected as the project's Preferred Alternative. Please see Section 1.6, Identification of the Preferred Alternative, for the rationale for the selection of this alternative.

Response to Comments from Jeff Millar

Response R1:
Thank you for your comment. Alternative 2 has been selected as the project's Preferred Alternative. Please see Section 1.6, Identification of the Preferred Alternative, for the rationale for the selection of this alternative.

Response to Comments from David White

Response S1:
Thank you for your comment.

The intersection of State Route 4 and Bonanza Mine Way is outside the scope of this project as previous improvements have been made at this location, and this project ties into those improvements. However, your concerns have been elevated to traffic operations and maintenance for further evaluation.

Response to Comments from Leann Millar

Response T1:
Thank you for your comment. Alternative 2 has been selected as the project's Preferred Alternative. Please see Section 1.6, Identification of the Preferred Alternative, for the rationale for the selection of this alternative.

Appendix E State Historic Preservation Officer Concurrence Letter

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STATE OF CALIFORNIA – THE RESOURCES AGENCY EDMUND G. BROWN, JR., Governor

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov / www.ohp.parks.ca.gov

In Reply Refer To: **FHWA_2014_1114_001**

December 17, 2014

Scott Guidi, Environmental Branch Chief
California Department of Transportation, District 10
1976 E. Charter Way
Stockton, CA 95205

Re: Comments on the Historic Property Survey Report and Determination of Eligibility for the SR-4/Wagon Trail Realignment Project, Calaveras County, CA

Dear Mr. Guidi:

Thank you for submitting your letter of 12 November 2014 and supporting documentation for the above noted undertaking on behalf of the Federal Highway Administration (FHWA). Pursuant to 36 CFR 800 (as amended 8-05-04), the regulations implementing Section 106 of the National Historic Preservation Act, the California Department of Transportation (Caltrans) is currently requesting my concurrence on their determination of eligibility for listing on the National Register of Historic Places (NRHP) for three of the 31 cultural resources that were identified within the Area of Potential Effect (APE) for this undertaking.

In conjunction with the FHWA and Caltrans, Calaveras County is proposing to realign a section of SR-4/Wagon Trail between Angels Camp and Copperopolis in Calaveras County, California. Project work involves improving SR-4 to incorporate standard lane and shoulder widths, reduce the number of curves, increase sight distances, and reduce the number of access points. Two build alternatives are currently being considered and both alternatives are included in the APE. These alternatives and the APE are described in greater detail in the following report documenting archival research and field survey.

- *State Route 4 Wagon Trail Realignment Project, Draft Cultural Resources Study Vol I of II, Historic Properties Survey Report and Historical Resources Evaluation Report* (Foothill Resources, Ltd. and Dokken Engineering 2014).
- *State Route 4 Wagon Trail Realignment Project, Draft Cultural Resources Study Vol II of II, Archaeological Survey Report;, Mitigation, Avoidance, and Minimization Measures; and Bridge inventory for the SR-4/Wagon Trail Realignment Project, Calaveras County, California* (Dokken Engineering 2014).

These documents indicate that the background research, records search, and survey efforts resulted in the identification of 31 cultural resources within the horizontal APE for the undertaking. Six of these resources will be evaluated in a phased effort upon selecting a build alternative. Three of these resources have been previously determined eligible for the NRHP and two have been previously determined as not eligible for listing on the NRHP. 13 resources are currently assumed eligible for the purposes of this project only and will be avoided or protected through the establishment of Environmentally Sensitive Areas (ESA's). Four resources were exempt from review or evaluation pursuant to Attachment 4 of the PA. Three of the resources have been evaluated and determined not eligible for listing on the NRHP. These three resources include:

- P-05-3088: Concrete trough
- P-05-3090: Keystone School
- P-05-3091: Prospect pit

Based on a review of your submitted materials, I **concur** with your determination that P-05-3088, P-05-3090, and P-053091 are not eligible for listing on the NRHP under any criteria. I advise Caltrans to consult with my office regarding their determinations of eligibility on the remaining sites to be evaluated and on their finding of effect for the undertaking once a build alternative is selected and access to the remaining resources is granted. Thank you for including historic properties and my comments in your project planning. Please direct questions to Jessica Tudor of my staff at (916) 445-7016 or jessica.tudor@parks.ca.gov.

Sincerely,

Carol Roland-Nawi, Ph.D.

Carol Roland-Nawi, Ph.D.
State Historic Preservation Officer

STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., Governor

OFFICE OF HISTORIC PRESERVATION
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www.ohp.parks.ca.gov

March 1, 2016

Reply in Reference To: FHWA_2014_1114_001

Kelly J. Hobbs
Chief, Section 106 Coordination Branch
Department of Transportation
Cultural Studies Office
Caltrans HQ DEA
1120 N Street
Sacramento, CA 94274-0001

Re: Finding of Adverse Effect for the State Route 4/Wagon Trail Realignment Project, Calaveras County

Dear Mr. Hobbs:

Thank you for your February 2, 2016 letter in which the California Department of Transportation (Caltrans) is continuing consultation with the State Historic Preservation Officer (SHPO) on the above referenced undertaking in accordance with the January 2014 *First Amended Programmatic Agreement (PA) among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Office, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the to the Administration of the Federal-Aid Highway Program in California*. Pursuant to Stipulation X.C.1 of the PA, Caltrans is requesting concurrence on their finding of adverse effect as a result of this undertaking and is also consulting with the SHPO to resolve adverse effects pursuant to Stipulation XI of the PA. Supporting documentation submitted with your letter includes:

- A Finding of Effect (FOE) letter report
- Attachment 1: Native American Consultation Log; and
- Attachment 2: Draft State Route 4/Wagon Trail Realignment Project Programmatic Agreement

In previous consultation with the SHPO, 31 cultural resources and eleven geo-archaeological Sensitive Landforms (GSLs) were identified within the area of potential effects (APE). Additionally, a right-of-entry was not granted to every portion of the APE. The results of these initial historic property identification efforts are detailed in a Historic Properties Summary Report/Historic Resources Evaluation Report/Archaeological Survey Report (HPSR/HRER/ASR) which was submitted to the SHPO in November 2014. Caltrans has since determined that the following 15 cultural resources within the APE will be affected by Build Alternative 2 of the undertaking:

P-05-467/CA-CAL-132	P-05-1101/CA-CAL-784	P-05-2129/CA-CAL-1756H
P-468/CA-CAL-133/H	P-05-1105/CA-CAL-788	P-05-3093
P-05-957/CA-CAL-639H	P-05-1106/CA-CAL-789	P-05-3094/CA-CAL-2009
P-05-958/CA-CAL-640	P-05-1962/CA-CAL-1679	P-05-3541/CA-CAL-2126H
P-05-984/CA-CAL-666	P-05-2127/CA-CAL-1755/H	P-05-3542/CA-CAL-2127H

The following resources were previously determined eligible for listing in the National Register of Historic Places (NRHP):

- P-05-957/CA-CAL-639H (the Pool Station Site), a historic-era site that consists of the remains of the Pool Station and Pool Mine. Phase II investigations in 2001 identified data contributing to the site's overall eligibility for listing in the NRHP under Criterion D;
- P-05-1106/CA-CAL-789, a prehistoric site with midden and a lithic scatter. Phase II efforts determined the site to be eligible for listing in the NRHP under Criterion D; and
- P-05-1962/CA-CAL-1679, a prehistoric site consisting of lithics. Phase II efforts determined the site to be potentially eligible for listing in the NRHP under Criterion D. However, no surficial component of the site could be relocated during the 2013 survey efforts for this undertaking.

The following are assumed eligible for listing in the NRHP under Criterion D because evaluation was not possible due to restricted access:

- P-468/CA-CAL-133/H (Waterman Place), a multi-component site that consists of a large prehistoric occupation area and the Waterman Ranch.;
- P-05-2129/CA-CAL-1756H, a historic-era site that includes nine sections of abandoned SR-4; and
- P-05-3541/CA-CAL-2126H (Dieren Ranch), a historic-era site that consists of the remains of an 1896 ranch headquarters.

The remaining nine resources within the APE will be assumed eligible for listing in the NRHP under Criterion D for the purposes of this undertaking only.

Pursuant to Stipulation X.A. of the PA, Caltrans has applied the criteria of adverse effect and has determined the following:

- The remaining nine resources within the APE will be assumed eligible for listing in the NRHP under Criterion D for the purposes of this undertaking only because they will be protected in place from all direct and indirect affects through establishment of environmentally sensitive areas (ESAs), ESA fencing and construction monitoring by a qualified archaeologist;
- Formal evaluation of P-468/CA-CAL-133/H, P-05-2129/CA-CAL-1756H and P-05-3541/CA-CAL-2126H shall occur once right-of-entry is acquired. Based on their locations, it is anticipated that the undertaking may adversely affect these three historic properties through physical destruction of or damage to all or part of the property. Physical destruction of the historic properties would result from grading to prepare the ground surface for the realignment of SR-4 and for the construction of roadway drainage features;
- No adverse effects are anticipated for P-05-957/CA-CAL-639H because the site will be protected in place from all direct and indirect damage through the establishment of an ESA;
- Phase III data recovery efforts of P-05-1106/CA-CAL-789 were undertaken at the portion of the site within Caltrans right-of-way in 2003; therefore, as the current undertaking is restricted to Caltrans right-of-way within this portion of the APE, there are no anticipated direct effects to this site as a result of the undertaking. Portions of the site outside of Caltrans right-of-way are permanently fenced; as such, none of the criteria of adverse effect are applicable; and
- Physical destruction of P-05-1962/CA-CAL-1679 would consist of grading to prepare the ground surface for the realignment of SR-4 and for the construction of roadway drainage features. Portions of the site located outside of the area of direct impact (ADI) will be protected in place by ESA.

Based on my review of your letter and supporting documentation, **I concur** with your finding of adverse effect as a result of this undertaking.

A phased approach will be utilized to complete identification and evaluation efforts upon right-of-entry acquisition. Caltrans has prepared a draft Programmatic Agreement (PA) that details additional identification efforts, evaluation efforts and mitigation measures in accordance with the Section 106 PA and is included as Attachment 2 with your letter.

Thank you for seeking my comments and considering historic properties as part of your undertaking. I look forward to continuing consultation with Caltrans on the resolution of adverse effects pursuant to Section 106 PA Stipulation XI and 36 CFR 800.6 and will review and comment on the enclosed Draft PA. If you require further information, please contact Alicia Perez of my staff at 916-445-7020 or at Alicia.Perez@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., Governor

OFFICE OF HISTORIC PRESERVATION
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March 30, 2016

Reply in Reference To: FHWA_2014_1114_001

Kelly J. Hobbs
Chief, Section 106 Coordination Branch
Department of Transportation
Cultural Studies Office
Caltrans HQ DEA
1120 N Street
Sacramento, CA 94274-0001

Re: Programmatic Agreement for the State Route 4/Wagon Trail Realignment Project, Calaveras County, California

Dear Mr. Hobbs:

Thank you for forwarding a Project-level Programmatic Agreement for the above referenced undertaking pursuant to Stipulation XI of the January 2014 *First Amended Programmatic Agreement (PA) among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Office, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the to the Administration of the Federal-Aid Highway Program in California.*

Enclosed please find a copy signed by the State Historic Preservation Officer. To complete the process, forward a copy to the Advisory Council on Historic Preservation for final filing.

If you have questions, please do not hesitate to contact Alicia Perez of my staff at 916-445-7020 or at Alicia.Perez@parks.ca.gov.

Sincerely,

for
Julianne Polanco
State Historic Preservation Officer

PROGRAMMATIC AGREEMENT

BETWEEN THE CALIFORNIA DEPARTMENT OF TRANSPORTATION AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER REGARDING THE STATE ROUTE 4/WAGON TRAIL REALINGMENT PROJECT, CALIVERAS COUNTY, CALIFORNIA

WHEREAS, the Federal Highway Administration (FHWA) has assigned and the California Department of Transportation (Caltrans) has assumed FHWA responsibility for environmental review, consultation, and coordination pursuant to 23 USC 327, which became effective on October 1, 2012 and applies to this project (Undertaking); and

WHEREAS, Caltrans is deemed to be a federal agency for all federal-aid- highway projects and, and in that capacity Caltrans has assigned the role of "agency official" .To provide for effective compliance, day-to-day responsibilities and coordination of the Section 106 process are further delegated to the DEA Cultural Studies Office (CSO) Chief, the appropriate Caltrans District (District) and Caltrans Professionally Qualified Staff (PQS); and

WHEREAS, Caltrans proposes to construct the State Route 4/Wagon Trail Realignment Project (Undertaking).The Area of Potential Effects (APE) for the Undertaking is described in Figures 1-3 of Appendix B of this PA. Upon circulation of the National Environmental Policy Act (NEPA) Draft Environmental Assessment, Build Alternative 2 was selected. As such, this Programmatic Agreement (PA) applies to the treatment of historic properties affected by Build Alternative 2; and

WHEREAS, Caltrans has determined that the Undertaking shall have an adverse effect on archaeological site P-05-1962 (CA-CAL-1679), a property determined eligible for inclusion in the National Register of Historic Places (NRHP) under Criterion D, and has consulted with the California State Historic Preservation Officer (SHPO) pursuant to Stipulations X.C, and XI of the January 2014 *First Amended Programmatic PA among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, the Army Corps of Engineers, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act as it Pertains to the Administration of Federal-Aid Highway Program in California* (Section 106 PA). Caltrans shall file a copy this PA with the Advisory Council on Historic Preservation (ACHP) pursuant to Stipulation X.C.3 of the Section 106 PA.

WHEREAS, right-of-entry to all portions of the APE was not possible during the cultural resource identification and evaluation efforts conducted for the Undertaking. As limited access restrictions precluded completion of identification and evaluation efforts, Caltrans shall implement a phased approach to complete identification efforts, evaluation of potential historic properties, and application of the Criteria of Adverse Effect for the Undertaking after right-of-entry to the property parcels required to construct Build Alternative 2 has been obtained. As it is anticipated that construction of the Undertaking shall occur in phases, the stipulations detailed in this PA shall be implemented, as applicable, as access is gained for each construction phase but prior to implementation of each construction phase of the Undertaking, as outlined in Stipulation

XII of the Section 106 PA, and which is consistent with 36 CFR § 800.4(b) and 800.5(a)(3). Further, P-05-468 (CA-CAL-133/H), P-05-2129 (CA-CAL-1756H) and P-05-3541 (CA-CAL-2126H) are assumed eligible for listing in the NRHP under Criterion D because formal evaluation was not possible due to limited access restrictions. Formal evaluation shall occur once right-of-entry is acquired; however, based on their locations, it is anticipated that the undertaking may adversely affect these three historic properties through physical destruction of or damage to all or part of the property. The properties will be treated in accordance with an Historic Property Treatment plan; and

WHEREAS, the District shall conduct Extend Phase I identification efforts for additional Geoarchaeologically Sensitive Locations (GSLs) 4, 6, 10, and 11 as the project is further refined; and as access is gained for each construction phase but prior to implementation of each construction phase of the Undertaking, as outlined in Stipulation XII of the Section 106 PA, and which is consistent with 36 CFR § 800.4(b) and 800.5(a)(3), if archaeological sites are identified the properties will be treated in accordance with an Historic Property Treatment Plan; and

WHEREAS, Caltrans finds that the Undertaking shall not have an adverse effect on historic properties P-05-957 (CA-CAL-639H) and P-05-1106 (CA-CAL-789), which Caltrans has determined in consultation with the SHPO to be eligible for listing in the NRHP under Criterion D. The properties will be treated in accordance with an Historic Property Treatment Plan; and

WHEREAS, Caltrans finds that the Undertaking shall not have an adverse effect on archaeological sites P-05-467 (CA-CAL-132), P-05-958 (CA-CAL-640), P-05-984 (CA-CAL-666), P-05-1101 (CA-CAL-784), P-05-1105 (CA-CAL-788), P-05-2127 (CA-CAL-1755/H), P-05-3093, P-05-3094 (CA-CAL-2009), and P-05-3542 (CA-CAL-2127H), which Caltrans is considering eligible for inclusion in the National Register of Historic Places (NRHP) under Criterion D for the purposes of this Undertaking only. The properties will be treated in accordance with an Historic Property Treatment Plan; and

WHEREAS, Calaveras County has participated in the consultation and has been invited to concur in this PA; and

WHEREAS, Indian tribes and additional Native American consulting parties or groups identified in Stipulation III have been given an opportunity to consult on the Undertaking in addition to having been provided documentation of the nature and extent of the Undertaking, APE, efforts to identify historic properties, and planned future identification efforts; and

WHEREAS, the Calaveras Band of Mi-Wuk Indians has been invited to concur in the MOA; and

WHEREAS, the public has been given an opportunity to comment on the proposed Undertaking and its potential to adversely affect historic properties during seven public meetings held between 2009 and 2013, and during the thirty-day public circulation of the Initial Study with Mitigated Negative Declaration/Environmental Assessment joint environmental document in 2015; and

NOW, THEREFORE, Caltrans and the SHPO agree that, upon Caltrans' decision to proceed with the Undertaking, Caltrans shall ensure that the Undertaking is implemented in accordance with the following stipulations in order to take into account the effect of the Undertaking on

historic properties, and agrees that these stipulations shall govern the Undertaking and all of its parts until this PA expires or is terminated.

STIPULATIONS

This PA outlines the phased identification approach required to complete Section 106 compliance for the proposed Undertaking. Caltrans shall ensure that the following stipulations are carried out upon selection of a Build Alternative and right-of-way acquisition:

I. AREA OF POTENTIAL EFFECTS (APE)

The APE of the Undertaking is depicted in Figures 1-3 of Appendix B in this PA. Appendix B, Figures 1- 3 as set forth hereunder may be amended through consultation among the signatories to this PA without amending the PA. If the District determines that the final design of the Undertaking requires a modification to the APE (Figure 3), the District shall notify the PA parties and appropriate Native American consulting parties (as identified in Stipulation III) to this PA in accordance with Attachment 3 of the Section 106 PA to facilitate mutual agreement on the revisions. If CSO, the District, and SHPO reach mutual agreement on the proposed revisions, then the District shall submit a final map of the revisions, consistent with the requirements of Stipulation VIII.A and Attachment 3 of the Section 106 PA no later than 30-days following such agreement. If CSO, District PQS, and SHPO cannot reach such agreement regarding such modification, then the parities to this PA shall resolve the dispute in accordance with Stipulation VI.C of this PA.

If previously unidentified resources within the APE are identified in accordance with Stipulations VIII of the Section 106 PA and potential effects assessed in accordance with Stipulation X of the Section 106 PA, the District in consultation with CSO, may assume eligibility for and proceed directly to the development of mitigation measures needed to resolve adverse effects. Mitigation measures shall be developed as specified in this PA and submitted to the appropriate Native consulting parties American (as identified in Stipulation III) for a 30-day comment period. The District in consultation with CSO, and the SHPO, shall consider any comments received prior to finalizing the mitigation measures. If, at anytime, the parties to this PA cannot agree on the proposed mitigation measures, then the parties shall resolve the dispute as per Stipulation VI.C of this agreement.

II. IDENTIFICATION, EVALUATION, AND TREATMENT OF HISTORIC PROPERTIES

As it is anticipated that the Undertaking shall be constructed in phases, all measures outlined in Stipulation II shall be completed as access is gained for each construction phase but prior to construction for each phase of the Undertaking.

A. Archaeological Resources: Identification and Evaluation of Historic Properties

1. Prior to starting construction or any other ground disturbing activities for the project, the District shall conduct and complete a pedestrian archaeological survey to the standards and protocols set forth in the Caltrans Standard *Environmental Reference*, Volume 2 (SER) in areas that shall be affected by the Undertaking and

for which no previous identification efforts were conducted for archaeological properties. Additionally, the District shall utilize pedestrian survey to identify previously recorded resources not relocated during previous pedestrian surveys. Should it be anticipated that the pedestrian archaeological survey would take place more than five years after the supplemental records search was conducted at the Central California Information Center (CCIC) (last contacted in 2013) and after the Native American Heritage Commission (NAHC) was contacted (2013), supplemental information requests shall be made to both the CCIC and the NAHC prior to completion of the pedestrian archaeological survey. See the table in Appendix A for a list and map that details the parcels requiring pedestrian archaeological survey within the selected Build Alternative 2. The District shall document survey efforts and results in a Cultural Resources Inventory Report (see Stipulation II.A.7).

2. The District shall conduct Extended Phase I identification efforts at P-05-3541 (CA-CAL-2126H), to verify site boundaries. Based on the results of these efforts, the District shall either 1) assume NRHP eligibility for the site, delineate an Environmentally Sensitive Area (ESA), and protect the site using ESA fencing; or 2) if the site cannot be fully protected by ESA fencing, the District shall conduct Phase II testing to determine NRHP listing eligibility. The Extended Phase I results shall be documented in a Cultural Resources Inventory Report (see Stipulation II.A.7).

3. The District shall also conduct Extended Phase I identification efforts for Geoarchaeologically Sensitive Locations (GSLs) 4, 6, 10, and 11 (see Appendix B, Figures 6 and 7 for locations) which were determined to have a high sensitivity for buried archaeological deposits. The Extended Phase I identification efforts in these GSLs shall employ a mixed methodology and shall be conducted in tandem with geotechnical investigations in an effort to 1) supplement the original Geoarchaeological Investigation results (to provide a larger sample volume) and to 2) coordinate right-of-entry. The mixed methodology shall include archaeological monitoring of geotechnical trenches and bore holes, and archaeological excavation of standard test units and/or shovel test pits to determine presence/absence of cultural deposits. The results shall be documented in a Cultural Resources Inventory Report (see Stipulation II.A.7).

4. Should any archaeological resources be identified during additional pedestrian survey and Extended Phase I efforts, every attempt shall be made to avoid, minimize, or mitigate effects to these resources.

5. The District shall draft a Phase II Testing Plan and conduct Phase II Testing for sites P-05-468 (CA-CAL-133/H), P-05-2129 (CA-CAL-1756H), and P-05-3541 (CA-CAL-2126H) (if applicable, see Stipulation II.A.3 above), and for archaeological sites identified during additional pedestrian survey and Extended Phase I Testing which would be adversely affected by construction of the project. Phase II testing efforts shall focus on the portions of the site that would be adversely affected by the Undertaking. If adverse effects to newly identified sites can be avoided through establishment of an ESA and use of ESA fencing, Phase

II testing is not required. The results shall be documented in a Cultural Resources Inventory Report (see Stipulation II.A.7).

6. Should the District determine that the final engineering design for Build Alternative 2 shall adversely affect archaeological sites identified in the 2014 HPSR as protected from potential effects through establishment of an ESA (see Stipulation II.C.4 below for listing of ESA sites), the District shall conduct Phase II Testing for all affected archaeological sites to determine their NRHP listing eligibility. Phase II testing efforts shall focus on the portions of the site that would be adversely affected by the Undertaking. The results shall be documented in a Cultural Resources Inventory Report (see Stipulation II.A.7).

7. For each construction phase, the District, in coordination with CSO, shall draft a Cultural Resources Inventory Report which documents the additional pedestrian survey efforts, the Extended Phase I results, the Phase II results, NRHP/CRHR evaluations, and the application of adverse effect for historic properties, as applicable. The District shall submit this documentation to the SHPO for review and concurrence regarding eligibility determinations and adverse effect determinations. If the SHPO does not respond within 30-days after receipt, Caltrans may either extend the review period in consultation with the SHPO or notify SHPO of its intent to proceed to the next step prescribed in Stipulation II.B of this PA, based upon Caltrans' determination of NRHP eligibility. All work shall conform to the requirements established in the Caltrans SER. The District shall also provide a submittal to appropriate Native American consulting parties (as identified in Stipulation III) for review and comment, concurrently with the SHPO submittal.

8. If the District, in consultation with CSO, determines that it would be more efficient and/or less costly, the District may assume an archaeological site is eligible for listing on the NRHP and proceed to prepare a Phase III Data Recovery Plan (see Stipulation II.B.3). This approach is only appropriate for an archaeological site that is significant solely for its information value under Criterion D.

B. Historic Properties: Effect Determination/Mitigation and Avoidance

1. As it is anticipated that the project shall be constructed in phases, the District, in coordination with CSO, shall develop an Historic Property Treatment Plan (HPTP) for the Undertaking prior to the construction of the first phase of the Undertaking. The HPTP shall present a high level/general archaeological research design, prehistoric and historic research themes and questions, resource significance thresholds required for NRHP/CRHR evaluations, ESA establishment and protection guidelines, archaeological monitoring guidelines, and late discovery and inadvertent effects procedures. The HPTP shall follow the guidance provided in the Caltrans SER. The HPTP shall also include an ESA Action and Monitoring Plan. The District shall implement ESA fencing prior to each construction phase and archaeological monitoring during adjacent construction activities at the following historic properties and 3 GSLs:
    - P-05-467 (CA-CAL-132) (monitoring only, no ESA fencing required),

- P-05-957 (CA-CAL-639H),
- P-05-958 (CA-CAL-640),
- P-05-984 (CA-CAL-666) (monitoring only, no ESA fencing required),
- P-05-1101 (CA-CAL-784),
- P-05-1105 (CA-CAL-788),
- P-05-1106 (CA-CAL-789) (monitoring only, no ESA fencing required),
- P-05-1962 (CA-CAL-1679) (monitoring only)
- P-05-2127 (CA-CAL-1755/H),
- P-05-3093 (monitoring only, no ESA fencing required),
- P-05-3094 (CA-CAL-2009),
- P-05-3542 (CA-CAL-2127H) (monitoring only, no ESA fencing required),
- GSL 2 (monitoring only, no ESA fencing required),
- GSL 8 (monitoring only, no ESA fencing required), and
- GSL 9 (monitoring only, no ESA fencing required).

ESA fencing and archaeological monitoring shall also be utilized for any historic property identified during subsequent pedestrian surveys, Extended Phase I efforts, and/or Phase II efforts, establishment of an ESA, if establishment of an ESA can fully protect the site from adverse effects.

2. The District, in coordination with CSO, shall submit the HPTP to the SHPO for review and concurrence. The SHPO shall respond within 30-days of the receipt of the submission. If the SHPO does not respond within 30-days after receipt, Caltrans may either extend the review period in consultation with the SHPO or proceed to the next step prescribed in Stipulation II.A. The District shall also provide a submittal to appropriate Native American consulting parties (as identified in Stipulation III) for review and comment, concurrently with the SHPO submittal.

3. For each construction phase, the District, in coordination with CSO, shall prepare a Phase III Data Recovery Plan for all historic properties considered significant under Criterion D and which are adversely affected by the Undertaking (including P-05-1962/CA-CAL-1679). The plan shall be submitted to the SHPO for review and concurrence. The SHPO shall respond within 30-days of the receipt of the submission. If the SHPO does not respond within 30-days after receipt, Caltrans may either extend the review period in consultation with the SHPO or will notify SHPO of its intent proceed to the next step prescribed within this stipulation. The District shall also provide a submittal to appropriate Native American consulting parties (as identified in Stipulation III) for review and comment, concurrently with the SHPO submittal. The plan shall include at a minimum:

   a) Identification of historic properties, or portions of historic properties where data recovery is to be carried out and any historic property that shall be adversely affected by the Undertaking;

   b) Formal evaluation of archaeological sites according to all NRHP criteria;

c) A well developed research design, research questions, and data requirements ;

d) The methods and methodology that shall be needed to extract data requirements;

e) Details related to the establishment of ESA areas, ESA avoidance measures, and archaeological monitoring requirements.

f) Identification of the curation facility where the recovered materials and records shall be curated in perpetuity in accordance with California Resources Agency "Guidelines for the Curation of Archaeological Collections" (1993);

g) Proposed schedule for providing the results of the data recovery program to the appropriate Native American consulting parties (as identified in Stipulation III) . This shall follow the guidance presented in the *Environmental Handbook*, Volume 2, Chapter 5, Sections 8 and 9: Archaeological Data Recovery; and

h) Proposed methods for disseminating information to the interested public about the data recovery. If data recovery involves sensitive and confidential information, there shall be no public disclosure.

4. For all historic properties considered significant under criteria A,B, or C, and not also considered significant under criterion "D", the District, in coordination with CSO, shall develop and document alternative mitigation measures in a corresponding report, for each construction phase, as applicable. This report shall be submitted to the SHPO for review and concurrence. The SHPO shall respond within 30-days of the receipt of the submission. If the SHPO does not respond within 30-days after receipt, Caltrans may either extend the review period in consultation with the SHPO or proceed to the next step prescribed in Stipulation II.

C. Annual Reporting

In addition to the documentation and reporting described in Stipulation II.A-B, the District shall provide the concurring parties and appropriate Native American consulting parties (as identified in Stipulation III) to this agreement an annual update. Such update shall include any scheduling changes proposed, any problems encountered, failures to adopt proposed mitigation measures, and any disputes and objections received in the District's efforts to carry out the terms of this PA. The update shall be due no later than December 31 of each year, beginning December 31, 2016 and continuing annually thereafter throughout the duration of this PA. If PA parties deem necessary, a meeting shall be scheduled in lieu of an update. The PA parties shall have 30 days to review and comment on the annual update.

All final technical reports shall be distributed to the PA parties, concurring parties, and the appropriate California Historical Resources Information Center.

III. NATIVE AMERICAN CONSULTATION

The District shall continue notifying and consulting with Native American tribes, individuals, and organizations as each has requested regarding the project. This includes the Buena Vista Rancheria Me-Wuk Indians, Calaveras Band of Mi-Wuk Indians, Calaveras County Mountain MiWuk Indian Council , California Valley Miwok Tribe, Ione Band of Miwok Indians, Nototomne/Northern Valley Yokuts Tribe, and the Wilton Rancheria. This list is not exhaustive as additional tribes may request consultation. Notification and consultation shall include informing the tribes of anticipated dates to conduct additional pedestrian survey, archaeological testing, and archaeological data recovery to ensure the tribes have an opportunity to be present; notifying the tribes of the availability of documents, and providing copies, unless a tribe does not want to receive them, or a summary of those documents including the HPTP, Cultural Resources Inventory Reports prepared for each construction phase, Phase II Testing Plan, Phase III Data Recovery Plans developed for each construction phase, to ensure the tribes have an opportunity to consult on the findings and proposed treatments.

IV. TREATMENT OF HUMAN REMAINS OF NATIVE AMERICAN ORIGIN

As legally mandated, human remains and related items discovered during the implementation of the terms of this PA and the Undertaking shall be treated in accordance with the requirements of Health and Safety Code Section 7050.5(b). The Calaveras County Coroner shall be contacted if human remains are discovered. The Calaveras County Coroner shall have two working days to inspect the remains after receiving notification. During this time, all remains, associated soils, and artifacts shall remain in situ and/or on site, and shall be protected from public viewing. This may include restricting access to the discovery site and the need to hire 24 hour security.

If pursuant to of Health and Safety Code Section 7050.5(c) the Calaveras County Coroner determines that the human remains are or may be those of a Native American, then the discovery shall be treated in accordance with the provisions of Public Resources Code Sections 5097.98 (a)(d). The Calaveras County Coroner has 24 hours to notify the NAHC. The NAHC shall then notify a Most Likely Descendant (MLD), who has 48 hours to make recommendations to Caltrans. Caltrans, shall contact the SHPO and the Most Likely Descendent(s) within 24 hours of the County Coroner's determination that the remains are Native American in origin. Caltrans shall ensure that, to the extent permitted by applicable law and regulation, the view of the MLD(s) is taken into consideration when decisions are made about the disposition of Native American human remains and associated objects. Caltrans and Calaveras County shall take appropriate measures to protect the discovery site from disturbance during any negotiations. Information concerning the discovery shall not be disclosed to the public pursuant to the specific exemption set forth in California Government Code Section 6254.5(e).

V. POST-REVIEW DISCOVERIES AND UNANTICIPATED EFFECTS

If Caltrans determines after construction of the Undertaking commences that the Undertaking shall affect a previously unidentified historic property or affect a known historic property in an unanticipated manner, Caltrans shall address the discovery and/or unanticipated effect. In this situation, the Registered Engineer (RE) shall stop all work within a 60-foot radius of the discovery or effect in accordance with Caltrans Specifications for archaeological resources. The

protocol outlined in Stipulations II.A and II.B of this PA shall then be followed. Caltrans will address the discovery or unanticipated effects in accordance with the procedures outlined in the HPTP.

VI. ADMINISTRATIVE PROVISIONS

A. Standards

1. **Definitions.** The definitions provided at 36 CFR § 800.16 are applicable throughout this PA.
2. Parties to this agreement are defined as follows:
    a. **Signatory parties** have the sole authority to execute, amend, or terminate the PA.
    b. **Invited signatory parties** have the same rights to terminate or amend the PA as the other signatories.
    c. **Concurring parties** signing the PA do so to acknowledge their agreement or concurrence with the PA, but have no legal authority under the PA to terminate or amend the PA. Concurring with the terms of the PA does not constitute their agreement with the Undertaking.
3. **Professional Qualifications.** District shall ensure that the actions and products required by Stipulations II through V of this PA shall be carried out by or under the direct supervision of persons meeting the *Secretary of the Interior's Professional Qualification Standards for Archeology and Historic Preservation (36 CFR Part 61) (PQS)* in the relevant field of study.
4. **Documentation Standards.** Written documentation of activities prescribed by Stipulations II, III, and V of this PA shall conform to the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716-4470), as well as to applicable standards and guidelines established by the SHPO.
5. **Curation and Curation Standards.** Caltrans shall ensure that, to the extent permitted under § 5097.98 and § 5097.991 of the California Public Resources Code, the material and records resulting from the activities prescribed by this PA are curate in accordance with 36 CFR §79.

B. Confidentiality

The PA parties acknowledge that the historic properties covered by this PA are subject to the provisions of § 304 of the National Historic Preservation Act (NHPA) and § 6254.10 of the California Government Code (Public Records Act), relating to the disclosure of archaeological site information and, having so acknowledged, shall ensure that all actions and documentation prescribed by this PA are consistent with said sections.

C. Resolving Objections

A. Should any party to this PA object at any time in writing to the manner in which the terms of this PA are implemented, to any action carried out or proposed with respect to implementation of the PA (other than the Undertaking itself), or to any documentation prepared in accordance with and subject to the terms of this PA, Caltrans shall immediately notify the other PA parties of the objection, request their comments on the objection within 15 days following receipt of Caltrans' notification, and proceed to consult with the objecting party for no more than 30-days to resolve the objection. Caltrans shall honor the request of the other parties to participate in the consultation and shall take any comments provided by those parties into account.

B. If the objection is resolved during the 30-day consultation period, Caltrans may proceed with the disputed action in accordance with the terms of such resolution.

C. If at the end of the 30-day consultation period, Caltrans determines that the objection cannot be resolved through such consultation, then Caltrans shall notify PA parties that it shall forward all documentation relevant to the objection to the Advisory Council on Historic Preservation (ACHP) including Caltrans' proposed response to the objection, with the expectation that the ACHP shall, within 30 days after receipt of such documentation:

   a. Advise Caltrans that the ACHP concurs in Caltrans' proposed response to the objection, whereupon Caltrans shall respond to the objection accordingly. The objection shall thereby be resolved; or

   b. Provide Caltrans with recommendations, which Caltrans shall take into account in reaching a final decision regarding its response to the objection. The objection shall thereby be resolved; or

   c. Notify Caltrans that the objection shall be referred for comment pursuant to 36 CFR § 800.7(c) and proceed to refer the objection and comment. Caltrans shall take the resulting comments into account in accordance with 36 CFR § 800.7(c)(4) and Section 110(1) of the NHPA. The objection shall thereby be resolved.

D. Should the ACHP not exercise one of the above options within 30-days after receipt of all pertinent documentation, Caltrans may proceed to implement its proposed response. The objection shall thereby be resolved.

E. Caltrans shall take into account any of the ACHP's recommendations or comments provided in accordance with this stipulation with reference only to the subject of the objection. Caltrans' responsibility to carry out all actions under this PA that are not the subjects of the objection shall remain unchanged.

F. At any time during implementation of the measures stipulated in this PA, should a member of the public raise an objection in writing pertaining to such implementation to any signatory party to this PA, that signatory party shall

immediately notify Caltrans. Caltrans shall immediately notify the other signatory parties in writing of the objection. Any signatory party may choose to comment in writing on the objection to Caltrans. Caltrans shall establish a reasonable time frame for this comment period. Caltrans shall consider the objection, and in reaching its decision, Caltrans shall take all comments from the other signatory parties into account. Within 15 days following closure of the comment period, Caltrans shall render a decision regarding the objection and respond to the objecting party. Caltrans shall promptly notify the other signatory parties of its decision in writing, including a copy of the response to the objecting party. Caltrans' decision regarding resolution of the objection shall be final. Following issuance of its final decision, Caltrans may authorize the action subject to dispute hereunder to proceed in accordance with the terms of that decision.

G. Caltrans shall provide all parties to this PA, and the ACHP, if the ACHP has commented, and any parties that have objected pursuant to section of this stipulation, with a copy of its final written decision regarding any objection addressed pursuant to this stipulation.

H. Caltrans may authorize any action subject to objection under this stipulation to proceed after the objection has been resolved in accordance with the terms of this stipulation.

D. Amendments

Any signatory party to this PA may propose that this PA be amended, whereupon all signatory parties shall consult to consider such amendment. The amendment shall be effective on the date a copy signed by all of the original signatories is filed with the ACHP. If the signatories cannot agree to appropriate terms to amend this PA, any signatory may terminate the agreement in accordance with Stipulation V.E.3 below.

E. Termination

1. If this PA is not amended as provided for in Section D of this Stipulation, or if a signatory proposes termination of this PA for other reasons, the signatory party proposing termination shall, in writing, notify the other PA parties, explain the reasons for proposing termination, and consult with the other parties for at least 30-days to seek alternatives to termination. Such consultation shall not be required if Caltrans proposes termination because the Undertaking no longer meets the definition set forth in 36 CFR § 800.16(y).

2. Should such consultation result in an agreement on an alternative to termination, the signatory parties shall proceed in accordance with that agreement.

3. Should such consultation fail, the signatory party proposing termination may terminate this PA by promptly notifying the other parties in writing. Termination hereunder shall render this PA without further force or effect.

If this PA is terminated hereunder, and if Caltrans determines that the Undertaking shall nonetheless proceed, then Caltrans shall comply with the requirements of 36 CFR 800.3-800.6, or request the comments of the ACHP pursuant to 36 CFR Part 800.

F. Duration of PA

The duration of this PA shall be five (5) years following the date of execution by the SHPO and Caltrans, or upon completion of the Undertaking (whichever comes first). If the terms are not satisfactorily fulfilled at that time, The Distric, in coordination with CSO, shall consult with the signatories and concurring parties to extend it or reconsider its terms. Reconsideration may include continuation of the PA as originally executed, amendment of the PA, or termination. In the event of termination, Caltrans will comply with 36 CFR Part 900 if it determines that the Undertaking will proceed notwithstanding termination of the PA.

G. Effective Date

This PA shall take effect on the date that it is executed by Signatory Parties.

EXECUTION of this PA by Caltrans and the California SHPO and subsequent implementation of its terms, shall evidence that in accordance with the Section 106 PA, Caltrans has taken into account the effects of the Undertaking on historic properties.

PROGRAMMATIC AGREEMENT

BETWEEN THE CALIFORNIA DEPARTMENT OF TRANSPORTATION AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER REGARDING THE STATE ROUTE 4/WAGON TRAIL REALINGMENT PROJECT, CALAVERAS COUNTY, CALIFORNIA

SIGNATORY PARTIES

California Department of Transportation

By: Katrina C. Pierce Date: 3/30/16

Katrina C. Pierce, Chief
Division of Environmental Analysis

California ~~State Historic~~ Preservation Officer

By: _____ Date: 3/20/16

for Julianne Polanco
State Historic Preservation Officer

PROGRAMMATIC AGREEMENT

BETWEEN THE CALIFORNIA DEPARTMENT OF TRANSPORTATION AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER REGARDING THE STATE ROUTE 4/WAGON TRAIL REALIGNMENT PROJECT, CALAVERAS COUNTY, CALIFORNIA

CONCURRING PARTIES

California Department of Transportation, District 10

By: Dennis T. Agar Date: 04/11/16

Dennis T. Agar, Director
District 10, Stockton

Calaveras County

By: Date: 4/20/2016

Jeff Crovitz
Calaveras County
Public Works Director

Calaveras Band of Mi-Wuk Indians
Gloria J. Grimes, Tribal Chairperson

By: Gloria J. Grimes Date: 4-22-2016

APPENDICES

A. List and Map of Accessor Parcel Numbers Requiring Additional Survey

B. Map Figures

APPENDIX A:

List and Map of APN Requiring Additional Pedestrian Survey

Confidential Information Removed

APPENDIX B:

Map Figures

Confidential Information Removed

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Appendix F Preliminary Jurisdictional Delineation

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DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

July 31, 2015

Regulatory Division SPK-2010-01318

State of California
Department of Transportation, District 6
Attn: Dena Gonzalez
855 M Street, Suite 200
Fresno, California 93721

Dear Ms. Gonzalez:

We are responding to your June 13, 2014, request for a preliminary jurisdictional determination (JD), in accordance with our Regulatory Guidance Letter (RGL) 08-02, for the State Route 4 Wagon Trail Realignment Project (EA 0E530K, PM 12.66/19.10) site. The approximately 795-acre site is located along State Route 4 between the Towns of Angels Camp and Copperopolis, in Sections 2,3,10 and 15, Township (T) 2 North (N), Range (R) 12 East (E); Sections 35 and 36, T3N & R12E; and Section 31, T3N, R13E, of Salt Springs Valley and Angels Camp USGS quadrangle, Calaveras County, California.

Based on available information, **we concur with the amount and location of wetlands and other water bodies on the site as depicted on the enclosed July 2015, *Water Features, Pages 1-7, Sheets A-E* drawing prepared by Dokken Engineering**. The approximately 4.29 acre of wetlands and 3.65 acre of other water bodies present within the survey area are potential waters of the United States regulated under Section 404 of the Clean Water Act.

We have enclosed a copy of the *Preliminary Jurisdictional Determination Form* for this site. Please sign and return a copy of the completed form to this office. Once we receive a copy of the form with your signature we can accept and process a Pre-Construction Notification or permit application for your proposed project.

You should not start any work in potentially jurisdictional waters of the United States unless you have Department of the Army permit authorization for the activity. You may request an approved JD for this site at any time prior to starting work within waters. In certain circumstances, as described in RGL 08-02, an approved JD may later be necessary.

You should provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

This preliminary determination has been conducted to identify the potential limits of wetlands and other water bodies which may be subject to Corps of Engineers' jurisdiction for the particular site identified in this request. A Notification of Appeal Process and Request for Appeal form is enclosed to notify you of your options with this determination. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are U.S. Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

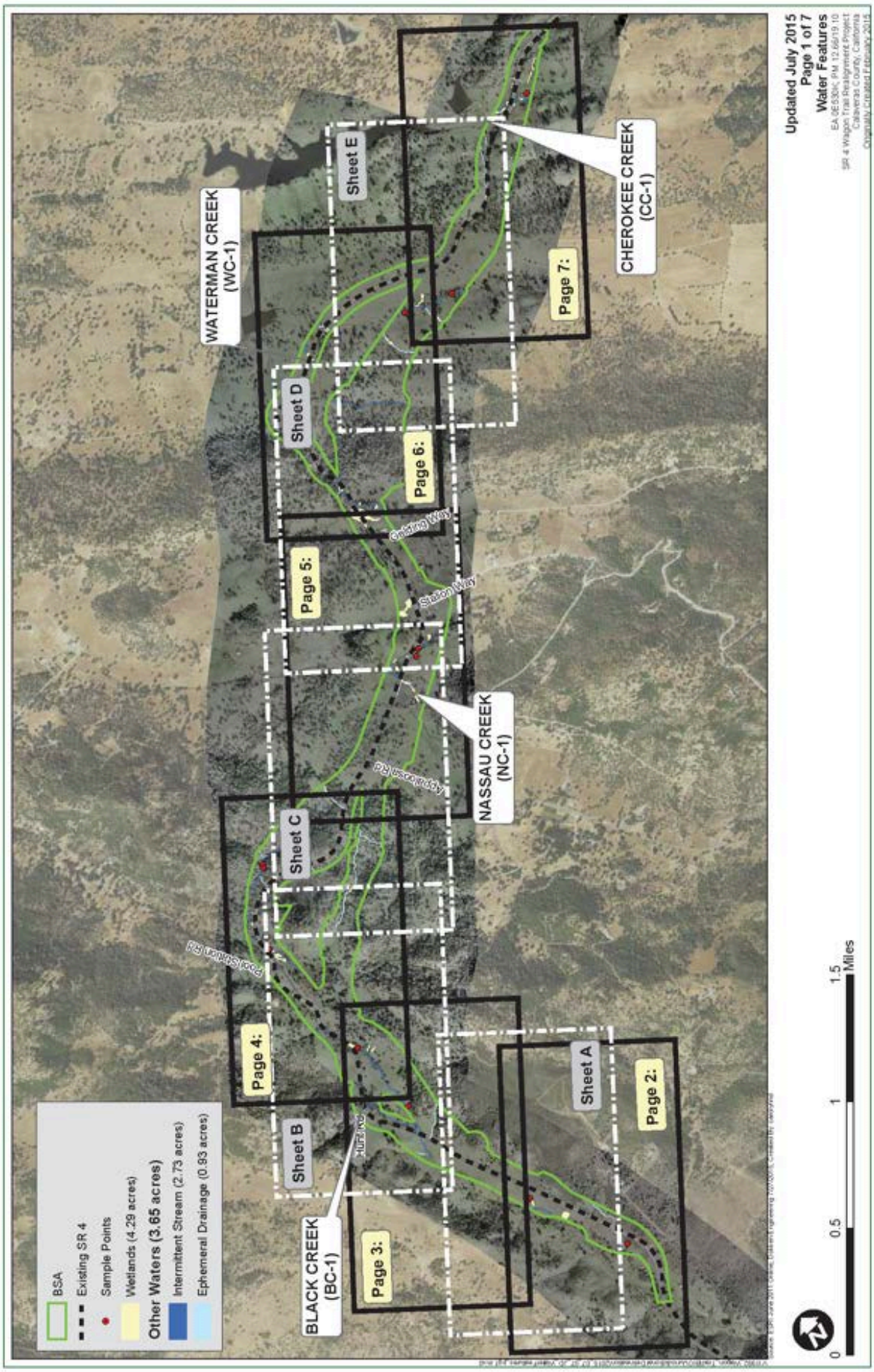
Please refer to identification number SPK-2010-01318 in any correspondence concerning this project. If you have any questions, please contact me at our California North Branch Office, Regulatory Division, U.S. Army Corps of Engineers, 1325 J Street, Room 1350, Sacramento, California 95814-2922, by email at *Leah.M.Fisher@usace.army.mil*, or telephone at 916-557-6639. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/Missions/Regulatory.aspx*.

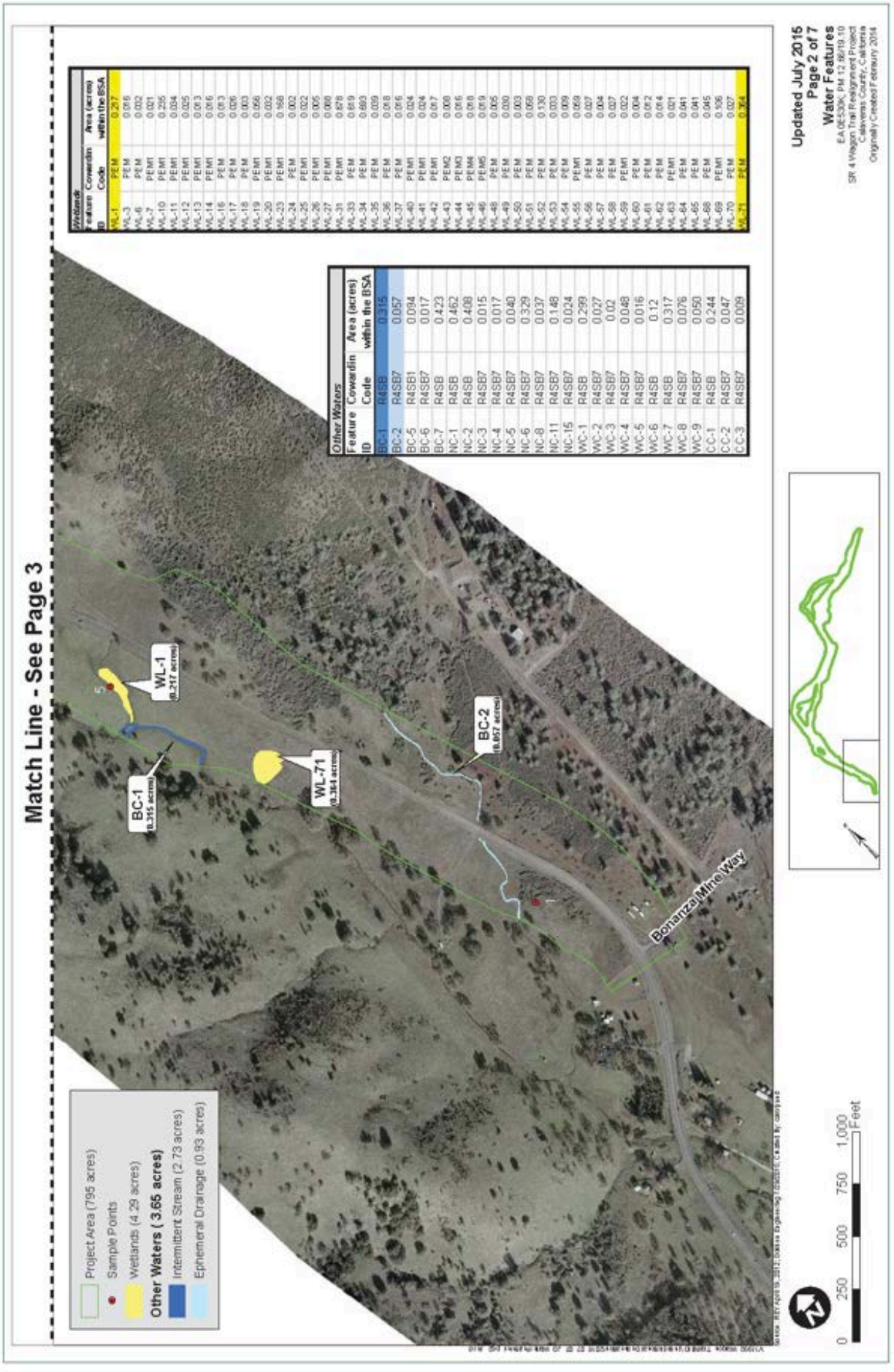
Sincerely,

Leah M. Fisher
Senior Project Manager
California North Branch
Regulatory Division

Enclosures

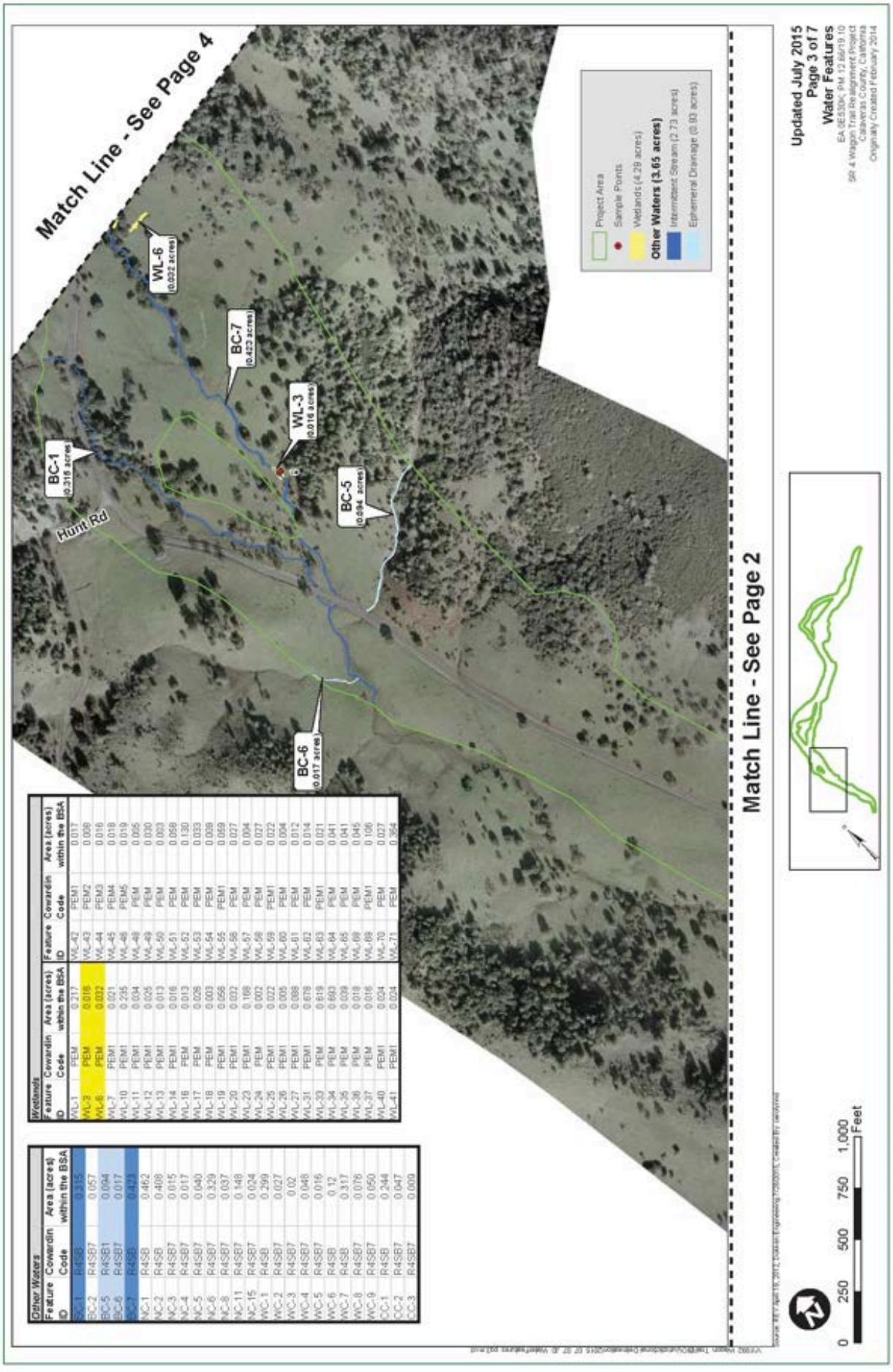
cc: (w/o encls)
Ms. Sarah Soliman, CA Department of Transportation, sarah.soliman@dot.ca.gov
Ms. Sarah Holm, Dokken Engineering, sarahholm@dokkenengineering.com
Mr. Namat Hosseinion, Dokken Engineering, nhosseinion@dokkenengineering.com


WATERMAN CREEK (WC-1)
CHEROKEE CREEK (CC-1)
NASSAU CREEK (NC-1)
BLACK CREEK (BC-1)
Sheet A
Sheet B
Sheet C
Sheet D
Sheet E
Page 2:
Page 3:
Page 4:
Page 5:
Page 6:
Page 7:
Station Way
Updated July 2015
Page 1 of 7
Water Features
BSA
Existing SR 4
Sample Points
Wetlands (4.29 acres)
Other Waters (3.65 acres)
Intermittent Stream (2.73 acres)
Ephemeral Drainage (0.93 acres)
0
0.5
1
1.5
Miles



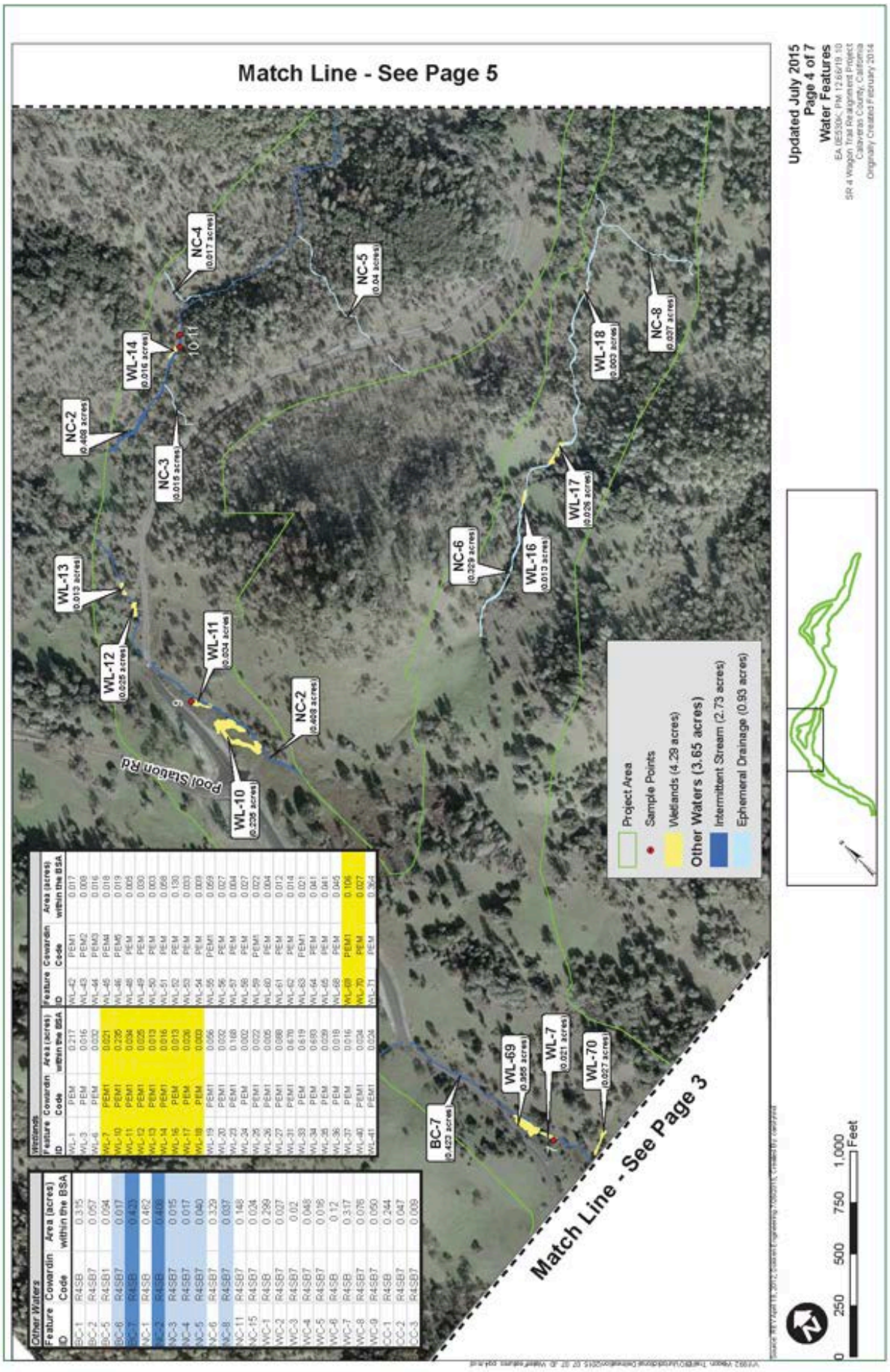
Other Waters			
Feature ID	Cowardin Code	Area (acres) within the BSA	
BC-1	R4SB	0.315	
BC-2	R4SB7	0.057	
BC-5	R4SB1	0.094	
BC-6	R4SB7	0.017	
BC-7	R4SB	0.423	
NC-1	R4SB	0.462	
NC-2	R4SB	0.408	
NC-3	R4SB7	0.015	
NC-4	R4SB7	0.017	
NC-5	R4SB7	0.040	
NC-6	R4SB7	0.329	
NC-8	R4SB7	0.037	
NC-11	R4SB7	0.148	
NC-15	R4SB7	0.024	
WC-1	R4SB	0.299	
WC-2	R4SB7	0.027	
WC-3	R4SB7	0.02	
WC-4	R4SB7	0.048	
WC-5	R4SB7	0.016	
WC-6	R4SB	0.12	
WC-7	R4SB	0.317	
WC-8	R4SB7	0.076	
WC-9	R4SB7	0.050	
CC-1	R4SB	0.244	
CC-2	R4SB7	0.047	
CC-3	R4SB7	0.009	

Wetlands			
Feature ID	Cowardin Code	Area (acres) within the BSA	
WL-1	PEM	0.217	
WL-3	PEM	0.016	
WL-6	PEM	0.002	
WL-7	PEMI	0.021	
WL-10	PEMI	0.295	
WL-11	PEMI	0.034	
WL-12	PEMI	0.005	
WL-13	PEMI	0.013	
WL-14	PEMI	0.016	
WL-16	PEM	0.013	
WL-17	PEM	0.026	
WL-18	PEM	0.003	
WL-19	PEMI	0.056	
WL-20	PEMI	0.032	
WL-23	PEMI	0.168	
WL-24	PEM	0.002	
WL-25	PEMI	0.022	
WL-26	PEMI	0.005	
WL-27	PEMI	0.009	
WL-31	PEMI	0.678	
WL-33	PEM	0.619	
WL-34	PEM	0.893	
WL-35	PEM	0.039	
WL-36	PEM	0.018	
WL-37	PEM	0.016	
WL-40	PEMI	0.024	
WL-41	PEMI	0.024	
WL-42	PEMI	0.017	
WL-43	PEMC	0.009	
WL-44	PEMD	0.016	
WL-45	PEMA	0.018	
WL-46	PEMS	0.019	
WL-48	PEM	0.065	
WL-49	PEM	0.030	
WL-50	PEM	0.003	
WL-51	PEM	0.059	
WL-52	PEM	0.130	
WL-53	PEM	0.003	
WL-54	PEM	0.009	
WL-55	PEMI	0.059	
WL-56	PEM	0.027	
WL-57	PEM	0.004	
WL-58	PEM	0.027	
WL-59	PEMI	0.022	
WL-60	PEM	0.004	
WL-61	PEM	0.052	
WL-62	PEM	0.014	
WL-63	PEMI	0.021	
WL-64	PEM	0.041	
WL-65	PEM	0.041	
WL-68	PEM	0.045	
WL-69	PEMI	0.106	
WL-70	PEM	0.027	
WL-71	PEM	0.164	



Other Waters			
Feature ID	Cowardin Code	Area (acres) within the BSA	
BC-1	R4SB	0.315	
BC-2	R4SB7	0.057	
BC-5	R4SB1	0.094	
BC-6	R4SB7	0.017	
BC-7	R4SB	0.423	
WC-1	R4SB	0.462	
WC-2	R4SB	0.408	
WC-3	R4SB7	0.015	
WC-4	R4SB7	0.017	
WC-5	R4SB7	0.040	
WC-6	R4SB7	0.329	
WC-8	R4SB7	0.037	
WC-11	R4SB7	0.149	
WC-15	R4SB7	0.024	
WC-1	R4SB	0.299	
WC-2	R4SB7	0.027	
WC-3	R4SB7	0.02	
WC-4	R4SB7	0.048	
WC-5	R4SB7	0.016	
WC-6	R4SB	0.12	
WC-7	R4SB	0.317	
WC-8	R4SB7	0.076	
WC-9	R4SB7	0.050	
CC-1	R4SB	0.244	
CC-2	R4SB7	0.047	
CC-3	R4SB7	0.009	

Wetlands			
Feature ID	Cowardin Code	Area (acres) within the BSA	
WL-1	PEM	0.217	
WL-3	PEM	0.016	
WL-6	PEM	0.032	
WL-7	PEM1	0.021	
WL-10	PEM1	0.235	
WL-11	PEM1	0.034	
WL-12	PEM1	0.025	
WL-13	PEM1	0.013	
WL-14	PEM1	0.016	
WL-16	PEM	0.013	
WL-17	PEM	0.026	
WL-18	PEM	0.003	
WL-19	PEM1	0.056	
WL-20	PEM1	0.032	
WL-23	PEM1	0.166	
WL-24	PEM	0.002	
WL-25	PEM1	0.022	
WL-26	PEM1	0.005	
WL-27	PEM1	0.089	
WL-31	PEM1	0.678	
WL-33	PEM	0.618	
WL-34	PEM	0.893	
WL-35	PEM	0.039	
WL-36	PEM	0.018	
WL-37	PEM	0.016	
WL-40	PEM1	0.024	
WL-41	PEM1	0.024	
WL-42	PEM1	0.017	
WL-43	PEM2	0.008	
WL-44	PEM3	0.016	
WL-45	PEM4	0.018	
WL-48	PEM5	0.019	
WL-49	PEM	0.065	
WL-50	PEM	0.030	
WL-51	PEM	0.003	
WL-52	PEM	0.058	
WL-53	PEM	0.130	
WL-54	PEM	0.033	
WL-55	PEM1	0.008	
WL-56	PEM	0.059	
WL-57	PEM	0.027	
WL-58	PEM	0.004	
WL-59	PEM1	0.027	
WL-60	PEM	0.004	
WL-61	PEM	0.012	
WL-62	PEM	0.014	
WL-63	PEM1	0.021	
WL-64	PEM	0.041	
WL-65	PEM	0.041	
WL-66	PEM	0.045	
WL-69	PEM1	0.106	
WL-70	PEM	0.027	
WL-71	PEM	0.954	



Other Waters			
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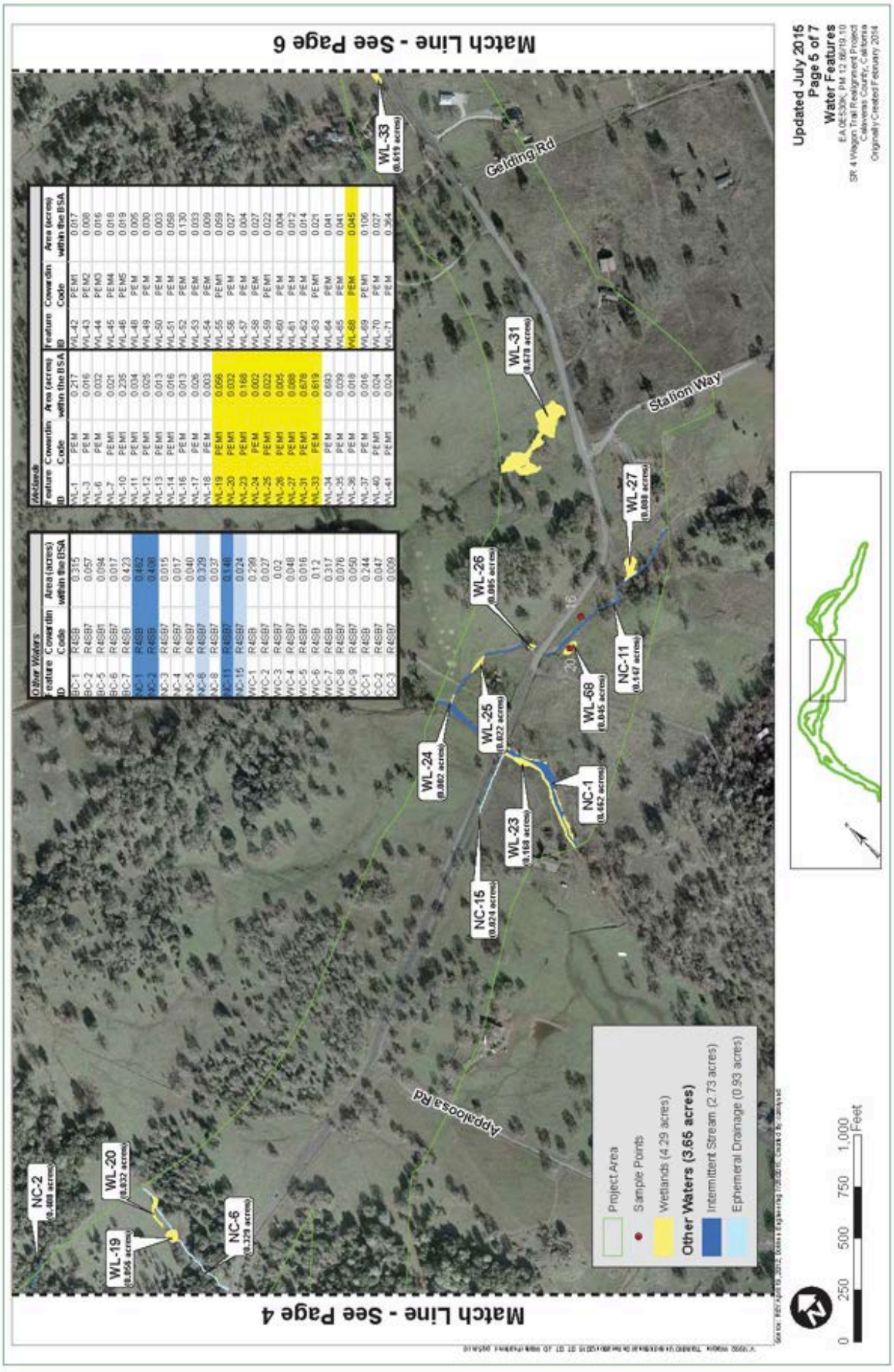
BC-1	R4SB	0.375	
BC-2	R4SB7	0.057	
BC-5	R4SB1	0.094	
BC-6	R4SB7	0.017	
BC-7	R4SB	0.423	
NC-1	R4SB	0.462	
NC-2	R4SB	0.468	
NC-3	R4SB7	0.015	
NC-4	R4SB7	0.017	
NC-5	R4SB7	0.040	
NC-6	R4SB7	0.229	
NC-8	R4SB7	0.027	
NC-11	R4SB7	0.148	
NC-15	R4SB7	0.024	
WC-1	R4SB	0.299	
WC-2	R4SB7	0.027	
WC-3	R4SB7	0.02	
WC-4	R4SB7	0.048	
WC-5	R4SB7	0.095	
WC-6	R4SB	0.12	
WC-7	R4SB	0.317	
WC-8	R4SB7	0.076	
WC-9	R4SB7	0.050	
CC-1	R4SB	0.244	
CC-2	R4SB7	0.047	
CC-3	R4SB7	0.009	

Wetlands			
Feature ID	Cowardin Code	Area (acres) within the BSA	
WL-1	PEM	0.217	
WL-3	PEM	0.016	
WL-6	PEM	0.032	
WL-7	PEM1	0.021	
WL-10	PEM1	0.235	
WL-11	PEM1	0.034	
WL-12	PEM1	0.025	
WL-13	PEM1	0.013	
WL-14	PEM1	0.016	
WL-16	PEM	0.013	
WL-17	PEM	0.028	
WL-18	PEM	0.003	
WL-19	PEM1	0.056	
WL-20	PEM1	0.032	
WL-23	PEM1	0.168	
WL-24	PEM	0.002	
WL-25	PEM1	0.022	
WL-26	PEM1	0.005	
WL-27	PEM1	0.088	
WL-31	PEM1	0.670	
WL-33	PEM	0.619	
WL-34	PEM	0.693	
WL-35	PEM	0.029	
WL-36	PEM	0.019	
WL-37	PEM	0.016	
WL-40	PEM1	0.034	
WL-41	PEM1	0.024	
WL-42	PEM1	0.017	
WL-43	PEM2	0.008	
WL-44	PEM3	0.016	
WL-45	PEM4	0.018	
WL-46	PEM5	0.019	
WL-48	PEM	0.005	
WL-49	PEM	0.030	
WL-50	PEM	0.003	
WL-51	PEM	0.066	
WL-52	PEM	0.130	
WL-53	PEM	0.003	
WL-54	PEM	0.009	
WL-55	PEM1	0.059	
WL-56	PEM	0.027	
WL-57	PEM	0.004	
WL-58	PEM	0.027	
WL-59	PEM1	0.022	
WL-60	PEM	0.004	
WL-61	PEM	0.012	
WL-62	PEM	0.014	
WL-63	PEM1	0.021	
WL-64	PEM	0.041	
WL-65	PEM	0.041	
WL-66	PEM	0.045	
WL-69	PEM1	0.106	
WL-70	PEM	0.027	
WL-71	PEM	0.364	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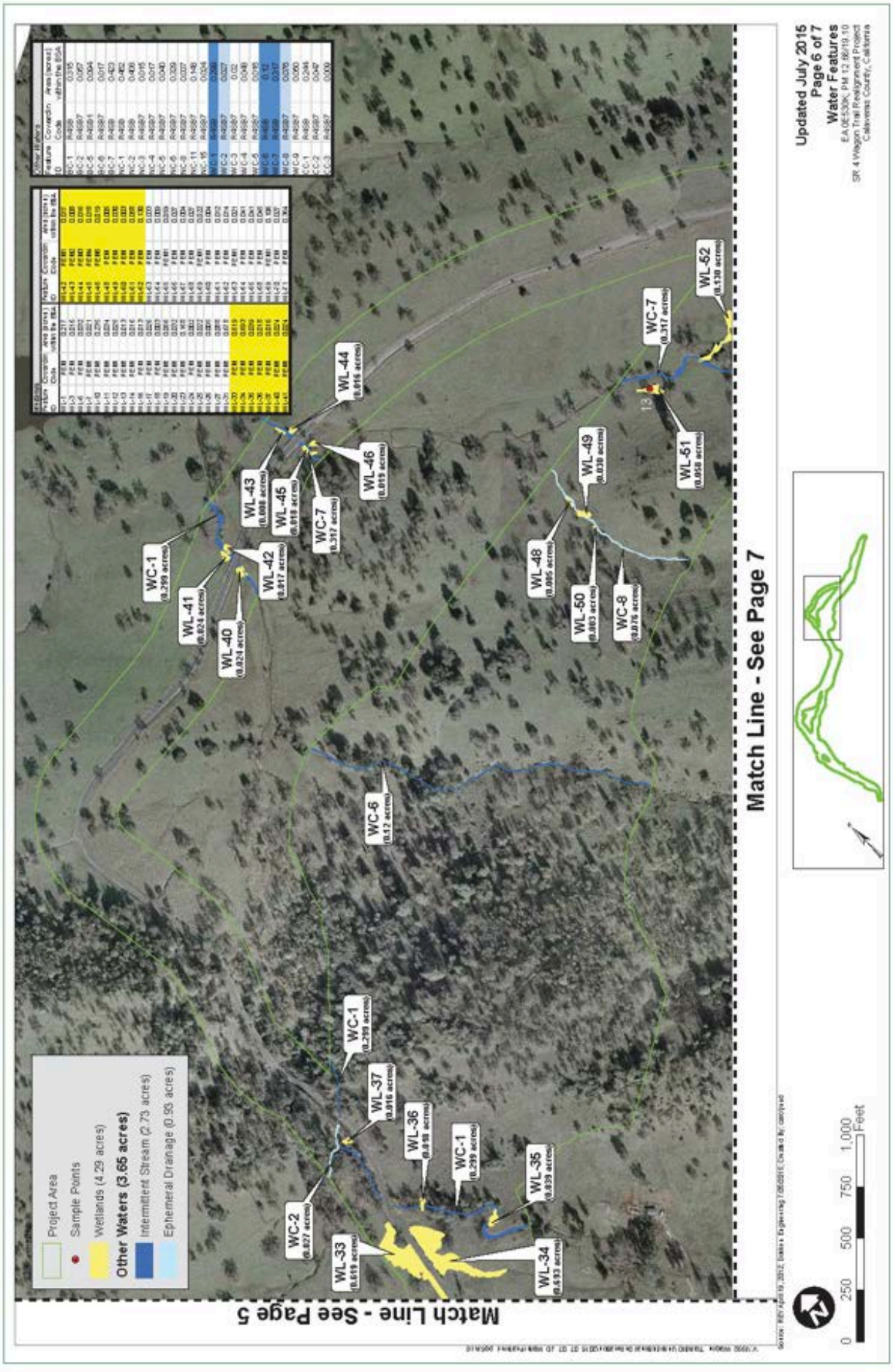
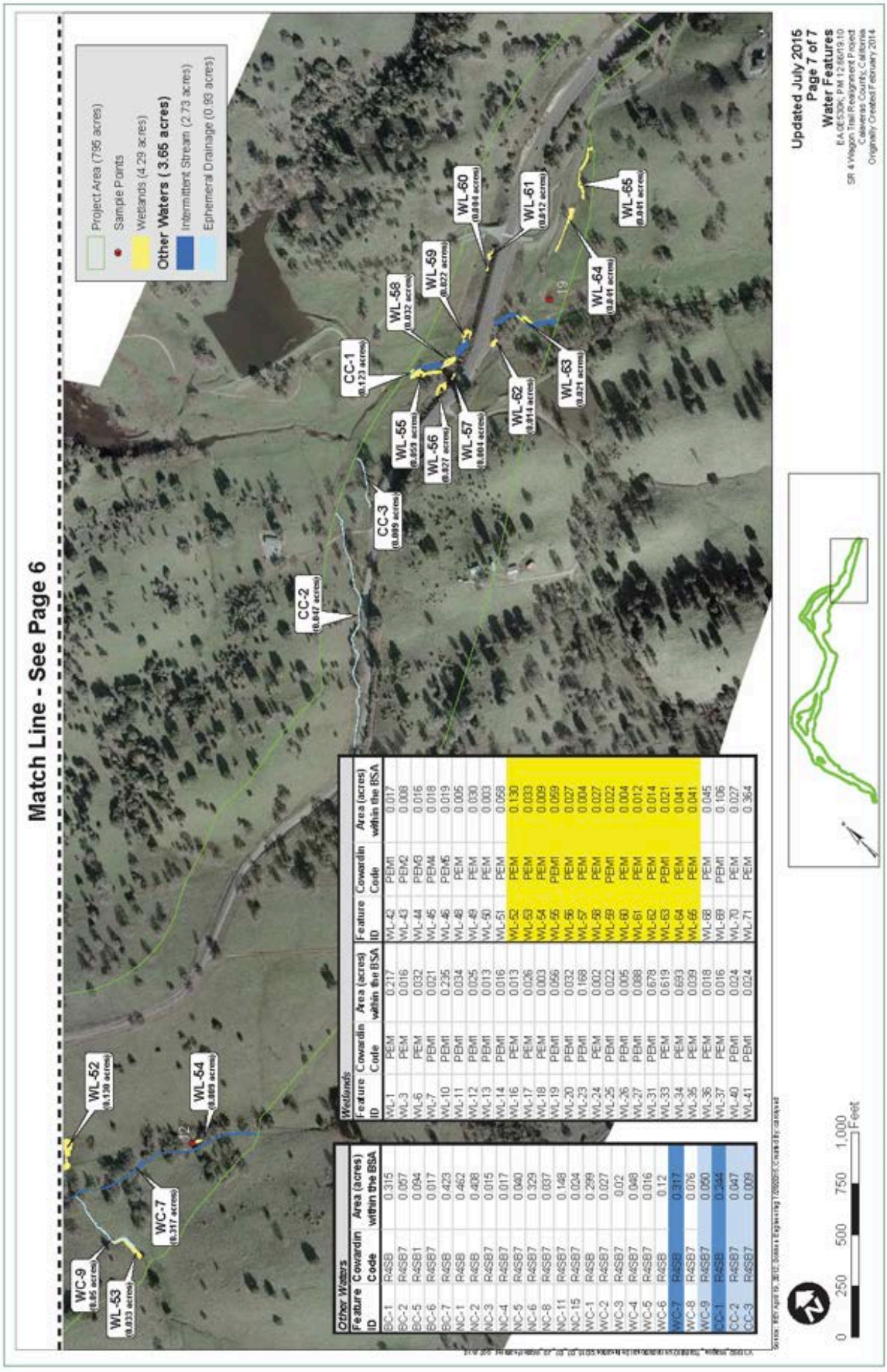
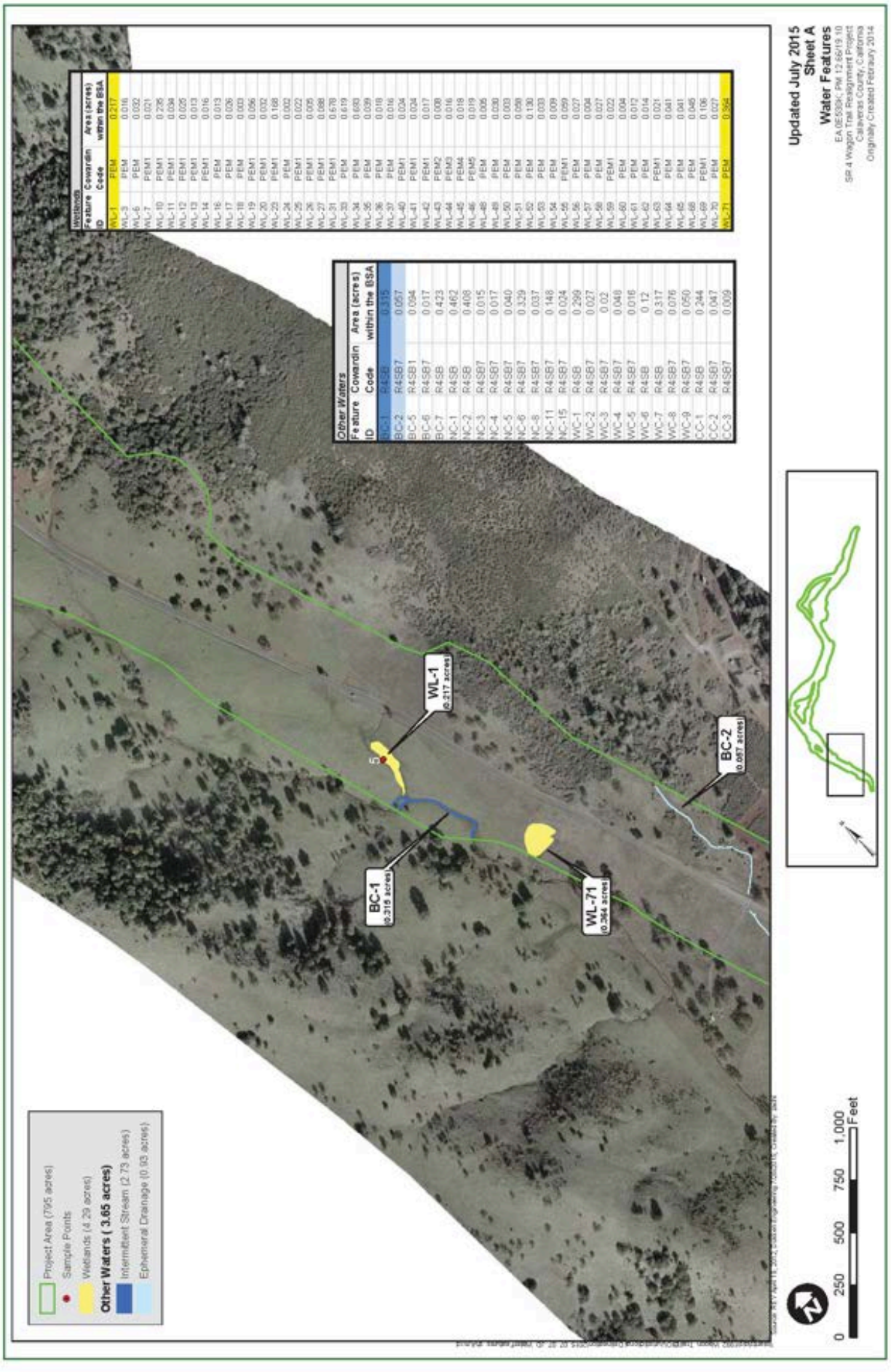
Match Line - See Page 4
Updated July 2015
Page 5 of 7
Water Features
EA 0E530K, PM 12.8/19.10
SR 4 Wagon Trail Realignment Project
Calaveras County, California
Originally Created February 2014
Project Area
Sample Points
Wetlands (4.29 acres)
Other Waters (3.65 acres)
Intermittent Stream (2.73 acres)
Ephemeral Drainage (0.93 acres)
0 250 500 750 1,000 Feet
Gelding Rd
Station Way
Applegate Rd
WL-19 (0.855 acres)
WL-20 (0.832 acres)
NC-2 (0.408 acres)
NC-6 (0.329 acres)
WL-24 (0.862 acres)
WL-25 (0.822 acres)
WL-26 (0.895 acres)
WL-23 (0.169 acres)
NC-1 (0.662 acres)
NC-15 (0.024 acres)
WL-68 (0.045 acres)
NC-11 (0.147 acres)
WL-27 (0.698 acres)
WL-31 (0.478 acres)
WL-33 (0.819 acres)
Other Waters
Feature ID | Cowardin Code | Area (acres) within the BSA
OC-1 | R4SB | 0.315
OC-2 | R4SBT | 0.057
OC-5 | R4SBI | 0.094
OC-6 | R4SBT | 0.017
OC-7 | R4SB | 0.423
NC-1 | R4SB | 0.462
NC-2 | R4SB | 0.408
NC-3 | R4SBT | 0.015
NC-4 | R4SBT | 0.017
NC-5 | R4SBT | 0.040
NC-6 | R4SBT | 0.329
NC-8 | R4SBT | 0.037
NC-11 | R4SBT | 0.146
NC-15 | R4SBT | 0.024
WC-1 | R4SB | 0.299
WC-2 | R4SBT | 0.027
WC-3 | R4SBT | 0.02
WC-4 | R4SBT | 0.040
WC-5 | R4SBT | 0.016
WC-6 | R4SB | 012
WC-7 | R4SB | 0.317
WC-8 | R4SBT | 0.076
WC-9 | R4SBT | 0.050
CC-1 | R4SB | 0.244
CC-2 | R4SBT | 0.047
CC-3 | R4SBT | 0.009
Wetlands
Feature ID | Cowardin Code | Area (acres) within the BSA
WL-1 | PEM | 0.217
WL-3 | PEM | 0.016
WL-6 | PEM | 0.032
WL-7 | PEMI | 0.021
WL-10 | PEMI | 0.235
WL-11 | PEMI | 0.004
WL-12 | PEMI | 0.025
WL-13 | PEMI | 0.013
WL-14 | PEMI | 0.016
WL-16 | PEM | 0.013
WL-17 | PEM | 0.026
WL-18 | PEM | 0.003
WL-19 | PEMI | 0.066
WL-20 | PEMI | 0.032
WL-23 | PEMI | 0.168
WL-24 | PEM | 0.002
WL-25 | PEMI | 0.022
WL-26 | PEMI | 0.005
WL-27 | PEMI | 0.088
WL-31 | PEMI | 0.678
WL-33 | PEM | 0.619
WL-34 | PEM | 0.693
WL-35 | PEM | 0.039
WL-36 | PEM | 0.018
WL-37 | PEM | 0.016
WL-40 | PEMI | 0.024
WL-41 | PEMI | 0.024
WL-42 | PEMI | 0.017
WL-43 | PEMZ | 0.008
WL-44 | PEMD | 0.016
WL-45 | PEMA | 0.018
WL-46 | PEMS | 0.019
WL-48 | PEM | 0.005
WL-49 | PEM | 0.030
WL-50 | PEM | 0.003
WL-51 | PEM | 0.058
WL-52 | PEM | 0.130
WL-53 | PEM | 0.033
WL-54 | PEM | 0.009
WL-55 | PEMI | 0.059
WL-56 | PEM | 0.027
WL-57 | PEM | 0.004
WL-58 | PEM | 0.027
WL-59 | PEMI | 0.022
WL-60 | PEM | 0.004
WL-61 | PEM | 0.012
WL-62 | PEM | 0.014
WL-63 | PEMI | 0.021
WL-64 | PEM | 0.041
WL-65 | PEM | 0.041
WL-66 | PEM | 0.045
WL-69 | PEMI | 0.106
WL-70 | PEM | 0.027
WL-71 | PEM | 0.364

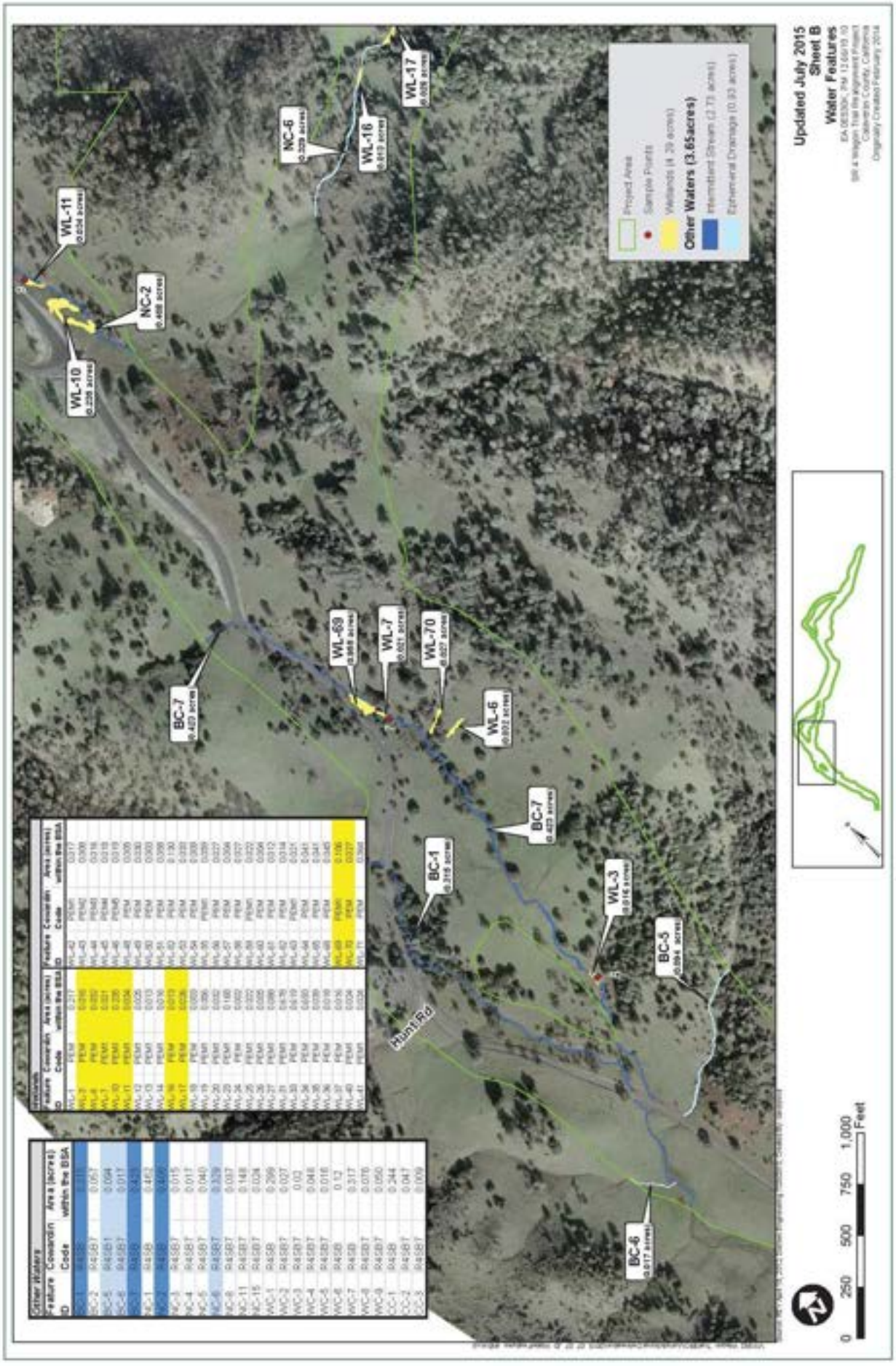

Updated July 2015
Page 6 of 7
Water Features
EA 0E530K, PM 12.8/19.10
SR 4 Wagon Trail Realignment Project
Calaveras County, California
Project Area
Sample Points
Wetlands (4.29 acres)
Other Waters (3.65 acres)
Intermittent Stream (2.73 acres)
Ephemeral Drainage (0.93 acres)
Match Line - See Page 5
Match Line - See Page 7
WC-1 (0.299 acres)
WC-2 (0.827 acres)
WC-6 (0.12 acres)
WC-7 (0.317 acres)
WC-8 (0.076 acres)
WL-33 (0.619 acres)
WL-34 (0.633 acres)
WL-35 (0.329 acres)
WL-36 (0.858 acres)
WL-37 (0.816 acres)
WL-40 (0.824 acres)
WL-41 (0.824 acres)
WL-42 (0.817 acres)
WL-43 (0.688 acres)
WL-44 (0.816 acres)
WL-45 (0.818 acres)
WL-46 (0.815 acres)
WL-48 (0.805 acres)
WL-49 (0.839 acres)
WL-50 (0.883 acres)
WL-51 (0.958 acres)
WL-52 (0.130 acres)
0 250 500 750 1,000 Feet

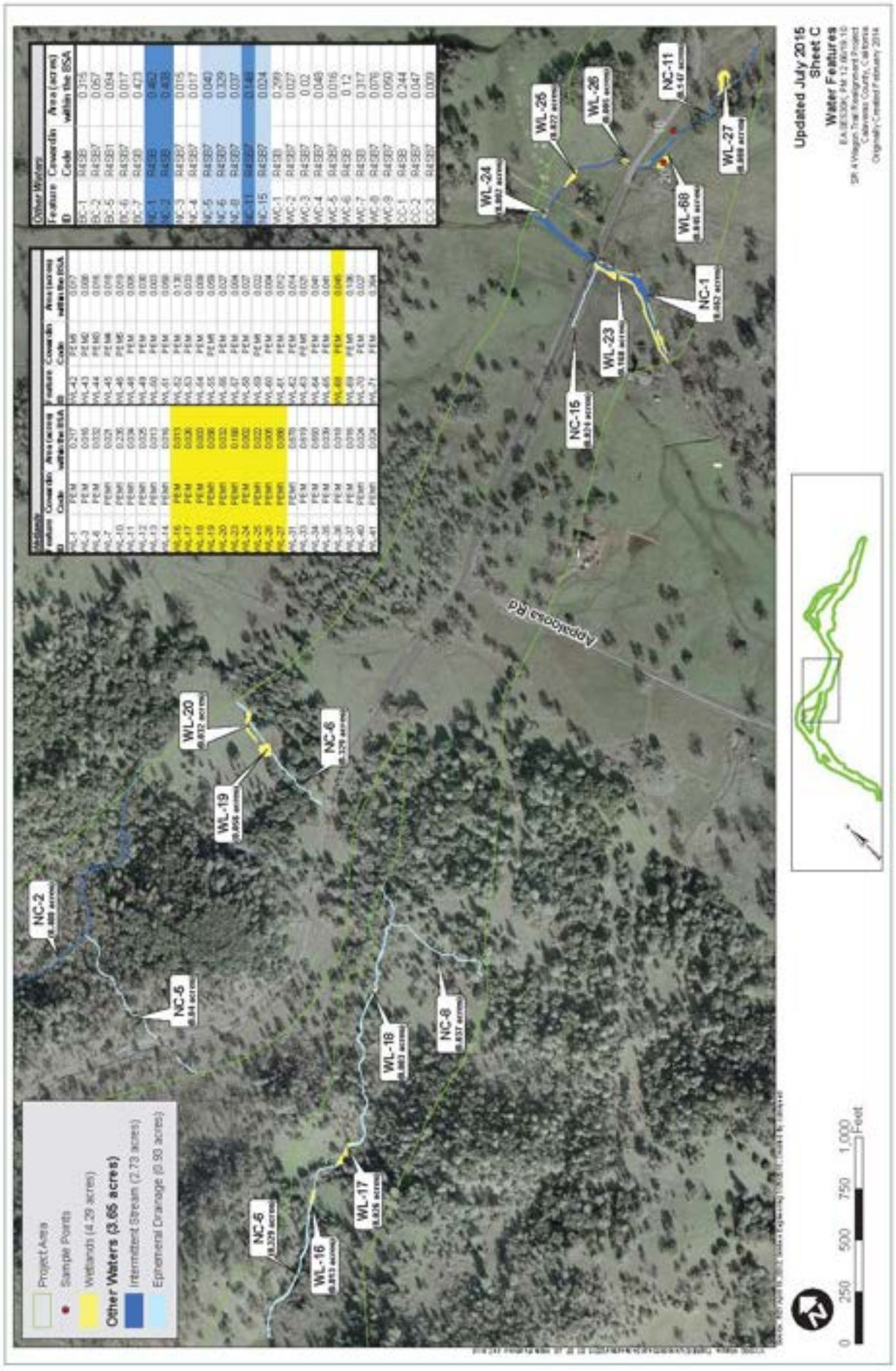


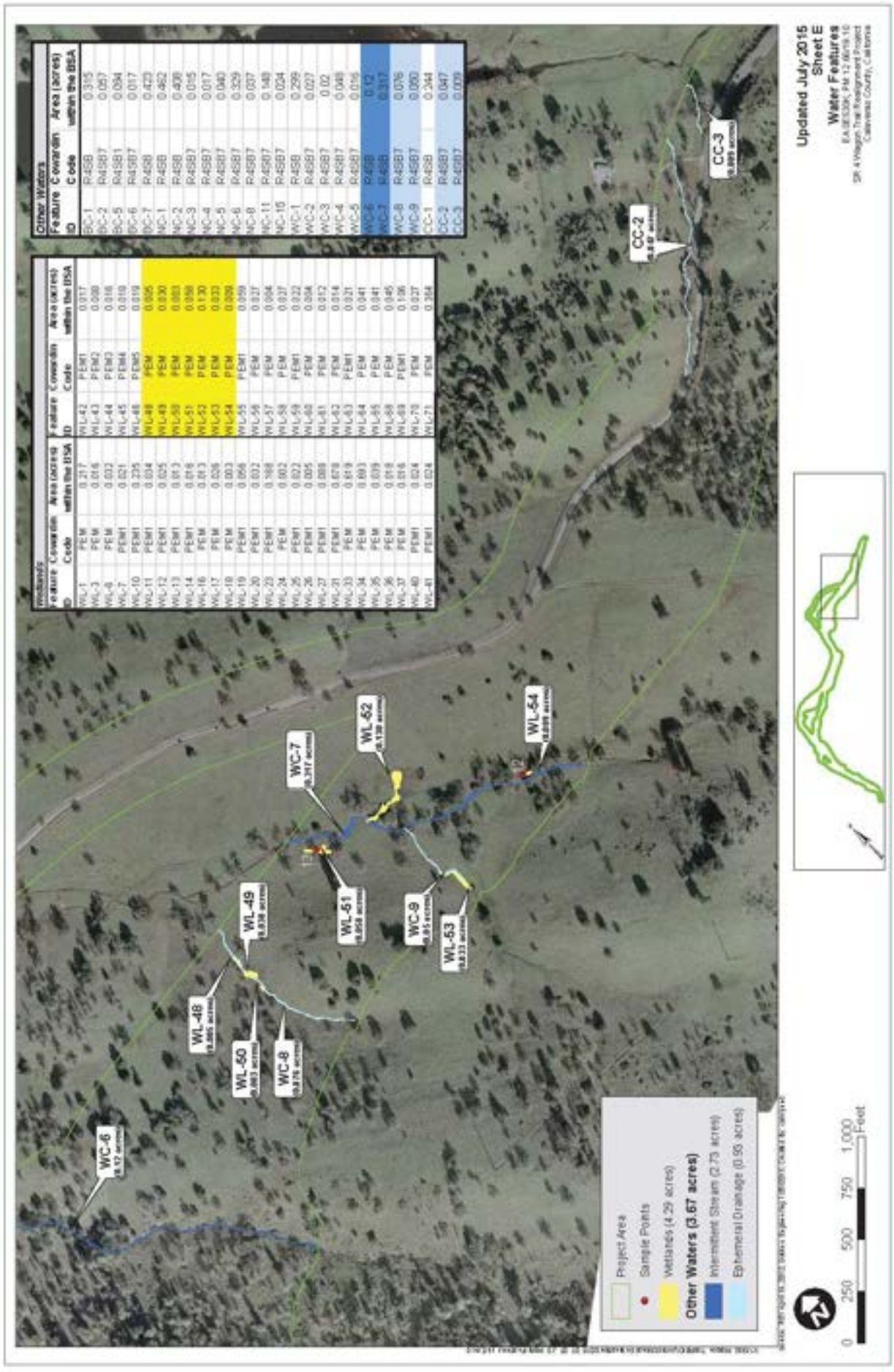
Other Waters			
Feature ID	Cowardin Code	Area (acres) within the BSA	
OC-1	R4SB	0.315	
OC-2	R4SB7	0.057	
OC-5	R4SB1	0.094	
OC-6	R4SB7	0.017	
OC-7	R4SB	0.423	
NC-1	R4SB	0.462	
NC-2	R4SB	0.408	
NC-3	R4SB7	0.015	
NC-4	R4SB7	0.017	
NC-5	R4SB7	0.040	
NC-6	R4SB7	0.329	
NC-8	R4SB7	0.037	
NC-11	R4SB7	0.148	
NC-15	R4SB7	0.024	
WC-1	R4SB	0.299	
WC-2	R4SB7	0.027	
WC-3	R4SB7	0.02	
WC-4	R4SB7	0.048	
WC-5	R4SB7	0.016	
WC-6	R4SB	0.12	
WC-7	R4SB	0.317	
WC-8	R4SB7	0.076	
WC-9	R4SB7	0.050	
CC-1	R4SB	0.044	
CC-2	R4SB7	0.047	
CC-3	R4SB7	0.009	

Wetlands			
Feature ID	Cowardin Code	Area (acres) within the BSA	
WL-1	PEM	0.217	
WL-3	PEM	0.016	
WL-6	PEM	0.032	
WL-7	PEMI	0.021	
WL-10	PEMI	0.295	
WL-11	PEMI	0.034	
WL-12	PEMI	0.025	
WL-13	PEMI	0.013	
WL-14	PEMI	0.016	
WL-16	PEM	0.013	
WL-17	PEM	0.026	
WL-18	PEM	0.003	
WL-19	PEMI	0.096	
WL-20	PEMI	0.032	
WL-23	PEMI	0.168	
WL-24	PEM	0.002	
WL-25	PEMI	0.022	
WL-26	PEMI	0.005	
WL-27	PEMI	0.088	
WL-31	PEMI	0.678	
WL-33	PEM	0.619	
WL-34	PEM	0.693	
WL-35	PEM	0.039	
WL-36	PEM	0.018	
WL-37	PEM	0.016	
WL-40	PEMI	0.024	
WL-41	PEMI	0.024	
WL-42	PEMI	0.017	
WL-43	PEM2	0.008	
WL-44	PEM3	0.016	
WL-45	PEM4	0.018	
WL-46	PEM5	0.019	
WL-48	PEM	0.005	
WL-49	PEM	0.030	
WL-50	PEM	0.003	
WL-51	PEM	0.058	
WL-52	PEM	0.130	
WL-53	PEM	0.033	
WL-54	PEM	0.009	
WL-55	PEMI	0.059	
WL-56	PEM	0.027	
WL-57	PEM	0.004	
WL-58	PEM	0.027	
WL-59	PEMI	0.022	
WL-60	PEM	0.004	
WL-61	PEM	0.012	
WL-62	PEM	0.014	
WL-63	PEMI	0.021	
WL-64	PEM	0.041	
WL-65	PEM	0.041	
WL-68	PEM	0.045	
WL-69	PEMI	0.106	
WL-70	PEM	0.027	
WL-71	PEM	0.364	


Updated July 2015
Sheet A
Water Features
EA 0E550K, PM 12.6/19.10
SR 4 Wagon Trail Realignment Project
Calaveras County, California
Originally Created February 2014
Project Area (795 acres)
Sample Points
Wetlands (4.29 acres)
Other Waters (3.65 acres)
Intermittent Stream (2.73 acres)
Ephemeral Drainage (0.93 acres)
WL-1
0.217 acres
BC-1
0.315 acres
WL-71
0.364 acres
BC-2
0.067 acres
0
250
500
750
1,000
Feet

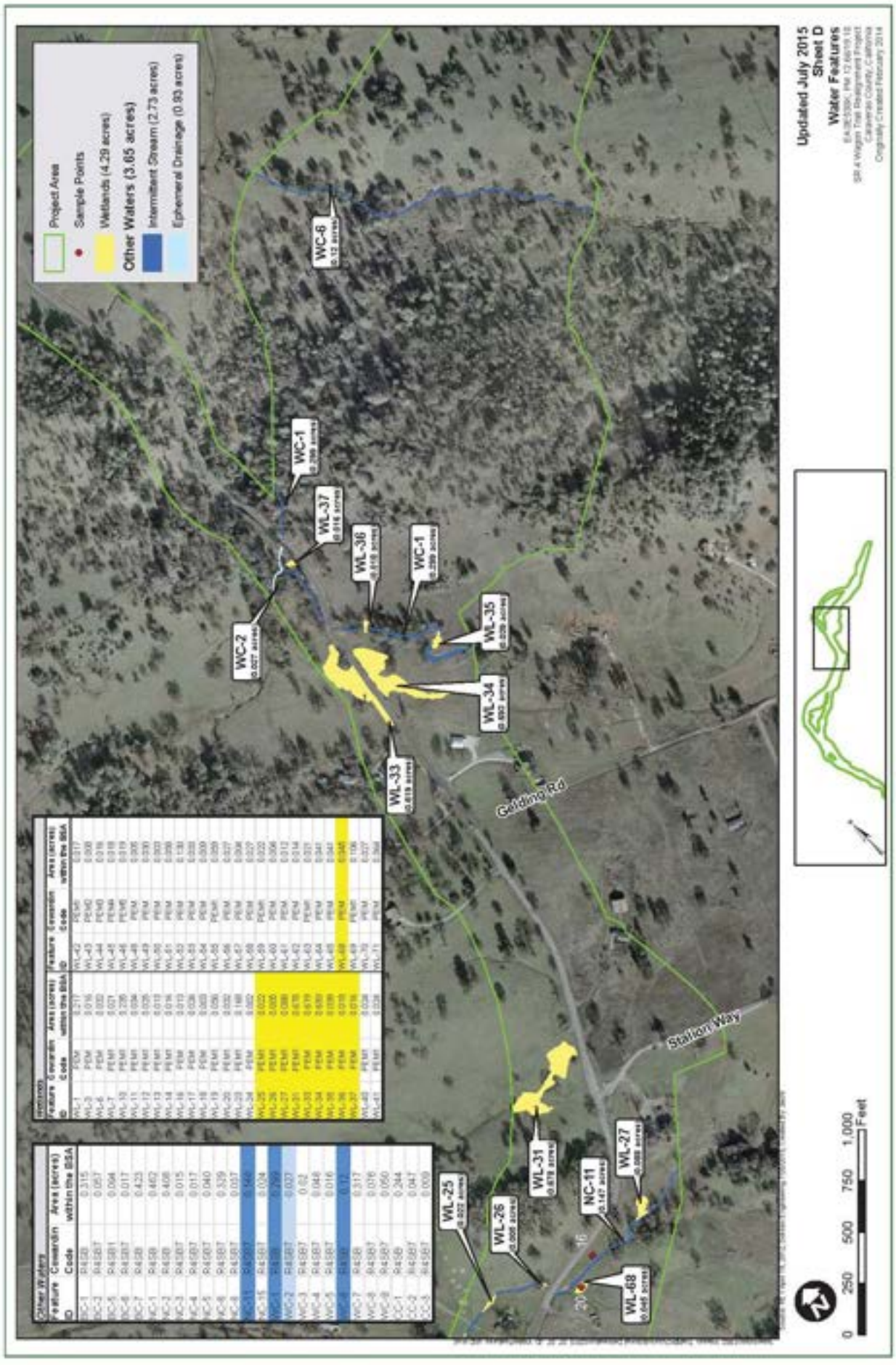

Updated July 2015
Sheet B
Water Features
Project Area
Sample Points
Wetlands (4.39 acres)
Other Waters (3.65acres)
Intermittent Stream (2.71 acres)
Ephemeral Drainage (0.93 acres)
WL-11
0.034 acres
NC-2
0.408 acres
WL-10
0.209 acres
NC-6
0.339 acres
WL-16
0.613 acres
WL-17
0.606 acres
BC-7
0.403 acres
WL-69
0.083 acres
WL-7
0.021 acres
WL-70
0.027 acres
WL-6
0.002 acres
BC-7
0.423 acres
BC-1
0.316 acres
WL-3
0.014 acres
BC-3
0.084 acres
Hunt Rd
BC-6
0.017 acres
0
250
500
750
1,000
Feet


Project Area
Sample Points
Wetlands (4.29 acres)
Other Waters (3.65 acres)
Intermittent Stream (2.73 acres)
Ephemeral Drainage (0.90 acres)
Updated July 2015
Sheet C
Water Features
Appaloosa Rd
0
250
500
750
1,000
Feet



Wetlands							
Feature ID	Cowardin Code	Area (acres) within the BSA	Feature ID	Cowardin Code	Area (acres) within the BSA		
WL-1	PEM	0.217	WL-42	PEM1	0.017		
WL-3	PEM	0.016	WL-43	PEM2	0.008		
WL-6	PEM	0.022	WL-44	PEM3	0.016		
WL-7	PEM1	0.021	WL-45	PEM4	0.019		
WL-10	PEM1	0.235	WL-46	PEM5	0.019		
WL-11	PEM1	0.034	WL-48	PEM	0.005		
WL-12	PEM1	0.025	WL-49	PEM	0.030		
WL-13	PEM1	0.813	WL-50	PEM	0.003		
WL-14	PEM1	0.018	WL-51	PEM	0.059		
WL-16	PEM	0.813	WL-52	PEM	0.130		
WL-17	PEM	0.026	WL-53	PEM	0.033		
WL-18	PEM	0.003	WL-54	PEM	0.009		
WL-19	PEM1	0.056	WL-55	PEM1	0.059		
WL-20	PEM1	0.012	WL-56	PEM	0.037		
WL-23	PEM1	0.188	WL-57	PEM	0.004		
WL-24	PEM	0.002	WL-58	PEM	0.037		
WL-25	PEM1	0.022	WL-59	PEM1	0.022		
WL-26	PEM1	0.005	WL-60	PEM	0.004		
WL-27	PEM1	0.089	WL-61	PEM	0.012		
WL-31	PEM1	0.678	WL-62	PEM	0.014		
WL-33	PEM	0.819	WL-63	PEM1	0.021		
WL-34	PEM	0.893	WL-64	PEM	0.041		
WL-35	PEM	0.039	WL-65	PEM	0.041		
WL-36	PEM	0.018	WL-68	PEM	0.045		
WL-37	PEM	0.016	WL-69	PEM1	0.106		
WL-40	PEM1	0.024	WL-70	PEM	0.027		
WL-41	PEM1	0.024	WL-71	PEM	0.354		

Other Waters			
Feature ID	Cowardin Code	Area (acres) within the BSA	
EC-1	R4SB	0.315	
EC-2	R4SB7	0.057	
EC-5	R4SB1	0.094	
EC-6	R4SB7	0.017	
EC-7	R4SB	0.423	
WC-1	R4SB	0.462	
WC-2	R4SB	0.409	
WC-3	R4SB7	0.015	
WC-4	R4SB7	0.017	
WC-5	R4SB7	0.040	
WC-6	R4SB7	0.329	
WC-8	R4SB7	0.007	
WC-11	R4SB7	0.149	
WC-15	R4SB7	0.034	
WC-1	R4SB	0.299	
WC-2	R4SB7	0.027	
WC-3	R4SB7	0.02	
WC-4	R4SB7	0.048	
WC-5	R4SB7	0.016	
WC-6	R4SB	0.12	
WC-7	R4SB	0.317	
WC-8	R4SB7	0.076	
WC-9	R4SB7	0.050	
CC-1	R4SB	0.344	
CC-2	R4SB7	0.047	
CC-3	R4SB7	0.009	


Project Area
Sample Points
Wetlands (4.29 acres)
Other Waters (3.65 acres)
Intermittent Stream (2.73 acres)
Ephemeral Drainage (0.93 acres)
Updated July 2015
Sheet D
Water Features
Golding Rd
Station Way
0 250 500 750 1,000 Feet

Appendix G Avoidance, Minimization, and/or Mitigation Summary

This appendix summarizes the avoidance, minimization and/or mitigation measures for the project. Table G.1 lists avoidance and minimization measures that are typically followed during project construction. Table G.2 lists mitigation measures that are above and beyond standard construction contract requirements. Mitigation measures are provided for each significant impact.

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Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
Section 2.1.3 Farmland	CIA-1: Final design efforts will be made to minimize right-of-way for the selected alternative.
Section 2.1.4.4 Utilities and Emergency Services	CIA-3: To minimize interruptions of service to utility customers, a series of coordination letters shall be sent to all impacted utility companies to identify utilities within the proposed project. Letters would indicate where utility relocations are to be performed and the required time to relocate them. Design plans would be sent to involved utility owners during the project development phase. Meetings would be arranged with utility companies as necessary to discuss impacts and relocation plans prior to construction. CIA-4: Emergency public services, local law enforcement agencies, and local businesses would be notified of the proposed project and of any temporary lane closures before construction begins.
Section 2.1.4.5 Traffic and Transportation	TRA-1: A Traffic Management Plan shall be implemented during construction of the project to allow traffic access to State Route 4.

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
Section 2.1.4.6 Visual/Aesthetics	VIS-1: Where feasible, Build Alternatives would use the existing highway right-of-way corridor. VIS-2: Per Caltrans standards regarding erosion control, exposed slopes would be re-vegetated. VIS-3: Aesthetic elements incorporated during Final Design would be designed and implemented with coordination between local agencies and Caltrans. VIS-4: Vegetation clearing would occur only within the delineated project boundaries in an effort to minimize the impacts. Oak trees located in areas along the edge of the construction zone would be trimmed whenever possible, and only those oak trees that lie within the active construction areas would be removed.
Section 2.2.1 Hydrology and Floodplain	HYD-1: A Storm Water Pollution Prevention Plan would be implemented during construction to provide adequate erosion and water quality control. HYD-3: Longitudinal encroachments will be avoided through localized realignment of water features. HYD-4: Culverts and basins would be sized and designed to accommodate storm water per Caltrans design standards.

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
Section 2.2.2 Water Quality and Storm Water Runoff	WQ-1: A Section 401 Water Quality Certification will be obtained from the Regional Water Quality Control Board. WQ-2: A Section 404 Permit will be obtained from the U.S. Army Corps of Engineers. WQ-3: A National Pollutant Discharge Elimination System Construction General Permit for Discharges of storm water associated with construction activities (CGP 2009-009-DWQ as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ (National Pollutant Discharge Elimination System No. CAS000002) will be obtained through the State Water Resources Control Board. WQ-4: Water pollution control practices will be implemented as required in the Caltrans Standards Specifications. WQ-5: A spill prevention and countermeasure plan will be incorporated into the Storm Water Pollution Prevention Plan. WQ-6: A Section 1602 Streambed Alteration Agreement will be obtained through the California Department of Fish and Wildlife.
2.2.4 Paleontology	PAL-1: If unanticipated paleontological resources are observed during project construction, work would be suspended in the immediate vicinity of the find until it can be evaluated by a qualified paleontologist.

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.2.5 Hazardous Waste and Materials	HAZ-1: Excavation/earthwork activities in the western one-third of the site should be observed and documented by a Professional Geologist experienced in the recognition of naturally occurring asbestos (NOA). HAZ-2: Soil/rock excavated from such areas, specifically at Pool Station Road, should be placed as deep fill elsewhere within the segment at a location where it is unlikely to be disturbed by future excavation/construction activities. HAZ-3: Contractors working in areas identified as containing or likely to contain naturally occurring asbestos will consult California Occupational Safety and Health Act to establish the appropriate regulatory protocol and actions necessary for excavation and/or disturbance of asbestos-containing soils. HAZ-4: Prior to construction activities, the contractor(s) shall prepare and implement an Asbestos Dust Mitigation Plan (ADMP) that describes measures that will be taken to control the potential release of naturally occurring asbestos-containing dust from the soil/rock as a result of construction excavation activities. Asbestos dust control and soil management activities to be implemented shall be in compliance with applicable state, federal, and local laws. Special provisions will be included in the construction contract. HAZ-5: Prior to beginning construction activities, the contractor(s) must prepare and implement a Lead and Asbestos Compliance-Health and Safety Plan. Special provisions will be included in the construction contract.

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.2.5 Hazardous Waste and Materials	HAZ-6: Contractors that would be conducting renovation or related activities in areas or on structures shall be notified of the presence of asbestos in their work areas (i.e., the contractor[s] shall be provided a copy of the Site Investigation and bridge survey data and a list of asbestos removed during subsequent activities). Contractors not trained for asbestos work shall be instructed not to disturb asbestos during their activities. HAZ-7: National Emissions Standards for Hazardous Air Pollutants notification will be made to the Calaveras County Air Pollution Control District 10 days prior to bridge demolition or renovation activities whether asbestos is present or not. HAZ-8: All paints at the project location (signage, graffiti, graffiti abatement, etc.) shall be treated as lead-containing for purposes of determining the applicability of the California Occupational Safety and Health Act lead standard during maintenance, renovation, and demolition activities. In accordance with Title 8, CCR, §1532.1(p), written notification to the nearest California Occupational Safety and Health Act district office is required and shall be conducted at least 24 hours prior to certain lead-related work. Contractors are responsible for segregating and characterizing waste streams prior to disposal. Special provisions will be included in the construction contract. HAZ-9: Following the completion of private parcel right-of-way acquisition for the selected alternative alignment, additional site investigation may be necessary to address potential impacts associated with aboveground fuel/oil tanks or other identified potential contamination sources, including the active vineyard next to Appaloosa Road.

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.2.5 Hazardous Waste and Materials	HAZ-10: Sampling may be required to obtain a discharge permit for disposal of any extracted groundwater generated during bridge demolition/construction activities. HAZ-11: Due to the potential for elevated lead and chromium levels associated with yellow striping paint, centerline paint removed during planned roadway improvement activities may require sampling, analytical testing, and/or special handling and disposal requirements unless combined with sufficient asphalt grindings. Special Provisions will be included in the construction contract. HAZ-12: Asbestos-containing pipe may be encountered during construction of the planned highway and bridge improvements. Any encountered asbestos-containing pipe would require proper handling and disposal in accordance with regulatory requirements. HAZ-13: If present or encountered within the new right-of-way, undocumented Underground Storage tanks, septic systems, and unused domestic agricultural wells or cisterns should be properly removed or abandoned in accordance with Calaveras County requirements.
2.2.6 Air Quality	AQ-1: To control exposure to potentially naturally occurring asbestos-containing dust, engineering controls will be implemented, such as wetting of materials disturbed. AQ-2: According to the Department's Standard Specifications, the contractor must comply with all local Air Pollution Control District rules, ordinances, and regulations for air quality restrictions.

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.2.6 Air Quality	AQ-3: The applicant shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of project development and construction. AQ-4: All material excavated, stockpiled, or graded shall be sufficiently watered, treated, or covered to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering should occur at least twice daily, with complete site coverage. AQ-5: All areas with vehicle traffic shall be watered or have dust palliative applied as necessary for regular stabilization of dust emissions. AQ-6: All on-site vehicle traffic shall be limited to a speed of 15 miles per hour on unpaved roads. AQ-7: All land clearing, grading, earth moving, or excavation activities on a project shall be suspended as necessary to prevent excessive windblown dust when winds are expected to exceed 20 miles per hour. AQ-8: All inactive portions of the development site shall be covered, seeded, or watered until a suitable cover is established. Alternatively, the applicant may apply County-approved non-toxic soil stabilizers (according to manufacturer's specifications) to all inactive construction areas (previously graded areas which remain inactive for 96 hours) in accordance with the local grading ordinance.

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.2.6 Air Quality	AQ-9: All material transported off-site shall be either sufficiently watered or securely covered to prevent public nuisance, and there must be a minimum of six (6) inches of freeboard in the bed of the transport vehicle. AQ-10: Paved streets adjacent to the project shall be swept or washed at the end of each day, or more frequently if necessary, to remove excessive or visibly raised accumulations of dirt and/or mud that may have resulted from activities at the project site. AQ-11: Prior to final occupancy, the applicant shall re-establish ground cover on the site through seeding and watering in accordance with the local grading ordinance.
2.2.7 Noise	NOI-1: To minimize the construction-generated noise, abatement measures in Standard Specification 14-8.02, “Noise Control” and Standard Special Provision (SSP) 14-8.02 must be followed: • Do not exceed 86 decibels at 50 feet from the job site activities from 9 p.m. to 6 a.m. • Equip an internal combustion engine with the manufacturer-recommended muffler. • Do not operate an internal combustion engine on the job site without the appropriate muffler. Standard Special Provision (SSP) 14-8.02 would be edited specifically for this project during the Plans, Specifications and Estimate phase.

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.1 Natural Communities	BIO-1 (Natural Environment Study Addendum BIO-1): Environmentally Sensitive Area fencing would be established at the driplines of oak trees that would be avoided within or adjacent to construction to ensure no further encroachment on the trees. BIO-2 (Natural Environment Study Addendum BIO-2): Native oak woodlands shall be avoided to the greatest extent practicable. BIO-3 (Natural Environment Study Addendum BIO-3): Vegetation clearing would occur only within the delineated project boundaries in an effort to minimize the impacts. Oak trees located in areas along the edge of the construction zone would be trimmed whenever possible, and only those oak trees that lie within the active construction areas would be removed.
2.3.2 Wetlands and Other Waters	BIO-6 (Natural Environment Study Addendum BIO-6): The project limits in proximity to Black Creek, Nassau Creek, Waterman Creek, Cherokee Creek and associated tributaries and wetlands would be marked with highly visible Environmentally Sensitive Area fencing to ensure construction would not further encroach into water features.
2.3.3 Plant Species	BIO-10 (Natural Environment Study Addendum BIO-10): Prior to initiating construction, where feasible, Environmentally Sensitive Area fence shall be installed at the edge of the project limits where Tuolumne button-celery populations exist. The project biologist shall be present during the installation of the Tuolumne button-celery Environmentally Sensitive Area fencing (see Figure 45). BIO-11 (Natural Environment Study Addendum BIO-11): Prior to construction in areas within 100 feet of existing Tuolumne button-celery populations, a focused survey shall be done to calculate the project's impacts on the

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.3 Plant Species	existing population. The survey shall be done during the blooming season (May 1–August 31) in the season immediately preceding construction. Surveys would be completed by a qualified biologist. Results of this pre-construction survey shall be submitted to the California Department of Fish and Wildlife. BIO-12 (Natural Environment Study Addendum BIO-12): All construction personnel shall attend an environmental awareness training. During the environmental awareness training, construction personnel would be briefed on the project's sensitive status plant and animal species including the Tuolumne button-celery, foothill yellow-legged frog, and western pond turtle. BIO-13 (Natural Environment Study Addendum BIO-13): Those Tuolumne button-celery individuals that are impacted would be relocated to suitable habitats including swales, vernal pools, or wetlands within the project area or off-site. BIO-14 (Natural Environment Study Addendum BIO-14): Should relocation of Tuolumne button-celery plants be necessary, the relocation would be done by a licensed landscape contractor, under the supervision of a qualified biologist, during the winter dormant season. BIO-15 (Natural Environment Study Addendum BIO-15): Prior to initial ground-disturbance activities, pre-construction blooming surveys for Red Hills soaproot (May 1–June 30), Mariposa cryptantha (April 1-June 30), forked hare-leaf (April 1–May 31), and Congdon's lomatium (April 1–May 31) would be conducted on un-surveyed parcels by a qualified biologist. BIO-16 (Natural Environment Study Addendum BIO-16): Should a Red Hills

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.3 Plant Species	soaproot, Mariposa cryptantha, forked hare-leaf, or Congdon's lomatium be found during pre-construction surveys, Environmentally Sensitive Area fencing would be erected to avoid the sensitive plant or the specimens would be relocated to appropriate environments.
2.3.4 Animal Species	BIO-17 (Natural Environment Study Addendum BIO-17): To the greatest extent practicable, all vegetation removal would occur during the non-nesting season (September 1–February 15). If vegetation removal is to take place during the nesting season (February 15–September 1), a pre-construction nesting bird survey must be conducted within 7 days prior to vegetation removal by a qualified biologist (familiar with avian biology, nesting bird ecology, and standard survey techniques). Within 2 weeks of the nesting bird survey, all vegetation cleared by the biologist must be removed by the contractor. A minimum 100-foot no-disturbance buffer would be established around any active nest of migratory birds, and a minimum of 300-foot no-disturbance buffer would be established around any nesting raptor species to limit the impacts of construction activities. The contractor must immediately stop work in the nesting area until the appropriate buffers are established and are prohibited from conducting work that could disturb the birds (as determined by the project biologist and in coordination with wildlife agencies) in the buffer area until a qualified biologist determines the young have fledged. BIO-18 (Natural Environment Study Addendum BIO-18): If demolition/rehabilitation of existing culverts or bridges are planned to occur during the nesting season, measures shall be taken to avoid impacts to migratory swallows. To

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.4 Animal Species	protect migratory swallows, unoccupied nests would be removed from existing bridge/culvert structures prior to the nesting season (February 15–September 1). During the nesting season, bridge/culvert structures shall be maintained to avoid the completion of a nest. After a nest is completed, it cannot be disturbed until nesting season is over. BIO-19 (Natural Environment Study Addendum BIO-19): If construction is to occur during the swallow nesting season, a qualified biologist would survey the existing bridge structures to determine the presence of nesting swallows. If active and occupied nests are discovered, disruptive work in proximity to active nests would stop as determined appropriate by the qualified biologist. Nests would not be removed until after the young have fledged. BIO-20 (Natural Environment Study Addendum BIO-20): Prior to vegetation removal in Black Creek, Nassau Creek, Waterman Creek, and Cherokee Creek, a pre-construction survey for the foothill yellow-legged frog would be conducted by a qualified biologist. BIO-21 (Natural Environment Study Addendum BIO-21): In areas adjacent to Black Creek, Nassau Creek, Waterman Creek, and Cherokee Creek where low-lying shrubs/vegetation are present, vegetation would be removed within 33 feet of the top of the water features by hand. BIO-22 (Natural Environment Study Addendum BIO-22): If any wildlife is encountered during the course of construction, said wildlife would be allowed to leave the construction area unharmed. BIO-23 (Natural Environment Study Addendum BIO-23): All trash must be kept in

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.4 Animal Species	wildlife-proof receptacles, and any non-natural food and water sources would not be left unattended for the duration of the project construction. BIO-24 (Natural Environment Study Addendum BIO-24): Prior to tree removal, pre-construction tree surveys for the western red bat would be conducted by a qualified biologist. BIO-25 (Natural Environment Study Addendum BIO-25): Should the western red bat day or night roosting sites be identified during pre-construction surveys, the California Department of Fish and Wildlife will be notified immediately to receive further guidance.
2.3.5 Threatened and Endangered Species	BIO-26 (Biological Opinion file No. 08ESMF00-2016-F-0444): Caltrans will commit to conducting protocol-level pre-construction botanical surveys in all areas of the project that may be suitable for the species (with a particular focus on all previously inaccessible parcels). Surveys will occur during the appropriate blooming period (May 1–June 30) for the species, prior to initial groundbreaking, and in accordance with the most recent protocols/guidelines accepted by the USFWS. BIO-27 (Biological Opinion file No. 08ESMF00-2016-F-0444): In the event that the listed plant is found during future pre-construction surveys, Caltrans will reinitiate formal consultation pursuant to 50 Code of Federal Regulations 402.16 before moving forward with the work activities in the area of the Chinese Camp brodiaea and with the understanding that the presence of the species on the project site could lead to the implementation of additional conservation measures that will be determined in conjunction with the USFWS (see Caltrans' revised January 7, 2016 letter requesting consultation).

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.5 Threatened and Endangered Species	BIO-28 (Biological Opinion file No. 08ESMF00-2016-F-0444): At least 15 working days prior to the date of initial earth disturbance on the project site, Caltrans will submit to the USFWS, for approval, the curriculum vitae of the biologist(s) it wishes to conduct monitoring and associated activities for the California red-legged frog. The information included in the request for authorization will include, at a minimum: (1) relevant education; (2) relevant training on California red-legged frog identification, survey techniques, any authorized handling of California red-legged frogs of different age classes, and handling of different life history stages; (3) a summary of field experience conducting monitoring activities (including project/research information) for the California red-legged frog; and (4) any relevant professional references with contact information. No ground-disturbing activities or construction at the project site will begin until Caltrans has received written approval from the USFWS for the biologist(s) to conduct monitoring activities. BIO-29 (Biological Opinion file No. 08ESMF00-2016-F-0444): Caltrans will ensure that a USFWS-approved biologist(s) will be on-site during all activities that may result in adverse effects to the California red-legged frog. The USFWS-approved biologist(s) also will conduct pre-project surveys and appropriate monitoring of this species to ensure compliance with the conservation measures in this biological opinion. The level and extent of monitoring for the California red-legged frog will be determined through coordination between the USFWS-approved biologist(s) and the USFWS, subject to the final approval of the USFWS. BIO-30 (Biological Opinion file No. 08ESMF00-2016-F-0444): To minimize the adverse effects of the project on the California red-legged frog, Caltrans will

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.5 Threatened and Endangered Species	ensure that a USFWS-approved biologist(s) will perform a clearance survey for the species no more than 30 minutes prior to any initial ground disturbance, tree and vegetation removal, and understory vegetation clearance, or borrow pit activities. Entrances and mouths of animal burrows, disturbed soil, root wads, large cracks in the soil, logs, downed large branches, and other suitable aestivation and cover sites for the California red-legged frog will be examined for signs of the species. The procedures in Measure #49 below will be followed in the event that any individuals are found. BIO-31 (Biological Opinion file No. 08ESMF00-2016-F-0444): If requested verbally by the USFWS or the California Department of Fish and Wildlife before, during, or upon completion of groundbreaking, tree and vegetation removal, borrow pit excavation, and construction activities, Caltrans will provide immediate access to the project site to personnel from one or both of these agencies so that they can inspect potential project effects to the California red-legged frog and its aquatic and upland habitats. BIO-32 (Biological Opinion file No. 08ESMF00-2016-F-0444): Caltrans will require all contractors and subcontractors to comply with the biological opinion for the California red-legged frog during the performance of their contracts. The contracts will include specific language that requires them to work within the specific boundaries of the project footprint. The footprint includes those areas in which all construction activities will occur, and in which vehicle parking, borrow sites, staging areas, and access routes will be established. BIO-33 (Biological Opinion file No. 08ESMF00-2016-F-0444): Caltrans, in coordination with the County, will ensure that all construction personnel

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.5 Threatened and Endangered Species	attend a California red-legged frog education program delivered by the USFWS-approved biologist(s) prior to their being allowed to work on the project site. The training will include information on the California red-legged frog, including its life history and habitat requirements. Emphasis will be placed on the suitable habitats and life stage requirements, and will include project maps showing areas where avoidance and minimization measures are being implemented. The training will include information on applicable federal and state laws protecting endangered species and the importance of compliance with the Biological Opinion. BIO-34 (Biological Opinion file No. 08ESMF00-2016-F-0444): The boundary of the construction area will be delineated with conspicuous bright orange plastic fencing or permanent property fencing to prevent entry by construction equipment and workers. The fencing will be kept in good repair during all construction-related work. BIO-35 (Biological Opinion file No. 08ESMF00-2016-F-0444): The clearing of vegetation will occur only within the project boundaries, as delineated. Oak trees located in areas along the edge of the construction area will be trimmed rather than removed; only those oak trees that are situated within the active construction area will be removed. Vegetation in proximity to Black Creek, Nassau Creek, Waterman Creek, and Cherokee Creek will be removed by hand. BIO-36 (Biological Opinion file No. 08ESMF00-2016-F-0444): In the event that dewatering of the creeks or other water features is required, Caltrans, in coordination with the County, will ensure that the contractor prepares a dewatering plan that complies with any applicable permit conditions and

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.5 Threatened and Endangered Species	describes how any California red-legged frogs that are discovered during the dewatering process will be captured and released; the plan will be consistent with Measure #49 below. A USFWS-approved biologist(s) will conduct a survey of the area to be dewatered immediately following the installation of the dewatering device, and prior to the continuation of dewatering activities. BIO-37 (Biological Opinion file No. 08ESMF00-2016-F-0444): To minimize the potential for project-related vehicles running over California red-legged frogs, Caltrans, in coordination with the County, will restrict vehicle traffic to designated access roads, staging, parking, and construction areas, and other specifically identified areas. Project and associated private vehicles will observe a 20-mile-per-hour speed limit while on the project site. Project employees will be provided with written guidance governing vehicle use, speed limits on unpaved roads, fire prevention, and other hazards. BIO-38 (Biological Opinion file No. 08ESMF00-2016-F-0444): To prevent the entrapment of California red-legged frogs, all steep-walled holes, trenches, pits or any other excavated area more than 6 inches deep will be covered at the close of each working day with plywood or similar material, or provided with one or more escape ramps constructed of earthen fill or wooden planks. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the USFWS-approved biologist(s). If at any time a trapped California red-legged frog is discovered, the USFWS-approved biologist will immediately place escape ramps or other appropriate structures to allow the animal to escape, remove it by hand following the procedures in Measure #49 below, or contact the USFWS for guidance. After the California red-legged frog is determined to be secure, Caltrans will contact the USFWS immediately to report the encounter; if the incident occurs after normal

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.5 Threatened and Endangered Species	working hours, Caltrans will contact the USFWS at the earliest possible opportunity the next working day. The USFWS contacts are Jen Schofield at telephone (916) 414-6604 or via electronic mail (jen_schofield@fws.gov), or the Chief of the Forest Foothills Division. BIO-39 (Biological Opinion file No. 08ESMF00-2016-F-0444): For on-site storage of pipes, conduits, and other materials that could provide shelter for California red-legged frogs, open-top trailers will be used to elevate the materials above ground so that the potential for animals to climb into the piping or other materials is reduced. If any animals are found, Caltrans, in coordination with the County, will ensure that the procedures in Measure #49 below will be followed. BIO-40 (Biological Opinion file No. 08ESMF00-2016-F-0444): To minimize the potential for California red-legged frogs being poisoned, no pesticides or herbicides will be used at the project site without the written approval of the USFWS. BIO-41 (Biological Opinion file No. 08ESMF00-2016-F-0444): To eliminate the attraction of potential predators of the California red-legged frog to the project site and to avoid degradation of its habitat, Caltrans, in coordination with the County, will ensure that all food-related trash items such as wrappers, cans, bottles, and food scraps are disposed of in closed containers and removed from the project site at the end of each working day. For example, raccoons and skunks (Fellers, 2005) and crows and ravens (Beedy and Pandolfino, 2013) are attracted to trash and also prey on amphibians like the California red-legged frog.

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.5 Threatened and Endangered Species	BIO-42 (Biological Opinion file No. 08ESMF00-2016-F-0444): To minimize the potential for harm to the California red-legged frog, no pets or firearms (except those carried by authorized law enforcement officials) will be allowed on-site at State Route 4. BIO-43 (Biological Opinion file No. 08ESMF00-2016-F-0444): To minimize the adverse effects of chemical pollutants on the California red-legged frog, dedicated fueling and refueling practices will be designated as part of the approved storm water pollution and prevention plan. Dedicated fueling areas will be protected from stormwater run-on and run-off and will be located at least 100 feet from downslope drainage facilities and watercourses like Black Creek, Nassau Creek, Waterman Creek, and Cherokee Creek. Fueling will be performed on level-grade areas. On-site fueling will be used only where it is impractical to send vehicles and equipment off-site for fueling. Drip pans or absorbent pads will be used during on-site vehicle and equipment fueling. When fueling must occur on-site, the locations will be designated in the Storm Water Pollution Prevention Plan that will be approved by the County. Caltrans, in coordination with the County, will ensure that all equipment used in areas within or near waterbodies or waterways do not leak oil, fuel, anti-freeze, or other fluids. BIO-44 (Biological Opinion file No. 08ESMF00-2016-F-0444): To minimize the spread of noxious weeds, construction equipment will be pressure washed prior to arriving and leaving the project site in order to remove any invasive plant and/or seed material. Washing will occur in areas where the wastewater cannot flow directly into drainages or waterways. BIO-45 (Biological Opinion file No. 08ESMF00-2016-F-0444): All clearing, grubbing,

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.5 Threatened and Endangered Species	scraping, excavation, land-leveling, grading, cut and fill, demolition, and other dust-generating activities will be controlled for airborne dust emissions by using appropriate water application methods, organic soil stabilizers, or by pre-soaking. BIO-46 (Biological Opinion file No. 08ESMF00-2016-F-0444): To minimize the effects of the project on the California red-legged frog within and adjacent to its habitats, Caltrans, in coordination with the County, will ensure that all apparatus within the project area with the potential to provide aestivation, resting, or cover habitat for the species (such as construction or borrow equipment, or debris) will be inspected by the USFWS-approved biologist(s) prior to being moved or disturbed. If any animals are found, the procedures in Measure #49 below will be followed. BIO-47 (Biological Opinion file No. 08ESMF00-2016-F-0444): Nighttime construction will be minimized, especially in those areas within or adjacent to California red-legged frog habitats so as to minimize the effects of nighttime lighting on the California red-legged frog; lighting may affect its feeding behavior. Nighttime lighting also may disorient the animal, leading to it being preyed upon by nocturnal predators (Buchanan, 2006), such as skunks and raccoons. Caltrans, in coordination with the County, will make a best effort to ensure that lights will face away from California red-legged frog habitat when nighttime work is conducted in areas adjacent to this habitat. BIO-48 (Biological Opinion file No. 08ESMF00-2016-F-0444): Plastic netting and similar materials that are used for erosion control and other reasons could result in the entanglement and death of the California red-legged frog, as well as birds and other wildlife, due to exposure, starvation, strangulation

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.5 Threatened and Endangered Species	and/or predation (Stuart et al., 2001). Caltrans, in coordination with the County, will ensure that plastic monofilament netting ("poly netting"), coir nets, will not be used at the project site. Instead, Caltrans, in coordination with the County, will use alternative materials such as coconut coir matting, blankets, or logs without plastic monofilament netting or coir nets, or tackified hydroseeding compounds. Alternatively, erosion control may be accomplished by laying tree branches flat on the ground and perpendicular to the adjacent or nearby creek or water body, with branches slightly crisscrossed. The large end of the branch will be placed at the toe of the slope. Branches will be added until the soil surface below the branches is covered. Brush mats will then be installed over rooted plants and live stakes planted on a slope. The mat will be anchored in place with stakes or live stakes and biodegradable twine or rope. The stakes will be placed on 3-foot centers, with twine attached around each stake to form a crisscross pattern; then the stakes will be driven into the substrate as deeply as possible, pulling the branches tightly against the soil. A small amount of soil will be placed over the mat so that the lowest layer of branches is partially buried to encourage rooting. The brush mat will be lightly watered to compress the added soil; more soil is then added if necessary. The completed compressed mat will be approximately 3-4 inches thick. If high water occurs before the brush mat is established, the topsoil on the lower portions of the mat may wash away. BIO-49 (Biological Opinion file No. 08ESMF00-2016-F-0444): Caltrans, in coordination with the County, will ensure that the Resident Engineer and/or on-site Project Manager stop work at the request of the USFWS-approved biologist(s), the USFWS, or the California Department of Fish and Wildlife if

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Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.5 Threatened and Endangered Species	activities are identified that may result in adverse effects to the California red-legged frog. The Resident Engineer and/or on-site Project Manager will temporarily suspend activities in the immediate area where activities associated with construction, tree or vegetation removal, borrow excavation, or staging could result in adverse effects to the species. Work will be suspended until the California red-legged frog leaves the site of its own volition or is removed by the USFWS-approved biologist(s), the USFWS, or the California Department of Fish and Wildlife to an appropriate release site using USFWS-approved techniques. Each California red-legged frog that is encountered on the project site will be treated on a case-by-case basis by the USFWS-approved biologist(s), in coordination with the USFWS (note: in cases of dispute, the USFWS will have the final authority). The general protocol is as follows: (1) leave the non-injured animal alone if it is not in danger; or (2) move the animal to a nearby secure location if it is in danger. These two options are described in further detail below: a. When a California red-legged frog is encountered within the project area, the first priority will be to temporarily stop activities that are likely to result in harm, harassment, injury, or death of the individual (as determined by the USFWS-approved biologist(s)). The USFWS-approved biologist(s) then will assess the situation to select a course of action that will minimize adverse effects to the animal. The USFWS-approved biologist(s) will determine if the appropriate course of action is to avoid contact with the California red-legged frog and to allow it to move away from the hazard on its own to a safe

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.5 Threatened and Endangered Species	location. The animal will not be picked up and moved simply because it is not moving fast enough or allowing it to move on its own is inconvenient for the project schedule. This protocol applies only to situations in which a California red-legged frog is encountered while moving to a location containing habitat that will not be damaged or destroyed by the project. b. If the USFWS-approved biologist(s) determines that a California red-legged frog needs to be moved in order to prevent its immediate injury or death, it will be captured and moved to a suitable habitat location that is not expected to be disturbed by construction, tree or vegetation removal, borrow excavation, or other activities. The USFWS-approved biologist(s) will monitor the animal for an appropriate period of time to ensure it does not re-enter the work area. If secure suitable habitat is located immediately adjacent to, or in proximity to, where the animal is captured, the preferred action is to relocate the individual to that location. Generally speaking, an animal should not be moved outside of the area in which it was traveling on its own. Under no circumstances will a California red-legged frog be relocated to private property without the landowner's written permission. It is Caltrans' responsibility to arrange for this permission. Only the USFWS-approved biologist(s) may capture and handle California red-legged frogs. Nets or bare hands may be used to capture the animals. Soaps, oils, creams, lotions, repellents, or solvents of any sort will not be used on hands within two hours of capturing and relocating a California red-legged frog. To avoid transferring diseases or pathogens between sites when handling the
2.3.5 Threatened and Endangered Species	

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
	animals, the USFWS-approved biologist(s) will follow the appropriate recommendations in the Declining Amphibian Population Task Force Fieldwork Code of Practice: (https://www.fws.gov/ventura/docs/species/protocols/DAFTA.pdf). c. Following confirmation that the California red-legged frog is secure at its original location, or once the individual has been moved to a new location by the USFWS-approved biologist(s) (and the USFWS has not been involved), Caltrans will contact the USFWS immediately to report the encounter. If the incident occurs after normal working hours, Caltrans will contact the USFWS at the earliest possible opportunity the next working day. The USFWS contact is Jen Schofield, via electronic mail (jen_schofield@fws.gov) or by telephone at (916) 414-6604. BIO-50 (Biological Opinion file No. 08ESMF00-2016-F-0444): Exotic aquatic predators, such as bullfrogs and crayfish, prey on the California red-legged frog, and may benefit from disturbed and altered aquatic habitats resulting from the project. Caltrans, in coordination with the County, will ensure that the USFWS-approved biologist(s) will permanently remove from the project site, any exotic aquatic wildlife species. The USFWS-approved biologist(s) will obtain the appropriate licenses and permits for this activity from the California Department of Fish and Wildlife. BIO-52 (Biological Opinion file No. 08ESMF00-2016-F-0444): To minimize the effects of the project on nesting migratory birds, surveys for nesting migratory birds will be completed by the USFWS-approved biologist(s) no more than 24 hours prior to the start of ground-breaking, including

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.5 Threatened and Endangered Species	construction, tree and understory clearing, or borrow excavation. Caltrans, in coordination with the County, will avoid burning, moving, or otherwise disturbing piles of trees, limbs, tree tops, brush skeletons, or other materials that migratory birds have been found to use for nesting from March 1 to August 1 (nesting season) in order to avoid potential violations of the Migratory Bird Treaty Act (16 U.S. Code 703 *et seq*.). BIO-53 (Biological Opinion file No. 08ESMF00-2016-F-0444): Following the completion of construction, Caltrans, in coordination with the County will re-contour all temporarily affected areas to pre-construction conditions, as well as re-vegetate these areas with an appropriate, weed-free native plant seed mixture. All seed mixes will be consistent with habitats found within the project area, and within the surrounding areas. BIO-54 (Biological Opinion file No. 08ESMF00-2016-F-0444): To ensure that the effects of the project on the California red-legged frog are being minimized and the conservation measures in the biological opinion are being implemented, Caltrans will submit compliance reports on construction and borrow excavation activities. These will be prepared by the USFWS-approved biologist(s) within 30 working days of the last field day of each construction/borrow season, or within 30 working days of any break in work lasting more than 10 working days. The reports will detail (1) dates on which relevant project activities occurred; (2) pertinent information concerning the success of the project in meeting the conservation measures; (3) an explanation of the failure to meet such measures, if any; (4) known effects on the California red-legged frog; (5) observed incidents of harm, harassment, injury to, or mortality of the California red-legged frog; (6) an accounting of the total acreage of habitat that has been permanently and
2.3.5	

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
Threatened and Endangered Species	temporarily impacted; (7) information about changes in project implementation that result in habitat disturbance not described in the project description of the biological opinion; (8) documentation of employee environmental education; and (9) any other pertinent information, including photographs of the project. The reports will be submitted to the Forest-Foothills Division at the Sacramento Fish and Wildlife Office. BIO-55 (Biological Opinion file No. 08ESMF00-2016-F-0444): Using the appropriate data sheets, the USFWS-approved biologist(s) will report sightings of any California red-legged frogs, or other sensitive wildlife, including their sign, to the California Department of Fish and Wildlife's Natural Diversity Database. A copy of the reporting form and a topographic map clearly marked with the location in which the animal was observed also should be provided to the USFWS. BIO-56 (Biological Opinion file No. 08ESMF00-2016-F-0444): Caltrans will contact the USFWS immediately to report the discovery of the death of, or injury to, a California red-legged frog that has resulted from project-related activities, or is simply observed at the project site. If the incident occurs after normal working hours, Caltrans will contact the USFWS at the earliest possible opportunity the next working day. The USFWS contacts are Jen Schofield by telephone (916) 414-6604 or via electronic mail (jen_schofield@fws.gov), or the Chief of the Forest Foothills Division. Notification will include the date, time, and location of the incident, or of the discovery of the dead or injured animal. This information should be clearly indicated on a U.S. Geological Survey 7.5-minute quadrangle, or on other maps at a finer scale, as requested by the USFWS. Injured California red-legged frogs will be cared for by the USFWS-approved biologist(s). Dead California red-legged frogs
2.3.5 Threatened and Endangered Species	

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.3.5 Threatened and Endangered Species	will be placed in a sealed plastic bag with a piece of paper describing where and when the animal was found, along with the name of the person who found it. The bag will be placed in a freezer in a secure location until instructions are received from the USFWS or the California Department of Fish and Wildlife regarding the disposition of the specimen, or until the USFWS or the California Department of Fish and Wildlife takes custody of the specimen. BIO-57 (Biological Opinion file No. 08ESMF00-2016-F-0444): In order to monitor whether the amount or extent of incidental take anticipated from implementation of the project is approached or exceeded, Caltrans shall adhere to the Terms and Conditions listed with the Biological Opinion (08ESMF00-2016-F-044) page 31-32. BIO-58 (Natural Environment Study Addendum BIO-30): Plastic mono-filament netting would not be used for erosion control or other purposes at the proposed project site. The California tiger salamander may become entangled in it. Acceptable substitutes include coconut coir matting or tackified hydroseeding.
2.3.6 Invasive Species	BIO-59 (Natural Environment Study Addendum BIO-31): The Resident Engineer of the project would ensure that prior to arrival at the project site and prior to departure from the project site, construction equipment that may contain invasive plants and/or seeds would be cleaned to reduce the spread of noxious weeds. BIO-60 (Natural Environment Study Addendum BIO-32): All hydroseed and plant mixes must consist of a biologist-approved plant palette seed mix from native, locally adapted species.

Table G.1. Avoidance and Minimization Measures

Section Number Reference and Resource	Avoidance and Minimization Measures
2.5 Climate Change	CC-1: According to Caltrans' Standard Specifications, the contractor must comply with all local Air Pollution Control District's rules, ordinances, and regulations for air quality restrictions.

Table G.2. Mitigation and Abatement Measures

Section Number Reference and Resource	Mitigation Measures
2.1.4.2 Relocations and Real Property Acquisitions	CIA-2: Where acquisition and relocation are unavoidable, the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and the 1987 Amendments, as implemented by the Uniform Relocation Assistance and Real Property Acquisition regulations for Federal and Federally Assisted Programs adopted by the U.S. Department of Transportation (March 2, 1989) shall be followed. Relocation advisory assistance shall be provided to any person, business, farm or nonprofit organization displaced as a result of the acquisition of real property for public use.

Table G.2. Mitigation and Abatement Measures

Section Number Reference and Resource	Mitigation Measures
2.1.4.7 Cultural Resources	CR-1 Per the Stipulations I and II.B set forth in the Wagon Trial PA, the following steps need to occur prior to construction of the project: • Confirm Area of Potential Effect based on final design. • Develop mitigation measures for previously unidentified resources discovered within the Area of Potential Effects. • Conduct preconstruction archaeological surveys prior to the start of each construction phase or any other ground disturbing activities for the project. The survey efforts and results will be documented in a Cultural Resources Inventory Report. • Conduct Extended Phase I identification efforts to confirm site boundaries at P-05-3541 (CA-CAL-2126H). The results will be documented in a Cultural Resources Inventory Report. • Establish Environmentally Sensitive Areas to protect eligible sites where possible. • Conduct Extended Phase I identification efforts on Geoarchaeologically Sensitive Landforms. The results will be documented in a Cultural Resources Inventory Report. • Provide archaeological monitoring during geotechnical trenching and boring activities within Geoarchaeologically Sensitive Landforms. • Conduct Phase II evaluations for sites P-05-468 (CA-CAL-133/H), P-05-2129 (CA-CAL-1756H), and P-05-3541 (CA-CAL-2126H) and for archaeological sites identified during additional pedestrian survey and Extended Phase I Testing which would be adversely affected by construction of the project. The results will be documented in a Cultural Resources Inventory Report.

Table G.2. Mitigation and Abatement Measures

Section Number Reference and Resource	Mitigation Measures
2.1.4.7 Cultural Resources	• Should it be determined that final design of the project would adversely affect sites previously protected by Environmentally Sensitive Area fencing, conduct Phase II testing on those impacted sites. The results will be documented in a Cultural Resources Inventory Report. • Prepare a Cultural Resources Inventory Report for each phase of the project documenting Section 106 compliance. • Prepare Phase III data recovery plans on sites where it is more efficient and/or less costly to assume the site is eligible for listing on the National Register of Historic Places under Criterion D. • Develop a Historic Property Treatment Plan prior to Phase I construction of the project which contains a high level/general archaeological research design, prehistoric and historic research themes and questions, resource significance thresholds required for National Register of Historic Places/California Register of Historic Places evaluations, Environmentally Sensitive Area establishment and protection guidelines, archaeological monitoring guidelines, and late discovery and inadvertent effects procedures. The Historic Property Treatment Plan shall be submitted to the SHPO for review and concurrence. • Implement Environmentally Sensitive Area fencing prior to each construction phase and archaeological monitoring during adjacent construction activities at the following historic properties and 3 Geoarchaeologically Sensitive Landforms: o P-05-467 (CA-CAL-132) (monitoring only, no Environmentally Sensitive Area fencing required); o P-05-957 (CA-CAL-639H);

Table G.2. Mitigation and Abatement Measures

Section Number Reference and Resource	Mitigation Measures
2.1.4.7 Cultural Resources	o P-05-958 (CA-CAL-640); o P-05-984 (CA-CAL-666) (monitoring only, no Environmentally Sensitive Area fencing required); o P-05-1101 (CA-CAL-784); o P-05-1105 (CA-CAL-788); o P-05-1106 (CA-CAL-789) (monitoring only, no Environmentally Sensitive Area fencing required); o P-05-1962 (CA-CAL-1679) (monitoring only); o P-05-2127 (CA-CAL-1755/H); o P-05-3093 (monitoring only, no Environmentally Sensitive Area fencing required); o P-05-3094 (CA-CAL-2009**);** o P-05-3542 (CA-CAL-2127H) (monitoring only, no Environmentally Sensitive Area fencing required); o Geoarchaeologically Sensitive Landform 2 (monitoring only, no Environmentally Sensitive Area fencing required); o Geoarchaeologically Sensitive Landform 8 (monitoring only, no Environmentally Sensitive Area fencing required); and o Geoarchaeologically Sensitive Landform 9 (monitoring only, no Environmentally Sensitive Area fencing required). • Environmentally Sensitive Area fencing and archaeological monitoring shall also be used for any historic property identified during subsequent pedestrian surveys, Extended Phase I efforts, and/or Phase II efforts, if establishment of an Environmentally Sensitive Area can fully protect the site from adverse effects.

Table G.2. Mitigation and Abatement Measures

Section Number Reference and Resource	Mitigation Measures
2.1.4.7 Cultural Resources	• For each construction phase, a Phase III Data Recovery Plan for significant properties must be prepared. This plan shall include at a minimum: i) Identification of historic properties, or portions of historic properties where data recovery is to be carried out and any historic property that shall be adversely affected by the project. j) Formal evaluation of archaeological sites according to all National Register of Historic Places criteria. k) A well-developed research design, research questions, and data requirements. l) The methods and methodology that shall be needed to extract data requirements. m) Details related to the establishment of Environmentally Sensitive Area areas, Environmentally Sensitive Area avoidance measures, and archaeological monitoring requirements. n) Identification of the curation facility where the recovered materials and records shall be curated in perpetuity in accordance with California Resources Agency “Guidelines for the Curation of Archaeological Collections” (1993). o) Proposed schedule for providing the results of the data recovery program to the appropriate Native American consulting parties (as identified in Mitigation Measure CR-16/Wagon Trail PA Stipulation III). This shall follow the guidance presented in the Environmental Handbook, Volume 2, Chapter 5, Sections 8 and 9: Archaeological Data Recovery. p) Proposed methods for disseminating information to the interested public about the data recovery. If data recovery involves sensitive and confidential information, there shall be no public disclosure.

Table G.2. Mitigation and Abatement Measures

Section Number Reference and Resource	Mitigation Measures
2.1.4.7 Cultural Resources	• Develop a mitigation plan for historic properties considered significant under Criteria A, B, or C and not also considered significant under criterion D. The mitigation plan will be submitted to the SHPO for review and concurrence. • Annual updates will be performed containing any scheduling changes proposed, any problems encountered, failures to adopt proposed mitigation measures, and any disputes and objections received in Caltrans District 10's efforts to carry out the terms of the Wagon Trail PA. The update shall be due no later than December 31 of each year, beginning December 31, 2016 and continuing annually thereafter throughout the duration of the Wagon Trail PA. The update shall be provided to all concurring parties and Native American consulting parties, as identified in the Wagon Trail PA. • Conduct continuing coordination with all parties involved in Section 106 compliance, as identified in the Wagon Trail PA. CR-2 (Wagon Trail PA Stipulation IV): As legally mandated, human remains and related items discovered during the implementation of the terms of this PA and the project shall be treated in accordance with the requirements of Health and Safety Code Section 7050.5(b). The Calaveras County Coroner shall be contacted if human remains are discovered. The Calaveras County Coroner shall have two working days to inspect the remains after receiving notification. During this time, all remains, associated soils, and artifacts shall remain in situ and/or on site, and shall be protected from public viewing. This may include restricting access to the discovery site and the need to hire 24-hour security. If pursuant to Health and Safety Code Section 7050.5(c), the Calaveras County Coroner determines that the human remains are or may be those of a

Table G.2. Mitigation and Abatement Measures

Section Number Reference and Resource	Mitigation Measures
2.1.4.7 Cultural Resources	Native American, then the discovery shall be treated in accordance with the provisions of Public Resources Code Sections 5097.98 (a)(d). The Calaveras County Coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then notify a Most Likely Descendant (MLD), who has 48 hours to make recommendations to Caltrans District 10. Caltrans, shall contact the State Historic Preservation Officer and the Most Likely Descendent(s) within 24 hours of the County Coroner's determination that the remains are Native American in origin. Caltrans shall ensure that, to the extent permitted by applicable law and regulation, the view of the MLD(s) is taken into consideration when decisions are made about the disposition of Native American human remains and associated objects. Caltrans and Calaveras County shall take appropriate measures to protect the discovery site from disturbance during any negotiations. Information concerning the discovery shall not be disclosed to the public pursuant to the specific exemption set forth in California Government Code Section 6254.5(e). CR-3 (Wagon Trail PA Stipulation V): If Caltrans determines after construction of the project commences that the project shall affect a previously unidentified historic property or affect a known historic property in an unanticipated manner, Caltrans shall address the discovery and/or unanticipated effect. In this situation, the Registered Engineer (RE) shall stop all work within a 60-foot radius of the discovery or effect in accordance with Caltrans Specifications for archaeological resources. The protocol outlined in the Wagon Trail PA Stipulations II.A and II.B shall then be followed. Caltrans will address the discovery or unanticipated effects in accordance with the procedures outlined in the Historic Property Treatment Plan.
2.2.1 Hydrology and Floodplain	HYD-2: Permanent treatment Best Management Practices would be incorporated consistent with the project's Storm Water Data Report.

Table G.2. Mitigation and Abatement Measures

Section Number Reference and Resource	Mitigation Measures
2.3.1 Natural Communities	BIO-4 (Natural Environment Study Addendum BIO-4): An oak woodland mitigation plan will be established with the California Department of Fish and Wildlife. Caltrans will permanently preserve mixed oak woodland habitat at a minimum acreage ratio of 1.5:1 (as determined appropriate by the Project Development Team), will plant oaks at a ratio described below, or will mitigate through a combination of both methods. Diameter at Breast Height (in inches) — Mitigation Ratio 5-15 — 1:1 16-30 — 2:1 31+ — 3:1 *Source: Natural Environment Study, August 2014* If oak planting is to occur, the following requirements will be followed: • Native oak planting should come from local stock and can use acorns or potted plants. • Native oak planting should begin at the onset of the rainy season. • Browse protection from wildlife and livestock should be installed around newly planted native oaks and will remain maintained for 7 years. • Planted oak trees should be monitored and replanted (if necessary) for a minimum of three years. BIO-5 (Natural Environment Study Addendum BIO-5): The project will incorporate design features to accommodate for wildlife movement. Oversized culverts and/or bridges and wildlife fencing will be considered during final design for the wildlife crossing areas identified in Figure 42.

Table G.2. Mitigation and Abatement Measures

Section Number Reference and Resource	Mitigation Measures
2.3.2 Wetlands and Other Waters	BIO-7 (Natural Environment Study Addendum BIO-7): Impacts to jurisdictional waters may be mitigated at a 1:1 ratio for temporary impacts and a 2:1 ratio for permanent impacts or as determined appropriate by permitting agencies. Exact mitigation ratios and locations will be consistent with permit requirements. Impacts may be mitigated at an on- or off-site agency-approved location, through the in-lieu fee program, or with a combination of all three. BIO-8 (Natural Environment Study Addendum BIO-8): Erosion Control Measures must be implemented during construction. To minimize the mobilization of sediment to adjacent water bodies, the following erosion-control and sediment-control measures will be included in the Storm Water Pollution Prevention Plan based on standard Caltrans measures and standard dust-reduction measures: • Soil exposure must be minimized through the use of temporary Best Management Practices, groundcover, and stabilization measures. • The contractor must conduct periodic maintenance of erosion- and sediment-control measures. BIO-9 (Natural Environment Study Addendum BIO-9): To minimize the mobilization of sediment to adjacent water features, the following erosion-control and sediment-control measures will be included in the Storm Water Pollution Prevention Plan. To conform to water quality requirements, the Storm Water Pollution Prevention Plan will include the following: • Vehicle maintenance, staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants shall be a minimum

Table G.2. Mitigation and Abatement Measures

Section Number Reference and Resource	Mitigation Measures
2.3.2 Wetlands and Other Waters	of 100 feet from riparian or aquatic habitats. Any necessary equipment washing shall occur where the water cannot flow into Black Creek, Nassau Creek, Waterman Creek, Cherokee Creek, associated tributaries or wetlands. The project proponent will prepare a spill prevention and cleanup plan. • Construction equipment will not be operated in flowing water. • Construction work must be conducted according to site-specific construction plans that minimize the potential for sediment input to Black Creek, Nassau Creek, Waterman Creek, Cherokee Creek, associated tributaries and wetlands. • Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life shall be prevented from contaminating the soil or entering Black Creek, Nassau Creek, Waterman Creek, Cherokee Creek, associated tributaries and wetlands. • Equipment used in and around Black Creek, Nassau Creek, Waterman Creek, Cherokee Creek, associated tributaries or wetlands must be in good working order and free of dripping or leaking engine fluids. • Any surplus concrete rubble, asphalt, or other debris from construction must be taken to an approved disposal site.

Table G.2. Mitigation and Abatement Measures

Section Number Reference and Resource	Mitigation Measures
2.3.5 Threatened and Endangered Species	BIO-51 (Biological Opinion file No. 08ESMF00-2016-F-0444): Caltrans will verify that the County implements biologically based compensatory mitigation to minimize the adverse effects of the permanent loss of, and temporary disturbance to, California red-legged frog habitat resulting from the project. The County will implement a two-step approach: 1) for Phase 1 of the project (covering the alignment from Bonanza Mine Way to Appaloosa Road), it will place a rangeland easement on 41 acres of land on the Rana Ranch property (within parcel #40002027), which is located near Valley Springs and is within California red-legged frog critical habitat unit CAL-1; and 2) for all subsequent phases of the project (covering the alignment from Appaloosa Road, east to the northern end of the project), it will place a second rangeland easement on 75 acres of land (either on the Rana Ranch property or on another property with a willing landowner located within California red-legged frog critical habitat unit CAL-1). The County will implement a USFWS-approved long-term management plan for each of the two rangeland easements, which will focus on livestock grazing and the California red-legged frog. The management plan will not require the County to survey or monitor for the California red-legged frog, meet performance standards for plantings, install new fencing, or remove non-native plants or animals. Mitigation activities for the Federal and State Clean Water Acts, and for the loss of oak trees (including pond creation, riparian restoration, and oak plantings), will be implemented on the 41-acre easement; a USFWS-approved restoration plan will be developed and implemented for this site. The rangeland easement, endowment, and management/restoration documents associated with each project phase will be finalized and implemented at least 60 calendar days prior to the date of initiation of ground disturbance for each particular phase.

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Appendix H Section 7 Consultation

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
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In Reply Refer to:
08ESMF00-
2016-F-0444

NOV 29 2016

Ms. Dena Gonzalez
Chief, Central Region Biology Branch
California Department of Transportation, District 10
855 M Street, Suite 200
Fresno, California 93721

Subject: Formal Consultation on the State Route 4 Wagon Trail Realignment Project, Calaveras County, California (California Department of Transportation 10-CAL-4-PM R10.3/R16.4; EA 10-0E530)

Dear Ms. Gonzalez:

This letter is in response to the California Department of Transportation's (Caltrans) revised January 7, 2016, request for initiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on its action to provide Federal oversight of the proposed State Route (SR) 4 Wagon Trail Realignment Project (project) in Calaveras County, California. Caltrans is providing oversight of the project to Calaveras County (County); the County is responsible for constructing the project. Your letter was received by the Service on January 8, 2016. At issue are the proposed project's effects on the federally-threatened California red-legged frog (*Rana draytonii*), designated critical habitat for the California red-legged frog, and the federally-threatened Chinese Camp brodiaea (*Brodiaea pallida*). This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*)(Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

Caltrans has assumed the Federal Highway Administration's (FHWA) responsibilities under the National Environmental Policy Act (NEPA) for section 7 consultation per the Act in accordance with 23 U.S.C. 327 and as described in the NEPA assignment Memorandum of Understanding between the FHWA and Caltrans (effective October 1, 2012).

The Federal action on which we are consulting is Caltrans' oversight of the County's proposed realignment of an approximately 6-mile (mi) segment of SR 4 between post mile (PM) R10.3 and PM R16.4 and between the cities of Copperopolis and Angel's Camp. Pursuant to 50 CFR 402.12(j), Caltrans submitted a biological assessment for our review, along with its original consultation request letter, dated December 2, 2015, which was received in our office on December 9, 2015, and its follow-up consultation request letter, dated January 7, 2016, which was received in our office on January 8, 2016; Caltrans requested concurrence with the findings presented therein. These findings concluded that the proposed project may affect, but is not likely to adversely affect the Chinese Camp brodiaea, and may affect, and is likely to adversely affect the California red-legged frog. Once the location where compensatory mitigation was identified, the Service and Caltrans determined that

the project may affect, and is likely to adversely affect designated critical habitat for the California red-legged frog.

In considering your request, we based our evaluation on the following: (1) Caltrans' original December 2, 2015, request for consultation and its revised January 7, 2016, request for consultation; (2) the *State Route 4 Wagon Trail Realignment Project Biological Assessment* (Biological Assessment), dated December 2015, and prepared by Dokken Engineering; (3) site visits by the Service, Caltrans, and Dokken Engineering on October 13, 2015, January 12, 2016, September 12, 2016, and October 14, 2016; (4) email correspondence and telephone discussions; (5) the 2013 journal article, *History and status of the California red-legged frog (Rana draytonii) in the Sierra Nevada, California, USA* by Sean Barry and Gary Fellers; and (6) other information available to the Service.

Caltrans has determined that the proposed project may affect, is not likely to adversely affect the Chinese Camp brodiaea. Due to the plant's extreme scarcity (only three known populations) and the limited degree of suitable habitat present at the project site, the likelihood that the species occurs within the action area is low. According to the California Natural Diversity Database (2016), there are four records for the Chinese Camp brodiaea in Calaveras County, with the closest and most recent record, dating from 2008, located approximately 6-mi south of the southern end of the project footprint along Sawmill and Black Creeks. Botanical surveys, with a focus on the Chinese Camp brodiaea, were performed within the project action area on May 9, 10, 13, and 14, 2013, but only in those parts of the action area where access was granted. Of those areas surveyed, the biologists identified only one location towards the southern end of the project footprint that contained suitable habitat for the Chinese Camp brodiaea: Black Creek. Black Creek enters the project area approximately 0.13-mi north of Hunt Road and transects SR 4 at two locations through culverts. The action area contains approximately 13.90 acres (ac) of suitable habitat adjacent to Black Creek; of this total, construction is expected to permanently affect approximately 0.40 ac and temporarily affect 0.37 ac of habitat suitable for the plant. Surveys were not conducted within the entire action area because the biologists were unable to gain permission to access private lands. Consequently, Caltrans proposes to implement the following conservation measure for the Chinese Camp brodiaea:

- Caltrans will commit to conducting protocol-level preconstruction botanical surveys in all areas of the project that may be suitable for the species (with a particular focus on all previously inaccessible parcels). Surveys will occur during the appropriate blooming period for the species, prior to initial groundbreaking, and in accordance with the most recent protocols/guidelines accepted by the Service.

In the event that the listed plant is found during future preconstruction surveys, Caltrans will reinitiate formal consultation pursuant to 50 CFR 402.16 before moving forward with work activities in the area of the Chinese Camp brodiaea, and with the understanding that the presence of the species on the project site could lead to the implementation of additional conservation measures that will be determined in conjunction with the Service (see Caltrans' revised January 7, 2016 letter requesting consultation). In the case of reinitiation, Caltrans stated they understood this course of action regarding this species could lead to project delays, project redesign, or other considerable changes to and effects on the project.

The Service concurs with Caltrans' determination that the action is not likely to adversely affect the Chinese Camp brodiaea because 1) there is a low likelihood that the species exists within the action area; and 2) suitable habitat will be re-surveyed prior to construction to verify species presence. Consequently, the potential for the action to affect the Chinese Camp brodiaea is discountable.

The remainder of this document provides our biological opinion on the effects of the proposed project on the California red-legged frog and on California red-legged frog critical habitat. Although designated critical habitat for this species does not occur within the actual SR 4 construction footprint, it is present where the County proposes to implement conservation measures, including compensation habitat.

Consultation History

October 7, 2015:	Caltrans emailed the Service to provide a letter, dated December 2, 2013, justifying a no effect determination for the federally-threatened central California distinct population segment of the California tiger salamander (*Ambystoma californiense*).
October 13, 2015:	The Service joined Caltrans for a site visit in order to review the project area for suitable locations in which undercrossings could be installed to provide connectivity for regional corridors for the California red-legged frog.
December 9, 2015:	The Service received a letter from Caltrans, dated December 2, 2015, requesting informal consultation for the California red-legged frog and Chinese Camp brodiaea based on its determinations that the proposed project may affect, is not likely to adversely affect either species. In this letter Caltrans also requested the project be appended to the Service's March 11, 1997, *Formal Programmatic Consultation Permitting Projects with Relatively Small Effects on the Valley Elderberry Longhorn Beetle within the Jurisdiction of the Sacramento Field Office, California* (Programmatic Consultation; Service file number 1-1-96-F-0156) based on its determination that the proposed project may affect, is likely to adversely affect the federally-threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*).
December 10, 2015:	The Service emailed Caltrans to clarify that it should make a specific request for formal consultation for the valley elderberry longhorn beetle in order for the project to be appended to the Programmatic Consultation, as well as for informal consultation for the California red-legged frog and Chinese Camp brodiaea.
December 21, 2015:	The Service had a teleconference with Caltrans and Dokken Engineering to discuss the may affect, not likely to adversely affect determination, as discussed in the Biological Assessment, regarding adverse effects in the form of harm to the California red-legged frog resulting from permanent effects to its dispersal habitat. The Service informed Caltrans that harm is defined in 50 CFR §1532(19) as a form of take, and, therefore, required formal consultation. The Service requested a site visit in order to review dispersal habitat and appropriate conservation measures. The Service also informed Caltrans that if they chose to not complete Service-approved protocol surveys for the Chinese Camp brodiaea prior to issuance of this biological opinion, and if the listed species was found within the project footprint during surveys conducted at a later date, considerable delays and project redesign might be necessary to avoid

	jeopardy to this listed species. Caltrans stated that they understood and agreed with this approach to the Chinese Camp brodiaea.
January 7, 2016:	Caltrans telephoned the Service to discuss issues with the consultation schedule given their change in determination for the California red-legged frog to formal consultation.
January 8, 2016:	The Service received a revised request, dated January 7, 2016, for formal consultation for the California red-legged frog and valley elderberry longhorn beetle, and informal consultation for the Chinese Camp brodiaea.
January 12, 2016:	The Service conducted a site visit with Caltrans and Dokken Engineering to discuss California red-legged frog dispersal and estivation habitat within the new alignment. Caltrans stated they planned to present a proposal to the Service addressing conservation measures for the permanent and temporary effects.
March 10, 2016:	The Service met with Caltrans and Dokken Engineering to discuss the lack of protocol level surveys for the California red-legged frog conducted within 1-mi of the entire length of the new alignment, the likelihood that the listed species inhabits the area, and the need for compensation habitat to offset effects to this threatened animal.
August - October, 2016:	The Service exchanged emails and telephone calls with Caltrans, the County, and Dokken Engineering regarding compensation habitat for the California red-legged frog because of adverse effects of the project. The goal was to develop a conservation strategy in coordination with all parties, including the owners of the proposed compensation property, and which was acceptable to all involved.
September 12, 2016:	The Service conducted a field visit of the project site with Caltrans, the County, and Dokken Engineering to view various locations within the proposed footprint and to discuss the purpose of the project and elements of construction. Following this, a meeting was held at the proposed compensation site, along with the property owners, to identify specific areas that could be protected by rangeland easements, and fulfill habitat compensation requirements for the California red-legged frog, and also be used for mitigation required under the Federal and State Clean Water Acts, and for loss of oak trees. The valley elderberry longhorn beetle was discussed and the Service informed Caltrans, the County, and Dokken Engineering that consultation for this species would no longer be necessary based on the current available data concerning the redefined range of the animal.
October -November, 2016:	The Service exchanged emails with Caltrans, Dokken Engineering, and the County regarding the review of draft sections of the biological opinion (project description and conservation measures) and associated comments. The Service also exchanged emails with

	Caltrans and Dokken Engineering to seek answers to additional project-related questions.
October 4, 2016:	The Service met with the County and Dokken Engineering, (Caltrans participated over the phone), to discuss the status of the proposed habitat compensation plan. The plan's overall cost estimate, plus ways to reduce the costs by removing line items included in the endowment and long-term management plan were discussed. All parties agreed on the plan's content and direction.
October 14, 2016:	The Service met at the proposed compensation site with the County, Dokken Engineering, and the property owners to discuss the implementation of the rangeland easements and project timeline, and to confirm that all parties were in agreement on moving forward with the habitat compensation plan, as proposed.
October 26 & 31, 2016:	The Service emailed draft sections of the biological opinion, including the project description and conservation measures, to Caltrans, the County, and Dokken Engineering for their review in order to ensure that all parties agreed on what would be included in the final document. Dokken Engineering replied to acknowledge their opportunity to review these sections, and to provide several comments, questions, and requested revisions.
November 3, 2016:	The Service received a letter from the Calaveras Council of Governments (CalCOG) committing to the ongoing efforts to mitigate for the project's effects to suitable habitat for the California red-legged frog through implementation of two off-site rangeland easements. The CalCOG further stated that it was committed to fulfilling the habitat compensation commitments under the Conservation Measures and Terms and Conditions of the Service's biological opinion, and to paying the compensation costs associated with a particular phase of the project, prior to starting construction on that phase.
November 7, 2016:	Caltrans responded to the Service's October 26, 2016, email to provide several additional comments regarding the draft sections of the biological opinion, including the project description and conservation measures.
November 15-16, 2016:	The County and the Service discussed the compensation measure (conservation measure #24 in this opinion) in a series of emails. The County stated that they concurred with this measure as written in the Service's November 15, 2016, email.

BIOLOGICAL OPINION

Description of the Action

Caltrans, in cooperation with Calaveras County, proposes to realign a 6.1-mi segment of SR 4 from Bonanza Mine Way to Stockton Road, beginning approximately 2.6-mi east of Copperopolis and ending approximately 1.6-mi west of the SR 4/SR 49 junction in Altaville (near Angel's Camp), Calaveras County PM R10.3 to PM R16.4). Caltrans and the County propose to: (1) construct a new engineered alignment with two standard 12-foot (ft.)-wide lanes, two 8-ft.-wide paved shoulders, and turn pockets at road intersections as appropriate; (2) improve sight distance by increasing curve radii with the incorporation of longer, smoother curves, which will require a substantial amount of earthwork; and (3) reduce the number of access points to avoid conflicts with merging and through-traffic, and make use of frontage roads to consolidate private driveways. Caltrans and the County will utilize the existing highway right-of-way corridor, where feasible, in order to reduce the effects and costs of the project.

The purpose of the project is to enhance safety, improve sight distance, and limit access to the highway by improving the geometrics of the alignment, thereby reducing the higher than average accident rate on this stretch of SR 4. The project will be constructed in multiple phases, depending upon the availability of funding. Each phase will be constructed to tie into the existing highway. For the purpose of determining habitat compensation, Phase 1 is considered to include the segment from Bonanza Mine Way to Appaloosa Road, which is the approximate midpoint of the project; construction on this phase will likely begin in 2020. Later phases are not expected to break ground for many years.

Caltrans and the County will reconfigure existing intersections and segments of the adjoining roads so that they will conform to the new realignment. These intersections include: Hunt Road, Appaloosa Road, and Stallion Way. The project will facilitate the conveyance of cross drainage at existing water crossings through the installation of drainage pipes, culverts and bridges.

Construction activities will include vegetation removal, clearing and grubbing, placement of water diversions, roadway access, earthwork, use of stockpile sites, construction of bridges and culverts, realignment of Nassau Creek, utility relocation (underground telephone and fiber optic lines, overhead telephone and electrical lines), and new roadway construction and striping. Best Management Practices (BMPs) will be implemented for the duration of construction.

The proposed project will include wildlife undercrossings at select waterway locations to allow connectivity to the north and south of the new alignment. The proposed project will have approximately 1,440,000 cubic yards of cut and approximately 1,160,000 cubic yards of fill. All material excavated from the cut areas that is not reused for the fill areas will be disposed of appropriately at an off-site facility. The project has the potential to affect up to 25 parcels of private land as a result of accommodating the new highway alignment and features, adjusting driveways/ property frontages, and providing access areas for construction equipment.

No specific staging areas have been identified. For the purpose of this project, all staging areas will occur within the project footprint, as described under the **Action Area** section of this biological opinion. Any location the contractor uses that is outside the project footprint will need to be evaluated by the Service and Caltrans and may require reinitiation of consultation.

The County, with oversight from Caltrans, will place a portion of two parcels of land under rangeland easements: the first easement will cover 41 ac of the parcel identified at the

October 4, 2016, meeting and the October 14, 2016, field meeting and associated documents, and the second easement will cover 75 ac of a second parcel. The two parcels will both be located in California red-legged frog critical habitat unit CAL-1. The location of the second rangeland easement and associated management plan will be submitted to the Service for review and approval. The County, in coordination with Caltrans, proposes to implement its other compensatory mitigation activities for effects occurring at the SR 4 location to Federal and State wetlands, as well as to oak trees, at the 41 ac easement site. The 75 ac easement site will be the focus of preservation only.

Conservation Measures

Caltrans, the County, and the County's contractor will implement the following measures to reduce the potential for adverse effects to the California red-legged frog.

1. At least fifteen working days prior to the date of initial earth disturbance on the project site, Caltrans will submit to the Service, for approval, the curriculum vitae of the biologist(s) it wishes to conduct monitoring and associated activities for the California red-legged frog. The information included in the request for authorization will include, at a minimum: (1) relevant education; (2) relevant training on California red-legged frog identification, survey techniques, any authorized handling of California red-legged frogs of different age classes, and handling of different life history stages; (3) a summary of field experience conducting monitoring activities (including project/research information) for the California red-legged frog; and (4) any relevant professional references with contact information. No ground disturbing activities or construction at the project site will begin until Caltrans has received written approval from the Service for the biologist(s) to conduct monitoring activities.

2. Caltrans will ensure that a Service-approved biologist(s) will be on-site during all ground-disturbing activities that could result in the harassment and harm of, injury to, or mortality of, the California red-legged frog. The Service-approved biologist(s) also will conduct pre-project surveys and appropriate monitoring of this species to ensure compliance with the conservation measures in this biological opinion. The level and extent of monitoring for the California red-legged frog will be determined through coordination between the Service-approved biologist(s) and the Service, subject to the final approval of the Service.

3. To minimize the adverse effects of the project on the California red-legged frog, Caltrans will ensure that a Service-approved biologist(s) will perform a clearance survey for the species no more than thirty minutes prior to any initial ground disturbance, tree and vegetation removal, understory vegetation clearance, or borrow pit activities. Entrances and mouths of animal burrows, disturbed soil, root wads, large cracks in the soil, logs, downed large branches, and other suitable aestivation and cover sites for the California red-legged frog will be examined for signs of the species. The procedures in Measure #22 below will be followed in the event that any individuals are found.

4. If requested verbally by the Service or the California Department of Fish and Wildlife before, during, or upon completion of groundbreaking, tree and vegetation removal, borrow pit excavation, and construction activities, Caltrans will provide immediate access to the project site to personnel from one or both of these agencies so that they can inspect potential project effects to the California red-legged frog and its aquatic and upland habitats.

5. Caltrans will require all contractors and subcontractors to comply with the biological opinion for the California red-legged frog during the performance of their contracts. The contracts will include specific language that requires them to work within the specific boundaries of the project footprint. The footprint includes those areas in which all construction activities will occur, and in which vehicle parking, borrow sites, staging areas, and access routes will be established.

6. Caltrans, in coordination with the County, will ensure that all construction personnel attend a California red-legged frog education program delivered by the Service-approved biologist(s) prior to their being allowed to work on the project site. The training will include information on the California red-legged frog, including its life history and habitat requirements. Emphasis will be placed on the suitable habitats and life stage requirements, and will include project maps showing areas where avoidance and minimization measures are being implemented. The training will include information on applicable Federal and State laws protecting endangered species and the importance of compliance with the biological opinion.

7. The boundary of the construction area will be delineated with conspicuous bright orange plastic fencing or permanent property fencing to prevent construction equipment and workers entering California red-legged frog habitat located outside of the construction area. The fencing will be kept in good repair during all construction-related work.

8. The clearing of vegetation will occur only within the project boundaries, as delineated. Oak trees located in areas along the edge of the construction area will be trimmed rather than removed; only those oak trees that are situated within the active construction area will be removed. Vegetation in proximity to Black Creek, Nassau Creek, Waterman Creek, and Cherokee Creek will be removed by hand.

9. In the event that dewatering of the creeks or other water features is required, Caltrans, in coordination with the County, will ensure that the contractor prepares a dewatering plan that complies with any applicable permit conditions and describes how any California red-legged frogs that are discovered during the dewatering process will be captured and released; the plan will be consistent with Measure #22 below. A Service-approved biologist(s) will conduct a survey of the area to be dewatered immediately following the installation of the dewatering device, and prior to the continuation of dewatering activities.

10. To minimize the potential for project-related vehicles running over California red-legged frogs, Caltrans, in coordination with the County, will restrict vehicle traffic to designated access roads, staging, parking, and construction areas, and other specifically identified areas. Project- and associated private vehicles will observe a 20-mile-per-hour speed limit while on the project site. Project employees will be provided with written guidance governing vehicle use, speed limits on unpaved roads, fire prevention, and other hazards.

11. To prevent the entrapment of California red-legged frogs, all steep-walled holes, trenches, pits or any other excavated area more than 6-inches deep will be covered at the close of each working day with plywood or similar material, or provided with one or more escape ramps constructed of earthen fill or wooden planks. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the Service-approved biologist(s). If at any time a trapped California red-legged frog is discovered, the Service-approved biologist will immediately place escape ramps or other appropriate structures to allow the animal to escape, remove it by hand following the procedures in Measure #22 below, or contact the

Service for guidance. After the California red-legged frog is determined to be secure, Caltrans will contact the Service immediately to report the encounter; if the incident occurs after normal working hours, Caltrans will contact the Service at the earliest possible opportunity the next working day. The Service contacts are Jen Schofield, at telephone (916) 414-6604, or via electronic mail (jen_schofield@fws.gov), or the Chief of the Forest-Foothills Division.

12. For on-site storage of pipes, conduits, and other materials that could provide shelter for California red-legged frogs, open-top trailers will be used to elevate the materials above ground so that the potential for animals to climb into the piping or other materials is reduced. If any animals are found, Caltrans, in coordination with the County, will ensure that the procedures in Measure #22 below will be followed.

13. To minimize the potential for California red-legged frogs being poisoned, no pesticides or herbicides will be used at the project site without the written approval of the Service.

14. To eliminate the attraction of potential predators of the California red-legged frog to the project site, and to avoid degradation of its habitat, Caltrans, in coordination with the County, will ensure that all food-related trash items such as wrappers, cans, bottles, and food scraps are disposed of in closed containers and removed from the project site at the end of each working day. For example, raccoons and skunks (Fellers 2005), and crows, and ravens (Beedy and Pandolfino 2013) are attracted to trash and also prey on amphibians like the California red-legged frog.

15. To minimize the potential for harm to the California red-legged frog, no pets or firearms (except those carried by authorized law enforcement officials) will be allowed on-site at SR 4.

16. To minimize the adverse effects of chemical pollutants on the California red-legged frog, dedicated fueling and refueling practices will be designated as part of the approved storm water pollution and prevention plan. Dedicated fueling areas will be protected from stormwater run-on and run-off and will be located at least 100-ft. from downslope drainage facilities and watercourses like Black Creek, Nassau Creek, Waterman Creek, and Cherokee Creek. Fueling will be performed on level-grade areas. On-site fueling will be used only where it is impractical to send vehicles and equipment off-site for fueling. Drip pans or absorbent pads will be used during on-site vehicle and equipment fueling. When fueling must occur on-site, the Storm Water Pollution Prevention Plan, as approved by the County, will designate appropriate locations. Caltrans, in coordination with the County, will ensure that all equipment used in areas within or near waterbodies or waterways do not leak oil, fuel, anti-freeze, or other fluids.

17. To minimize the spread of noxious weeds, construction equipment will be pressure washed prior to arriving and leaving the project site in order to remove any invasive plant and/or seed material. Washing will occur in areas where the wastewater cannot flow directly into drainages or waterways.

18. All clearing, grubbing, scraping, excavation, land-leveling, grading, cut and fill, demolition, and other dust-generating activities will be controlled for airborne dust emissions by utilizing appropriate water application methods, organic soil stabilizers, or by pre-soaking.

19. To minimize the effects of the project on the California red-legged frog within and adjacent to its habitats, Caltrans, in coordination with the County, will ensure that all apparatus within the project area with the potential to provide aestivation, resting, or cover habitat for the species (such as construction- or borrow equipment, or debris) will be inspected by the Service-approved biologist(s) prior to being moved or disturbed. If any animals are found, the procedures in Measure #22 below will be followed.

20. Nighttime construction will be minimized, especially in those areas within or adjacent to California red-legged frog habitats so as to minimize the effects of nighttime lighting on the California red-legged frog. Nighttime lighting may disorient the animal, leading to it being preyed upon by nocturnal predators (Buchanan 2006), such as skunks and raccoons, and may affect its feeding behavior. Caltrans, in coordination with the County, will make a best effort to ensure that lights will face away from California red-legged frog habitat when nighttime work is conducted in areas adjacent to this habitat.

21. Plastic netting and similar materials that are used for erosion control and other reasons could result in the entanglement and death of the California red-legged frog, as well as birds and other wildlife, due to exposure, starvation, strangulation and/or predation (Stuart *et al.* 2001). Caltrans, in coordination with the County, will ensure that plastic monofilament netting ("poly netting"), or similar materials (including when they are used to cover coconut coir logs, coconut coir mats or blankets), will not be used at the project site. Instead, Caltrans, in coordination with the County, will use alternative materials such as coconut coir matting, blankets, logs without plastic monofilament netting or similar materials, or tackified hydroseeding compounds.

    Alternatively, erosion control may be accomplished by lying tree branches flat on the ground and perpendicular to the adjacent or nearby creek or waterbody, with branches slightly crisscrossed. The large end of the branch will be placed at the toe of the slope. Branches will be added until the soil surface below the branches is covered. Brush mats will then be installed over rooted plants and live stakes planted on a slope. The mat will be anchored in place with stakes or live stakes and biodegradable twine or rope. The stakes will be placed on 3-ft. centers, with twine attached around each stake to form a crisscross pattern; then the stakes will be driven into the substrate as deeply as possible, pulling the branches tightly against the soil. A small amount of soil will be placed over the mat so that the lowest layer of branches is partially buried to encourage rooting. The brush mat will be lightly watered to compress the added soil; more soil is then added if necessary. The completed compressed mat will be approximately 3-4-inches thick. If high water occurs before the brush mat is established, the topsoil on the lower portions of the mat may wash away.

22. Caltrans, in coordination with the County, will ensure that the Resident Engineer and/or on-site Project Manager stop work at the request of the Service-approved biologist(s), the Service, or the California Department of Fish and Wildlife if activities are identified that may result in adverse effects to the California red-legged frog. The Resident Engineer and/or on-site Project Manager will temporarily suspend activities in the immediate area where activities associated with construction, tree or vegetation removal, borrow excavation, or staging could result in adverse effects to the species. Work will be suspended until the California red-legged frog leaves the site of its own volition or is removed by the Service-approved biologist(s), the Service, or the California Department of Fish and Wildlife to an appropriate release site using Service-approved techniques.

Each California red-legged frog that is encountered on the project site will be treated on a case-by-case basis by the Service-approved biologist(s), in coordination with the Service (note: in cases of dispute, the Service will have the final authority). The general protocol is as follows: (1) leave the non-injured animal alone if it is not in danger; or (2) move the animal to a nearby secure location if it is in danger. These two options are described in further detail below:

a. When a California red-legged frog is encountered within the project area, the first priority will be to temporarily stop activities that are likely to result in harm, harassment, injury, or death of the individual (as determined by the Service-approved biologist(s)). The Service-approved biologist(s) then will assess the situation to select a course of action that will minimize adverse effects to the animal.
The Service-approved biologist(s) will determine if the appropriate course of action is to avoid contact with the California red-legged frog and to allow it to move away from the hazard on its own to a safe location. The animal will not be picked up and moved simply because it is not moving fast enough or allowing it to move on its own is inconvenient for the project schedule. This protocol applies only to situations in which a California red-legged frog is encountered while moving to a location containing habitat that will not be damaged or destroyed by the project.

b. If the Service-approved biologist(s) determines that a California red-legged frog needs to be moved in order to prevent its immediate injury or death, it will be captured and moved to a suitable habitat location that is not expected to be disturbed by construction, tree or vegetation removal, borrow excavation, or other activities. The Service-approved biologist(s) will monitor the animal for an appropriate period of time to ensure it does not re-enter the work area. If secure suitable habitat is located immediately adjacent to, or in proximity to, where the animal is captured, the preferred action is to relocate the individual to that location. Generally speaking, an animal should not be moved outside of the area in which it was travelling on its own. Under no circumstances will a California red-legged frog be relocated to private property without the landowner's written permission. It is Caltrans' responsibility to arrange for this permission.

   Only the Service-approved biologist(s) may capture and handle California red-legged frogs. Nets or bare hands may be used to capture the animals. Soaps, oils, creams, lotions, repellents, or solvents of any sort will not be used on hands within two hours of capturing and relocating a California red-legged frog. To avoid transferring diseases or pathogens between sites when handling the animals, the Service-approved biologist(s) will follow the appropriate recommendations in the Declining Amphibian Population Task Force Fieldwork Code of Practice: (https://www.fws.gov/ventura/docs/species/protocols/DAFTA.pdf).

c. Following confirmation that the California red-legged frog is secure at its original location, or once the individual has been moved to a new location by the Service-approved biologist(s) (and the Service has not been involved), Caltrans will contact the Service immediately to report the encounter. If the incident occurs after normal working hours, Caltrans will contact the Service at the earliest possible opportunity the next working day. The Service contacts are Jen Schofield, via electronic mail (jen_schofield@ fws.gov), or by telephone at (916) 414-6604, or the Chief of the Forest-Foothills Division.

23. Exotic aquatic predators, such as bullfrogs and crayfish, prey on the California red-legged frog, and may benefit from disturbed and altered aquatic habitats resulting from the project. Caltrans, in coordination with the County, will ensure that the Service-approved biologist(s) will permanently remove from the project site, any exotic aquatic wildlife species that they encounter. The Service-approved biologist(s) will obtain the appropriate licenses and permits for this activity from the California Department of Fish and Wildlife.

24. Caltrans will verify that the County implements biologically-based compensation to minimize the adverse effects of the permanent loss of, and temporary disturbance to, California red-legged frog habitat resulting from the project. The County will implement a two-step approach: (1) for Phase 1 of the project (covering the alignment from Bonanza Mine Way to Appaloosa Road), it will place a rangeland easement on 41 ac of land on the Rana Ranch property (within parcel #40002027), which is located near Valley Springs and is within California red-legged frog critical habitat unit CAL-1; and (2) for all subsequent phases of the project (covering the alignment from Appaloosa Road, east to the northern terminus of the project), it will place a second rangeland easement on 75 ac of land (either on the Rana Ranch property or on another property with a willing landowner which is located within California red-legged frog critical habitat unit CAL-1). The County will implement a Service-approved long-term management plan for each of the two rangeland easements, which will focus on livestock grazing and the California red-legged frog. The management plan will not require the County to survey or monitor for the California red-legged frog, meet performance standards for plantings, install new fencing, or remove non-native plants or animals. Mitigation activities for the Federal and State Clean Water Acts, and for the loss of oak trees, including pond creation, riparian restoration, and oak plantings, will be implemented on the 41 ac easement; a Service-approved restoration plan will be developed and implemented for this site. The rangeland easement, endowment, and management/ restoration documents associated with each project phase will be finalized and implemented at least 60 calendar days prior to the date of initiation of ground-disturbance for each particular phase.

25. To minimize the effects of the project on nesting migratory birds, surveys for nesting migratory birds will be completed by the Service-approved biologist(s) no more than 24 hours prior to the start of ground-breaking, including construction, tree and understory clearing, or borrow excavation. Caltrans, in coordination with the County, will avoid burning, moving, or otherwise disturbing piles of trees, limbs, tree tops, brush skeletons, or other materials that migratory birds have been found to use for nesting from March 1 to August 1 (nesting season) in order to avoid potential violations of the Migratory Bird Treaty Act (16 USC 703 *et seq.*).

26. Following the completion of construction, Caltrans, in coordination with the County will re-contour all temporarily affected areas to preconstruction conditions, as well as re-vegetate these areas with an appropriate, weed-free native plant seed mixture. All seed mixes will be consistent with habitats found within the project area, and within the surrounding areas.

27. To ensure that the effects of the project on the California red-legged frog are being minimized and the conservation measures in the biological opinion are being implemented, Caltrans will submit compliance reports on construction and borrow excavation activities. These will be prepared by the Service-approved biologist(s) within 60 calendar days of the last field day of each construction/borrow season, or within 60 calendar days of any break in work lasting more than 10 working days. The reports will detail: (1) dates on which relevant project activities occurred; (2) pertinent information concerning the success of the project in

meeting the conservation measures; (3) an explanation of the failure to meet such measures, if any; (4) known effects on the California red-legged frog; (5) observed incidents of harm, harassment, injury to, or mortality of the California red-legged frog; (6) an accounting of the total acreage of habitat that has been permanently and temporarily affected; (7) information about changes in project implementation that result in habitat disturbance not described in the project description of the biological opinion; (8) documentation of employee environmental education; and (9) any other pertinent information, including photographs of the project. The reports will be submitted to the Chief of the Forest-Foothills Division at the Sacramento Fish and Wildlife Office.

28. Using the appropriate data sheets, the Service-approved biologist(s) will report sightings of any California red-legged frogs, or other sensitive wildlife, including their sign, to the California Department of Fish and Wildlife's Natural Diversity Data Base. A copy of the reporting form and a topographic map clearly marked with the location in which the animal was observed also should be provided to the Service.

29. Caltrans will contact the Service immediately to report the discovery of the death of, or injury to, a California red-legged frog that has resulted from project related activities, or is simply observed at the project site. If the incident occurs after normal working hours, Caltrans will contact the Service at the earliest possible opportunity the next working day. The Service contacts are Jen Schofield, at telephone (916) 414-6604, or via electronic mail (jen_schofield@ fws.gov), or the Chief of the Forest-Foothills Division. Notification will include the date, time, and location of the incident, or of the discovery of the dead or injured animal. This information should be clearly indicated on a U.S. Geological Survey (USGS) 7.5-minute quadrangle, or on other maps at a finer scale, as requested by the Service. Injured California red-legged frogs will be cared for by the Setvice-approved biologist(s). Dead California red-legged frogs will be placed in a sealed plastic bag with a piece of paper describing where and when the animal was found, along with the name of the person who found it. The bag will be placed in a freezer in a secure location until instructions are received from the Service or the California Department of Fish and Wildlife regarding the disposition of the specimen, or until the Service or the California Department of Fish and Wildlife takes custody of the specimen.

Action Area

The action area is defined in 50 CFR 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." The action area for the proposed project is composed of the project footprint, which encompasses all areas that will be permanently and temporarily affected by construction activities including: 1) the approximately 6.1-mi segment of SR 4 between Bonanza Mine Way and Stockton Road; and 2) segments of mixed oak woodland, non-native annual grassland, mixed chaparral habitat, valley foothill riparian habitat, multiple water features (Black Creek, Nassau Creek, Waterman Creek, Cherokee Creek, and associated tributaries and wetlands), and urban/disturbed areas (rural residential features and grazing land), all located within Caltrans' proposed right-of-way (ROW) and in which highway realignment activities will occur, and temporary construction easements and staging areas will be established. The 89 acres of permanent impacts include 67 acres of cut and fill slopes and 28 acres of roadway from edge of shoulder backing to edge of shoulder backing. The action area also includes land extending approximately 200-ft. from the edge of the footprint, which will experience further-reaching effects of construction activities such as noise and visual disturbance. The action area additionally includes a total of 116 ac (41 ac and 75 ac parcels) located within California red-legged frog critical habitat unit

CAL-1 that will be placed under rangeland easements as the focus of the proposed habitat compensation plan.

Analytical Framework for the Jeopardy Determination

Section 7(a)(2) of the Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR 402.02).

The jeopardy analysis in this biological opinion considers the effects of the proposed Federal action, and any cumulative effects, on the range-wide survival and recovery of the listed species. It relies on four components: (1) the *Status of the Species*, which describes the range-wide condition of the species, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which analyzes the condition of the species in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the species; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the species.

Analytical Framework for the Adverse Modification Determination

Section 7(a)(2) of the ESA requires that Federal agencies insure that any action they authorize, fund, or carry out is not likely to destroy or to adversely modify designated critical habitat. A final rule revising the regulatory definition of "destruction or adverse modification" (DAM) was published on February 11, 2016 (81 FR 7214) (Service, 2016). The final rule became effective on March 14, 2016. The revised definition states:

> "Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development of such features."

The DAM analysis in this biological opinion relies on four components: (1) the *Status of Critical Habitat*, which describes the range-wide condition of the critical habitat in terms of the key components (i.e., essential habitat features, primary constituent elements, or physical and biological features) that provide for the conservation of the listed species, the factors responsible for that condition, and the intended value of the critical habitat overall for the conservation/ recovery of the listed species; (2) the *Environmental Baseline*, which analyzes the condition of the critical habitat in the action area, the factors responsible for that condition, and the value of the critical habitat in the action area for the conservation/recovery of the listed species; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated and interdependent activities on the key components of critical habitat that provide for the conservation of the listed species, and how those impacts are likely to influence the conservation value of the affected critical habitat; and (4) *Cumulative Effects*, which evaluate the effects of future non-Federal activities that are reasonably certain to occur in the action area on the key components of critical habitat that provide for the conservation of the listed species and how those impacts are likely to influence the conservation value of the affected critical habitat.

For purposes of making the DAM determination, the Service evaluates if the effects of the proposed Federal action, taken together with cumulative effects, are likely to impair or preclude the capacity of critical habitat in the action area to serve its intended conservation function to an extent that appreciably diminishes the range-wide value of critical habitat for the conservation of the listed species. The key to making that finding is understanding the value (i.e., the role) of the critical habitat in the action area for the conservation/recovery of the listed species based on the *Environmental Baseline* analysis.

Status of the Species

Listing Status: The California red-legged frog was listed as a threatened species on May 23, 1996 (Service 1996). Critical habitat was designated for this species on April 13, 2006 (Service 2006) and revisions to the critical habitat designation were published on March 17, 2010 (Service 2010). At this time, the Service recognized the taxonomic change from *Rana aurora draytonii* to *Rana draytonii* (Shaffer *et al.* 2010). A recovery plan was published for the California red-legged frog on September 12, 2002 (Service 2002).

Description: The California red-legged frog is the largest native frog in the western United States (Wright and Wright 1949), ranging from 1.5 to 5.1-inches in length (Stebbins 2003). The abdomen and hind legs of adults are largely red, while the back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish background color. Dorsal spots usually have light centers (Stebbins 2003), and dorsolateral folds are prominent on the back. The belly and the undersides of the legs and feet have a bright salmon-red coloration, but some individuals are more intense than others, and the coloration can extend throughout the body. The California red-legged frog is sexually dimorphic; the females are large than the males (Dodd 2013). Larvae (tadpoles) range from 0.6 to 3.1-inches in length, and the background color of the body is dark brown and yellow with darker spots (Storer 1925).

Natural History: California red-legged frogs predominately inhabit permanent water sources such as streams, lakes, marshes, natural and manmade ponds, and ephemeral drainages in valley bottoms and foothills up to 4,921-ft. in elevation (Jennings and Hayes 1994; Bulger *et al.* 2003; Stebbins 2003). However, they also inhabit ephemeral creeks, drainages and ponds with minimal riparian and emergent vegetation. California red-legged frogs breed from November to April, although earlier breeding records have been reported in southern localities. Breeding generally occurs in still or slow-moving water often associated with emergent vegetation, such as cattails, tules, or overhanging willows (Storer 1925; Hayes and Jennings 1988). Female frogs deposit egg masses on emergent vegetation so that the egg mass floats on or near the surface of the water (Hayes and Miyamoto 1984).

California red-legged frogs do not have a distinct breeding migration (Fellers 2005). Adults are often associated with permanent bodies of water. Some individuals remain at breeding sites year-round, while others disperse to neighboring water features. Dispersal distances are typically less than 0.5-mi, with a few individuals moving up to 1-2-mi (Fellers 2005). Movements are typically along riparian corridors, but some individuals, especially on rainy nights, move directly from one site to another through normally inhospitable habitats, such as heavily grazed pastures or oak-grassland savannas (Fellers 2005).

In a study of California red-legged frog terrestrial activity in a mesic area of the Santa Cruz Mountains, Bulger *et al.* (2003) categorized terrestrial use as migratory and non-migratory. The latter occurred from one to several days and was associated with precipitation events. Migratory

movements were characterized as the movement between aquatic sites and were most often associated with breeding activities. Bulger *et al.* (2003) reported that non-migrating frogs typically stayed within 200-ft. of aquatic habitat 90 percent of the time and were most often associated with dense vegetative cover, i.e., California blackberry, poison oak and coyote brush. Dispersing frogs in northern Santa Cruz County traveled distances from 0.25-mi to more than 2-mi without apparent regard to topography, vegetation type, or riparian corridors (Bulger *et al.* 2003).

Barry and Fellers (2013) suggested that California red-legged frogs in the Sierra Nevada foothills use stream habitat in the same manner as do Coast Range populations, and they hypothesized that given the absence of natural ponds, it seems most likely that permanent or near-permanent stream courses and possibly associated springs comprise the principal natural breeding and non-breeding habitat through much of its Sierra Nevada distribution.

Outside of the breeding season when conditions are wet, and especially during rainfall, adult California red-legged frogs will disperse from the breeding habitat and they will move to upland sites where they are often found under logs, rocks, and other debris (Service 2002; Bulger *et al.* 2003; Fellers and Kleeman 2007). At some sites, populations appear to consist of both migratory frogs (11%-22% of the adult population) and resident frogs that remain at the breeding site (Bulger *et al.* 2003). Fellers and Kleeman (2007) found that adult females are more frequently migratory than males.

Upland habitat utilized by *Rana draytonii* includes nearly any area within 1- to 2-mi of a breeding site that stays moist and cool through the summer, such as vegetated areas with coyote brush, California blackberry thickets, and root masses associated with willow and California bay trees (Fellers 2005). This animal may use all aquatic, riparian, and upland areas within this distance including any landscape feature that provides cover, such as animal burrows, boulders or rocks, large cracks in the soil (Alvarez 2004), organic debris such as downed trees or logs, and anthropogenic debris. Agricultural features such as drains, watering troughs, spring boxes, abandoned sheds, or hay stacks may be used by the animal. Incised stream channels with portions narrower and depths greater than 18-inches may provide important summer sheltering habitat. In Marin County, the California red-legged frog has been documented to shelter in small mammal burrows, coyote bush, and small clumps of grass (Fellers and Kleeman 2007); in Santa Cruz County, the animal was found to use plants (79%) and woody debris (14%) to conceal themselves (Bulger *et al.* 2003). Tatarian (2008) recorded individuals near Mount Diablo in Contra Costa County using a barn door laying on the ground, five different ground squirrel burrows (one under a boulder and the others at the base of trees), and two large logs, including an erosion control log jam.

California red-legged frogs remain at their breeding site all year, while others disperse. Dispersal distances typically are less than 0.5-mi, however, some individuals have been documented to move up to 2-mi (Fellers 2005; Fellers and Kleeman 2007; Bulger *et al.* 2003). Movements typically are along riparian corridors, but some individuals, especially on rainy nights without apparent regard to topography, vegetation type, or riparian corridors, move directly from one site to another through normally inhospitable habitats. In one study, dispersing California red-legged frogs in northern Santa Cruz County were found to travel distances from 0.25-mi to more than 2-mi without apparent regard to topography, vegetation type, or riparian corridors (Bulger *et al.* 2003). No animals were found at a site in Butte County in June 1997, but six days later almost two dozen subadults and ten large adults were observed at the same time in the same pond in the afternoon and at night (Barry and Fellers 2013). Uplands also provide habitat for foraging, aestivation, movement, and other essential behaviors. Individuals often remain concealed under vegetation, surface debris, or surface litter when they are terrestrial and away from wetlands, but not actively moving (Dodd 2013a,

2013b). Logs, downed large branches, exposed tree roots, rodent burrows, and low-lying vegetation, are among the habitat elements that provide foraging, aestivation, and cover for the species.

Movement and dispersal corridors are important for viable populations of the California red-legged frog. Movement and dispersal corridors alleviate intraspecific competition, and facilitate recolonization of areas where the animal has been extirpated. Movement between population centers maintain gene flow and reduce genetic isolation. Genetically isolated populations are at greater risk of deleterious genetic effects such as inbreeding, genetic drift, and founder effects. The sizes of populations of the California red-legged frog fluctuate from year to year. When conditions are favorable, females may produce high numbers of eggs resulting in increased numbers of dispersing juveniles, sub-adults, and adults with a concomitant increase in the number of occupied sites. In contrast, the animal may temporarily disappear from an area when drought and other factors result in biologically stressful and unfavorable conditions.

In a study of California red-legged frog terrestrial activity in a xeric environment in eastern Contra Costa County, Tatarian (2008) noted that 57 percent of frogs fitted with radio transmitters in the Round Valley study area stayed at their breeding pools, whereas 43 percent moved into adjacent upland habitat or to other aquatic sites. Her study reported a peak seasonal terrestrial movement occurring in the fall months associated with the first 0.2-inch of precipitation and tapering off into spring. Upland movement activities ranged from 3-ft. to 233-ft., averaging 80-ft., and were associated with a variety of refugia including grass thatch, crevices, cow hoof prints, ground squirrel burrows at the base of trees or rocks, logs, and under man-made structures; others were associated with upland sites lacking refugia (Tatarian 2008). The majority of terrestrial movements lasted from one to four days; however, one adult female was reported to remain in upland habitat for 50 days (Tatarian 2008). Upland refugia closer to aquatic sites were used more often and were more commonly associated with areas exhibiting higher object cover, e.g., woody debris, rocks, and vegetative cover. Subterranean cover was not significantly different between occupied upland habitat and non-occupied upland habitat.

California red-legged frogs are often prolific breeders, laying their eggs during or shortly after large rainfall events in late winter and early spring (Hayes and Miyamoto 1984). Egg masses containing 2,000 - 5,000 eggs are attached to vegetation below the surface and hatch after 6 - 14 days (Storer 1925; Jennings and Hayes 1994). In coastal lagoons, the most significant mortality factor in the pre-hatching stage is water salinity (Jennings *et al.* 1992). Eggs exposed to salinity levels greater than 4.5 parts per thousand resulted in 100 percent mortality (Jennings and Hayes 1990). Increased siltation during the breeding season can cause asphyxiation of eggs and small larvae. Larvae undergo metamorphosis 3.5-7 months following hatching and reach sexual maturity at 2 - 3 years of age (Storer 1925; Wright and Wright 1949; Jennings and Hayes 1985, 1990, 1994). Of the various life stages, tadpoles probably experience the highest mortality rates, with less than one percent of each egg mass resulting in individuals reaching metamorphosis (Jennings *et al.* 1992). California red-legged frogs may live eight to 10 years (Jennings *et al.* 1992). Populations can fluctuate from year to year; favorable conditions allow the species to have extremely high rates of reproduction and thus produce large numbers of dispersing young and a concomitant increase in the number of occupied sites. In contrast, the animal may temporarily disappear from an area when conditions are stressful (e.g., during periods of drought, disease, etc.).

The diet of California red-legged frogs is highly variable and changes with the life history stage. The diet of the larvae is not well studied, but is likely similar to that of other ranid frogs, feeding on algae, diatoms, and detritus by grazing on the surface of rocks and vegetation (Fellers 2005; Kupferberg 1996a, 1996b, 1997). Hayes and Tennant (1985) analyzed the diets of California red-legged frogs from Cañada de la Gaviota in Santa Barbara County during the winter of 1981 and

found invertebrates (comprising 42 taxa) to be the most common prey item consumed; however, they speculated that this was opportunistic and varied based on prey availability. They ascertained that larger frogs consumed larger prey and were recorded to have preyed on Pacific chorus frogs, three-spined stickleback, and, to a limited extent, California mice, which were abundant at the study site (Hayes and Tennant 1985; Fellers 2005). Although larger vertebrate prey was consumed less frequently, it represented over half of the prey mass eaten by larger frogs suggesting that such prey may play an energetically important role in their diets (Hayes and Tennant 1985). Juvenile and sub-adult/adult frogs varied in their feeding activity periods; juveniles fed for longer periods throughout the day and night, while sub-adult/adults fed nocturnally (Hayes and Tennant 1985). Juveniles were significantly less successful at capturing prey and all life history stages exhibited poor prey discrimination, feeding on several inanimate objects that moved through their field of view (Hayes and Tennant 1985).

Distribution: The historic range of the California red-legged frog extended from the vicinity of Elk Creek in Mendocino County, California, along the coast inland to the vicinity of Redding in Shasta County, California, and southward to northwestern Baja California, Mexico (Fellers 2005; Jennings and Hayes 1985; Hayes and Krempels 1986). The species was historically documented in 46 counties and was thought to have declined to only 238 streams or drainages within 23 counties, representing a loss of 70 percent of its former range (Service, 2002). California red-legged frogs are still locally abundant within portions of the San Francisco Bay area and the Central California Coast. Recent research by Barry and Fellers (2013) conducted in the foothills of the Sierra Nevada found that California red-legged frogs persist at revisited documented locations, are extant at a site previously reported as extirpated, and occupy seven new locations in previously un-surveyed areas of the foothills from Butte County southeast to Mariposa County. In 2003, a new population was found along Young's Creek in Calaveras County, an area currently designated as California red-legged frog critical habitat. In 2004, a new pond was created near the occupied Spivey Pond in Eldorado County and California red-legged frogs established a sub-population in the new pond within a few years of creation (Delacy, pers. comm. 2016). In the Bay Area of northern California, California red-legged frogs often utilize stock ponds, and seasonal ponds for breeding and other behaviors (Bobzien and DiDonato 2007; Fellers and Kleeman 2007), a situation that also may be occurring in the Sierra Nevada. The compatibility of the California red-legged frog with on-going routine ranching activities, including its use of stock ponds and rangelands, led to the issuance of the section 4(d) rule by the Service that exempts these activities from the prohibitions of the Act (Service 2006). With extensive rangelands on private property throughout the Sierra foothills, it is difficult to determine some of the specific locations where the California red-legged frog is extant. The species is believed to be extirpated from the southern Transverse and Peninsular Ranges, but is still present in Baja California, Mexico.

The California red-legged frog has been found in disturbed areas such as channelized creeks and drainage ditches in urban and agricultural areas. For example, an adult was observed in a shallow isolated pool on North Slough Creek in the American Canyon area of Napa County (C. Gaber, pers. comm. 2008). This location is surrounded by vineyard development. Another adult was observed under debris in an unpaved parking lot in a heavily industrialized area of Burlingame (P. Kobernus, pers. comm. 2008). This individual likely was utilizing a nearby network of drainage ditches. Caltrans discovered adults, tadpoles, and egg masses within a storm drainage system of a major cloverleaf intersection at Millbrae Avenue and SR 101 in a heavily developed area of San Mateo County (Caltrans 2007). This species has the potential to persist in disturbed areas as long as those locations provide at least one or more of their life history requirements.

Based on microsatellite and mtDNA analysis, Richmond *et al.* (2014) found that the populations of the California red-legged frog in the Sierra Nevada are genetically distinctive from populations in

other parts of the range of this species. Barry and Fellers (2013) examined museum collections and historical records, and conducted 213 field surveys at 151 sites over a period to evaluate the status of this threatened amphibian in the Sierra Nevada. They documented animals at 20 localities between 1916 and 1975, extending from Tehama County south to Madera County. The elevation ranged from 656-ft. to 2,953-ft., but three extirpated populations occurred at 5,000-ft. in Yosemite National Park. Historically, the California red-legged frog in the Sierra Nevada probably bred in stream pools, which tend to be small with limited forage and this constrained the size and number of populations (Barry and Fellers 2013). Since the 1850s, manmade ponds, which sometimes are capable of supporting large populations of this species, have supplemented stream pool breeding habitat. Barry and Fellers (2013) concluded that, excluding the southernmost and Yosemite National Park records, the current range of the California red-legged frog in the Sierra Nevada differs little from the historical range, and further surveys likely will reveal additional populations.

Six of the recently discovered populations in the Sierra Nevada and associated foothills occupy instream impoundments, excavated mining tailings ponds, and other man-made ponds (Barry and Fellers 2013). Some of these waterbodies are older than 90 years, none are deeper than 10-ft., and most are less than 6.5-ft. in depth. Old mine tailings ponds, stock ponds, and lumber ponds still likely provide many acres of suitable breeding and non-breeding aquatic habitat for the California red-legged frog in the Sierra Nevada and associated foothills (Barry and Fellers 2013). Two extant populations, Spivey Pond and Big Gun Digging, indicate that this listed animal can develop relatively large and dense populations under certain conditions in this region. The single digit frog occurrences, such as Rollins Ridge and Bear Creek, suggest that California red-legged frogs disperse overland from their breeding and non-breeding aquatic habitats, and disperse through upland habitats. Barry and Fellers (2013) noted that the California red-legged frog is secretive, scarce, and cryptic, and it likely has always been scarce and difficult to detect in the Sierra Nevada and associated foothills.

Recovery Plan: The recovery plan for the California red-legged frog identifies eight recovery units (Service 2002). The establishment of these recovery units is based on the determination that various regional areas of the species' range are essential to its survival and recovery. The status of the California red-legged frog was considered within the small scale recovery units as opposed to their overall range. These recovery units are delineated by major watershed boundaries as defined by U.S. Geological Survey hydrologic units and the limits of its range. The goal of the recovery plan is to protect the long-term viability of all extant populations within each recovery unit. Within each recovery unit, core areas have been delineated and represent areas where recovery efforts will be focused. The core areas when protected and managed for California red-legged frogs, will allow for long-term viability of existing populations and reestablishment of populations within the historic range. Preservation and enhancement of each core area is important to maintain and expand the distribution of California red-legged frog populations rangewide. Core areas will require long-term protection and management so that existing and reestablished populations remain viable.

Threats: Habitat loss, non-native species introduction, and urban encroachment are the primary factors that have adversely affected the California red-legged frog throughout its range. The California red-legged frog tolerates native fish species (Dodd 2013a, 2013b), but several researchers have noted the decline and eventual local disappearance of California red-legged frogs in areas co-inhabited by the American bullfrog (Jennings and Hayes 1990; Twedt 1993; Dodd 2103a, 2013b), red swamp crayfish, signal crayfish, and several species of warm water fish including sunfish, goldfish, common carp, and mosquitofish (Moyle 1976; Barry 1992; Hunt 1993; Fisher and Schaffer 1996). This reduction or elimination has been attributed to predation, competition, and reproduction interference.

The effect of the American bullfrog on the California red-legged frog has been studied, both empirically (Moyle 1976) and from a modeling perspective (Doubledee *et al.* 2003). Twedt (1993) documented American bullfrog predation of juvenile northern red-legged frogs, and suggested that bullfrogs could prey on sub-adults of the California red-legged frog as well. American bullfrogs also may have a competitive advantage over these two *Rana* species. For instance, they are larger and possess more generalized food habits (Bury and Whelan 1984); possess an extended breeding season (Storer 1933) during which an individual female can produce as many as 20,000 eggs (Emlen 1977); and their tadpoles are unpalatable to predatory fish (Kruse and Francis 1977).
There is a strong overall negative impact on bullfrogs on California red-legged frogs, although coexistence between the two species has been documented in the wild. Cook and Jennings (2007) found *Rana draytonii* and bullfrogs utilizing similar habitats during the winter at Annadel State Park in Sonoma County. They suggested that the separate reproductive seasons of the two species may reduce competition and predation by the bullfrog on the California red-legged frog, and the marsh's late-season drying limits metamorphosis of the bullfrog, which usually requires permanent water. Doubledee *et al.* (2003) found that winter floods, which increase the mortality of bullfrogs, but not California red-legged frogs, facilitate coexistence if they occur more than once every five years.

The urbanization of land within and adjacent to California red-legged frog habitat has also affected the threatened amphibian. These declines are attributed to channelization of riparian areas, enclosure of the channels by urban development that blocks dispersal, and the introduction of predatory fishes and bullfrogs.

Diseases are causing global amphibian declines (Davidson *et al.* 2003; Lanoo 2005), and pose a threat to the California red-legged frog. Chytrid fungus (*Bd*) is known to have caused serious declines in many amphibian species and it has been detected in *R. draytonii* in nature. However, the direct impact *Bd* has on the California red-legged frog appears to be relatively slight. In a laboratory setting, this animal is susceptible to chytrid infection, but frogs can clear their infections, do not die from the infection, and suffer no growth consequences when they have access to unlimited food (Padgett-Flohr 2008). In nature, across a landscape of ponds where *Bd* presence and absence fluctuated between wet and dry years, *R. draytonii* were generally uninfected and found to be significantly associated with uninfected ponds (Padgett-Flohr and Hopkins 2010).

Humans facilitate the spread of disease by creating or improving the environmental conditions required by the disease and by acting as carriers (e.g. contaminated boots or fishing equipment). Humans can introduce biological stresses by other means including habitat fragmentation that results in the California red-legged frog becoming more susceptible to diseases. Disease likely will continue to be a threat to this listed species, especially in the Sierra Nevada, because of its relatively small and fragmented remaining meta-populations, and the many stressors due to habitat losses.

The average temperature in the United States has risen by approximately 1.5° Fahrenheit since 1895; more than 80 percent of this increase has occurred since 1980 (Adger *et al.* 2007; Schiermeier 2012; Tollefson and Monastersky 2012; Monastersky 2013; Allen *et al.* 2013; California Climate Action Team 2013; Kadir *et al.* 2013; U.S. Global Change Research Program 2013; Hurteau *et al.* 2014; Melillo *et al.* 2014). There is an international scientific consensus that the warming is the result of human activities (Adger *et al.* 2007; U.S. Global Change Research Program 2013; Melillo *et al.* 2014), and that it is due to increasing concentrations of greenhouse gases, including carbon dioxide, methane, and nitrous oxide, in the global atmosphere from burning fossil fuels and other human activities (Monastersky 2013; Adger *et al.* 2007). The temperatures in the United States will continue to rise, with the next few decades projected to see another 2°F to 4°F of warming in most areas. The amount of warming by the end of this century is projected to closely correspond to the cumulative global emissions of greenhouse gases up to that time, ranging from 3°F to 10°F depending upon the

level of emissions after the year 2050 (U.S. Global Change Research Program 2013). There are multiple mechanisms by which global warming may push already imperiled species closer or over the edge of extinction. Global warming increases the frequency of extreme weather events, such as heat waves, droughts, and storms (California Climate Action Team 2006; U.S. Global Change Research Program 2013). As global temperatures continues to rise, habitats are moving northward and upward in elevation, others will be eliminated, but in the near future, range contractions or extinctions of some species are more likely than simple northward or upslope shifts and this may be especially pronounced for the California red-legged frog owing to habitat fragmentation (Wright *et al.* 2013). Since climate change threatens to disrupt annual weather patterns, it will result in a loss of habitats, food, or increased numbers of predators, parasites, and diseases.

For the Sierra Nevada ecoregion, climate models predict that mean annual temperatures will increase by 3.2 to 4.3 °F by 2070, including warmer winters with earlier spring snowmelt and higher summer temperatures (Point Reyes Bird Observatory 2011). Additionally, mean annual rainfall is projected during this time period to decrease from the current average by some 3.6 - 13.3-inches (Point Reyes Bird Observatory 2011). However, projections have high uncertainty and one study predicts the opposite effect (Point Reyes Bird Observatory 2011). Snowpack is, by all projections, going to decrease dramatically following the temperature rise and increase in precipitation falling as rain (Point Reyes Bird Observatory 2011). Higher winter streamflows, earlier runoff, and reduced spring and summer streamflows are projected, with increasing severity in the Sierra Nevada (Point Reyes Bird Observatory 2011). Meadows fed by snowmelt may dry out or be more ephemeral during the non-winter months (Point Reyes Bird Observatory 2011).

Global climate change is highly likely to adversely influence ground water transport, reduce persistence of surface water that leads to reduced depth, duration, and extent of ponding available for eggs, tadpoles, breeding, and other life history stages of the California red-legged frog. Therefore, ongoing global climate change is highly likely to imperil this listed species and the resources, including the aquatic areas, necessary for their survival.

Status of Critical Habitat

The Service designated critical habitat for the California red-legged frog on April 13, 2006 (71 FR 19244) (Service 2006); a revised designation to the critical habitat was published on March 17, 2010 (75 FR 12816) (Service 2010).

The Primary Constituent Elements (PCEs) defined for the California red-legged frog were derived from the species' biological needs. The area designated as revised critical habitat provides aquatic habitat for breeding and non-breeding activities; upland habitat for shelter, foraging, and predator avoidance; and dispersal habitat to move across its range. The PCEs and the associated physical and biological features essential for the conservation of the species were determined from studies of California red-legged frog ecology. Based on the life history, biology, and ecology of the species, and the habitat requirements for sustaining the essential life-history functions of the species, the Service determined that the PCEs essential to the conservation of the California red-legged frog are:

1. *Aquatic Breeding Habitat.* Standing bodies of fresh water (with salinities less than seven parts per thousand), including: natural and manmade (e.g., stock) ponds, slow-moving streams or pools within streams, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in all but the driest of years.

2. *Non-Breeding Aquatic Habitat.* Freshwater and wetted riparian habitats, as described above, that may not hold water long enough for the subspecies to hatch and complete its aquatic life cycle but that do provide for shelter, foraging, predator avoidance, and aquatic dispersal for juvenile and adult California red-legged frogs. Other wetland habitats that would be considered to meet these elements include, but are not limited to: plunge pools within intermittent creeks; seeps; quiet water refugia during high water flows; and springs of sufficient flow to withstand the summer dry period.

3. *Upland Habitat.* Upland areas adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to a distance of 1-mi in most cases and comprised of various series of vegetation such as grasslands, woodlands, wetland, or riparian plant species that provide the frog shelter, forage, and predator avoidance. Upland features are also essential in that they are needed to maintain the hydrologic, geographic, topographic, ecological, and edaphic features that support and surround the wetland or riparian habitat. These upland features contribute to the filling and drying of the wetland or riparian habitat and are responsible for maintaining suitable periods of pool inundation for larval frogs and their food sources, and provide breeding, non-breeding, feeding, and sheltering habitat for juvenile and adult frogs (e.g., shelter, shade, moisture, cooler temperatures, a prey base, foraging opportunities, and areas for predator avoidance). Upland habitat should include structural features such as boulders, rocks and organic debris (e.g., downed trees, logs), as well as small mammal burrows and moist leaf litter.

4. *Dispersal Habitat.* Accessible upland or riparian dispersal habitat within designated units and between occupied locations within a minimum of 1-mi of each other that allow movement between such sites. Dispersal habitat includes various natural habitats and altered habitats such as agricultural fields, which do not contain barriers (e.g., heavily traveled road without bridges or culverts) to dispersal. Dispersal habitat does not include moderate- to high-density urban or industrial developments with large expanses of asphalt or concrete, nor does it include large reservoirs over 50 ac in or other areas that do not contain features identified in 1, 2, or 3 as essential to the conservation of the subspecies.

With the revised designation of critical habitat, the Service intends to conserve the geographic areas containing the physical and biological features that are essential to the conservation of species through the identification of the appropriate quantity and spatial arrangement of the PCEs that are sufficient to support the life-history functions of the species. Because not all life-history functions require all of the PCEs, not all areas designated as critical habitat will contain all of the PCEs.

The designation of critical habitat for the California red-legged frog included a section 4(d) special rule exempting on-going routine ranching activities on private and tribal lands from the prohibition of the Act (Service 2006). The Service determined that on-going routine ranching activities are compatible with this listed species.

Environmental Baseline

California red-legged frog

The action area is located within the California red-legged frog Recovery Unit 1 (Sierra Nevada Foothills and Central Valley) (Service, 2002). Within the action area, it is reasonably likely that the California red-legged frog has been affected by the introduction of transportation infrastructure like SR 4; the initial construction of this two-lane highway removed and fragmented habitat, while roadway- and vehicle-related risks pose ongoing threats of injury and mortality to the species.

Although the action area is still composed of vegetation communities such as mixed oak woodland, non-native annual grasslands, mixed chaparral, and valley foothill riparian, plus segments of perennial water channels (Black Creek, Nassau Creek, Waterman Creek, and Cherokee Creek) and associated tributaries, ephemeral drainages, ponds, seeps, and wetlands, the action area also contains a few areas of limited development, including rural residential driveways, ranchette residential structures, infrastructure for livestock operations, and the approximately 6.1-mi strip of existing highway. The majority of the action area is undeveloped and it is used to graze cattle.

The action area lies wholly within the South Fork Calaveras River Core Area and immediately north of the Tuolumne River Core Area. The South fork Calaveras River Core Area extends west from the project to designated critical habitat (CAL-1). CAL-1 lies adjacent to but not within the South Fork Calaveras River Core Area.

The California Department of Fish and Wildlife's Natural Diversity Database (CNDDB 2016) contains an extant population of the California red-legged frog approximately 8-mi to the east of the project footprint in the Stanislaus River Watershed. Streamflow draining at the western end of the project is situated within the Stanislaus River Watershed. A second extant population of the species is known within the Calaveras Unit (CAL-1) of designated critical habitat for the California red-legged frog and lies approximately 14-mi northwest of the project footprint at Young's Creek, which is located near the confluence with Spring Valley Creek within the Calaveras River Watershed; a CNDDB record for the species at this location dates from 2003. The final rule designating critical habitat exempted routine ranching operations because the Service found that livestock grazing in the Bay Area is conducted on lands that support healthy California red-legged frog populations. Much of the foothills of Calaveras and Tuolumne counties are grazed and support a mixture of grasslands, oak woodlands, stream systems, and ponds that likely function as prime habitat for the species. According to Barry and Fellers (2013), "The recent population and single-frog discoveries described in the present study show that *R. draytonii* remains widespread in the Sierra Nevada. However, even relatively large Sierra Nevada *R. draytonii* populations can be cryptic and can fluctuate significantly in little time, for no discernible reason."

Jeff Alvarez of The Wildlife Project conducted a basic assessment of the action area following the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (Service 2005). He did not conduct protocol-level surveys due to access issues. Mr. Alvarez, along with staff from Dokken Engineering surveyed a small portion of the entire protocol-level survey area (less than one percent) and did not detect individual California red-legged frogs. During a telephone conversation with the Service, Mr. Alvarez informed the Service (pers. comm. 2016) that he had observed a significant amount of suitable habitat for the California red-legged frog in the action area.

Fellers and Kleeman (2007) noted that finding *R. draytonii* in non-breeding habitat during daytime surveys in coastal regions is largely a matter of chance because in such settings these frogs are scarce, cryptic, secretive, and strongly nocturnal. Changes in vegetation and channel morphology resulting from winter storms may also cause these frogs to occupy different reaches along the same stream from year to year, so that it is unlikely that frogs will be found repeatedly along the same stream reach. Barry and Fellers' (2013) findings suggest that the difficulties associated with detecting the California red-legged frog in coastal regions also exist in the Sierra Nevada Foothills.

The Service has concluded that the California red-legged frog is reasonably certain to occur within the action area, including the Young's Creek compensation site, because: (1) the species is known to occur within the Stanislaus River and Calaveras River watersheds; this includes Young's Creek, a tributary of the Calaveras River, where there have been recorded observations of the species; (2) California red-legged frogs likely move within occupied drainages, including the Stanislaus River

and Calaveras River watersheds; (3) the action area contains physical features that provide refuge, breeding, foraging, and dispersal habitat for the species; (4) observations of the species occupying similar habitat have been recorded in the foothills of the Sierra Nevada; and (5) the biology and ecology of the animal, especially the ability of individuals to move, forage, and winter in creeks and small ponds.

Critical Habitat

Although project construction at the SR 4 location is not situated within designated critical habitat, the proposed off-site compensation sites on which two rangeland easements will be placed are located within a portion of California red-legged frog critical habitat unit CAL-1, which is located in northwestern Calaveras County. This is the only critical habitat unit in Calaveras County. The unit is composed of approximately 2,764 ac of private land, and is bounded by SR 12 on the south, by SR 26 on the east, and by Paloma Road on the north and west. Of this total acreage, habitat compensation activities will encompass a total of 116 ac (or approximately 4.2 percent) of Unit CAL-1.

According to the Service's revised designation of critical habitat for the California red-legged frog (Service 2010), Unit CAL-1 is mapped entirely from species occurrences recorded subsequent to the time of listing and is based on life history and population dynamics of the species; the area was most likely occupied at the time of listing. The CNDDB record referenced in the preceding section was identified within Unit CAL-1, but it does not fall within the proposed rangeland easements. Unit CAL-1 is essential for the conservation of the species because it contains aquatic habitat for breeding and non-breeding activities (PCE 1 and PCE 2), and upland habitat for foraging and dispersal activities (PCE 3 and PCE 4), and is known to be occupied by the species. This unit encompasses one of six known extant Sierra Nevada foothill populations identified since the time of listing and is located in the easternmost portion of the species' historical range. This unit is adjacent to the South Fork Calaveras River Core Area for the species and assists in maintaining the distribution of the species within the Sierra Nevada Mountains.

The entire critical habitat unit is composed of private land. The physical and biological features in this unit may require special management considerations or protections due to necessary wildland fire suppression activities and predation by nonnative species. Current activities in Unit CAL-1 include livestock grazing, scattered residential development, and small scale farming.

Effects of the Action

Habitat Loss and Disturbance

Project construction will permanently affect a total of 95 ac of aquatic and dispersal habitat and temporarily affect a total of 75 ac of breeding and nonbreeding aquatic, upland, and dispersal habitat for the California red-legged frog. The extent of the permanently affected area includes 28 ac of roadway including pavement, shoulders and shoulder backing and 67 ac of cut and fill. The outside edge of the cut and fill limits are considered to be the boundary of the permanently affected area given that work within this area will remove the availability of opportunities for dispersal, foraging, refuge, and other essential behaviors for the species due to the absence of vegetation, the compacted nature of the area following construction, and the presence of overly steep exposed slopes. The extent of the temporarily affected area includes the temporary construction easement limits in which vehicles and equipment will move, be staged, or stored. Activities associated with widening and realigning SR 4 will further fragment and reduce the amount of dispersal habitat available to the California red-legged frog given that 1) this habitat will be converted to pavement; 2) the increase in

the pavement's surface area will lead to a busier, improved-for-speed highway; and 3) there will be reduced connectivity between remaining areas of habitat on either side of the new alignment due to expansive cut and fill slopes along most of the new alignment.

As noted previously in the **Description of the Action** section, the County, in coordination with Caltrans, has proposed a set of conservation measures, including the commitment to provide compensatory habitat as a condition of the action. This compensatory habitat is intended to minimize the effect on the species of the proposed project's anticipated incidental take, resulting from the permanent loss of, and temporary disturbance to, habitat described above. The compensatory habitat proposed will be in the form of two rangeland easements (41 ac and 75 ac) within designated critical habitat and adjacent to a core area for the purpose of long-term preservation; the 41 ac easement also will undergo restoration and enhancement as mitigation for Federal and State Clean Water Act requirements, and for the loss of oak trees. Although activities associated with the restoration and enhancement within the rangeland easement, such as pond creation, riparian restoration, and oak tree plantings, will result in small-scale permanent and temporary effects to habitat, these activities are unlikely to result in adverse effects to individual California red-legged frogs. Rather, the establishment of new ponds and riparian habitat for the species will result in a long-term beneficial effect for the amphibian by providing new and improved quality aquatic, upland, and dispersal habitat for individuals within designated critical habitat unit CAL-1. Compensating for project impacts in an area occupied by California red-legged frogs, within designated critical habitat, and adjacent to a core area will support recovery actions within the Sierra Nevada Foothills and Central Valley Recovery Unit.

This component of the action will have the effect of protecting and managing lands for the species' conservation in perpetuity. The compensatory lands will provide suitable habitat for breeding, feeding, or sheltering that is commensurate with, or better than, habitat lost as a result of the proposed project. Providing this compensatory habitat as part of a relatively large, contiguous block of conserved land may contribute to other recovery efforts for the species.

Highway Construction Activities

The California red-legged frog is known to travel along riparian corridors and other water channels; the species may move along the various creeks and associated tributaries that pass through culverts or other undercrossing features below SR 4. Individuals also may move across the roadway. However, the species is known to make linear, point-to-point movements without apparent regard to topography, vegetation type, or riparian corridors, and upland habitat that does not contain significant barriers to dispersal may be used by the species (Service 2002). For this reason, there is potential for the California red-legged frog to disperse through surrounding upland habitat and enter the action area at any point along the approximately 6.1-mi extent in order to cross the highway at-grade.

Due to the cryptic nature of California red-legged frogs and their ability to burrow into soil while under cover, preconstruction surveys may miss frogs that are within the action area during construction. Grading and the placement of fill may directly affect California red-legged frogs that are hiding within underground refugia or under logs, rocks, and other forms of cover where they are not easily detected.

Injury and mortality to the California red-legged frog is likely to occur when individuals attempt to cross the highway. SR 4 currently is an existing hazard to the species. The realignment of the highway, along with the associated widening to create standard-width travel lanes and shoulders, will further remove available habitat for the species, as well as act as a barrier to individuals. The

utilization of any temporary barrier structures during the course of construction, such as concrete k-rail barriers for the purpose of traffic control and safety, will obstruct the movement of those individuals that reach the highway; this will result in an incremental increase in mortality to an unknown number of individuals. Temporary barrier structures, such as k-rail are reasonably likely to increase the risk of death by desiccation or predation by either increasing the time it will take for the species to cross the highway, provided individuals successfully find a way around the barrier, or by creating an impenetrable obstacle in the event that individuals fail to find an alternative path.

Although work crews will receive environmental awareness training and will be expected to implement and abide by multiple other measures to minimize and avoid adverse effects to the species, such as speed limit restrictions and checking excavated areas/trenches/holes for trapped individuals, given the large scale of the proposed earth-moving effects, there remains the risk of crushing or entombing California red-legged frogs with project equipment/vehicles during initial earth-moving and construction activities. This may occur when individuals are occupying underground refugia, or when they are dispersing or moving overland.

Noise and lighting associated with realigning and widening the highway are reasonably likely to result in increased disturbance, causing California red-legged frogs in and near construction activities to vacate those areas. Displaced individuals are likely to be subject to an increased potential for predation and desiccation, and to a reduced ability to find resources such as food and shelter. The County and Caltrans plan to reduce these effects by minimizing the amount of night work. When activities need to occur at night, the County and Caltrans will make a best effort to face lights away from California red-legged frog habitat.

Construction activities occurring in, or in proximity to, the water features contained within the action area (Black Creek, Nassau Creek, Waterman Creek, Cherokee Creek, and associated tributaries and wetlands, could result in the injury to, or death of, California red-legged frog adults, sub-adults, tadpoles and eggs that occupy or use this aquatic habitat if they are crushed by construction equipment or become trapped in pumps used for dewatering the areas. The dewatering plan includes measures to ensure California red-legged frogs are captured and released, and that the input to the pumps is screened to prevent capturing aquatic species.

Construction equipment could leak hazardous substances, which could poison California red-legged frogs or lead to reduced reproductive success, prey availability, and foraging success. Contaminated equipment also could introduce or spread non-native invasive plant species, which will diminish habitat quality. The County and Caltrans will reduce these risks by implementing BMPs for erosion control, restricting equipment fueling and maintenance to designated areas located away from water features, and pressure-washing equipment and vehicles prior to arriving or leaving the project site.

Capture and Relocation

Although preconstruction surveys and monitoring efforts during highway realignment and widening activities will reduce the likelihood of injury and death caused by ground-disturbing activities within the work areas, capturing and handling California red-legged frogs that require removal from construction areas likely will result in adverse effects to these individuals. Capture and relocation likely will stress, injure, or kill individuals as a result of improper handling, containment, and transport. Injury and death could occur at the time of relocation or later in time following release as a result of intraspecific competition, as well as a lack of familiarity with new potential breeding, feeding, and sheltering habitats which may lead to death from exposure, or a lack of food or water, and refuge. These risks will be reduced by Service-approved biologists who will be qualified to capture and handle the California red-legged frog.

Post-Construction

The increase in the overall area of impervious surfaces, such as the highway, intersections, and segments of adjoining roads, likely will result in increased stormwater runoff that will enter the creeks and other water features located within the action area, leading to reduced water quality in aquatic habitats. The numerous cut and fill slopes along the new alignment will create a significant barrier to movement in this portion of the species' range, resulting in the reduction or elimination of dispersal habitat. The roadway improvements will allow vehicles to continuously travel at high speeds in areas near, or at-grade with, the surrounding landscape. Much of the current alignment is situated at-grade or has minimal cut and fill, and contains sharp turns and blind corners. The improvements will increase vehicle speed and the likelihood for vehicles to strike California red-legged frogs that are attempting to cross the highway. The inclusion of undercrossings for animals to move under the highway using the narrow, infrequent culverts and bridges will allow those California red-legged frogs dispersing along stream corridors to avoid roadway vehicle strikes. Although California red-legged frogs are good climbers, the cut and fill slopes will be exposed for many years, potentially decades, before sufficient cover and refugia is reestablished. The overall affects to the South Calaveras River core area will be fragmenting upland and dispersal habitat in the southern portion of the core area which is adjacent to the Tuolumne River Core Area.

Critical Habitat

Within critical habitat unit CAL-1, the proposed habitat compensation plan will provide long-term preservation and enhancement of 41 ac on the southern tributary of Young's Creek, as well as long-term preservation of 75 ac; habitat will contain suitable aquatic breeding, aquatic non-breeding, upland, and dispersal PCEs. The 75 ac easement will be established either on the northern tributary of Young's Creek on the Rana Ranch property, or on another property with a willing landowner that is located within Unit CAL-1. Both easement sites will be maintained in current grazing practices: the 75 ac easement site will be the subject of preservation only, therefore, it will experience no habitat loss or additional disturbance in excess of its normal grazing and ranching activities; the 41 ac easement will undergo further enhancement activities, including multiple pond creation, riparian restoration, removal of exotic invasive plants, and native oak tree plantings. These enhancement activities will have permanent short-term adverse effects on the PCEs as a result of the earthwork and trenching required to create the ponds, as well as short-term adverse effects due to temporary ground disturbance stemming from: (1) the presence of equipment needed to dig the ponds and to perform the other enhancement work; (2) the establishment of a temporary irrigation system for the new native oak tree plantings and restored riparian areas; (3) the staging of equipment in upland and dispersal habitat; and (4) grading and contouring to construct new aquatic habitat. However, once the restoration work, plantings, and pond construction are complete, and the rangeland easement and Service-approved management plan are in place, there will be long-term beneficial effects to the PCEs within this 41 ac easement site due to the increased quality of the physical and biological features.

The 116 ac of land that will be placed under rangeland easements represents approximately 4.2 percent of Unit CAL-1. The anticipated effects to the 41 ac rangeland easement situated within Unit CAL-1 (representing approximately 1.5 percent of the entire unit) resulting from activities and equipment associated with pond construction and restoration work are expected to increase the biological value and function of this critical habitat unit. Therefore, the PCEs in this unit will remain intact, contributing to the high conservation value of the unit as a whole, and sustaining its role in the conservation and recovery of the California red-legged frog.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Cattle grazing and other ranching activities will continue to take place in the future on privately-owned property located within Unit CAL-1, which is where the County, in coordination with Caltrans, proposes to establish a 41 ac rangeland easement with habitat enhancement; a 75 ac rangeland easement; and an endowment and management plan for each easement. The Service considers cattle grazing and associated ranching activities to be compatible with the California red-legged frog, and they are not expected to result in adverse cumulative effects.

Conclusion

After reviewing the current status of the California red-legged frog, the environmental baseline for the action area, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the California red-legged frog. The Service reached this conclusion because the project-related effects to the species, when added to the environmental baseline and analyzed in consideration of all potential cumulative effects, will not rise to the level of precluding recovery or reducing the likelihood of survival of the species based on the following reasons: (1) the implementation of the conservation measures described in this biological opinion, which are anticipated to minimize and avoid adverse effects to the California red-legged frog; and (2) the placement of 116 ac of land situated within designated critical habitat under rangeland easements, along with the implementation of habitat enhancement, endowments, and management plans are anticipated to minimize adverse effects to breeding and non-breeding aquatic, upland and dispersal habitat permanently impacted by constructing the project.

After reviewing the current status of designated critical habitat for the California red-legged frog, the environmental baseline for the action area, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to destroy or adversely modify designated critical habitat. The Service reached this conclusion because the project-related effects to the designated critical habitat, when added to the environmental baseline and analyzed in consideration of all potential cumulative effects, will not rise to the level of precluding the function of the California red-legged frog critical habitat to serve its intended conservation role for the species based on the following reasons: (1) adverse effects to critical habitat unit CAL-1 will be very small-scale and short-term, particularly when measured against critical habitat designated for the species as a whole; and (2) the total 116 ac of land within designated critical habitat placed under rangeland easements, along with habitat enhancement, and the associated endowments and management plans, will provide an overall long-term benefit to critical habitat unit CAL-1 through preservation and restoration/enhancement. Therefore, the adverse effects to California red-legged frog critical habitat are small, discrete, and short term, relative to the entire area designated, and to the entire area covered by the rangeland easements, habitat enhancement, endowments, and management plans. The long-term effects will increase the value of the critical habitat and contribute to sustaining its role in the conservation of the California red-legged frog.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by Service regulations at 50 CFR 17.3 as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the same regulations as an act which actually kills or injures wildlife. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by Caltrans so that they become binding conditions of any contract developed with the contractor for the exemption in section 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activity covered by this incidental take statement. If Caltrans (1) fails to assume and implement the terms and conditions or (2) fails to require the County and its contractor to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the contract, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Caltrans must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR 402.14(i)(3)].

Amount or Extent of Take

The Service does not have a means of counting or conducting a census of all California red-legged frogs within the approximately 6.1-mi segment of SR 4 from Bonanza Mine Way to Stockton Road, and the two compensation sites on Young's Creek in critical habitat unit CAL-1. The Service cannot measure the number of individuals taken as a result of this action because these animals are difficult to locate, particularly if they are already dead or impaired. An individual may be challenging to observe when it is alive due to its size, cryptic coloring and behavior, and the complexity of its habitat. In addition, egg masses, tadpoles, and adults are frequently hidden in submerged vegetation and cannot be counted precisely. Therefore, although the Service could attempt to generate counts of California red-legged frogs based on past surveys or the amount of suitable habitat, these methods would not provide accurate estimates of the number of individuals present within the hundreds of acres of the action area. If the Service is unable to provide a reliable, predictive number of California red-legged frogs within the action area, particularly since this number changes each year due to emigration, immigration, and fatalities, it follows logically that the Service would be unable to provide a numerical estimate of the number of individuals incidentally taken as a result of the proposed action.

Since the Service cannot estimate the number of California red-legged frogs that will be incidentally taken for the reasons listed above, the Service is providing a mechanism to quantify when take would be considered to be exceeded as a result of the project, including the compensation sites: the detection of one dead or injured California red-legged frog (any life stage) will be used to determine when take is exceeded. By setting a threshold of one injured or dead individual detected, the Service has set an incidental take limit that is measurable, irrefutable, and indicates that the threatened

species is being affected at a level where avoidance and minimization measures and project implementation need to be evaluated and possibly modified. The Service concludes that the incidental take of the California red-legged frog will be considered exceeded if one individual of this species (detected by the Service-approved biologists or other personnel) is killed or injured during the project. The Service also anticipates take incidental to the proposed action as the capture, harm, and harassment of all California red-legged frogs inhabiting or moving through the project action area, including the two compensation sites located in critical habitat unit CAL-1. The conservation measures in this biological opinion provide the specific procedures that Caltrans will implement to ensure a live California red-legged frog is allowed to leave the work site of its own volition, or the specific conditions under which Caltrans will remove individuals from the project and report the incident and the conditions of the encounter within one working day to the Service; this will adequately minimize the adverse effects from capture, harm, and harassment.

The Service has identified activities that may result in the incidental take of individual California red-legged frogs (discussed in the **Effects of the Action** section above); however, the Service does not anticipate the complete loss of all individuals within the project action area. The action as analyzed could take individual California red-legged frogs of various life stages, including adults, sub-adults, tadpoles, and eggs (though the Service is unable to count the exact number) through direct fatality or harm from crushing and entombing (human or machine), and harm and/or harassment through habitat loss and disturbance (e.g., as a result of activities associated with highway/roadway improvements and maintenance, ground disturbance, and tree and vegetation removal). This amount of incidental take will not prevent the population of the California red-legged frog from recovering to pre-take levels because the Service believes that the conservation measures will be effective at avoiding and minimizing the amount and extent of incidental take from the project. Therefore, the Service believes that even though detection of one individual adult indicates the likelihood that more individuals have been injured or killed, it is likely that other individuals will survive and continue to reproduce within the project action area. Capturing and releasing live California red-legged frogs, or allowing individuals to leave of their own volition within the work areas, also will ensure they survive and reproduce.

The Service concludes that this level of incidental take does not place recovery of the California red-legged frog at risk. The Service acknowledges that regardless of whether Caltrans completes the project, environmental factors such as drought, movement of nonnative species, increased amount of exotic vegetation, and natural fluctuations in California red-legged frog populations will result in changes in the occupancy of suitable habitat throughout the action area.

Upon implementation of the following reasonable and prudent measure, incidental take of the California red-legged frog associated with the project, including the compensation sites in critical habitat unit CAL-1, will become exempt from the prohibitions described in section 9 of the Act.

Effect of the Take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the California red-legged frog or in the destruction or adverse modification of critical habitat for the species.

Reasonable and Prudent Measure

All necessary and appropriate measures to avoid and minimize effects on the California red-legged frog resulting from implementation of this project have been incorporated into the project's proposed conservation measures. Therefore, the Service believes the following reasonable and

prudent measure is necessary and appropriate to minimize incidental take of the California red-legged frog:

1. All conservation measures, as described in the Biological Assessment and restated here in the **Description of the Action** section of this biological opinion, shall be fully implemented and adhered to. Further, this reasonable and prudent measure shall be supplemented by the terms and conditions below.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, Caltrans must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

1. Caltrans shall verify and ensure that the County includes full implementation and adherence to the conservation measures as a condition of any contract issued for the project.

2. In order to monitor whether the amount or extent of incidental take anticipated from implementation of the project is approached or exceeded, Caltrans shall adhere to the following reporting requirements. Should this anticipated amount or extent of incidental take be exceeded, Caltrans shall immediately reinitiate formal consultation, as per 50 CFR 402.16.

    a. For those components of the action that will result in habitat loss, degradation, or modification whereby incidental take in the form of harm is anticipated, Caltrans shall provide monthly updates to the Service with a precise accounting of the total acreage of habitat impacted. Updates also shall include any information about changes in project implementation that result in habitat disturbance not described in the **Description of the Action** and not analyzed in this biological opinion.

    b. Caltrans shall immediately contact the Service's Sacramento Fish and Wildlife Office (SFWO) at (916) 414-6600 to report direct encounters between listed species and project workers and their equipment whereby incidental take in the form of harassment, harm, injury, or death occurs. If the encounter occurs after normal working hours, Caltrans shall contact the SFWO at the earliest possible opportunity the next working day. When injured or killed individuals of the listed species are found, Caltrans shall follow the steps outlined in the **Salvage and Disposition of Individuals** section below.

    c. For those components of the action that will require the capture and relocation of any listed species, Caltrans shall immediately contact the SFWO at (916) 414-6600 to report the action. If capture and relocation need to occur after normal working hours, Caltrans shall contact the SFWO at the earliest possible opportunity the next working day.

    d. In the event that fill material must be imported to the project area, Caltrans shall verify that the contractor fulfills its responsibility for the appropriate selection and environmental compliance of a selected borrow site.

    e. A final post-construction report detailing compliance with the project design criteria and proposed conservation measures described under the **Description of the Action** section of this biological opinion shall be provided to the Service within

60 calendar days of completion of the project. The report shall include: (1) dates of project groundbreaking and completion; (2) pertinent information concerning the success of the project in meeting the conservation measures; (3) an explanation of failure to meet such measures, if any; (4) known project effects on the California red-legged frog, if any; (5) observed incidents of harm, harassment, injury to, or mortality of the California red-legged frog, if any; and (6) any other pertinent information.

Salvage and Disposition of Individuals

Injured listed species must be cared for by a licensed veterinarian or other qualified person(s), such as the Service-approved biologist. Dead individuals must be sealed in a re-sealable plastic bag containing a paper with the date and time when the animal was found, the location where it was found, and the name of the person who found it; the bag containing the specimen must be frozen in a freezer located in a secure site, until instructions are received from the Service regarding the disposition of the dead specimen. The Service contact person is the Forest-Foothills Division Chief of the Endangered Species Program at the SFWO at (916) 414-6600.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service recommends the following action:

1. Caltrans should assist the Service in implementing recovery actions identified in the Recovery Plan for the California Red-Legged Frog (Service 2002).

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the SR 4 Wagon Trail Realignment Project. As provided in 50 CFR 402.16, reinitiation of formal consultation is required and shall be requested by the Federal agency or by the Service where discretionary Federal agency involvement or control over the action has been retained or is authorized by law and:

(a) If the amount or extent of taking specified in the incidental take statement is exceeded;

(b) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;

(c) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or

(d) If a new species is listed or critical habitat designated that may be affected by the identified action.

If you have any questions regarding this biological opinion, please contact, John DiGregoria (john_digregoria@fws.gov), at the letterhead address, by email, or at (916) 414-6517.

Sincerely,

Jennifer M. Norris
Field Supervisor

cc:
Juan Torres, California Department of Fish and Wildlife, Rancho Cordova, California
Matt Satow, Drake Haglan & Associates, Rancho Cordova, California
Debra Lewis, Calaveras County Community Development Agency, San Andreas, California
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____2010. Endangered and Threatened Wildlife and Plants: Revised Designation of Critical Habitat for California Red-Legged Frog; Final Rule. **Federal Register** 75: 12816-12959.

____2016. Interagency Cooperation—Endangered Species Act of 1973, As Amended; Definition of Destruction or Adverse Modification of Critical Habitat; Final Rule. **Federal Register** 81: 7214-7226.

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Wright, A.H. and A.A. Wright. 1949. Handbook of Frogs and Toads of the United States and Canada. Comstock Publishing Company, Inc. Ithaca, New York.

Wright, A.N., R.J. Hijmans, M.W. Schwartz, and H.B. Shaffer. 2013. California amphibian and reptile species of future concern: conservation and climate change. Final report to the California Department of Fish and Wildlife, Sacramento, California.

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Appendix I Federal Endangered Species Act Listed Species

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Federal Endangered Species Act Listed Species

Common Name	Scientific Name	Status	Determination
California red-legged frog	*Rana draytonii*	Threatened	May Affect, Likely To Adversely Affect
California tiger salamander	*Ambystoma californiense*	Threatened	No Effect
Chinese Camp brodiaea	*Brodiaea pallida*	Threatened	May Affect, Not Likely To Adversely Affect
Delta smelt	*Hypomesus transpacificus*	Threatened	No Effect
Steelhead	*Oncorhynchus mykiss*	Threatened	No Effect
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	Threatened	No Effect

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Appendix J Summary of Relocation Benefits and Relocation Impact Memorandum

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California Department of Transportation Relocation Assistance Program

RELOCATION ASSISTANCE ADVISORY SERVICES

DECLARATION OF POLICY

"The purpose of this title is to establish a ***uniform policy for fair and equitable treatment*** of persons displaced as a result of federal and federally assisted programs in order that such persons ***shall not suffer disproportionate injuries*** as a result of programs designed for the benefit of the public as a whole."

The Fifth Amendment to the U.S. Constitution states, "No Person shall…be deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use without just compensation." The Uniform Act sets forth in statute the due process that must be followed in Real Property acquisitions involving federal funds. Supplementing the Uniform Act is the government-wide single rule for all agencies to follow, set forth in 49 Code of Federal Regulations (CFR) Part 24. Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments, as discussed below.

FAIR HOUSING

The Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the United States to provide, within constitutional limitations, for fair housing. This act, and as amended, makes discriminatory practices in the purchase and rental of most residential units illegal. Whenever possible, minority persons shall be given reasonable opportunities to relocate to any available housing regardless of neighborhood, as long as the replacement dwellings are decent, safe, and sanitary and are within their financial means. This policy, however, does not require Caltrans to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Any persons to be displaced will be assigned to a relocation advisor, who will work closely with each displacee in order to see that all payments and benefits are fully utilized and that all regulations are observed, thereby avoiding the possibility of displacees jeopardizing or forfeiting any of their benefits or payments. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state's relocation services. Tenant occupants of properties to be acquired are contacted soon after the initiation of negotiations and also are given a detailed explanation of the Caltrans Relocation Assistance Program. To avoid loss of possible benefits, no individual, family, business, farm, or nonprofit organization should commit to purchase or rent a replacement property without first contacting a Department relocation advisor.

RELOCATION ASSISTANCE ADVISORY SERVICES

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, the Department will provide relocation advisory assistance to any person, business, farm or nonprofit organization displaced as a result of the acquisition of real property for public use, so long as they are legally present in the United States. The Department will assist eligible displacees in obtaining comparable replacement housing by

providing current and continuing information on the availability and prices of both houses for sale and rental units that are "decent, safe and sanitary." Nonresidential displacees will receive information on comparable properties for lease or purchase (for business, farm and nonprofit organization relocation services, see below).

Residential replacement dwellings will be in a location generally not less desirable than the displacement neighborhood at prices or rents within the financial ability of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, comparable replacement dwellings will be offered to displacees that are open to all persons regardless of race, color, religion, sex, national origin, and consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include the supplying of information concerning federal and state assisted housing programs and any other known services being offered by public and private agencies in the area.

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice. Residential occupants eligible for relocation payment(s) will not be required to move unless at least one comparable "decent, safe and sanitary" replacement dwelling, available on the market, is offered to them by the Department.

RESIDENTIAL RELOCATION PAYMENTS

The Relocation Assistance Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for or incidental to the purchase or rental of a replacement dwelling and actual reasonable moving expenses to a new location within 50 miles of the displacement property. Any actual moving costs in excess of the 50 miles are the responsibility of the displacee. The Residential Relocation Assistance Program can be summarized as follows:

Moving Costs

Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displacees will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule. Lawful occupants who move into the displacement property after the initiation of negotiations must wait until the Department obtains control of the property in order to be eligible for relocation payments.

Purchase Differential

In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their property for 180 days or more prior to the date of the initiation of negotiations (usually the first written offer to purchase the property), may qualify to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest rate for the loan on the

replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate. The maximum combination of these three supplemental payments that the owner-occupant can receive is $22,500.

If the total entitlement (without the moving payments) is in excess of $22,500, the Last Resort Housing Program will be used (see the explanation of the Last Resort Housing Program below).

Rent Differential
Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by the Department prior to the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when the Department determines that the cost to rent a comparable "decent, safe and sanitary" replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted under the *Down Payment* section below. The maximum amount payable to any eligible tenant and any owner-occupant of less than 180 days, in addition to moving expenses, is $5,250. If the total entitlement for rent supplement exceeds $5,250, the Last Resort Housing Program will be used.

To receive any relocation benefits, the displaced person must buy or rent and occupy a "decent, safe and sanitary" replacement dwelling within one year from the date the Department takes legal possession of the property, or from the date the displacee vacates the displacement property, whichever is later.

Down Payment
The down payment option has been designed to aid owner-occupants of less than 180 days and tenants in legal occupancy prior to the Department's initiation of negotiations. The down payment and incidental expenses cannot exceed the maximum payment of $5,250. The one-year eligibility period in which to purchase and occupy a "decent, safe and sanitary" replacement dwelling will apply.

Last Resort Housing
Federal regulations (49 CFR 24) contain the policy and procedure for implementing the Last Resort Housing Program on federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard residential relocation as explained above. Last Resort Housing has been designed primarily to cover situations where a displacee cannot be relocated because of lack of available comparable replacement housing, or when the anticipated replacement housing payments exceed the $22,500 and $5,250 limits of the standard relocation procedure, because either the displacee lacks the financial ability or other valid circumstances.

After the initiation of negotiations, the Department will within a reasonable length of time, personally contact the displacees to gather important information, including the following:

- Number of people to be displaced.
- Specific arrangements needed to accommodate any family member(s) with special needs.
- Financial ability to relocate into comparable replacement dwelling which will adequately house all members of the family.
- Preferences in area of relocation.
- Location of employment or school.

NONRESIDENTIAL RELOCATION ASSISTANCE

The Nonresidential Relocation Assistance Program provides assistance to businesses, farms and nonprofit organizations in locating suitable replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms and nonprofit organizations are: searching and moving expenses, and possibly reestablishment expenses; or a fixed in lieu payment instead of any moving, searching and reestablishment expenses. The payment types can be summarized as follows:

Moving Expenses
Moving expenses may include the following actual, reasonable costs:

- The moving of inventory, machinery, equipment and similar business-related property, including: dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property. Items acquired in the right-of-way contract may not be moved under the Relocation Assistance Program. If the displacee buys an Item Pertaining to the Realty back at salvage value, the cost to move that item is borne by the displacee.
- Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.
- Expenses related to searching for a new business site, up to $2,500, for reasonable expenses actually incurred.

Reestablishment Expenses
Reestablishment expenses related to the operation of the business at the new location, up to $10,000 for reasonable expenses actually incurred.

Fixed In Lieu Payment
A fixed payment in lieu of moving, searching, and reestablishment payments may be available to businesses that meet certain eligibility requirements. This payment is an amount equal to half the average annual net earnings for the last two taxable years prior to the relocation and may not be less than $1,000 nor more than $20,000.

ADDITIONAL INFORMATION

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954, or for the purpose of determining the extent of eligibility of a displacee for assistance under the Social Security Act, or any other law, except for any federal law providing local "Section 8" Housing Programs.

Any person, business, farm or nonprofit organization that has been refused a relocation payment by the Department relocation advisor or believes that the payment(s) offered by the agency are inadequate may appeal for a special hearing of the complaint. No legal assistance is required. Information about the appeal procedure is available from the relocation advisor.

California law allows for the payment for lost goodwill that arises from the displacement for a public project. A list of ineligible expenses can be obtained from Caltrans Right-of-Way. California's law and the federal regulations covering relocation assistance provide that no payment shall be duplicated by other payments being made by the displacing agency.

RESIDENTIAL RELOCATION PAYMENTS PROGRAMS

- http://www.dot.ca.gov/hq/row/pubs/residential_english.pdf
- http://www.dot.ca.gov/hq/row/pubs/residential_spanish.pdf
- http://www.dot.ca.gov/hq/row/pubs/mobile_eng.pdf
- http://www.dot.ca.gov/hq/row/pubs/mobile_sp.pdf

THE BUSINESS AND FARM RELOCATION ASSISTANCE PROGRAM

- http://www.dot.ca.gov/hq/row/pubs/business_farm.pdf
- http://www.dot.ca.gov/hq/row/pubs/business_sp.pdf

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List of Technical Studies

Air Quality Report (2015)

Noise Study Report (2015)

Water Quality Report (2015)

Natural Environment Study (2014)

- Addendum to the 2014 Natural Environment Study (November 2016)

Location Hydraulic Study (2015)

Historical Property Survey Report (2015)

- Historic Resource Evaluation Report
- Archaeological Survey Report

Aerially Deposited Lead, Metals and Naturally Occurring Asbestos Site Investigations Report (2015)

Initial Site Assessment (2015)

Visual Impact Assessment (2015)

Paleontological Identification Report (2015)

Traffic Operations Analysis Report (2014)

Jurisdictional Delineation Report (2015)

Community Impact Assessment and Relocation Impact Memorandum (2015)

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