

ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017  
PROJECT BASELINE AGREEMENT  
South Madera 6-Lane (EA: 06-0H220)

Resolution \_\_\_\_\_

(will be completed by CTC)

**1. FUNDING PROGRAM**

- ☐ Active Transportation Program
- ☐ Local Partnership Program (Competitive)
- ☐ Solutions for Congested Corridors Program
- ☐ State Highway Operation and Protection Program
- ☒ Trade Corridor Enhancement Program

**2. PARTIES AND DATE**

- 2.1 This Project Baseline Agreement (Agreement) for the *South Madera 6-Lane (EA: 06-0H220)*, effective on, \_\_\_\_\_ (will be completed by CTC), is made by and between the California Transportation Commission (Commission), the California Department of Transportation (Caltrans), the Project Applicant, *Madera County Transportation Commission (MCTC)*, and the Implementing Agency, *Department of Transportation (Caltrans)*, sometimes collectively referred to as the "Parties".

**3. RECITAL**

- 3.2 Whereas at its December 2, 2020 meeting the Commission approved the Trade Corridor Enhancement Program, and included in this program of projects the *South Madera 6-Lane (EA: 06-0H220)*, the parties are entering into this Project Baseline Agreement to document the project cost, schedule, scope and benefits, as detailed on the Project Programming Request Form attached hereto as Exhibit A and the Project Report attached hereto as Exhibit B, as the baseline for project monitoring by the Commission.
- 3.3 The undersigned Project Applicant certifies that the funding sources cited are committed and expected to be available; the estimated costs represent full project funding; and the scope and description of benefits is the best estimate possible.

**4. GENERAL PROVISIONS**

The Project Applicant, Implementing Agency, and Caltrans agree to abide by the following provisions:

- 4.1 To meet the requirements of the Road Repair and Accountability Act of 2017 (Senate Bill [SB] 1, Chapter 5, Statutes of 2017) which provides the first significant, stable, and on-going increase in state transportation funding in more than two decades.
- 4.2 To adhere, as applicable, to the provisions of the Commission:
- ☐ Resolution *Insert Number*, "Adoption of Program of Projects for the Active Transportation Program", dated \_\_\_\_\_
- ☐ Resolution *Insert Number*, "Adoption of Program of Projects for the Local Partnership Program", dated \_\_\_\_\_
- ☐ Resolution *Insert Number*, "Adoption of Program of Projects for the Solutions for Congested Corridors Program", dated \_\_\_\_\_
- ☐ Resolution *Insert Number*, "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated \_\_\_\_\_
- ☒ Resolution G-20-77, "Adoption of Program of Projects for the Trade Corridor Enhancement Program", dated December 3, 2020

- 4.3 All signatories agree to adhere to the Commission's Trade Corridor Enhancement Program, Guidelines. Any conflict between the programs will be resolved at the discretion of the Commission.
- 4.4 All signatories agree to adhere to the Commission's SB 1 Accountability and Transparency Guidelines and policies, and program and project amendment processes.
- 4.5 The Madera County Transportation Commission agrees to secure funds for any additional costs of the project.
- 4.6 The Madera County Transportation Commission agrees to report to Caltrans on a quarterly basis; after July 2019, reports will be on a semi-annual basis on the progress made toward the implementation of the project, including scope, cost, schedule, outcomes, and anticipated benefits.
- 4.7 Caltrans agrees to prepare program progress reports on a quarterly basis; after July 2019, reports will be on a semi-annual basis and include information appropriate to assess the current state of the overall program and the current status of each project identified in the program report.
- 4.8 The Madera County Transportation Commission agrees to submit a timely Completion Report and Final Delivery Report as specified in the Commission's SB 1 Accountability and Transparency Guidelines.
- 4.9 All signatories agree to maintain and make available to the Commission and/or its designated representative, all work related documents, including without limitation engineering, financial and other data, and methodologies and assumptions used in the determination of project benefits during the course of the project, and retain those records for four years from the date of the final closeout of the project. Financial records will be maintained in accordance with Generally Accepted Accounting Principles.
- 4.10 The Transportation Inspector General of the Independent Office of Audits and Investigations has the right to audit the project records, including technical and financial data, of the Department of Transportation, the Project Applicant, the Implementing Agency, and any consultant or sub-consultants at any time during the course of the project and for four years from the date of the final closeout of the project, therefore all project records shall be maintained and made available at the time of request. Audits will be conducted in accordance with Generally Accepted Government Auditing Standards.

## **5. SPECIFIC PROVISIONS AND CONDITIONS**

### **5.1 Project Schedule and Cost**

See Project Programming Request Form, attached as Exhibit A.

### **5.2 Project Scope**

See Project Report or equivalent, attached as Exhibit B. At a minimum, the attachment shall include the cover page, evidence of approval, executive summary, and a link to or electronic copy of the full document.

### **5.3 Other Project Specific Provisions and Conditions**

In the event of a cost overrun the state will cover a share proportionate to the state contribution of the TCEP funding identified in the Project Programming Request (PPR) submitted with the project application. (For example, if the state/regional TCEP funding share was a 40/60 ratio, the state may fund no more than 40% of the cost overrun.)

## **Attachments:**

Exhibit A: Project Programming Request Form

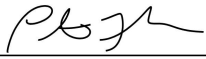
Exhibit B: Project Report



SIGNATURE PAGE  
TO  
PROJECT BASELINE AGREEMENT

South Madera 6-Lane (EA: 06-0H220)

Resolution TCEP-P-2021-07B



Digitally signed by Patricia Taylor  
Date: 2021.04.26 16:54:50 -07'00'

April 16, 2021

Patricia Taylor

Date

Executive Director, Madera County Transportation Commission

Project Applicant

**Diana Gomez**

Digitally signed by Diana Gomez  
Date: 2021.05.17 15:24:29 -07'00'

May 17, 2021

Diana Gomez

Date

District 6 Director

Applicant Implementing Agency

*Michael D. Keever* for

July 20, 2021

Date

Toks Omishakin

Director

California Department of Transportation



August 12, 2021

Date

Mitchell Weiss

Executive Director

California Transportation Commission

Amendment (Existing Project) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					Date	05/21/2021 09:52:19
Programs <input type="checkbox"/> LPP-C <input type="checkbox"/> LPP-F <input type="checkbox"/> SCCP <input type="checkbox"/> TCEP <input type="checkbox"/> STIP <input type="checkbox"/> Other						
District	EA	Project ID	PPNO	Nominating Agency		
06	0H220	0612000158	6297	Caltrans District 6		
County	Route	PM Back	PM Ahead	Co-Nominating Agency		
Madera	99	0.100	R 8.100	Madera County Transportation Commission		
				MPO	Element	
				NON-MPO	Capital Outlay	
Project Manager/Contact			Phone	Email Address		
Eric Karlson			559-246-7337	eric.karlson@dot.ca.gov		

**Project Title**

South Madera 6 Lane

**Location (Project Limits), Description (Scope of Work)**

In Madera County, from North of Fresno-Madera County line to South of Avenue 7 to North of Avenue 12. This project will improve goods movement and passenger travel along State Route 99 by median widening from 4 to 6 lanes. It will also upgrade drainage, construct drainage basins and median barrier, and increase vertical clearance at one structure.

Component	Implementing Agency
PA&ED	Caltrans District 6
PS&E	Caltrans District 6
Right of Way	Caltrans District 6
Construction	Caltrans District 6

**Legislative Districts**

Assembly:	5	Senate:	14	Congressional:	16
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Project Milestone	Existing	Proposed
Project Study Report Approved	03/11/2008	
Begin Environmental (PA&ED) Phase	05/01/2019	05/01/2019
Circulate Draft Environmental Document Document Type (ND/MND)/FONSI	10/01/2021	12/15/2020
Draft Project Report	09/01/2021	12/01/2020
End Environmental Phase (PA&ED Milestone)	05/01/2022	05/01/2021
Begin Design (PS&E) Phase	05/01/2022	07/01/2021
End Design Phase (Ready to List for Advertisement Milestone)	05/02/2024	08/01/2023
Begin Right of Way Phase	05/01/2022	07/01/2021
End Right of Way Phase (Right of Way Certification Milestone)	05/01/2024	06/30/2023
Begin Construction Phase (Contract Award Milestone)	02/01/2025	03/04/2024
End Construction Phase (Construction Contract Acceptance Milestone)	02/01/2027	07/01/2027
Begin Closeout Phase	02/01/2027	07/02/2027
End Closeout Phase (Closeout Report)	02/01/2030	07/02/2029

Date 05/21/2021 09:52:19

Purpose and Need

Widening of this section of SR 99 is needed to enhance freight mobility, preserve acceptable facility operation, improve safety, and reduce congestion. The proposed 6-lane freeway would improve the flow and travel-time reliability along this segment of SR 99 for current volumes of traffic and provide enough capacity to manage the projected increases to both passenger and freight vehicle volumes. The segment is already beginning to break down and operate at unacceptable levels. Adding capacity to SR 99 will allow the region time to plan and raise funds for alternate north/south roads connecting Madera and Fresno counties.

NHS Improvements <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Roadway Class 1	Reversible Lane Analysis <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Inc. Sustainable Communities Strategy Goals <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Reduce Greenhouse Gas Emissions <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	

Project Outputs

Category	Outputs	Unit	Total
State Highway Road Construction	Mixed flow lane-miles constructed	Miles	11.6
Pavement (lane-miles)	Roadway lane miles	Miles	24
Drainage	Culverts	LF	3,000
TMS (Traffic Management Systems)	Changeable message signs	EA	2
Operational Improvement	Ramp modifications	EA	2
Pavement (lane-miles)	Auxiliary lane constructed	Miles	1

Date 05/21/2021 09:52:19

#### Additional Information

Some numbers in Performance Indicators and Measures data are shown as negative values for build scenario to reflect the benefit of the build alternative vs. no-build. For example, decrease in the Number of Serious Injuries is shown as -112 in the build column.

The post miles are different from the original application because the original limits from the Project Study Report/PDS did not consider stage construction and final striping of the already widened sections North and South of the project limits. The limits shown in the original application from 1.7 to 7.5 is the area to be constructed. However, this is a gap closure project and the final striping will need to include the limits from 0.1 to 8.1. It should be noted no additional work is being added to the project except striping.

The initial project cost in the early PA&ED phase were estimated low and were based on an ongoing construction contract 06-470904. The updated cost is based on an 11 page estimate and is in the signed project report.

There is also a change in the Project Outputs for the "Mixed flow lane miles constructed". In the original ePPR there was 12.0 miles and it has been revised to 11.6. Project 06-0V120\_ is within the same limits of this project and is proposing to widen the structures at Cottonwood Creek.

The transportation impact analysis for this project was conducted before Caltrans had established guidance for such analyses, the "Transportation Analysis Framework" and "Transportation Analysis Under CEQA" (both September 2020). Due to the timing of the transportation impact analysis for this project relative to the establishment of a VMT assessment methodology, departmental guidance did not require work on this project to be reworked to follow that methodology. Therefore the methods and conclusions shown should be considered exploratory and not valid precedent for other analyses. An assessment conducted per the department's current process would likely produce different findings.

There has also been a swap in funds from MCTC. MCTC using COVID STIP funds, which is subject to the STIP amendment.

Performance Indicators and Measures						
Measure	Required For	Indicator/Measure	Unit	Build	Future No Build	Change
Congestion Reduction	TCEP	Daily Vehicle Hours of Travel Time Reduction	Hours	12,508	86,169	-73,661
	TCEP	Daily Truck Trips	# of Trips	26,407	26,407	0
	TCEP	Daily Truck Miles Traveled	Miles	153,158	153,158	0
Throughput	TCEP	Change in Truck Volume That Can Be Accommodated	# of Trucks	20,278	2,944	17,334
	TCEP	Change in Rail Volume That Can Be Accommodated	# of Trailers	5,794	841	4,953
			# of Containers	20,278	2,944	17,334
	TCEP	Change in Cargo Volume That Can Be Accommodated	# of Tons	115,873	16,820	99,053
			# of Containers	20,278	2,944	17,334
System Reliability	TCEP	Truck Travel Time Reliability Index	Index	1.13	2.56	-1.43
	TCEP	Daily Vehicle Hours of Travel Time Reduction	Hours	11,408	27,854	-16,446
Velocity	TCEP	Travel Time or Total Cargo Transport Time	Hours	0	0	0
Air Quality & GHG	LPPF, LPPC, SCCP, TCEP	Particulate Matter	PM 2.5 Tons	-6	0	-6
			PM 10 Tons	-7	0	-7
	LPPF, LPPC, SCCP, TCEP	Carbon Dioxide (CO2)	Tons	-13,364	0	-13,364
	LPPF, LPPC, SCCP, TCEP	Volatile Organic Compounds (VOC)	Tons	-40	0	-40
	LPPF, LPPC, SCCP, TCEP	Sulphur Dioxides (SOx)	Tons	0	0	0
	LPPF, LPPC, SCCP, TCEP	Carbon Monoxide (CO)	Tons	-413	0	-413
	LPPF, LPPC, SCCP, TCEP	Nitrogen Oxides (NOx)	Tons	-753	0	-753
Safety	LPPF, LPPC, SCCP, TCEP	Number of Non-Motorized Fatalities and Non-Motorized Serious Injuries	Number	0	0	0
	LPPF, LPPC, SCCP, TCEP	Number of Fatalities	Number	-2	0	-2
	LPPF, LPPC, SCCP, TCEP	Fatalities per 100 Million VMT	Number	0.013	0.019	-0.006
	LPPF, LPPC, SCCP, TCEP	Number of Serious Injuries	Number	-112	0	-112
	LPPF, LPPC, SCCP, TCEP	Number of Serious Injuries per 100 Million VMT	Number	0.34	0.338	0.002
Economic Development	LPPF, LPPC, SCCP, TCEP	Jobs Created (Direct and Indirect)	Number	1,199	0	1,199
Cost Effectiveness	LPPF, LPPC, SCCP, TCEP	Cost Benefit Ratio	Ratio	5.2	0	5.2

District	County	Route	EA	Project ID	PPNO
06	Madera	99	0H220	0612000158	6297
Project Title					
South Madera 6 Lane					

Existing Total Project Cost (\$1,000s)									Implementing Agency
Component	Prior	21-22	22-23	23-24	24-25	25-26	26-27+	Total	
E&P (PA&ED)	3,413							3,413	
PS&E		9,460						9,460	
R/W SUP (CT)		1,500						1,500	
CON SUP (CT)				12,500				12,500	
R/W		4,000						4,000	
CON				80,000				80,000	
TOTAL	3,413	14,960		92,500				110,873	
Proposed Total Project Cost (\$1,000s)									Notes
E&P (PA&ED)	3,413							3,413	
PS&E		9,460						9,460	
R/W SUP (CT)		1,500						1,500	
CON SUP (CT)				13,000				13,000	
R/W		4,000						4,000	
CON				122,000				122,000	
TOTAL	3,413	14,960		135,000				153,373	

Fund #1:	IIP - National Hwy System (Committed)								Program Code
Existing Funding (\$1,000s)									20.XX.025.700
Component	Prior	21-22	22-23	23-24	24-25	25-26	26-27+	Total	Funding Agency
E&P (PA&ED)	3,413							3,413	Caltrans HQ
PS&E		6,400						6,400	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL	3,413	6,400						9,813	
Proposed Funding (\$1,000s)									Notes
E&P (PA&ED)	3,413							3,413	
PS&E		6,400						6,400	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL	3,413	6,400						9,813	

Fund #2:	Future Need - Future Funds (Uncommitted)								Program Code
Existing Funding (\$1,000s)									FUTURE
Component	Prior	21-22	22-23	23-24	24-25	25-26	26-27+	Total	Funding Agency
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)				12,500				12,500	
R/W									
CON				80,000				80,000	
TOTAL				92,500				92,500	
Proposed Funding (\$1,000s)									Notes
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)				13,000				13,000	
R/W									
CON				122,000				122,000	
TOTAL				135,000				135,000	
Fund #3:	State Bond - State Route 99 Corridor (Committed)								Program Code
Existing Funding (\$1,000s)									20.XX.722.000
Component	Prior	21-22	22-23	23-24	24-25	25-26	26-27+	Total	Funding Agency
E&P (PA&ED)									Caltrans HQ
PS&E		3,060						3,060	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL		3,060						3,060	
Proposed Funding (\$1,000s)									Notes
E&P (PA&ED)									
PS&E		3,060						3,060	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL		3,060						3,060	

Fund #4:	State SB1 TCEP - Trade Corridors Enhancement Account (Committed)								Program Code
Existing Funding (\$1,000s)									20.XX,723,100
Component	Prior	21-22	22-23	23-24	24-25	25-26	26-27+	Total	Funding Agency
E&P (PA&ED)									Caltrans HQ
PS&E									
R/W SUP (CT)		508						508	State Share TCEP
CON SUP (CT)									
R/W		1,356						1,356	
CON									
TOTAL		1,864						1,864	
Proposed Funding (\$1,000s)									Notes
E&P (PA&ED)									
PS&E									
R/W SUP (CT)		508						508	
CON SUP (CT)									
R/W		1,356						1,356	
CON									
TOTAL		1,864						1,864	
Fund #5:	State SB1 TCEP - Trade Corridors Enhancement Account (Committed)								Program Code
Existing Funding (\$1,000s)									20.XX.723.200
Component	Prior	21-22	22-23	23-24	24-25	25-26	26-27+	Total	Funding Agency
E&P (PA&ED)									Madera County Transportation Comm
PS&E									
R/W SUP (CT)		762						762	Regional Share TCEP
CON SUP (CT)									
R/W		2,033						2,033	
CON									
TOTAL		2,795						2,795	
Proposed Funding (\$1,000s)									Notes
E&P (PA&ED)									
PS&E									
R/W SUP (CT)		762						762	
CON SUP (CT)									
R/W		2,033						2,033	
CON									
TOTAL		2,795						2,795	



Fund #6:	Local Funds - Local Measure (Committed)								Program Code
Existing Funding (\$1,000s)									20.XX.400,100
Component	Prior	21-22	22-23	23-24	24-25	25-26	26-27+	Total	Funding Agency
E&P (PA&ED)									Madera County Transportation Comm Local Match
PS&E									
R/W SUP (CT)		230						230	
CON SUP (CT)									
R/W		611						611	
CON									
TOTAL		841						841	
Proposed Funding (\$1,000s)									Notes
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W		9						9	
CON									
TOTAL		9						9	
Fund #7:	RIP - COVID Relief Funds - STIP (Committed)								Program Code
Existing Funding (\$1,000s)									
Component	Prior	21-22	22-23	23-24	24-25	25-26	26-27+	Total	Funding Agency
E&P (PA&ED)									Madera County Transportation Comm
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									
Proposed Funding (\$1,000s)									Notes
E&P (PA&ED)									
PS&E									
R/W SUP (CT)		230						230	
CON SUP (CT)									
R/W		602						602	
CON									
TOTAL		832						832	

**Complete this page for amendments only**

Date 05/21/2021 09:52:19

District	County	Route	EA	Project ID	PPNO
06	Madera	99	0H220	0612000158	6297

SECTION 1 - All Projects

Project Background

N/A

Programming Change Requested

Reason for Proposed Change

N/A

If proposed change will delay one or more components, clearly explain 1) reason for the delay, 2) cost increase related to the delay, and 3) how cost increase will be funded

Other Significant Information

SECTION 2 - For SB1 Project Only

Project Amendment Request (Please follow the individual SB1 program guidelines for specific criteria)

N/A

Approvals

I hereby certify that the above information is complete and accurate and all approvals have been obtained for the processing of this amendment request.

Name (Print or Type)	Signature	Title	Date

SECTION 3 - All Projects

Attachments

- 1) Concurrence from Implementing Agency and/or Regional Transportation Planning Agency
- 2) Project Location Map

# Project Report

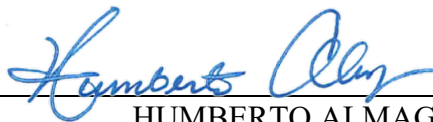
## For Project Approval

On Route 99 in Madera County

Between North of Fresno-Madera County Line

And North of Avenue 12

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



HUMBERTO ALMAGUER,  
Acting Central Region Division Chief, Right of Way

APPROVAL RECOMMENDED:



ERIC KARLSON, Project Manager

PROJECT APPROVED:

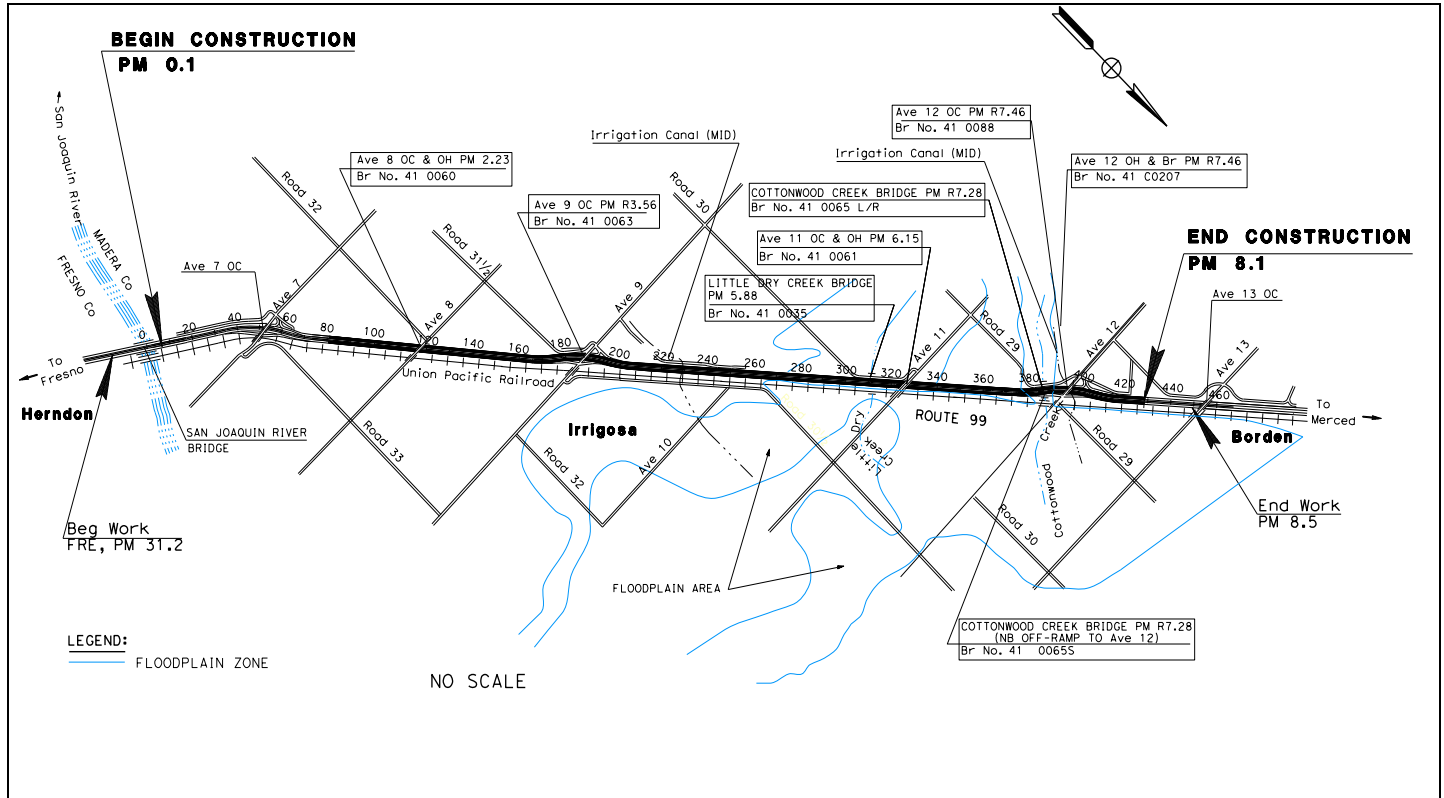


DIANA GOMEZ, District 6 Director

04/30/2021

Date

## Vicinity Map



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

*Akm Rahman*

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REGISTERED CIVIL ENGINEER

4/26/2021

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DATE



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## 1. INTRODUCTION

### Project Description:

This is a gap closure project on Route 99 in Madera from north of the Fresno-Madera County line to north of Avenue 12. The project proposes to add one lane in each direction in the median and a 10' inside shoulder with a concrete barrier. A 1300' auxiliary lane is provided at the northbound (NB) off-ramp to Avenue 12 with an additional exit lane prior to the two-lane exit after the NB off-ramp bridge. A retaining wall with a Concrete Barrier (Type 842) on top will be required along the auxiliary lane to avoid encroachment of embankment materials into the railroad right of way.

From PM 0.1 to 1.5 the existing roadway is constructed as a 6-lane freeway, but striped as 4-lane. The North Madera Project currently under construction will be built as 6-lane but will be striped as 4-lane from PM 7.6 to 8.1. These portions will be restriped as a 6-lane freeway under this project.

Right of Way is needed for drainage ditches and three proposed basins along the southbound (SB) for storage of surface runoff.

<b>Project Limits</b>	06-Mad-99, PM 0.1/8.1	
<b>Number of Alternatives</b>	2 (including No-build)	
	<b>Current Cost Estimate:</b>	<b>Escalated Cost Estimate:</b>
<b>Capital Outlay Support</b>		\$28,223,000
<b>Capital Outlay Construction</b>	\$106,000,000	\$120,000,000
<b>Capital Outlay Right-of-Way</b>	\$2,861,000	\$3,199,000*
<b>Funding Source</b>	025.700 (STIP)	
<b>Funding Year</b>	2023/24	
<b>Type of Facility</b>	6-lane Freeway	
<b>Number of Structures</b>	One (bridge rail replacement)	
<b>SHOPP Project Output</b>	24 roadway lane-miles and 11.6 mixed flow lane-miles	
<b>Environmental Determination or Document</b>	Initial Study with Mitigated Negative Declaration/Environmental Assessment	
<b>Legal Description</b>	In Madera County in Madera, from North of Fresno-Madera County Line to North of Avenue 12	
<b>Project Development Category</b>	4A	

\* This right-of-way cost doesn't include greenhouse gas (GHG) emission costs.



## **2. RECOMMENDATION**

It is recommended that this Project Report be approved based on the preferred alternative selected, and authorization be granted to proceed with the Plans, Specification, and Estimate (PS&E) phase.

## **3. BACKGROUND**

### **Project History**

A Project Study Report (Project Development Support) (PSR-PDS) was initiated in 2007-08 and approved on March 3, 2008. The PSR-PDS identified the need for adding an additional lane in each direction for congestion reduction, capacity increase, safety improvement and acceptable operational conditions. The study recommended to proceed with the PA&ED phase to study with three Alternatives. Alternative 1 proposed adding two lanes in the median, one in each direction with several design standard deviations. Alternative 2 proposed shifting the existing centerline alignment 31' to the west, providing a 62' rural median width and constructing three new lanes beyond the west limits of the existing SB lanes. Alternative 2 would reconstruct Avenue 8 OC & OH, Avenue 9 OC, and Avenue 11 OC & OH; widen Little Dry Creek Bridge; and extend two Madera Irrigation District (MID) irrigation canal box culverts. This Alternative would reconstruct the existing structures to accommodate a future 8-lane freeway and would acquire right of way accordingly, which would need an additional 80' right of way. Alternative 3 proposed shifting the existing centerline alignment 14' to the west to provide a 46' urban median for a 6-lane freeway on an ultimate 8-lane right of way consistent with current Transportation Concept Reports. This Alternative would require reconstruction of all structures described in Alternative 2 and would require 60' additional right of way.

During the early stage of the PA&ED phase, the Project Development Team (PDT) discussed the three Alternatives identified in the 2008 PSR-PDS along with adjacent projects developed and under construction. The team noted that the segment south of this project has median widening starting at about 1200' south of the San Joaquin River Bridge through the Avenue 7 Overcrossing up to the start of the south side of this project's limits. The team also noted that a project north of this segment (EA: 06-47090) currently under construction is also widening in the median without shifting the existing Route 99 alignment. As a result, the PDT decided that there was no justification to shift the alignment of this segment sandwiched between these two constructed/under construction segments. The PDT decided that presently Alternatives 2 and 3 were not conforming with adjacent projects and thus rejected these two Alternatives. The Team decided to proceed in the PA&ED phase with median widening as the Build Alternative and a No-build Alternative.

## **Community Interaction**

The Public Hearing (or opportunity for) is a requirement during the Draft Environmental Document circulation phase. Public notification was made through local newspapers (English and Spanish). A public notice was posted in The Fresno Bee and the Madera Tribune. A public notice in Spanish was posted in Vida en el Valle. All newspaper publications stated the public comment period ran from February 10, 2021, to March 11, 2021, and offered the public an opportunity to request a virtual open house.

Letters announcing the opportunity for a Public Hearing were sent to residents and businesses as well as public agencies. A list of contacts has been maintained during project development using a variety of outreach methods including record searches and contact information from those requesting information in the past.

There were no requests for a virtual open house during public circulation. Five comments were received—the State Clearinghouse and Planning Unit, a member of the public, the San Joaquin Valley Air Pollution Control District, the California Department of Fish and Wildlife, and the North Fork Rancheria of Mono Indians of California.

No opposition to the project were received during the comment period. Business owners most impacted by the proposed project did not provide comments.

A Project Development Team meeting was held on March 18, 2021 to select a preferred alternative. Representatives of the County of Madera and Madera County Transportation Commission agreed with Caltrans that the Build Alternative should go forward as the preferred alternative.

## **Existing Facility**

Within the project limits, Route 99 is a four-lane facility with a designated STAA truck route. On the south end of the project limits, the San Joaquin River 6-lane project (EA: 06-442624) was completed in 2014; this project completed the six lanes from Fre PM 26.7/R31.6 and Mad PM R0.0/R1.6. On the north of this project limits is Madera 99 Widening Project (EA: 06-47090), under which six lanes are being constructed from Mad PM R7.5/15.1; this project is currently in construction and is expected to be completed in July 2021. Thus, the South Madera 6-lane Project is a gap-closing project between the north and south sections of the six-lane Route 99.

The mainline NB roadway has 12 foot Portland Cement Concrete (PCC) and Asphalt Concrete (AC) lanes. The existing inside shoulders are 5 feet AC and the outside shoulders are 10 feet, two feet of which were constructed a few years ago with less structural depth than the rest of the shoulders. There are crowns on both the NB and SB, nearly at the center of the travel lanes. The on-ramps and off-ramps have one to two feet inside shoulders and eight feet outside shoulders. The median from the south end of the project limits to 0.5 mile north of Avenue 7 is paved and divided with concrete barrier Type 60MC. There are 37 to 46 feet of unpaved medians with two single Thrie Beam

Barriers that are planted with oleanders from 0.5 mile north of Avenue 7 to 0.7 mile south of Avenue 12. The median from 0.7 mile south of Avenue 12 to the north end of the project limits is unpaved and divided with concrete barrier Type 50. There are rumble strips on the inside and outside shoulders on Route 99 within the project limits. There are nine ramps on Route 99 within the widening portion of the project:

#### **Ramp Locations and ADT**

<b>Ramps</b>	<b>PM</b>	<b>ADT (2018)</b>
NB off to Avenue 9	R3.358	560
SB on from Avenue 9	R3.629	520
NB on from Avenue 9	R3.738	3,900
SB off to Avenue 9	R3.804	4,100
SB on from EB Avenue 12	R7.214	2,950
NB off to Avenue 12	R7.270	4,200
SB on from WB Avenue 12	R7.560	1,200
NB on from Avenue 12	R7.653	4,600
SB off to Avenue 12	R7.760	3,700

The Union Pacific Railroad runs parallel along NB Route 99, which is a major hindrance to any eastward expansion of the freeway.

There are two Overcrossings (OC) & Overheads (OH), two OCs and five bridges within the project limits. The overcrossings & overheads are:

- Ave 8 OC & OH at PM 2.23, Br. No. 41 0060
- Ave 9 OC at PM R3.56, Br. No. 41 0063
- Ave 11 OC & OH at PM 6.15, Br. No. 41 0061
- Ave 12 OC at PM R7.50, Br. No. 41 0088

The existing structures information are provided in the Table below:

#### **Mainline Structure Information**

<b>Name of Structure</b>	<b>Year Built</b>	<b>Structure Type</b>	<b>Length</b>	<b>Bridge Width</b>	<b>Existing Vertical Clearance</b>	
					<b>NB</b>	<b>SB</b>
Ave 8 OC & OH	1964	Five-span Continuous RC Box Girder	390'	32'-2"	23'-1"	21'-2"
Ave 9 OC	1964	Four-span Continuous RC Box Girder	390'	32'-2"	20'-1"	15'-0"
Ave 11 OC & OH	1964	Five-span Continuous RC Box Girder	282'	32'-2"	23'-8"	22'-1"
Ave 12 OC	2015	Two-span Continuous CIP/PS Twin Box Girder	296'	150'	21'-1"	17'-5"

The bridges within the project limits are:

- Little Dry Creek Bridge at PM 5.88, Br. No. 41 0035
- Cottonwood Creek Bridges at PM R7.28, Br. No. 41 0065L/R/S. The replacement mainline Cottonwood Creek bridge (EA: 06-0V120) would receive Br. No. 49 0089, and the NB off-ramp bridge over Cottonwood Creek would have Br. No. 49 0089S.
- Cottonwood Creek Bridge on SB Directional On-ramp from Ave 12 at PM R7.28, Br. No. 41 0089K.

No overcrossings or overheads are under consideration for replacement. The Cottonwood Creek Bridge Replacement Project (EA: 06-0V120) will replace the three Cottonwood Creek bridges. The two existing two-lane bridges 410065L and 410065R will be replaced with a single bridge and the existing one-lane NB off-ramp to Avenue 12 bridge (Bridge No. 410065S) will be replaced with a two-lane bridge. The proposed mainline Cottonwood Creek bridge will be three lanes in each direction. The NB off-ramp to Avenue 12 will be a one-lane exit merging to a two-lane off-ramp starting before the proposed bridge. The project will also realign the NB off-ramp to the west and raise the profile. This bridge project will reconstruct a portion of the existing 355-foot retaining wall on the left side of the NB off-ramp and will construct a new 295-foot retaining wall on the right edge of the NB off-ramp. The roadway work on Route 99 will be limited to resurfacing with cold planning and overlay to conform to the existing pavement.

There are three MID irrigation systems within the project limits. These are:

- An irrigation system near Ave 8 crossing Route 99 about 1,100 feet south of the Overcrossing which runs parallel to Route 99 about 970 feet and then runs along Ave 8 towards the west.
- An irrigation system crossing Route 99 about 2,800 feet north of Ave 9, which is a box culvert and has a Y-junction.
- Another irrigation system at Ave 12 running from east to west crossing under the railroad, Ave 12 and Route 99.

The route in this project portion is on level terrain with mostly tangent alignment. A best-fitted alignment is drawn in the median between the existing edge of travel ways (ETWs), to have a balanced widening on both sides. Within the median-widening portion there are seven horizontal curves, the parameters of which are shown below:

#### Curve Data on Mainline Route 99

Curve No.	Beg STA	End STA	PM	Radius (FT)	Curve Length (FT)
1	117+04.55	118+71.11	2.217 to 2.248	10,000	166.56
2	163+85.80	174+84.23	3.103 to 3.311	6,400	1,098.43
3	178+78.45	195+44.64	3.386 to 3.0702	4,895	1,666.19
4	200+10.36	210+61.34	3.790 to 3.989	6,200	1,050.99
5	323+88.23	325+62.04	6.134 to 6.167	10,000	173.81
6	372+34.91	380+86.05	7.052 to 7.213	5,000	851.14
7	385+65.42	402+89.37	7.304 to 7.631	5,000	1,723.96

## 4. PURPOSE AND NEED

### Purpose:

The purpose of this project is to increase capacity, improve connectivity of the highway system by closing six lanes gap from PM 1.5 to PM 7.6, and to reduce traffic congestion by adding one lane in each direction. The project would enhance operational improvement and ride quality, while also reducing future preventive maintenance.

### Need:

Enhancement of this section of SR 99 is needed to improve truck freight mobility and travel time reliability, preserve acceptable facility operations, and reduce congestion. This segment of SR 99 is already beginning to break down and operate at unacceptable levels of service (LOS). Trucks account for approximately 20% of Annual Average Daily Traffic (AADT) within this corridor as compared with the State average of 9% truck traffic. The proposed 6-lane freeway would improve the flow and travel-time reliability along this segment of SR 99 for current volumes of traffic and provide enough capacity to manage the projected increases to both passenger and freight vehicle volumes.

### A. Problem, Deficiencies, Justification

The Operational Analysis determined that current Level of Service (LOS) in the mainline and merged areas are “C to D”, and in the diverged areas are “D to E”. After construction of 6-lane freeways in the opening year of 2026, the mainline and merged area LOS will be “B to C”, and diverged areas with 1-lane ramp will be “C to D” and with 2-lane ramps will be “B to C”. In the Design Year of 2046, the mainline, merged areas and diverged areas with 1-lane ramp will have LOS “D to E”, and merged and diverged areas with 2-lane ramps will have LOS “C”. The No-build option will leave all segments within project limits at LOS “F”. Per the Transportation Concept Report (TCR) of November 2003, “Caltrans endeavors to maintain a target LOS at the transition between LOS “C” and LOS “D” on State highway facilities, or whichever LOS is feasible to attain.” Thus, it is evident that the “Build” option is the only viable option for meeting the Need and Purpose of this project.

### B. Regional and System Planning

Route 99 serves the primary population centers in the San Joaquin Valley as well as much of the rural agricultural areas. Within the project limits, State Route 99 is:

- Part of the State Highway System (1909), and California Freeway and Expressway System (1959).
- Part of the National Highway System (NHS) as a Strategic Highway Corridor Network (STRAHNET) route under the Federal-aid Surface Transportation Program.

- Designated as part of the National Network for large trucks under the Federal Surface Transportation Assistance Act (STAA) of 1982.
- Designated as a State High Emphasis Focus Route on the Interregional Road System (IRRS).
- A high-volume principal arterial and a lifeline route critical to emergency response activities.
- Identified as an Intermodal Corridor of Economic Significance (ICES) due to its importance to agriculture, business, and residents.
- Recognized as a Transportation Gateway of Major Statewide Significance.
- Identified as a “Priority Global Gateway” for goods movement in the Global Gateways Development Program (2002).

According to the Transportation Concept Report (TCR) developed by the District 6 Office of System Planning, dated November 2003, the 2025 concept facility for this segment of Route 99 is a minimum 6-lane freeway (6F) throughout District 6 within 25 years, which is consistent with District policy to complete a 6-lane system and also with the Interregional Transportation Strategic Improvement Plan for Route 99. The Ultimate Facility beyond 25 years is generally 6F plus auxiliary lanes; however, it can be up to 8-lane freeway (8F) plus auxiliary lanes.

For long term planning in addition to the TCR, a Corridor System Management Plan (CSMP) was developed for five segments of State Route 46, 58, 99 and 198. This project is a part of “Fresno-Madera Urban State Route 99” CSMP, completed in April 2009. A CSMP is “a comprehensive, integrated management plan for increasing transportation options, decreasing congestion, and improving travel times in a transportation corridor. A CSMP includes all travel modes in a defined corridor: highways and freeways, parallel and connecting roadways, public transit (bus, bus rapid transit, light rail, intercity rail) and bikeways. Intelligent Transportation Systems (ITS) are also discussed; these include ramp metering, coordinated traffic signals, changeable message signs for traveler information, incident management, bus/carpool lanes and car/vanpool programs, and transit strategies” (District 6 Transportation Planning web page). In comparison to TCR, a CSMP is more comprehensive plan involving developing strategies for managing delivery of transportation services along specific segments of the most congested corridors in the District.

The “Fresno-Madera Urban State Route 99” CSMP identifies the projects and timing of transforming Route 99 to a six-lane facility with auxiliary lanes within 17 miles of Fresno County beginning at American Avenue and continuing as a six-lane facility throughout Madera county for 23 miles.

### C. Traffic

The District 6 Technical Planning Unit provided the following Traffic Indexes and Design Designations for this segment of Route 99:

• 2019 Average Daily Traffic (ADT)	80,500
• 2026 ADT	90,500
• 2046 ADT	126,500
• 2066 ADT	177,500
• 2046 Design Hour Volume (DHV)	10,500
• 2066 DHV	14,700
• Peak-Hour Directional Volume Percentage (D)	52%
• Truck DHV	9%
• % Truck	19.23%

Growth rates were determined by reviewing the Madera County Transportation Commission (MCTC) Travel Demand Model (TDM) and historical growth for this segment.

### D. Collision Analysis

The accident history of the most recent three years period (1/1/2017 to 12/31/2019) were analyzed for NB and SB mainlines and the ramps. There were 250 accidents (1-Fatal, 72-Injury, 177-Property Damage Only (PDO)) for the freeway segment in the northbound direction. The types of accidents are one heads-on, seven broadside, 13 overturn, 41 sideswipe, 46 hit objects, and 142 rear-end. It was observed that for NB, the Actual Fatal plus Injury and Total accident rates are higher than the Statewide Average Fatal plus Injury and Total accident rates for similar roadways with comparable traffic volumes. However, the Actual Fatal accident rate is lower than the Statewide Average Fatal accident rate.

There were 201 collisions (0-Fatal, 61-Injury, 140-PDO) for the freeway segment in the southbound direction. The types of accidents are one heads-on, three broadside, seven overturn, 44 hit objects, 104 rear-end, and three others. The analysis for SB mainlines indicates that the Actual Fatal and Fatal plus Injury accident rates are **lower** than the Statewide Average Fatal, Fatal plus Injury, and Total accident rates for similar roadways with comparable traffic volumes. However, the Actual Total accident rate is **higher** than the Statewide Average Total accident rate. The accident rates in accidents per million-vehicle-miles are presented in the Table below:

Freeway Segment		Actual (MVM)			Average (MVM)		
	PM	Fatal	F + I	Total	Fatal	F + I	Total
Northbound Route 99	0.0-8.7	0.003	0.19	0.67	0.008	0.17	0.50
Southbound Route 99	0.0-8.7	0.000	0.16	0.54	0.008	0.17	0.50

### On-Ramps and Off-Ramps

The accident history for the same three-year study period for the following ramps indicates that the Actual Accident rates are **lower** than the Statewide Average accident rates for similar roadway with comparable traffic volumes. The accident rates in accidents per million-vehicles (MV) are:

Ramps		Actual (MV)			Average (MV)		
	PM	Fatal	F + I	Total	Fatal	F + I	Total
SB On from Ave 9	R3.629	0.000	0.00	0.00	0.006	0.12	0.35
SB On from EB Ave 12	R7.214	0.000	0.40	0.40	0.011	0.40	0.77
NB Off to Ave 12	R7.270	0.000	0.00	1.33	0.012	0.49	1.35
SB On from WB Ave 12	R7.560	0.000	0.00	0.00	0.002	0.23	0.63
SB Off to Ave 12	R7.760	0.000	0.00	0.00	0.008	0.39	1.03

### NB Ramps at Avenue 9

There were 4 accidents (0-Fatal, 2-Injury, 2-PDO) for the northbound off-ramp to Avenue 9; the types of accidents were one rear-end and three broadsides. There were 3 accidents (0-Fatal, 2-Injury, 1-PDO) for the northbound on-ramp from Avenue 9; the types of accidents were one broadside, one hit object and one overturn.

The accident history for the same three-year study period for the following ramps indicates that the Actual Fatal plus Injury and Total Accident rates are **higher** than the Statewide Average Fatal plus Injury and Total accident rates for similar roadways with comparable traffic volumes. However, the Actual Fatal accident rate is **lower** than the Statewide Average Fatal accident rate. The accident rates in accidents per million-vehicles (MV) are:

Ramps		Actual (MVM)			Average (MVM)		
	PM	Fatal	F + I	Total	Fatal	F + I	Total
NB Off to Ave 9	R3.358	0.000	2.65	5.29	0.012	0.49	1.35
NB On from Ave 9	R3.738	0.000	0.46	0.69	0.017	0.24	0.64

### SB Ramps at Avenue 9

There were four accidents (0-Fatal, 3-Injury, 1-PDO) for the southbound off-ramp to Avenue 9; the types of accidents were one rear-end and three broadsides. The accident history for the same three-year study period for the SB off-ramp to Avenue 9 indicates that the Actual Fatal plus Injury accident rate is **higher** than the Statewide Average Fatal plus Injury accident rate for similar roadway with comparable traffic volumes. However, the Actual Fatal and Total accident rates are **lower** than the Statewide Average Fatal accident rates. The accident rates in accidents per million-vehicles (MV) are:

Ramps		Actual (MVM)			Average (MVM)		
	PM	Fatal	F + I	Total	Fatal	F + I	Total
SB Off to Ave 9	R3.804	0.000	0.65	0.87	0.012	0.49	1.35



### NB Ramps at Avenue 12

There were two accidents (1-Fatal, 0-Injury, 1-PDO) for the northbound on-ramp from Avenue 12; the types of accidents were one rear-end and one Auto/Pedestrian. The Primary Collision Factor of the one fatal Auto/Ped collision was Other Violations. The accident occurred when a pedestrian standing on the northbound on-ramp from Avenue 12 was struck by a vehicle travelling on the northbound on-ramp. The accident occurred in clear, dark, and dry roadway conditions.

The accident history for the same three-year study period for the NB on-ramp from Avenue 12 indicates that the Actual Fatal and Fatal plus Injury accident rates are **higher** than the Statewide Average Fatal and Fatal plus Injury accident rate for similar roadway with comparable traffic volumes. However, the Actual Total accident rate is **lower** than the Statewide Average Fatal accident rates. The accident rates in accidents per million-vehicles (MV) are:

Ramps		Actual (MVM)			Average (MVM)		
	PM	Fatal	F + I	Total	Fatal	F + I	Total
NB On from Ave 12	R7.653	0.260	0.26	0.52	0.002	0.23	0.63

## 5. ALTERNATIVES

### 5A. Viable Alternatives

After reviewing the traffic segment analysis, traffic projections, peak hours traffic, Level of Service and safety analysis; and considering gap closure need between the south and the north segments of this section of the freeway, the PDT strongly agreed that a capacity increase project is necessary for this segment.

This project proposes to transform the existing 4-lane facility to a 6-lane facility by widening in the median, adding one lane in each direction and providing 10 feet inside and outside shoulders from PM 1.5 to 7.6. The existing 6-lane facility from PM 0.1 to 1.5 is striped for two lanes in each direction. This portion will be restriped as three lanes in each direction. The Madera 99 Widening Project (EA: 06-47090), which is currently in construction, will stripe as two lanes in each direction from PM 7.6 to 8.1, though this portion will be widened as 6-lane. This portion will be restriped as a 6-lane facility. The work considered in this project are:

- Remove all existing Oleanders and widen the median with a one foot thick Continuously Reinforced Concrete Pavement (CRCP) over 0.25' Hot Mix Asphalt (HMA) (Type A), rehabilitate the existing travel lanes and outside shoulders by the same amount of CRCP and HMA.
- Add a 1300 foot auxiliary lane at NB off-ramp to Avenue 12 and add one more lane at the exit providing two-lane exit ramp to Avenue 12.

- c. Lower the SB profile under Avenue 9 OC to achieve the vertical clearance at the edge of shoulder on Avenue 9 south bound loop-on ramp at 14.51' (existing 14.46'). The vertical clearance on the right side ETW of the mainline Route 99 is proposed at 16.44' (existing 15.78').
- d. STAA truck templates will be run along the on-ramps and off-ramps at Avenue 9 Interchange. If the ramps do not meet the standards they will be reconstructed, otherwise they will be coldplaned and overlaid.
- e. As all ramps of Avenue 12 Interchange have service lives until 2035, no work is proposed for these ramps, except the portion of SB loop-on ramp from Ave 12 OC will need to be widened to match with the SB lane three.
- f. Replace the existing single Thrie Beam Barriers and Concrete Barrier in the median with Concrete Barrier (Type 60MGC) due to differentials in elevations between the NB and SB, and to avoid opposing traffic head light glare; except from PM 5.08 to 6.35 as it is in the 100-year floodplain.
- g. Replace the existing Single/Double Thrie Beam Barriers (DTBB) in the median with new DTBB from PM 5.08 to 6.35 due to encroaching in the Federal Emergency Management Agency (FEMA) 100-year floodplain zone. The District Traffic Safety provided concurrence for it. No Manual of Assessing Safety Hardware (MASH) compliant DTBB is available right now, but during PS&E if any MASH compliant DTBB is available, that one will be used.
- h. Replace/reconstruct all existing Metal Beam Guardrails (MBGR), Midwest Guardrail System (MGS) and traffic safety devices in compliance with MASH standards, including length of need (LON) to be designed per Traffic Safety System Guidance (March 2019) and the latest Caltrans Revised Standard Plans (RSPs).
- i. The bridge columns in the median at Avenue 9 OC, Avenue 8 and Avenue 11 OC and OHs are currently shielded by Thrie Beam Barriers, which are proposed to be protected by Concrete Barrier (Type 60R).
- j. The bridge columns at right side of NB Route 99 at Avenue 9 OC, Avenue 8 and Avenue 11 OC and OHs are currently protected by MGS, which will be reconstructed with additional MGS and In-line Terminal Systems per Traffic Safety Manual enforced during the design phase of the project.
- k. The bridge columns at right side of SB Route 99 at Avenue 8 and Avenue 11 OC and OHs will be protected by Concrete Barrier (Type 60SD) with additional MGS and In-line Terminal Systems, or appropriate crash cushions. The final decision will be made during the design phase based on the Traffic Safety recommendations and Traffic Safety Manual enforced during that time.
- l. The existing Concrete Barrier (Type 25) on the right side at Little Dry Creek Bridge is not to current standard and will be replaced with a Concrete Barrier (Type 842).
- m. Concrete Barrier (Type 842) will be placed on the proposed retaining wall at NB auxiliary lane at NB off-ramp to Avenue 12.
- n. The existing 2-post ground mounted exit signs on NB and SB Route 99 prior to Avenue 9 exit ramps and on the NB Route 99 on the right side about 0.5 mile north of Avenue 11 will be replaced with OH signs and shielded by MGS.

- o. All non-standard guardrails on the local roads attached to the overcrossings and overheads at Avenues 8, 9 and 11 will be replaced with MGS.
- p. Except the EB approach of Ave 8 OC, the three corners of the bridge rails are not shielded with guardrails. Those three corners will be protected by MGS.
- q. All approach and departure bridge rail corners of Ave 11 OC & OH are unprotected. Those will be shielded with MGS.
- r. The gore area and median barrier to be built by Cottonwood Creek Bridge replacement project will be impacted by this project, which would be reconstructed in this project.
- s. Overhead signs at a distance not greater than 30' will be safeguarded by MGS.
- t. The existing Changeable Message Sign (CMS) near Avenue 8 OC & OH will be relocated at approximately 800' away from the OC & OH on both directions. The CMS poles will be shielded by MGS.
- u. New and modified electrical services will be provided, lighting and signals will be upgraded to latest standard, some CCTV will be added, some MVDS will be replaced with TMS and some EMS sign will be replaced.
- v. All signposts within the clear recovery zone are to be made breakaway.
- w. Ground-in shoulder rumble strips will be installed on the inside and outside shoulders on both the NB and SB.

### **Features Requiring Design Decision Documentation**

#### **Bold Nonstandard Design Elements**

- HDM Index 302.1: Nonstandard outside shoulder widths are proposed at NB Avenue 8 OC & OH column, SB Avenue 9 OC column, inside shoulder widths at columns of Avenue 8 OC & OH, Avenue 9 OC and Avenue 11 OC & OH, which vary from 7.1' to 10'.
- HDM Index 309.1(3)(b): Nonstandard horizontal clearance is proposed at SB median columns of Avenue 8 OC & OH, Avenue 9 OC, Avenue 11 OC and OH, and at SB right side column at Avenue 9, which vary from 7.1' to 8' instead of standard 10'.
- HDM Index 309.2: Nonstandard vertical clearance of 14.51' (existing 14.46') is proposed at the edge of shoulder on Avenue 9 south bound loop-on ramp. The vertical clearance on the right side ETW of the mainline Route 99 is proposed at 16.44' (existing 15.78').
- HDM Index 203.2: Nonstandard horizontal curve radius of 4,895' is provided instead of standard 5,000' through the center of Avenue 9 Overcrossing. Standard superelevation rate of 4.4% is used on this curve. Using the HDM Table 202.E ( $e_{\max}$  12%), the minimum radius at 4.4% superelevation rate at design speed 70 mph is 4,890', which is less than the radius provided, and meets the minimum curve radius requirement.

### Underlined Nonstandard Design Elements

- HDM Index 304.1: On the NB side due to proximity of railroad right of way, 4:1 side slope encroaches to the railroad properties to a significant length. The embankment fill is shallow on this side. A nonstandard side slope of 2:1 is proposed to avoid the encroachment into railroad properties.
- HDM Index 305.1 (1)(b): Nonstandard median width of 22' is proposed instead of standard 62' rural median.
- HDM Index 204.3: Nonstandard grade less than 0.3 percent is used in a significant length, which is close to the existing profile as the topography is very flat.

Geometric Design Reviews were conducted on April 2021 by Paul N Gennaro, Project Development Coordinator, HQ Division of Design; Robert M Navarro, Central Region Design Liaison; and Samer A Shaath, Chief, Central Region Design 1. Approval authorities have conceptually agreed to approve the nonstandard design features. As the DSDD review and addressing the comments are continuing, DSDD will be finalized and signed after PA&ED.

A Design Standards Risk Assessment Matrix is prepared, while the Design Standard Decision Document is under review for approval. The Matrix is provided below:

Design Standards Risk Assessment			
Design Feature	Design Standard from Highway Design Manual Tables 82.1A & 82.1B	Probability of Design Exception Approval	Justification for Probability Rating
A1	<b>HDM 302.1 Width</b> <b>The shoulder widths given in Table 302.1 shall be the minimum continuous usable width of paved shoulder on highways.</b>	High	The proposed nonstandard shoulder widths will match or exceed the existing shoulder widths. Providing standard shoulder width would involve the replacement of overcrossings and overheads at Avenue 8 and 11, and overcrossing at Avenue 9, which would be excessively costly, and would deviate from the intent of median widening.

A2	<b>HDM 309.1(3)(b) Horizontal Clearances for Highways</b> The minimum horizontal clearance to walls, such as abutments walls, retaining walls in cut locations and noise barriers on all facilities, including auxiliary lanes, ramps, and collector-distributor roads, shall not be less than 10 feet per Table 302.1.	High	Providing the minimum horizontal clearance would involve the replacement of both overcrossings and overheads at Avenue 8 and 11, and overcrossing at Avenue 9, which would be excessively costly, and would jeopardize the intent of the project.
A3	<b>HDM 309.2 (1)(a) Vertical Clearances</b> 16 feet 6 inches shall be the minimum vertical clearance over the roadbed of the State facility (e.g., main lanes, shoulders, ramps, collector-distributor roads, speed change lanes, etc.)	High	The proposed nonstandard vertical clearance will be greater than the existing vertical clearance and will be consistent with the vertical clearance on the bridge structures north of the project. Providing standard vertical clearance would involve replacement of Avenue 9 Overcrossing and shifting of the alignment, which would be costly and not consistent with the median widening objective of the project.
A4	HDM Index 203.2 Standards of Curvatures: The recommended minimum radii for freeways are 5,000 feet in rural areas and 3,000 feet in urban areas.	High	The proposed curve radius of 4,895 feet is slightly less than suggested standard radius of 5,000 feet. However, using standard superelevation rate of 4.4%, design speed 70 mph, the minimum curve radius per Table 202.2E is 4,890 feet. So, the proposed curve radius meets the minimum requirement.
B1	<b>HDM 304.1 Side Slope Standards</b> <u>For new construction, widening, or where slopes are otherwise being modified, embankment (fill) slopes should be 4:1 or flatter.</u>	High	Providing standard 4:1 side slope encroaches in the railroad right of way. To avoid the railroad right of way would involve shifting the alignment, reconstruction of the structures and extension of the Madera Irrigation District canal systems, which would be costly, and would not be consistent with intent of the project.

B2	<b>HDM 305.1(1)(b) Width</b> <u>The minimum median width for freeways and expressways in rural areas should be 62 feet.</u>	High	Providing standard median width would involve shifting the centerline alignment towards the west, acquisition of approximately 94 acres of land, eradication of the whole community of Irrigosa, replacement of overcrossings and overheads at Avenue 8 and 11, overcrossing at Avenue 9, and extension of the Madera Irrigation District's irrigation canal systems. This would be huge costly, and not consistent with the intent of the project.
B3	<b>HDM 204.3 Standard for Grade</b> <u>Minimum grades should be 0.5 percent in snow country and 0.3 percent at other locations.</u>	High	The project limit is in a very flat terrain. Providing standard grades would involve substantial filling in many areas and would cause the catch lines to extend beyond the existing right of way in both the east and west side. The encroachment of the catch line would impact the railroad right of way in the east and the community of Irrigosa in the west. The cost to provide standard width would be excessive.

## 5B. Rejected Alternatives

The PDT reviewed the three alternatives considered in the PSR-PDS of March 2008. After review and discussions, the team decided that the best viable option for this project is to widen in the median to keep the alignment consistent with the two projects on the south and north of this project's limits that widened in the median. The two other options of the PSR-PDS were shifting the alignment west, acquiring land for ultimate 8-lane facility and replacing all structures within the project limits by 8-lane span. However, to keep consistency with the projects developed in the vicinity without shifting the alignment and without the infrastructure for an 8-lane facility, the PDT rejected the other two alternatives.

The no-build alternative was also rejected as it does not meet the purpose and need for the project.

## **6. CONSIDERATIONS REQUIRING DISCUSSION**

### **6A. Hazardous Waste**

Aerially Deposited Lead (ADL) is present in the project site. The following paragraphs describe the limits, type, and strategy to be followed with Hazardous Materials.

Median (SR 99 PM 1.5/7.6): Based on ADL concentrations, soil from ground surface to a depth of 2.5 feet is classified as R1/Z2. Reuse is allowed and to be placed at least 5 feet above groundwater table, covered with at least 1 foot of clean soil or pavement structure. Alternatively, the materials can be disposed of at a Class I facility.

NB Shoulder (SR 99 PM 1.5/7.6): Based on ADL concentrations, soil from ground surface to a depth of 2 feet is classified as R1/Z2. Reuse is allowed and to be placed at least 5 feet above groundwater table, covered with at least 1 foot of clean soil or pavement structure. Alternatively, the materials can be disposed of at a Class I facility.

SB Shoulder (SR 99 PM 1.5/7.6): Based on ADL concentrations, if soil is excavated from ground surface to at least 2 feet it is classified as non-hazardous/unrestricted material. Should only shallower soils be removed, the ADL concentrations are less diluted, and the material is considered hazardous (for example if only ground surface to 1.5 feet is removed → R1/Z2; the same restrictions apply as for NB Shoulder and Median soil).

Should ADL soils classified as R1/Z2 be reused within the project area, the DTSC will be notified and supplied with mapping showing the exact location of where soil will be buried. Surveys of the burial area, as well as the clean cap/pavement, will be required.

Any quantity of excavated hazardous materials, which could not be used in the construction site, would be disposed of at a hazardous waste disposal facility.

### **6B. Value Analysis**

As the total project cost (right-of-way, construction, and support) is more than \$25 million, a Value Analysis study will be considered for this project as per memo of the Chief Engineer of Project Delivery, dated February 5, 2019. A Value Analysis will provide opportunity to develop an option to maximize performance while minimizing cost, which will be conducted during the 30% constructability review.

### **6C. Resource Conservation**

The surplus roadway materials available by cold planning and roadway excavation will be reused and recycled as appropriate. The newly installed Midwest Guardrail Systems will be reconstructed. No other resource conservation elements are identified yet. However, during the PS&E phase, Maintenance will be contacted to identify any elements to be conserved.

## **6D. Right-of-Way Issues**

Right of Way acquisition is required for this project for constructing drainage ditches and basins, and relocation of a Palm and a Pine tree on the west side of SB Route 99. It is proposed to acquire 26.5 acres of land from 16 parcels, of which 11 are agricultural, three are commercial and two are of miscellaneous land use. In order to avoid relocation of (i) Madera Irrigation District's canal systems, (ii) the unincorporated community of Irrigosa, (iii) and the Golden State Boulevard at several locations; the proposed basins will store the freeway runoff adjacent to those areas in addition to storage a portion of runoff water from the NB side. The exact quantity of acquisition and number of parcels affected may vary slightly during Right of Way Engineering submittal at the PS&E phase. The Right of Way acquisition and utility relocation/pot holing costs are estimated in the attached "Right of Way Data Sheet" (Attachment D).

## **6E. Environmental Compliance**

The Draft Initial Study with Mitigated Negative Declaration/Environmental Assessment has been prepared in accordance with Caltrans' environmental procedures, as well as state and federal regulations. After addressing the public comments, the Draft Environmental Document will be finalized.

Statewide implementation of Senate Bill (SB) 743 occurred on July 1, 2020. SB 743 requires the new metric for analyzing transportation impacts significance to be induced demand of Vehicle Miles Traveled (VMT) due to a project. In a memo from the Division of Environmental Analysis dated November 15, 2020 with the subject line 743 Concurrence Process this project was listed as unable to follow the new guidance for evaluating transportation impacts under CEQA. Although this project was determined to not be able to follow the new process a report titled Induced VMT Analysis was prepared for the project in September 2020. That report stated "a reasonable conclusion is there will be no VMT induced" by this project.

## **6F. Air Quality Conformity**

Both EPA (August 11<sup>th</sup>, 2020) and FHWA (August 13<sup>th</sup>, 2020) concur that this is not a project of air quality concern. Concurrence was received from the Federal Highway Administration and the U.S. Environmental Protection Agency in August 2020 (see page 58, Final Environmental Document, Attachment H). Caltrans has completed this air quality conformity assessment and has determined that the project is not a project of air quality concern.

On March 15, 2021, Caltrans submitted a request to the Federal Highway Administration for a project-level conformity determination for the South Madera 6-Lane project. On April 1, 2021, the Federal Highway Administration concurred that the project-level transportation conformity requirements of 40 Code of Federal Regulations Part 93 have been met. The project is included in the Madera County Transportation Commission's current Regional Transportation Plan and Transportation Improvement Program, as amended.



## 6G. Title VI Considerations

Per Title VI, Civil Rights Act of 1964 — No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. However, there are no Title VI considerations pertinent in this project.

## 6H. Noise Abatement Decision Report

A Noise Abatement Decision Report has been prepared per Caltrans Traffic Noise Analysis Protocol based on Noise Study Report prepared by Caltrans Environmental Engineering Branch in February 2016. The Noise Study proposed five sound walls after studying 13 impactor receptors (outdoor used areas) for the proposed Alternative. For the Noise Abatement Decision Report 12 feet to 18 feet high sound walls were considered. For the five sound walls, a total of 33 benefited units were available. The Noise Study considered \$107,000 reasonable allowance per benefited units with a total reasonable allowance calculated as \$3,531,000.

For the Noise Abatement Decision Report, the feasibility of construction of the sound walls were determined by comparing the cost of each sound wall against total reasonable allowance for each sound wall. The result is presented in the Table below:

**Table: Summary of Noise Abatement Information**

Barrier Number	Length (Feet)	Height (feet)	Number of Benefited Residences	Acoustically Feasible?	*Acoustical Design goal met (Y/N)	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?
SW1	1,560	16	1	Yes	Yes	\$107,000	\$1,270,000	No
SW2	1,894	12	13	Yes	Yes	\$1,391,000	\$1,540,000	No
SW3	3,510	12	16	Yes	Yes	\$1,712,000	\$2,850,000	No
SW4	1,772	18	2	Yes	Yes	\$214,000	\$1,440,000	No
SW5	1,040	16	1	Yes	No	\$107,000	\$840,000	No

\*The Caltrans acoustical design goal is that noise abatement must be predicted to provide at least 7 dB of noise reduction at one or more *benefited receptors*

Based on the information presented in the above Table, it could be seen that none of the sound wall is feasible for construction, and reasonable allowances would be considered for the residences.

## 6I. Life Cycle Cost Analysis

A Life Cycle Cost Analysis (LCCA) has been done for this project for the proposed one-lane addition and the 10' shoulder in the median in each direction in September

2020. Another LCCA was conducted for the No. 2 and 3 lanes and the outside shoulders in February 2021. The structural sections were considered based on the Preliminary Pavement Structural Section Recommendations provided by District Materials Engineering on July 10, 2020; and further recommendations made via email on November 18, 2020. Due to the number of alternatives in the Materials recommendations, viable alternatives (which meet Highway Design Manual Topic 612.2 New Construction and Reconstruction), current long-life pavement policy, and material mandates required by state law were evaluated in the LCCA. As a result, two 40-year structural section alternatives were compared in the analysis. The sum of the deterministic results of the LCCAs are presented in the Table below:

<b>Total Cost</b>	<b>Alternative 1 40-Yr Rigid Pavement (TI = 17.5) 1.00' CRCP/ 0.25' HMA (Type A)</b>		<b>Alternative 2 40-Yr Flexible Pavement (TI = 17.5) 0.20' RHMA-G/ 0.95' HMA (Type A) /1.30' CI 2 AB</b>	
	Agency Cost (\$1000)	User Cost (\$1000)	Agency Cost (\$1000)	User Cost (\$1000)
Undiscounted Sum	\$41,883	\$19,822	\$86,905	\$60,402
Present Value	\$41,492	\$19,822	\$56,991	\$24,942
<b>Life Cycle Cost</b>	<b>\$61,314</b>		<b>\$81,933</b>	

Based on the LCCA, it could be seen that both the present value and long term benefit would be achieved by the selection of CRCP.

## 6J. Reversible Lanes

There are no significant differences in traffic volumes in NB and SB during AM and PM peak periods. Thus, the concept of reversible lanes could not be applied here, as it has been implemented in the San Diego-Coronado Bay Bridge in San Diego and the Golden Gate Bridge in the San Francisco Bay.

## 6K. Structural Section Selection

From the Life Cycle Cost Analysis it could be seen that considering long term service life and economic benefit, the best option for structural section to build the new lane is the Alternative 1, i.e. 40-year Rigid Pavement with 0.90' Continuously Reinforced Concrete Pavement (CRCP) over 0.25' over Hot Mix Asphalt (HMA) (Type A). The Materials Engineering recommended that the existing travel lanes could be reconstructed with 1.0' CRCP over 0.25' HMA. Considering Life Cycle Cost benefits and long-term maintenance ease, it has been decided to use 1.0' CRCP on 0.25' HMA (Type A).

## **6L. Hydraulics**

The existing median currently collects and conveys runoff to adjacent drainage systems that outlet to the existing side ditches on the SB side with the help of various Galvanized Metal Pipe (GMP) inlets, headwalls, and flared-end sections. Pavement runoff also sheet flows to the area between the roadway and the railroad on the NB side, and into the side ditches on the SB side. The median widening will require the removal of the existing cross culverts drainage systems, headwalls, and flared end sections. To mitigate the additional runoff to the adjacent railroad cross culverts of 24-inch RCP are proposed at suitable locations. Inlets and cross culverts will be placed along the median where appropriate in the pavement superelevation areas. There will be multiple drainage inlets along the proposed retaining wall along the auxiliary lane. One ten year 24-hour storm is considered for storm water volume determination and storage.

No new capacity increase or side ditches can be added to the NB side because of the proximity of railroad right of way. On the SB side, where R/W is proposed, storage side ditches would be constructed with 5-foot bottom width, 2.5' depth, 6:1 front slope and 4:1 back slope. To avoid impact on the unincorporated town of Irrigosa and some local roads (e.g. Golden State Boulevard), right of way acquisition is not considered due to excessive cost. Three basins are proposed on the west side for storage of runoff areas from these locations. Conveyance ditches (V-ditch) with 2 to 3 feet depth and side slopes of 4:1 will be constructed to carry out the water to the basins.

It is assumed that the existing fiber optic line will be relocated and based on that assumption, a drainage system will be constructed along the retaining wall with drainage inlet and cross culvert.

The superelevated sections under the Avenue 8 and Avenue 11 structures, median inlets and grated line drains will be constructed along the structure columns and median barrier.

The Hydraulics recommendations mentioned that temporary drainage would be needed for construction staging, and recommended removal of the existing crowned sections on the traveled lanes before staging to begin.

A portion of the project is within a FEMA 100-year floodplain.

## **6M. Utilities**

Several utilities are identified within the project limits and within the access controlled right of way. Utilities identified within the project limits include telecommunication, electric, water, oil, and natural gas companies. Some of these utilities may require relocation. Encroachment Exceptions and Policy Exceptions are anticipated to be required. New and modified electric services for the proposed Caltrans electrical work may require utility easements to connect to existing poles outside of the State's Right of Way. These are under investigation and will be confirmed during PS&E Phase.

Positive location of existing utilities will be undertaken to comply with policy requirements and to determine/rule out conflict or to enable design avoidance measures.

The Concrete Barrier/Retaining Wall Design in NB Route 99 from Sta 360+00 to Sta 378+00 may conflict with underground fiber optic/telecommunication lines. Utility relocation and/or design avoidance measures are under investigation and resolution will occur during the PS&E phase.

## 7. CONSIDERATIONS AS APPROPRIATE

### Public Hearing Process

Public Hearing is discussed in the Community Interaction Section on page 3.

### Route Matters

No revisions are required to Freeway Agreements within the project limits.

### Permits

<b>Agency</b>	<b>Permit/Approval</b>	<b>Status</b>
San Joaquin Valley Unified Air Pollution Control District	National Emissions Standards for Hazardous Air Pollutants Notification	Contractor will be required to notify the air district 10 days prior to start of construction
California Department of Fish and Wildlife	California Fish and Wildlife Code 1602 Lake and Streambed Alteration Agreement	Application to be submitted during the project's final design phase
U.S. Army Corps of Engineers	Clean Water Act Section 404 Nationwide Permit	Application to be submitted during the project's final design phase
Regional Water Quality Board	Clean Water Act Section 401 Water Quality Certification	Application to be submitted during the project's final design phase

### Cooperative Agreements

No cooperative agreement is required for this project.

### Route Adoptions, Freeway Agreements, Relinquishments and Modification of Access Control

Not applicable.

### Transportation Management Plan

Preliminary traffic impact and mitigation for this project have been outlined in the attached Transportation Management Plan Data Sheet (TMP Data Sheet). Costs associated with the traffic impact mitigation measures listed in the TMP Data Sheet have been included in this document's estimate.

A TMP for this project is required and should be requested when the design is completed

enough to determine specific traffic impacts, yet early enough to make design changes or additions required for traffic mitigation. To enhance traffic safety and provide additional protection during construction, Work Zone Speed Reduction System will be incorporated. Lane requirement charts and detailed TMP will be provided during the PS&E stage.

Lane closures are not allowed when the traffic volume is beyond the capacity of the remaining lanes. Nighttime work outside hours are anticipated for this project.

### Stage Construction

In Stage 1, temporary rehabilitation of the existing shoulders and temporary widening outside shoulders where needed would be constructed with 2-yr traffic index to shift the traffic on the existing shoulders.

In the Stage 2, K-rails will be placed along both the NB and SB ETW lines two feet inside the ETW, and the existing lanes will be temporarily re-striped. Traffic on both sides will be shifted partially on the outside shoulders. The concrete median barrier will be constructed along with widening by constructing one lane and 10' shoulder in each direction. In the floodplain zone DTBB will be used instead of concrete barrier.

In Stage 3, K-rails will be placed at the edge of newly constructed widened portion along the NB and a lane of SB traffic will be shifted to the NB. The NB traffic will use the existing travelled lanes and a portion of shoulder. The remaining SB traffic will be channelized between the median concrete barrier and k-rails placed on the newly constructed median portion. The construction limit will exclude the Avenue 12 SB on-ramp areas, the traffic of which will be channelized on the SB solo lane. The Avenue 9 on-ramps will remain opened excluding a portion of SB construction, and traffic will be channelized to the SB lane one. Later, the portion which could not be constructed due to channelization of Avenue 9 SB on-ramp would be constructed with rapid setting concrete.

In Stage 4, the remaining portion of SB, from south of Avenue 12 to end of project limit at PM 7.6 and merged areas of Avenue 12 will be constructed. The Avenue 12 SB on-ramps will remain closed at this stage. This portion of Avenue 12 will be constructed with rapid setting concrete, so that the on-ramp can be opened in a shorter period.

In Stage 5, the NB existing travel lanes and shoulder will be constructed. One NB traffic will be channelized on the SB between the median concrete barrier and K-rails placed on the left of SB lane-1. The other NB traffic will be conveyed through NB lane-1, between median concrete barrier and K-rails. The Avenue 9 SB on-ramp will remain closed at this stage, but Avenue 12 NB on-ramp will remain open.

In Stage 6, Avenue 9 ramps will be constructed.

### Accommodation of Oversized Loads

This Route can accommodate oversized loaded trucks. However, the vertical clearance of 14.51' (existing 14.46') is proposed at the edge of shoulder on Avenue 9 south bound loop-on ramp. The vertical clearance on the right side ETW of the mainline Route 99 is proposed at 16.44' (existing 15.78').

### Graffiti Control

Madera County in general is not a graffiti-prone area. However, scattered incidents of graffiti were observed in the County. Since no new structures are proposed, the chance of graffiti is minimum. Despite that, if graffiti happens in any Caltrans structures or properties, District Maintenance crew will be available to clean. An anti-graffiti program was introduced by Madera City Council in 2008 to create a comprehensive plan that reduces and prevents graffiti through a coordinated community-wide effort. The program emphasized abatement, community involvement, education, and enforcement as in the core of the program for a successful anti-graffiti effort.

### Asset Management

Asset management items and respective quantities will be included in the database during Project PS&E, when the items and quantities will be more precise.

### Complete Streets

#### Pedestrian Facilities

Currently there are no pedestrian facilities (including sidewalks, curb ramps, or pedestrian crossings) within the project limits, except the sidewalks that the Avenue 12 Interchange installed within its project footprint. However, after the interchange limits, there are no continuity of sidewalks and pedestrian facilities.

#### Bicycle Facilities

Bicycles are not allowed in the freeway within the project limits. Madera County Interactive Bike Map proposed Avenue 7 as Class III Bikeway and Avenue 12 is serving as a Class III Bike Lane. The Avenue 12 Interchange Project (EA: 06-47100) has installed Class III Bike Lane on Avenue 12. There are no proposed pedestrian and bicycle improvements at the Avenue 9 interchange. An alternate bicycle route is identified in the 2015 District 6 Bicycle Guide.

#### Transit Facilities

There are no transit facilities to commute within this segment of Route 99.

#### Park-and-Ride Facilities

There is no existing Park and Ride lot within the vicinity of the project limits.

### Climate Change Considerations

District 6 Environmental has calculated greenhouse gas emissions for this project, the methodology and results obtained are discussed in the following section.

### Greenhouse Gas Emissions

Caltrans Emission Factors version 2017 model and traffic data from Caltrans Traffic Forecasting and Operations Analysis Report 2019 were used to estimate annual carbon dioxide emissions for existing year (2019) conditions, construction year (2026), and design year (2046). Modeling incorporated off-model adjustment factors approved by California Air Resources Board (CARB) to address the Safer Affordable Fuel-Efficient (SAFE) Rule part 2 changes in future fuel consumption standards.

In the construction year of 2026, the No-Build carbon dioxide emissions would be 127,750 tons per year compared to 131,613 tons from the Existing/Baseline year of 2019, which is 3,863 tons less carbon dioxide emissions per year. For the Build Alternative, carbon dioxide emission in the construction year (2026) would be 135,272 tons, which is 3,659 tons more than the Existing/ Baseline condition. However, without the project, operational efficiency would not improve and the level of service in the project area will not be acceptable.

In the Design year of 2046, the No-Build carbon dioxide emissions would be 141,490 tons per year compared to 131,613 tons from the Existing/Baseline, which is 9,877 tons more carbon dioxide emissions per year. For the Build Alternative, carbon dioxide emission in the Design year (2046) would be 151,454 tons, which is 19,841 tons more than the Existing/Baseline.

Level two electric vehicle chargers will be installed for public use. Potential sites include roadside rest areas, park and ride areas, and district facilities. Locations will be determined during the Plans, Specifications, and Estimates phase of the project (see page 125, Final Environmental Document, Attachment H).

The following Table shows projected carbon dioxide emissions for existing condition in 2019, and no-build and Build Alternatives in 2026 and in 2046, respectively.

**Table: Green House Gas Emissions**

<b>Build Alternatives</b>	<b>Annual Carbon Dioxide Emissions (Tons/Year)</b>
<b>Existing/Baseline 2019 (No Build)</b>	131,613
<b>Construction Year 2026</b>	
No Build Alternative	127,750
Build Alternative	135,272
<b>Design-Year 2046</b>	
No Build Alternative	141,490
Build Alternative	151,454

Source: CT EMFAC 2017

As shown in Table above, under the design year (2046), the Build Alternative would result in increased carbon dioxide emissions compared to the existing/baseline (2019) and the No-Build Alternative. The proposed project would increase greenhouse gas emissions due to projected increases in population and Annual Average Daily Traffic (AADT). The project would, however, improve traffic circulation, operational efficiency, and level of service.

#### Materials and/or Disposal Site

The asphalt concrete generated by cold planning the existing pavement will either be recycled by the contractor or be disposed to a disposal site. It is the contractor's responsibility to dispose the grinding material safely and per law.

#### Sea Level Rise

This is an inland project far away from the influence of sea level rise.

#### Floodplain Issues

There is a 100-year floodplain as designated by FEMA within the project limits from about PM 5.08 to 6.35. To maintain uninterrupted floodwater flow over the freeway, the profile of this portion of freeway will be close to the existing elevations. In this area instead of concrete barrier in the median, Double Thrie Beam Barrier will be installed. At the Cottonwood Creek the floodplain extends for approximately 200' in the north and



south directions. This floodplain, with a base elevation of 268 ft, is contained within the existing creek and most likely the project will not be affected.

### Landscape & Highway Planting

The most notable landscape feature within the project limits is a regional landmark, “The Palm and The Pine (where Palm meets the Pine)” trees in the existing median at PM 5.70. A *Phoenix canariensis* (Canary island palm) is the symbolic representation of southern California, and a *Cedrus deodara* (deodar cedar) tree is the symbolic of northern California. Though the trees are not at the exact geographical center of California, yet they represent the symbolic center of California. It is believed that the trees were originally planted in the 1920s and are well-known and recognized widely as a landmark on Route 99.

The Palm and the Pine trees are a visual resource protected by Madera County (Madera County General Plan, 1995) and Caltrans policy (Project Development Procedures Manual, Chapter 29). These trees are affected by the median widening. Several PDT meetings along with the Madera County and discussions with Madera Historical Society were held to determine the appropriate mitigation measures. Three options were considered: i) keep the trees as it is in the median and leave a 16' wide and 120' long area in the median and provide guardrails at 8' from the center on both NB and SB side; ii) shift the trees as it is, shift the center line towards SB, leave a 16' wide and 120' long area in the median and protect by guardrails; iii) remove the trees from the median and plant 15 palm trees and 15 pine trees west of the SB at a minimum clear distance of 52' from the designed ETW.

At this location of Route 99 the average annual collision rates are higher than statewide average. Hitting median and fixed objects are main types of accident. After considering all these, it was determined by The Project Development Team to relocate “The Palm and The Pine” landmark from the median to the west side of the Route 99. The new landmark will have 15 palm trees and 15 pine trees that will replace the existing Pine and Palm trees in the median.

The newly-planted Palm and Pine trees would require at least two years of maintenance and regular watering. A well would be constructed within this project, and a separate Landscape Project would be established for planting, irrigating and maintenance of 30 Palm and Pine trees.

The oleander in the median represent the last remaining median oleander from the San Joaquin River to Avenue 16 on the north end of Madera city. The vegetation provides a visual screen from oncoming traffic as well as visual screening of adjacent land uses. The project will require the removal of all the oleander from the median. To mitigate the loss of the oleander in the median, the project adopted 56" high median Concrete Barrier (Type 60MGC). However, the floodplain zone will have Double Thrie Beam Barrier. The landscape portion of the project included replacement of median oleander and eucalyptus trees.

## 8. FUNDING, PROGRAMMING AND ESTIMATE

### Funding

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

### Programming

Fund Source	Fiscal Year Estimate								
025.700 STIP	Prior	20/21	21/22	22/23	23/24	24/25	25/26	Future	Total
Component	In thousands of dollars (\$1,000)								
PA&ED Support	3,413								3,413
PS&E Support			9,460						9,460
Right-of-Way Support			1,500						1,500
Construction Support					12,500				12,500
Right-of-Way			4,000						4,000
Construction					120,000				120,000
Total	3,413		14,960		132,500				150,873

Construction Capital is escalated at 3.2% per year. Support Costs are escalated at 2% per year for fiscal year (FY) 21/22 and 3% per year for FY 22/23 and beyond. Right of Way Capital costs are escalated at 5.0% per year. The support cost ratio is 21.67%.

### Estimate

The current construction capital cost is estimated at \$106,000,000, escalated to \$120,000,000 in the year 2024. The programmed Right of way capital amount is \$4,000,000, which includes \$184,370 for estimated environmental commitments and permit fees.

## 9. DELIVERY SCHEDULE

Project Milestones		Milestone Date (Month/Day/Year)	Milestone Designation (Target/Actual)
PROGRAM PROJECT	M015	7/1/2015	A
BEGIN ENVIRONMENTAL	M020	2/11/2019	A
CIRCULATE DPR & DED EXTERNALLY	M120	3/30/2021	A
PA & ED	M200	5/1/2021	T
RIGHT OF WAY REQUIREMENT	M224	6/1/2021	T
BRIDGE SITE SUBMITTAL	M221	3/1/2022	T
REGULAR RIGHT OF WAY	M225	10/1/2021	T
DRAFT STRUCTURE PS&E	M378	2/1/2023	t
PS&E TO DOE	M377	2/1/2023	T
PROJECT PS&E	M380	6/1/2023	T
RIGHT OF WAY CERTIFICATION	M410	7/15/2023	T
READY TO LIST	M460	8/1/2023	T
HEADQUARTERS ADVERTISE	M480	11/1/2023	T
AWARD	M495	3/1/2024	T
APPROVE CONTRACT	M500	4/1/2024	T
CONTRACT ACCEPTANCE	M600	7/1/2027	T
END PROJECT EXPENDITURES	M800	7/1/2029	T
FINAL PROJECT CLOSEOUT	M900	7/1/2030	T

## 10. RISKS

The Risk Register accounted several environmental, design, right of way, utilities and stake holders risk associated by probability of occurrence and corresponding cost and schedule impact. The Environmental Department assigned a very low (1-10%) to low (11-30%) probability of occurrence to risk items such as project scope change, encountering paleontological resources during construction, nesting of Swainson's Hawk or State-listed species and permits to enter with varying degrees of cost and schedule impact from low to high. All these risks are mitigated with appropriate response, except permit to enter is accepted. The Environmental Department also identified VMT as a low risk threat, which will be mitigated after the Consultant's VMT Analysis Report is approved.

Design identified non-standard design decision approval, change of policy or design standard change and scope change as low probability risk with low (2) to moderate (4) cost and schedule change. The risk strategies are mitigation except the change of policy or standard change is accepted by response action of incorporating changes in the design as soon the new policy or standards takes into effect.

No easement need is identified so far. However, in the later phase of PA&ED, easement need may be identified, especially cross culvert extent and location or utilities relocation need. Right of Way identified easement need as a low probability threat with low cost impact and moderate schedule impact. The response action is mitigation by easement request as soon as design knows that an easement will be needed.

Utilities Engineering Workgroup (UEW) included unexpected utilities discovery during potholing as a low probability risk with low cost impact and moderate schedule impact.

Stakeholders risks are political environment by a very low probability with high cost impact (\$1.81 to \$3.62 million) and moderate schedule impact; and public opposition considering low probability and moderate cost and schedule impact. The first risk is accepted and the second one is mitigated by conducting public outreach and public hearing as early as possible.

## **11. EXTERNAL AGENCY COORDINATION**

### Federal Highway Administration (FHWA)

This project is considered as a delegated project pursuant to the Joint Oversight and Stewardship Agreement between Federal Highway Administration (FHWA) and California Department of Transportation (Caltrans). The project has not been identified as a Project of Division Interest (PODI).

### The project requires the following coordination:

#### US Army Corps of Engineers

Department of the Army Permit for:  
Clean Water Act Section 404

#### California Department of Fish and Wildlife

California Fish and Game Code Section 1602  
Lake or Streambed Alteration Agreement

#### Regional Water Quality Control Board

Clean Water Act Section 401  
Water Quality Certification

#### Local Agency

No Cooperative Agreements/Agreements with any local agency is required for this project.

#### San Joaquin Valley Air Pollution Control District

A dust control plan is required during construction, which needs to be reviewed by San Joaquin Valley Air Pollution Control District.

Railroads

No Railroad Agreement for at-grade or separated-grade crossings is required. However, a railroad agreement is needed for working too close to railroad and permit to enter railroad properties is required. Railroad flaggers would be needed while working close to railroad.

**12. PROJECT REVIEWS**

Scoping team field review	N/A	Date	_____
Scoping team field review attendance roster attached.			
District Program Advisor	<i>Enter Name</i>	Date	_____
Headquarters SHOPP Program Advisor	<i>Enter Name</i>	Date	_____
District Maintenance	Rene Sanchez	Date	_____
Headquarters Project Delivery Coordinator	Paul Gennaro	Date	_____
Project Manager	Eric Karlson	Date	_____
FHWA	N/A	Date	_____
District Safety Review	N/A	Date	_____
Constructability Review	N/A	Date	_____
Other		Date	_____

**13. PROJECT PERSONNEL**

<u>Name</u>	<u>Title</u>	<u>Functional Unit</u>	<u>Phone #</u>
Eric Karlson	Project Manager	PPM	(559) 246-7337
Getachew Eshete	Design Manager	Design	(559) 908-9060
Akm Rahman	Project Engineer	Design	(559) 260-3191
Paul Gennaro	Sup Tr Engineer	HQ Design Reviewer	(559) 260-2386
Eric Olson	Sr Tr Engineer	Technical Planning	(559) 488-4334
Robert Polyack	Sr Tr Engineer	Asset Management	(559) 312-1570
Nick Dumas	Office Chief	D6 Right of Way	(559) 445-6195
Richard Putler	Sr Env Planner	Environmental	(559) 304-6599
Raafat L. Shehata	Sr Tr Engineer	Materials Engineering	(559) 488-4113
Albert Lee	Sr Tr Engineer	Traffic Operations	(559) 488-4111
Tom Fisher	Sr Tr Engineer	Hydraulics	(559) 243-3498
Andre Chevychalov	Sr Tr Engineer	Traffic Design	(559) 243-3537
Rene Sanchez	Sr Tr Engineer	Maintenance	(559) 906-0627
Ali Bakhoud	Sr Tr Engineer	Electrical	(559) 243-3485
Brad Cole	Sr Landscape Arch	Landscape	(559) 230-3134
Michael Leongson	Sr Tr Engineer	Hazardous Waste	(559) 445-6282
Jason D Castillo	Sr Tr Engineer	UEW Group	(559) 243-3816

**14. ATTACHMENTS (Number of Pages)**

- A. Location Map (1)
- B. Typical Cross Sections (4)
- C. Project Layouts (27)
- D. Right of Way Data Sheet (6)
- E. Traffic Management Plan Data Sheet (4)
- F. 11-page Cost Estimate (10)
- G. Storm Water Data Report Signed Cover Sheet (1)
- H. Initial Study with Mitigated Negative Declaration (240)
- I. Risk Register (2)

INDEX OF PLANS

**STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION**

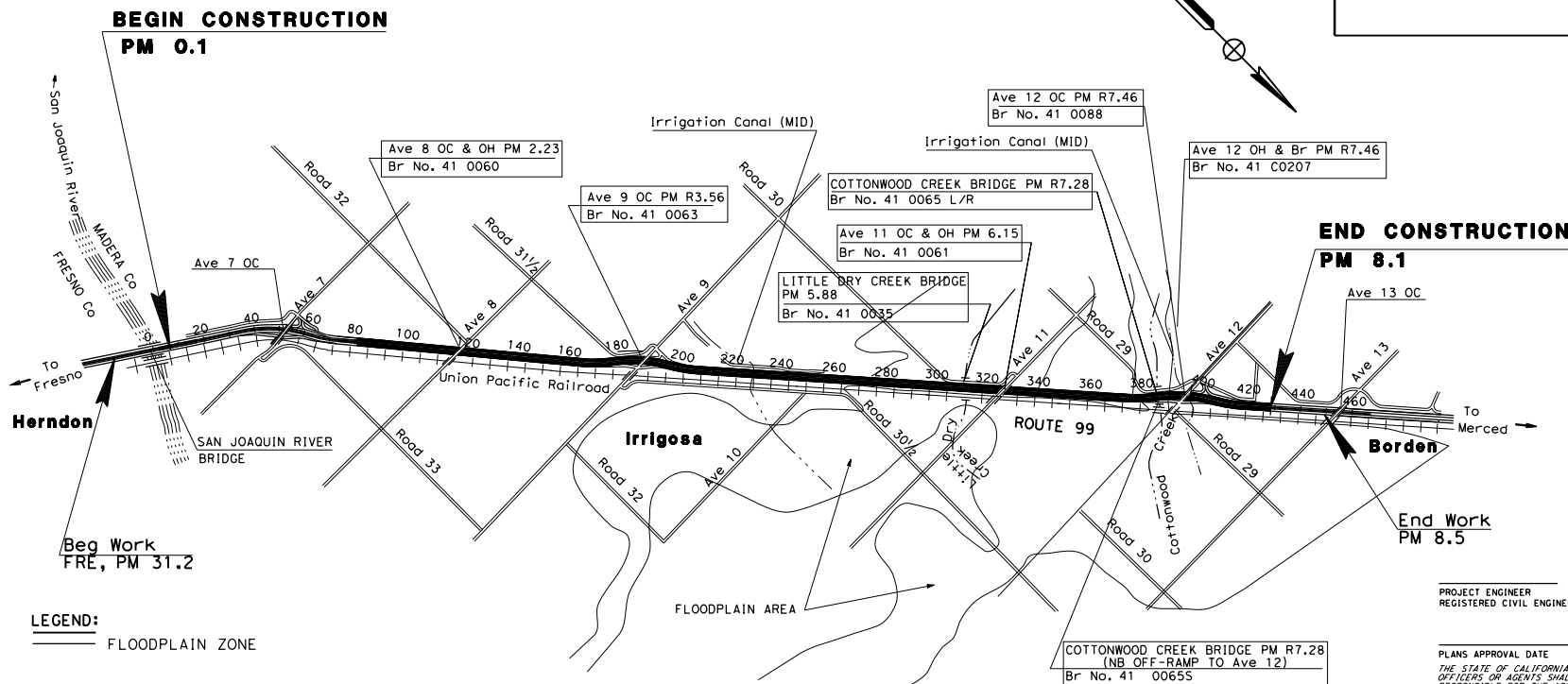
**PROJECT PLANS FOR CONSTRUCTION ON  
STATE HIGHWAY**

**IN MADERA COUNTY**

**IN MADERA, FROM NORTH OF FRESNO-MADERA COUNTY LINE  
TO NORTH OF AVENUE 12**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	99	0.1/8.1		



NO SCALE

**ATTACHMENT A**

PROJECT ENGINEER DATE  
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE  
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RESPONSIBLE FOR THE ACCURACY OR  
COMPLETENESS OF THIS PLAN SHEET.



CONTRACT No.	<b>06-OH2204</b>
PROJECT ID	<b>0612000158</b>

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES)  
OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

BORDER LAST REVISED 9/30/2012 CALTRANS WEB SITE IS: [HTTP://WWW.DOT.CA.GOV/](http://WWW.DOT.CA.GOV/)

RELATIVE BORDER SCALE IS IN INCHES

USERNAME => DGN FILE => ...\\T1\\eShr\\0612000158a001.dgn

UNIT 1475 PROJECT NUMBER & PHASE 06120001581

DATE PLOTTED => 4/14/2021  
TIME PLOTTED => 5:55:50 PM

**NOTES:**

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.

2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CRCP 40-Yr DESIGN PERIOD

DESIGN DESIGNATION

2026 ADT	90,500
2046 ADT	126,500
2066 ADT	177,500
2046 DHV	10,500
2066 DHV	14,500
D	52%
TRUCK DHV %	9%
% TRUCK	19.3%
2046 TI	10
2066 TI	12
2046 ESAL	2,390,000
2066 ESAL	9,880,000

PAVEMENT CLIMATE REGION

INLAND VALLEY

ABBREVIATIONS:

TE - TAPERED EDGE  
RHMA-G - RUBBERIZED HOT MIX ASPHALT (GAP GRADED)  
SB - SHOULDER BACKING  
HMA - HOT MIX ASPHALT

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	99	0.1 / 8.1	2	XX
XX-XX-XX REGISTERED CIVIL ENGINEER DATE					
XX-XX-XX 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.					

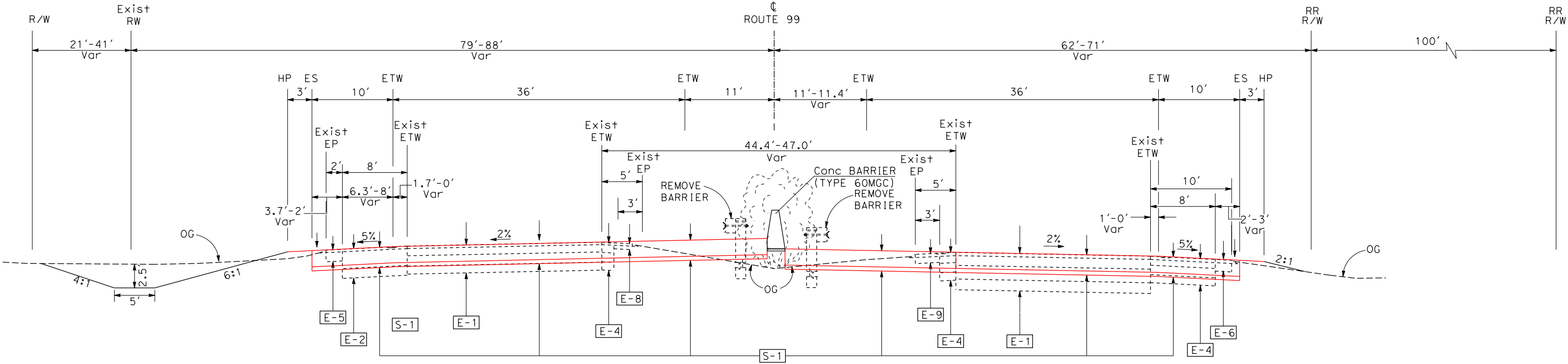
REGISTERED PROFESSIONAL ENGINEER  
No. 6/30/21  
Exp. CIVIL  
STATE OF CALIFORNIA

EXISTING STRUCTURAL SECTIONS

E-1	Exist 0.20' RHMA-G Var 0.36'-0.60' AC 0.84' CTPB 0.66' AS	E-4	Exist 0.20' RHMA-G 0.11'-0.35' AC 0.58' AB Var AS	E-7	Exist 0.20' RHMA-G 0.37' AC
E-2	Exist 0.20' RHMA-G 0.43' AC 0.58' AB Var AS	E-5	Exist 0.20' RHMA-G 0.52' AC	E-8	Exist 0.20' RHMA-G 0.29' AC
E-3	Exist 0.20' RHMA-G 0.35' AC 0.58' AB Var AS	E-6	Exist 0.20' RHMA-G 0.44' AC	E-9	Exist 0.20' RHMA-G 0.26' AC
		E-10	Exist 0.65' HMA (TYPE A) 1.60' CI 2 AB		

PROPOSED STRUCTURAL SECTIONS

S-1	1.00' / 0.25' CRCP/HMA (TYPE A)
S-2	0.5' COLD PLANNING 0.20' / 0.30' RHMA/HMA (TYPE A)



**ROUTE 99**  
Sta 80+35.55 TO 163+68.00  
(PM R1.52 TO PM R3.10)

ATTACHMENT B

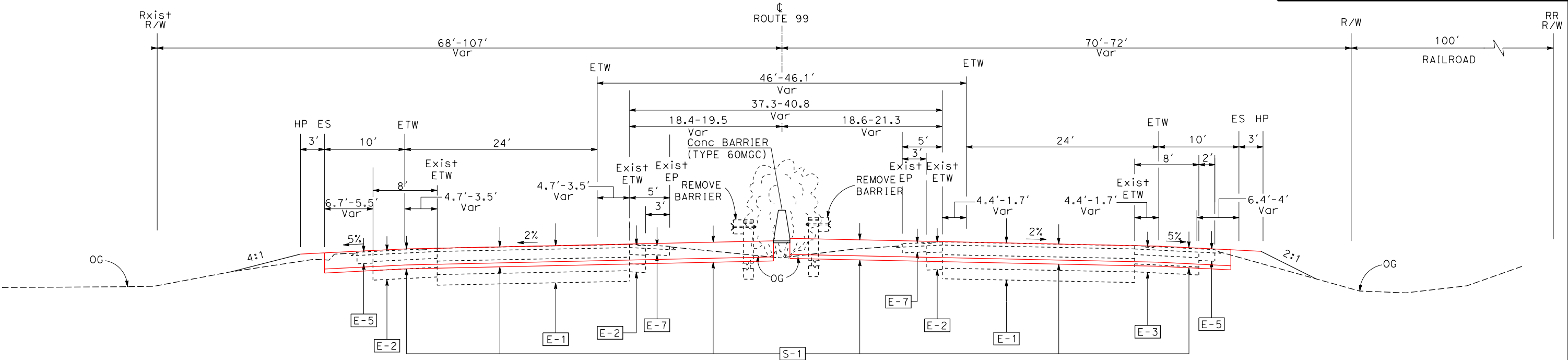
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NO SCALE

X-1

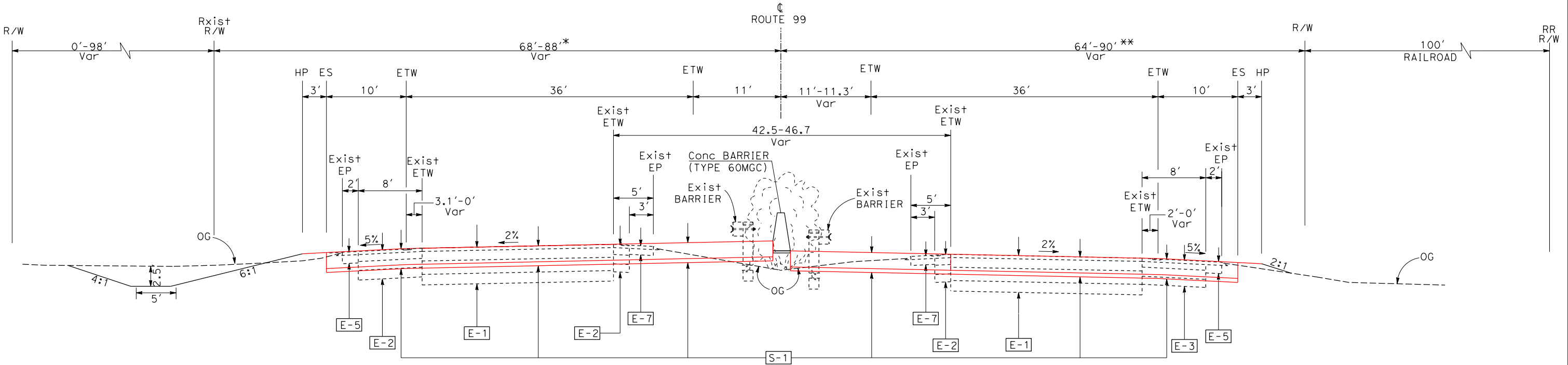


CRCP 40-Yr DESIGN PERIOD



ROUTE 99

Sta 216+48.00 TO 248+16.00  
(PM R4.10 TO R4.70)



\* EXISTING RIGHT OF WAY VARIES UPTO 476' FROM CENTER LINE AT SB LOOP-ON RAMP LOCATION  
\*\* EXISTING RIGHT OF WAY VARIES UPTO 305' FROM CENTER LINE AT NB RAMP LOCATIONS

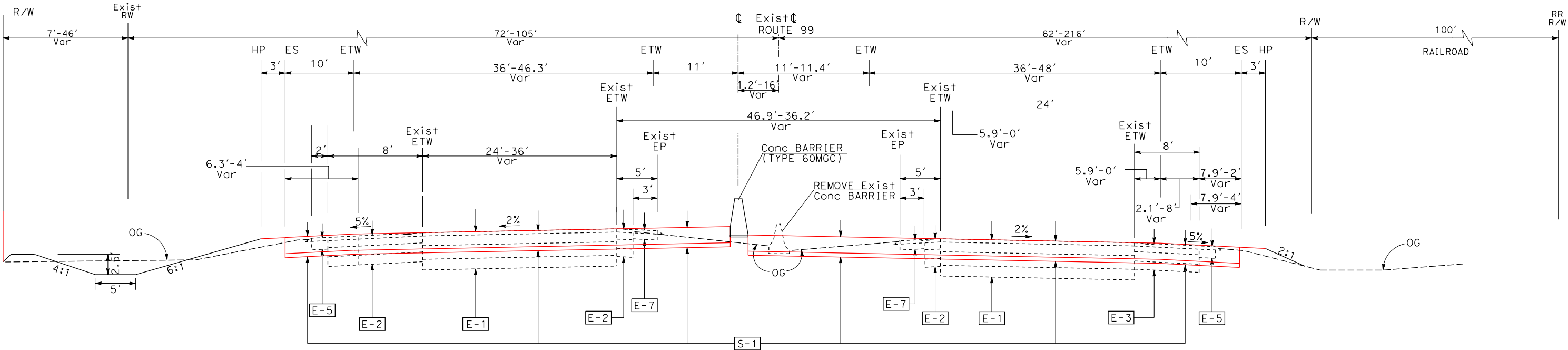
ROUTE 99

Sta 163+68.00 TO 216+48.00 (PM R3.100 TO 4.10  
Sta 248+16.00 TO 268+22.40 PM 4.70 TO 5.08  
Sta 335+28.00 TO 356+55.84 PM 6.35 TO 6.753)

TYPICAL CROSS SECTIONS  
X-2

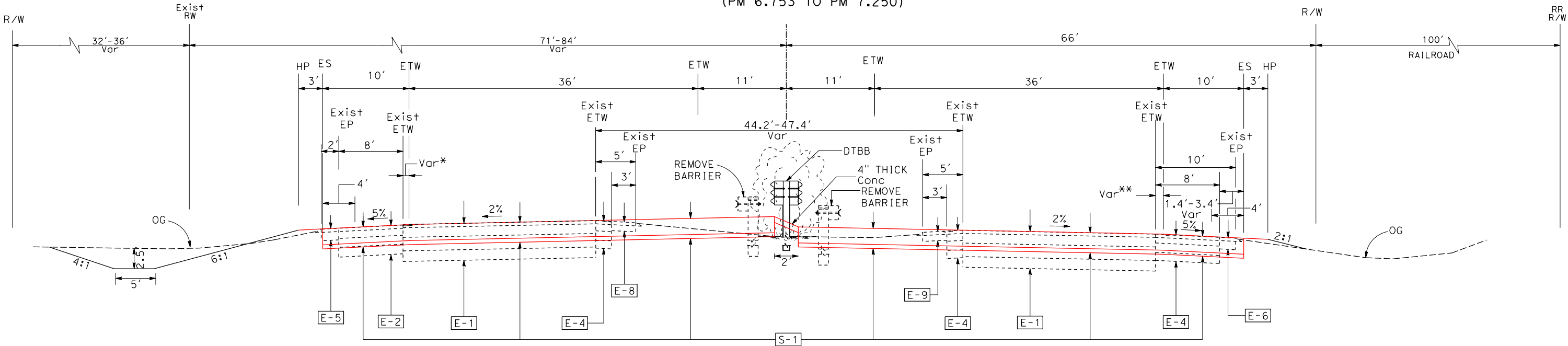
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CRCP 40-Yr DESIGN PERIOD



ROUTE 99

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(PM 6.753 TO PM 7.250)



ROUTE 99

Sta 268+22.40 TO 335+28.00  
(PM R5.08 TO R6.35)

\* THE ETW VARIES FROM 0.5' LEFT OF Exist ETW TO 1.3' RIGHT OF Exist ETW  
\*\* THE ETW VARIES FROM 0.60' LEFT OF Exist ETW TO 1.4' RIGHT OF Exist ETW

TYPICAL CROSS SECTIONS  
X-3  
NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	99	0.1/8.1	2	XX

XX-XX-XX

REGISTERED CIVIL ENGINEER

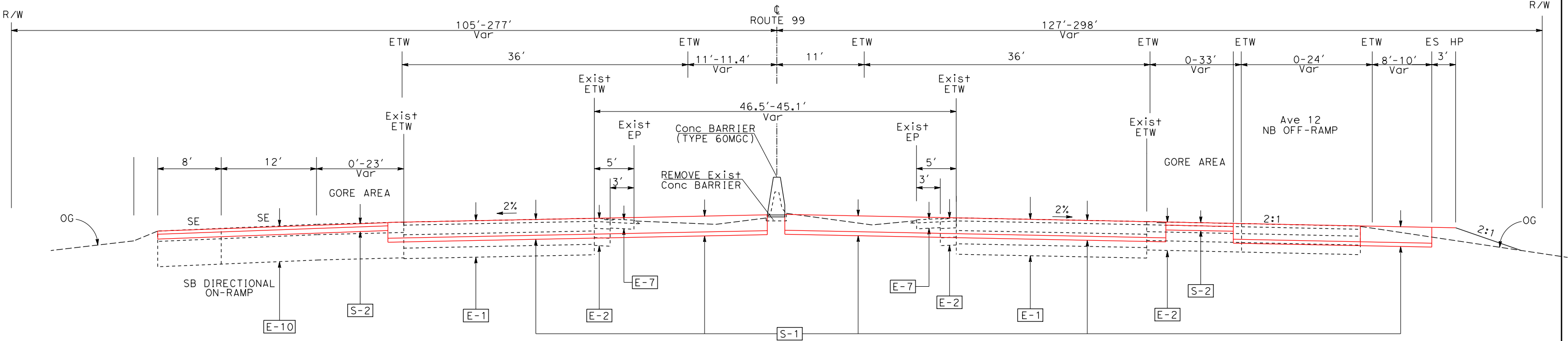
DATE

XX-XX-XX

PLANS APPROVAL DATE

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Exp. 6/30/21  
CIVIL  
STATE OF CALIFORNIA



**ROUTE 99**  
PM 382+80.00 To 401+19.38  
(PM 7.250 TO PM 7.597)

**TYPICAL CROSS SECTIONS**  
NO SCALE  
**X-4**

LEGEND

----- PARCEL LINE

----- PROPOSED RW

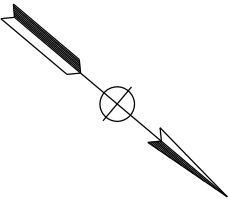
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REGISTERED CIVIL ENGINEER    DATE

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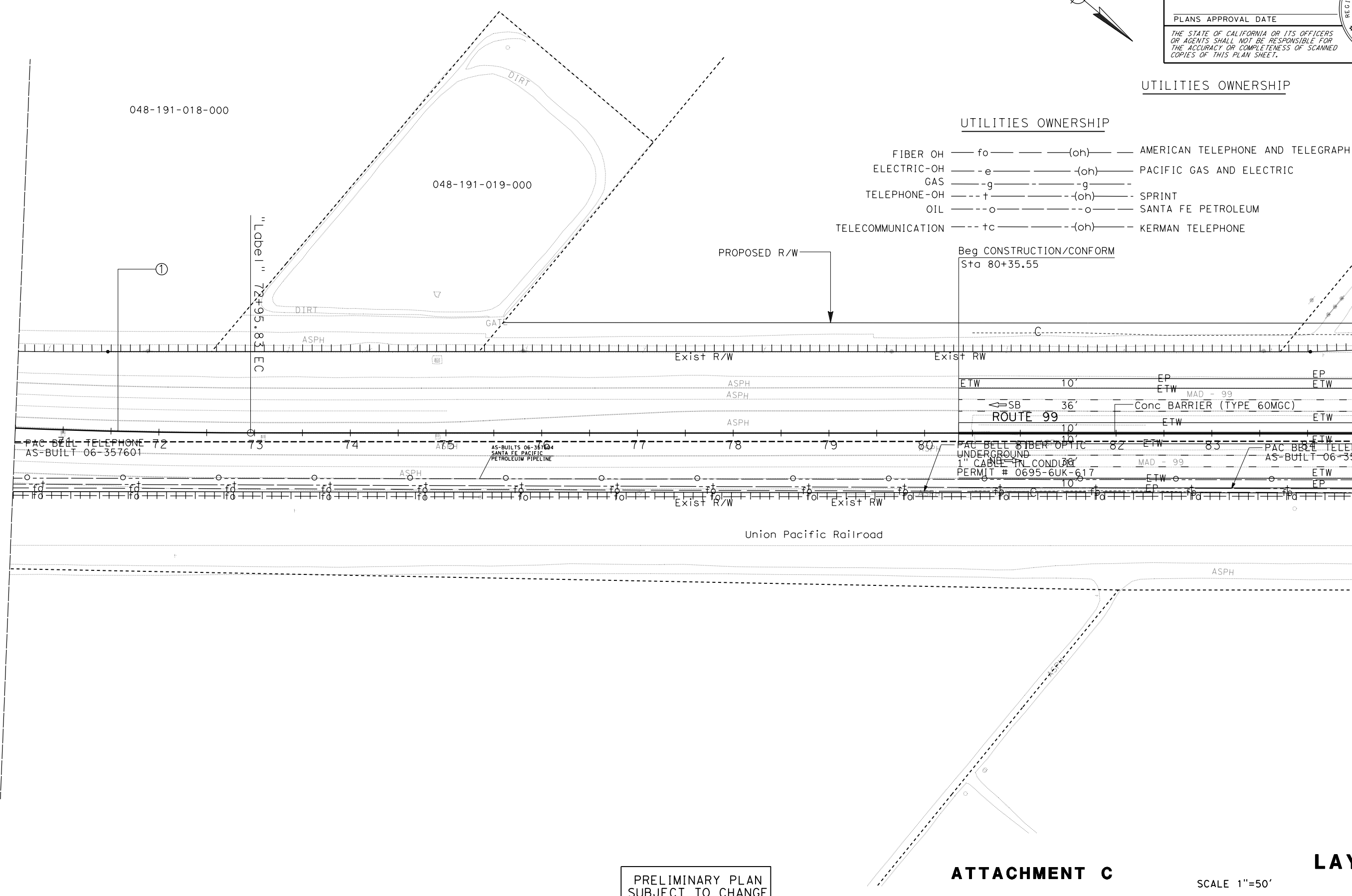
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STATE OF CALIFORNIA



UTILITIES OWNERSHIP

- UTILITIES OWNERSHIP
- FIBER OH    fo       (oh)       AMERICAN TELEPHONE AND TELEGRAPH
- ELECTRIC-OH    -e       (oh)       PACIFIC GAS AND ELECTRIC
- GAS    -g       -g
- TELEPHONE-OH    -t       (oh)       SPRINT
- OIL    -o       -o       SANTA FE PETROLEUM
- TELECOMMUNICATION    -tc       (oh)       KERMAN TELEPHONE

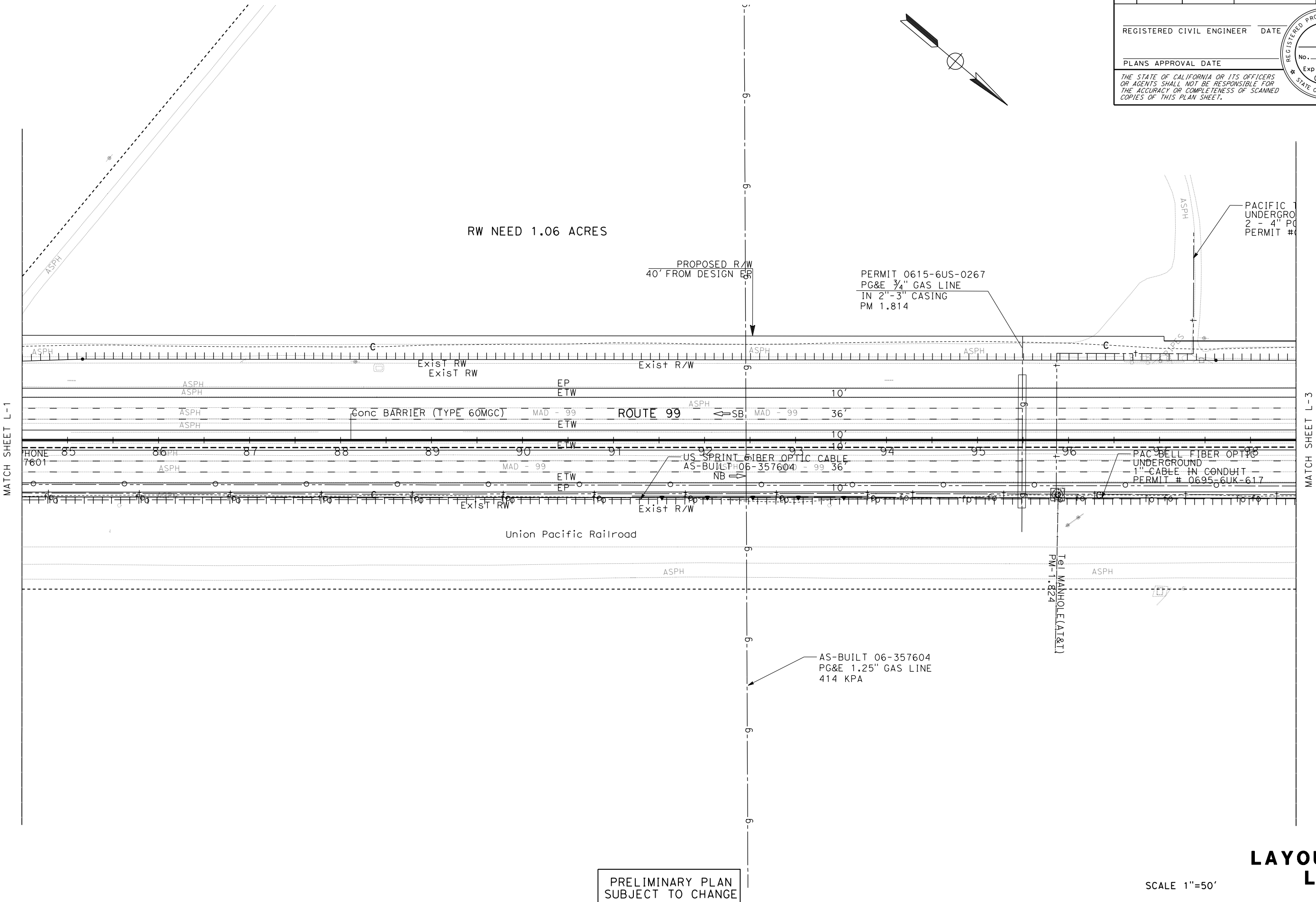



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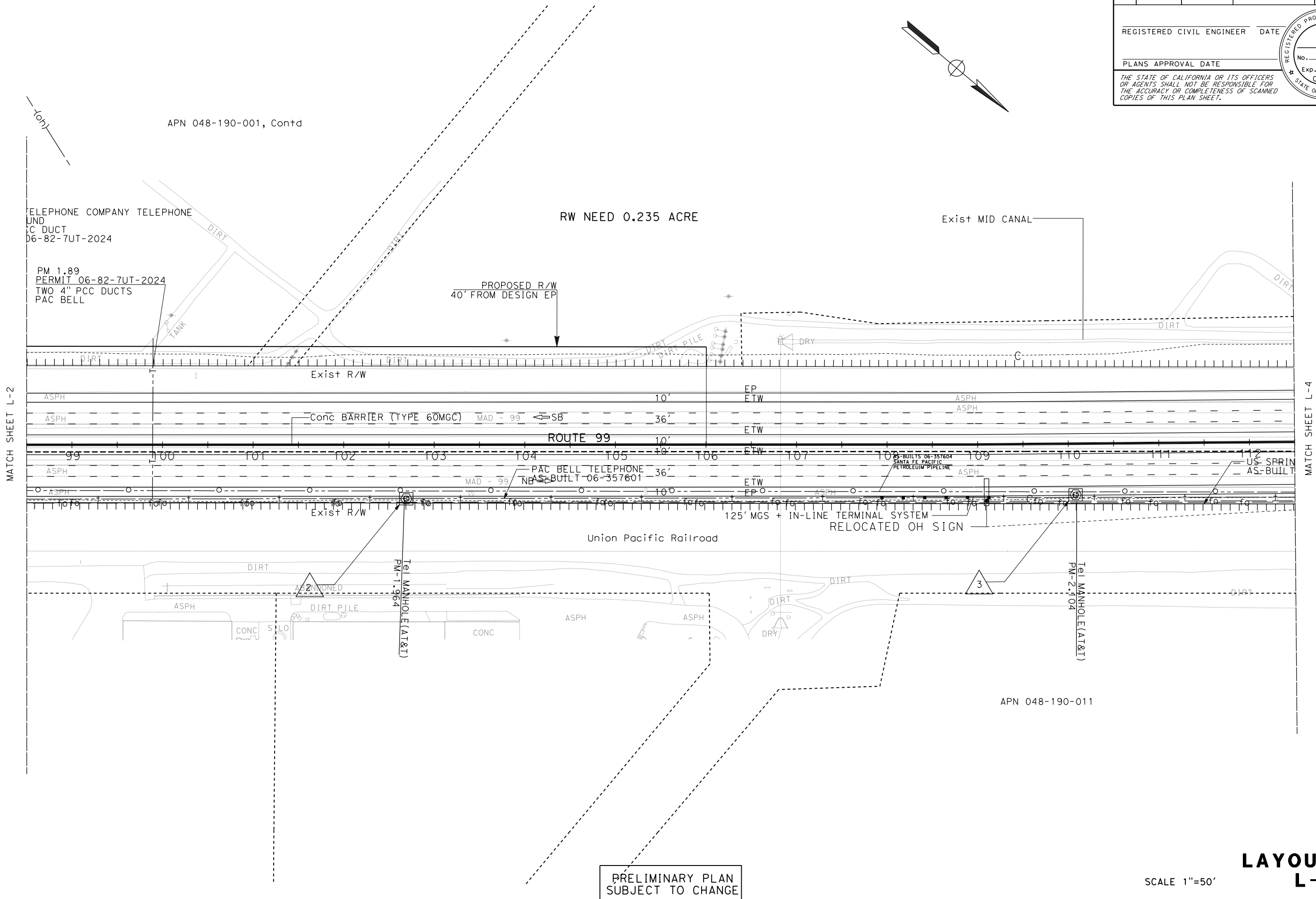
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LAYOUT  
L-1



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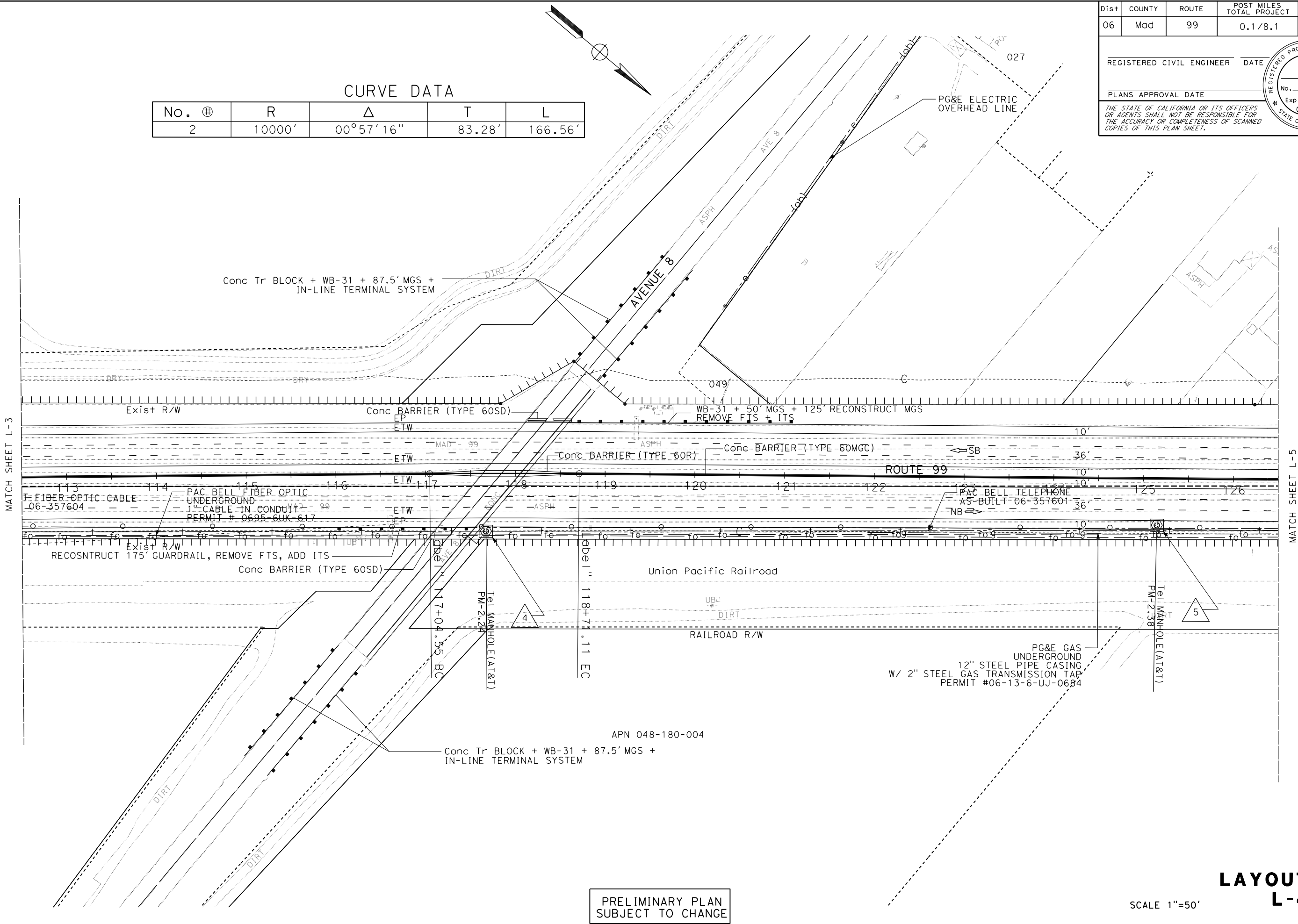
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REGISTERED CIVIL ENGINEER    DATE

PLANS APPROVAL DATE

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CIVIL  
STATE OF CALIFORNIA




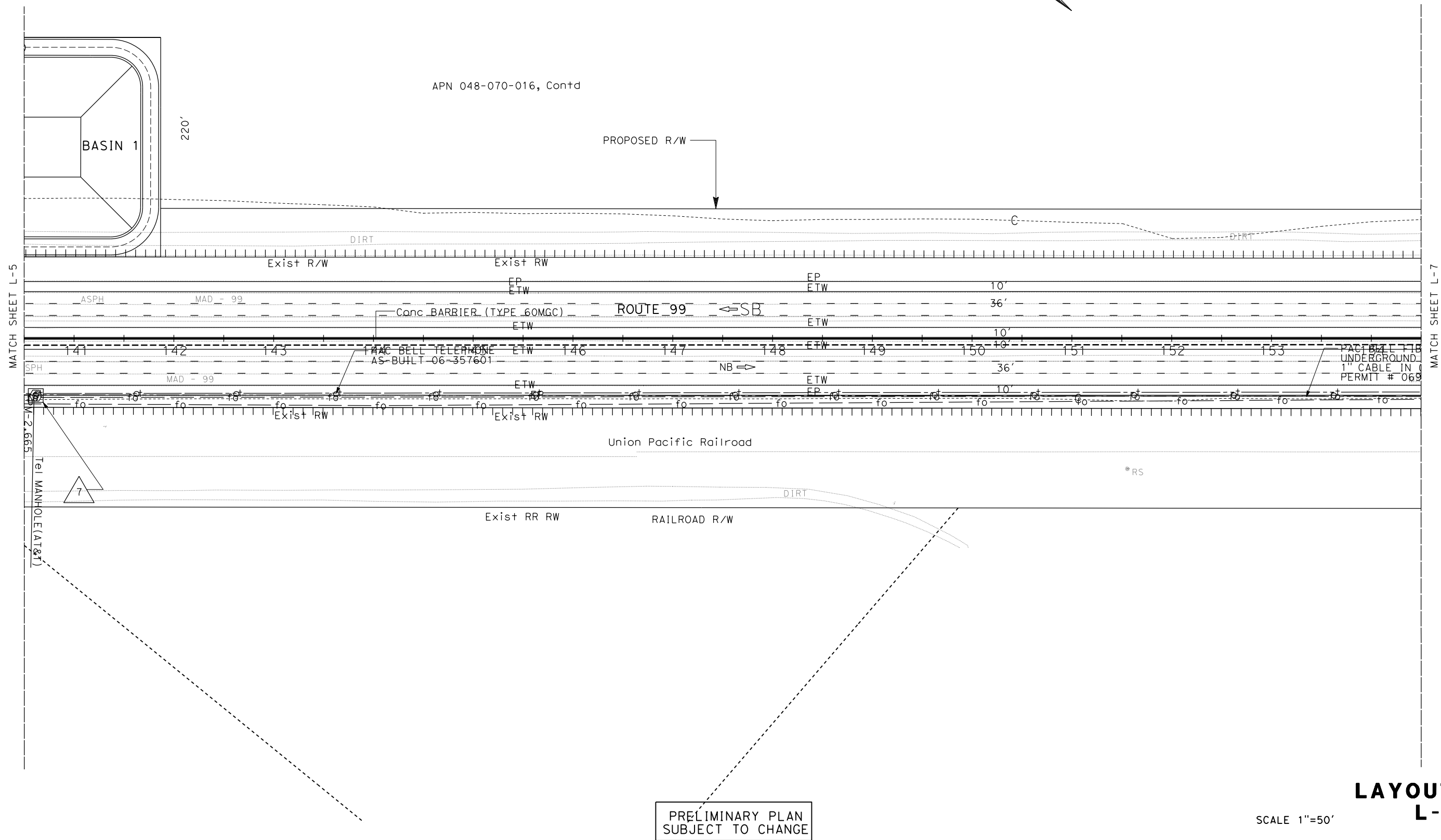
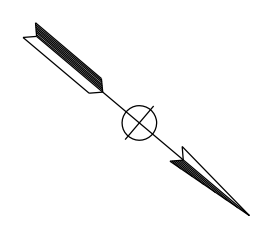
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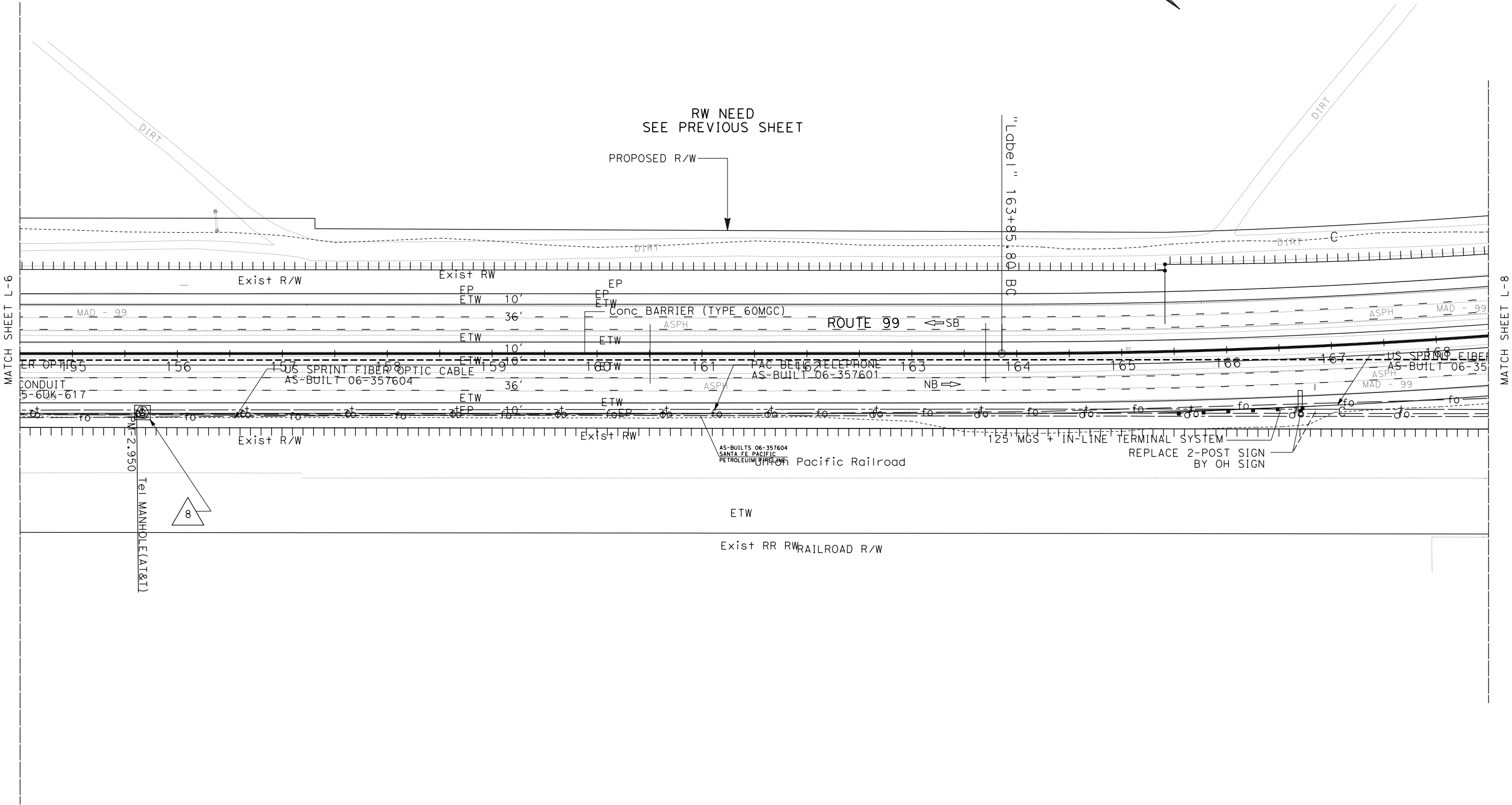
LAYOUT  
L-4





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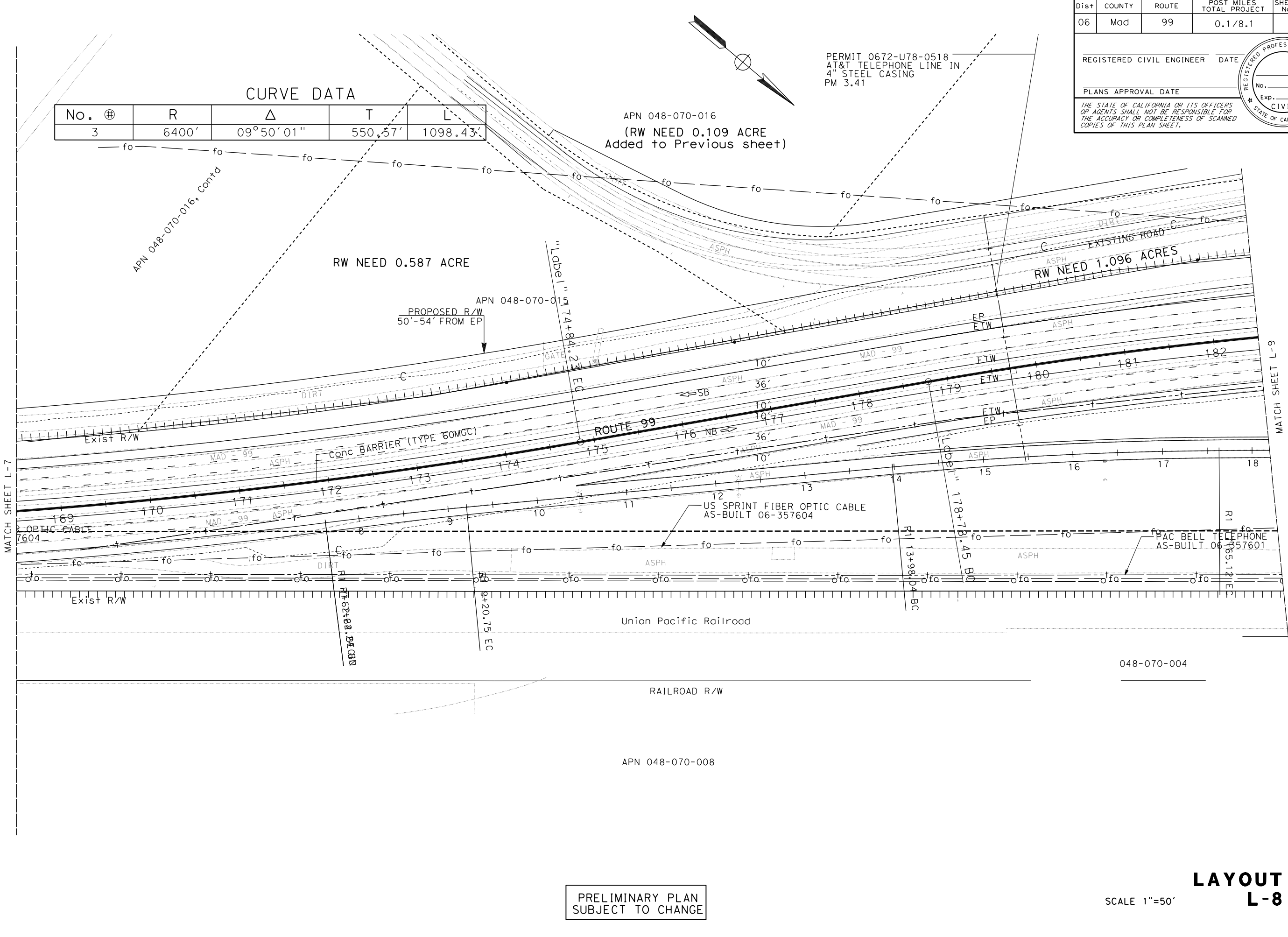




PRELIMINARY PLAN  
SUBJECT TO CHANGE

LAYOUT  
L-7

SCALE 1"=50'



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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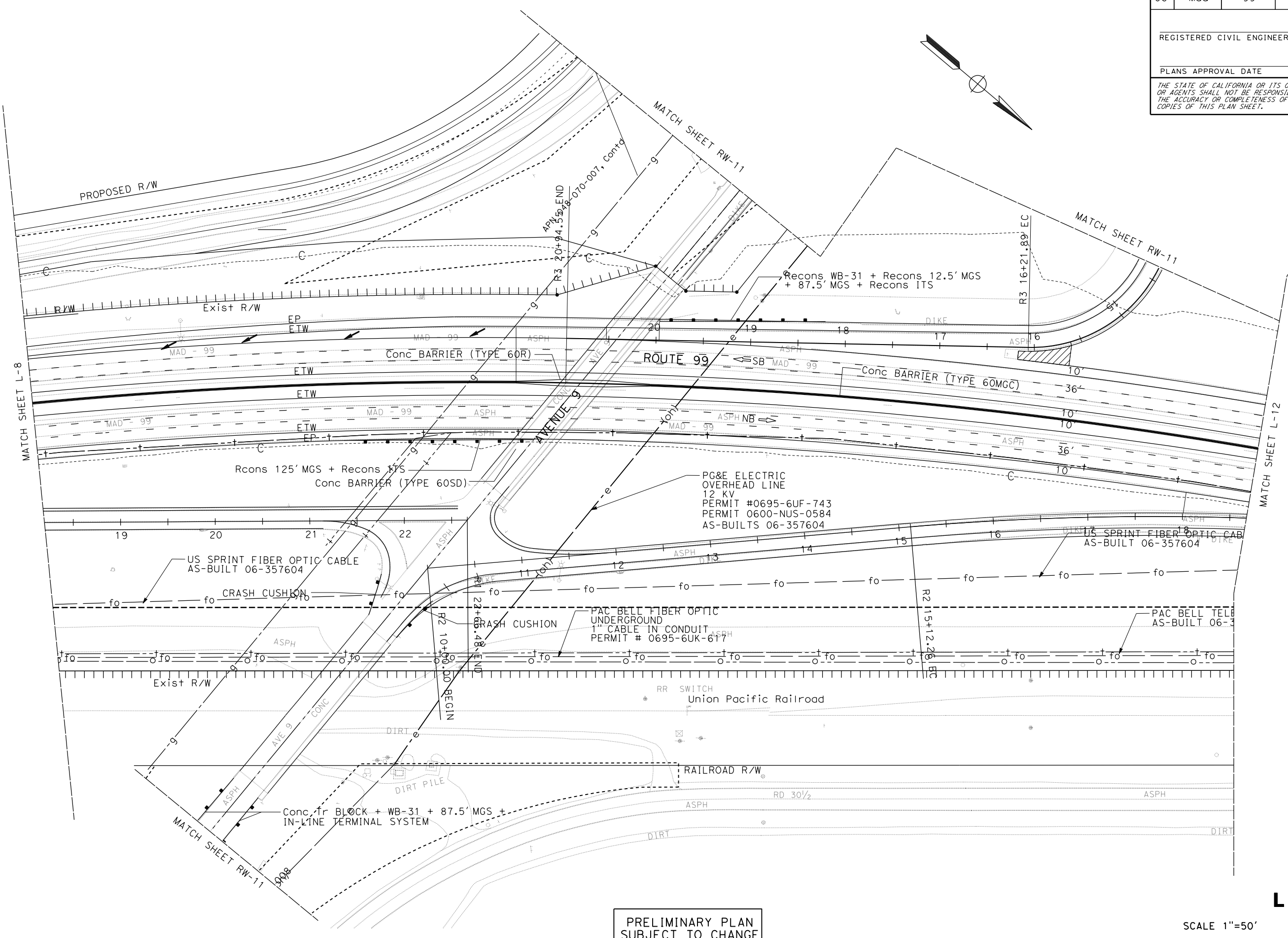
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PLANS APPROVAL DATE  
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No. \_\_\_\_\_  
Exp. \_\_\_\_\_  
CIVIL  
STATE OF CALIFORNIA

PRELIMINARY PLAN  
SUBJECT TO CHANGE

LAYOUT  
L-8  
SCALE 1"=50'

LAST REVISION DATE PLOTTED => 4/10/2021  
12-06-20 TIME PLOTTED => 9:33:16 PM



PRELIMINARY PLAN  
SUBJECT TO CHANGE

LAYOUT  
L-9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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REGISTERED CIVIL ENGINEER      DATE

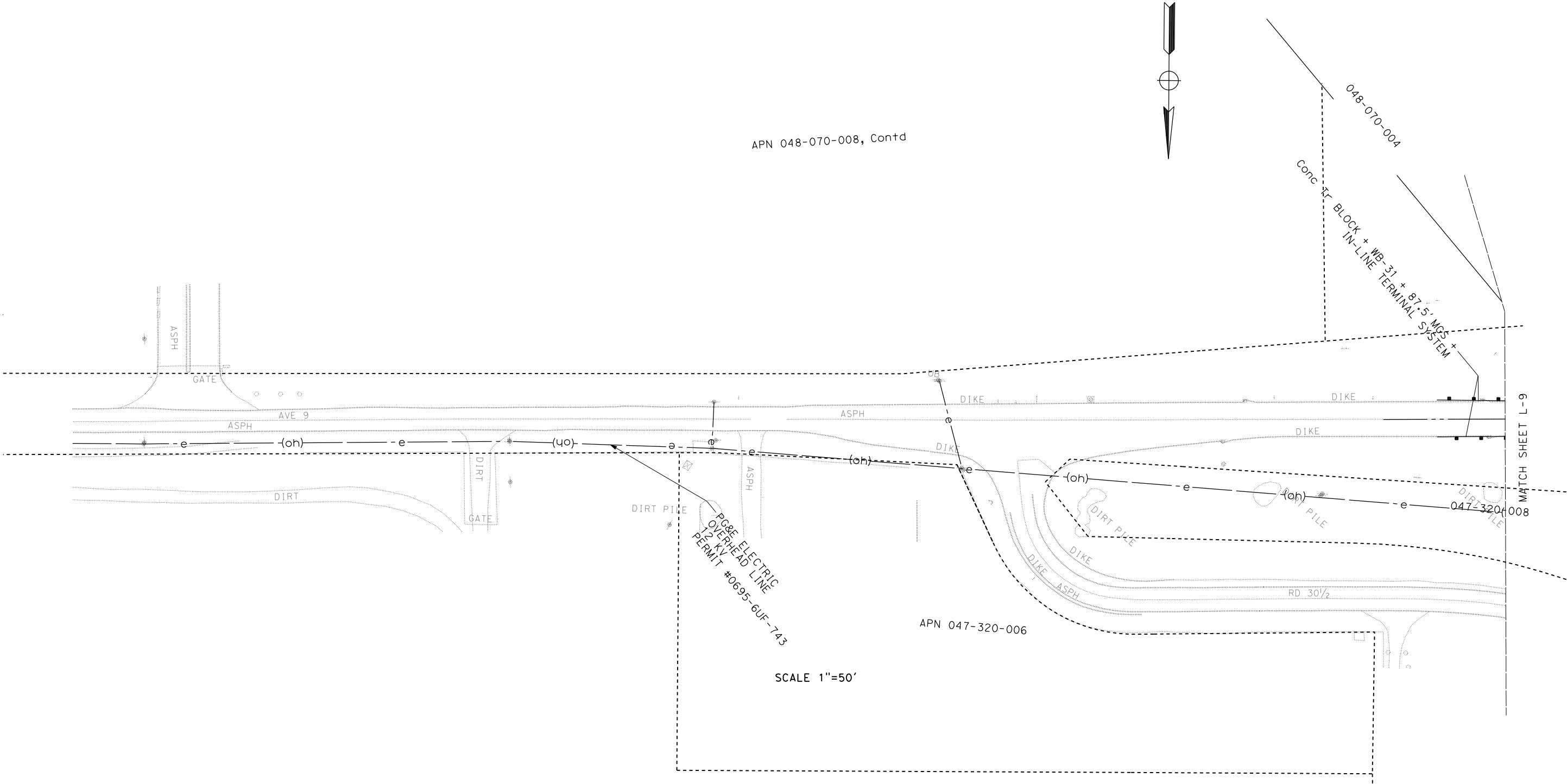
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REGISTERED PROFESSIONAL ENGINEER

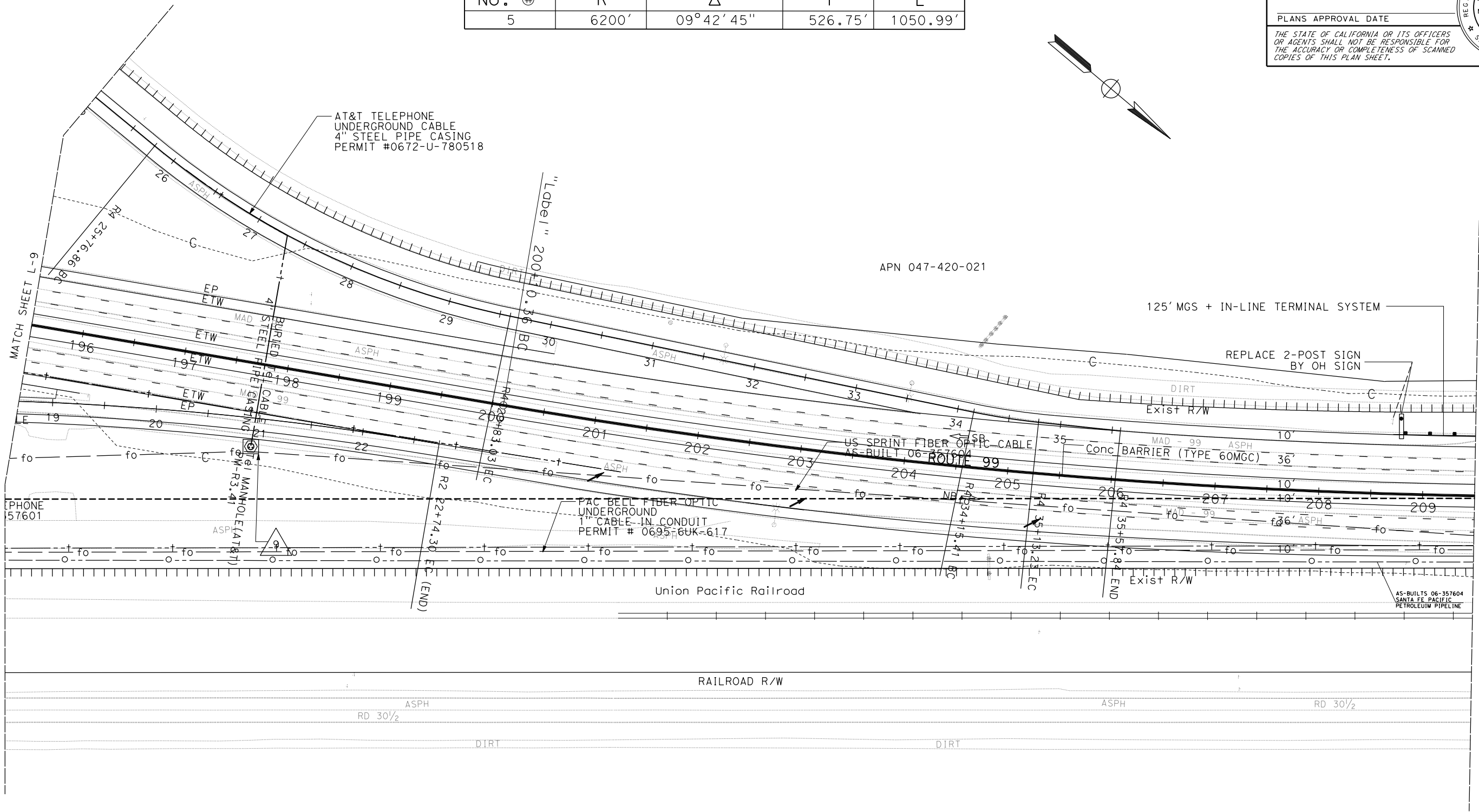
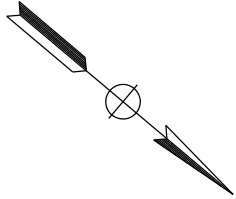
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STATE OF CALIFORNIA





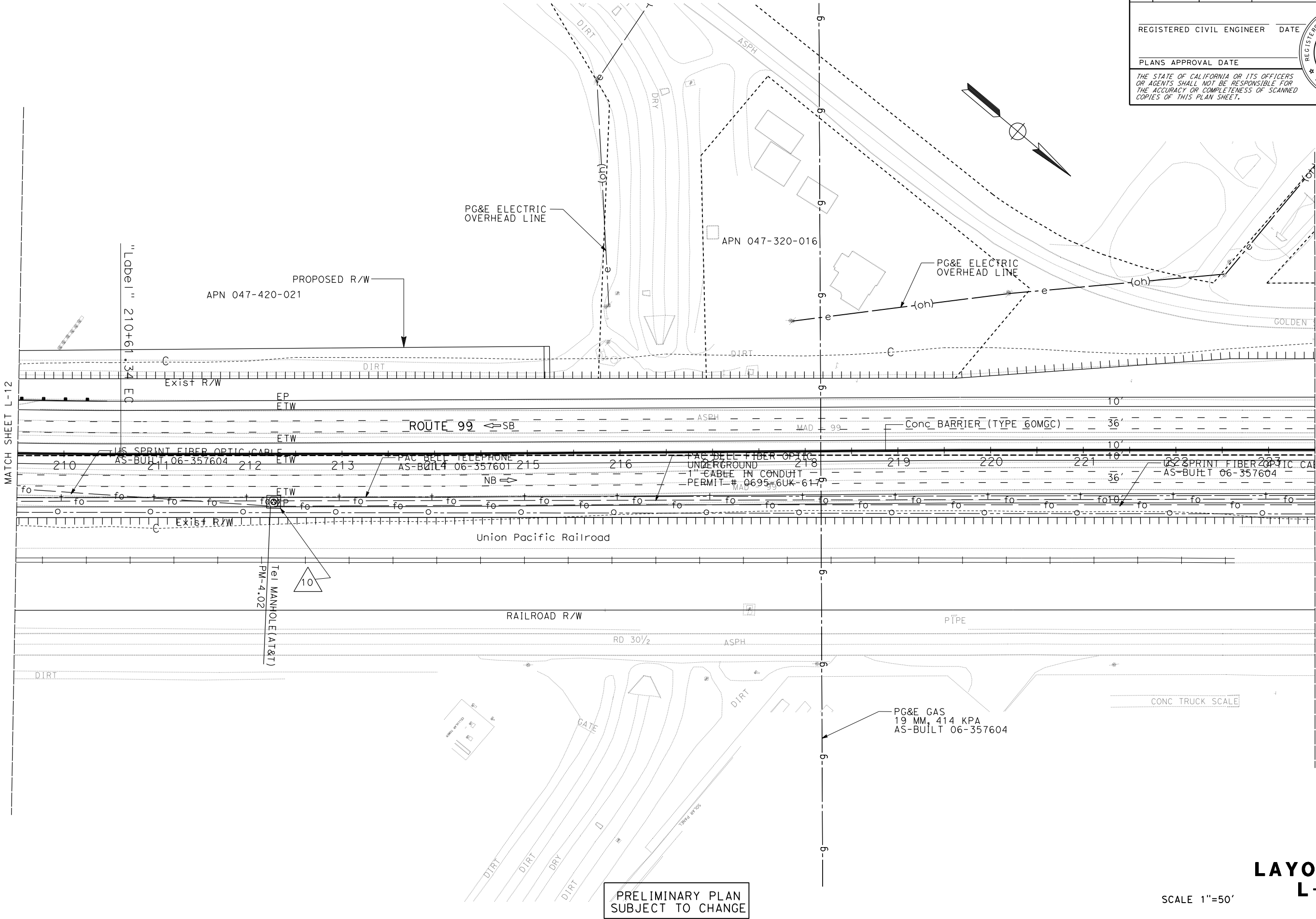
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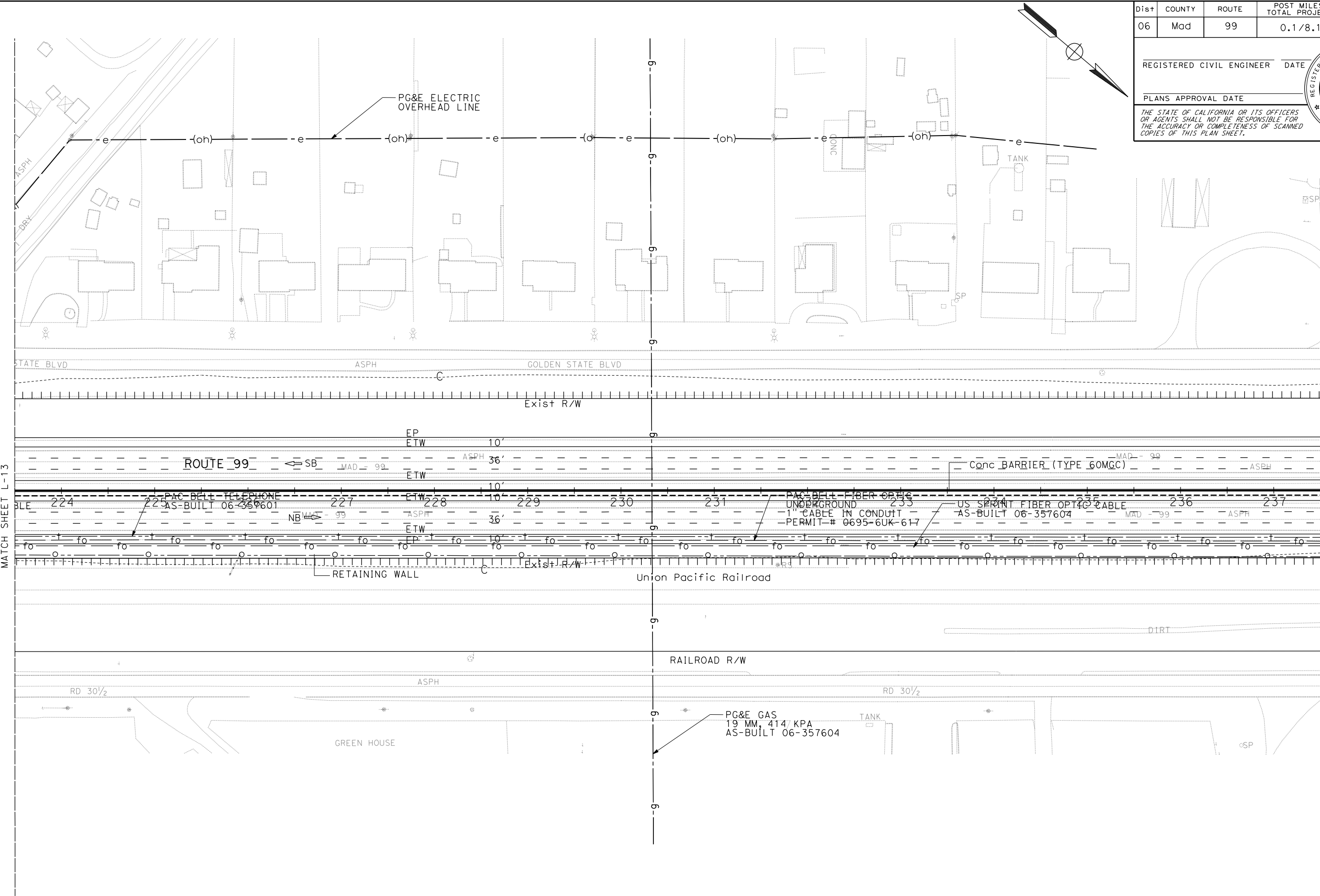
PRELIMINARY PLAN  
SUBJECT TO CHANGE

SCALE 1"=50'

LAYOUT  
L-12







Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	99	0.1 / 8.1		

REGISTERED CIVIL ENGINEER

DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA

PRELIMINARY PLAN  
SUBJECT TO CHANGE

LAYOUT  
L-14

SCALE 1"=50'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	99	0.1 / 8.1		

REGISTERED CIVIL ENGINEER    DATE

PLANS APPROVAL DATE

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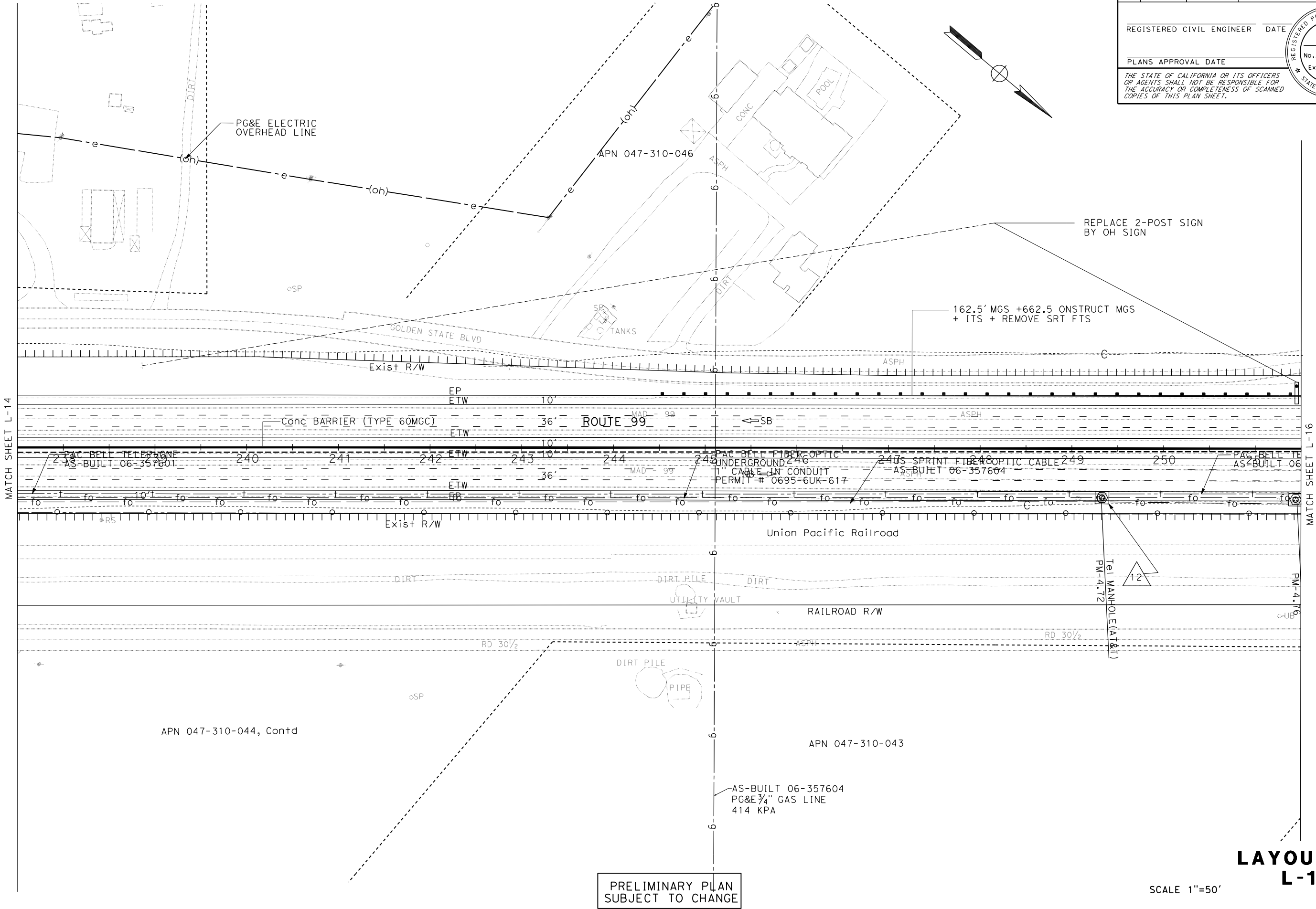
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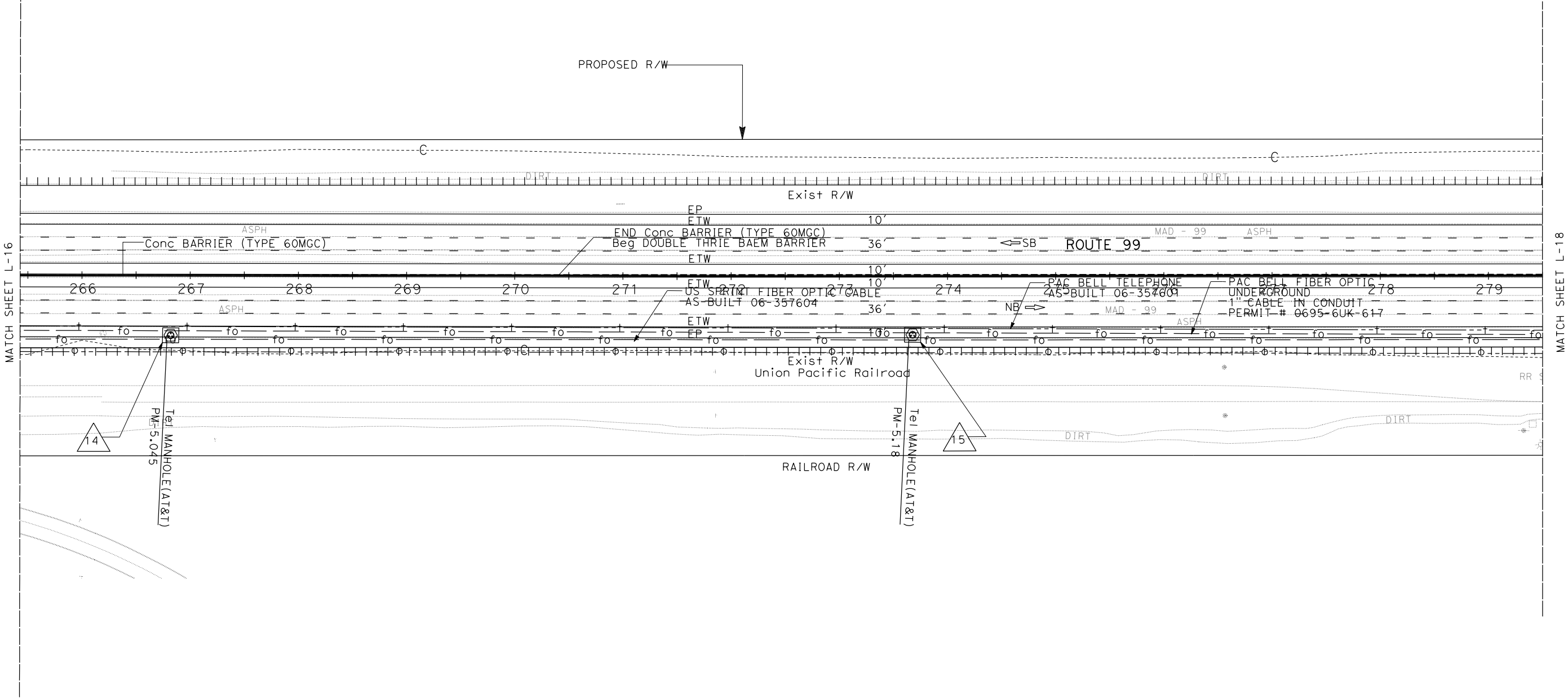
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CIVIL

STATE OF CALIFORNIA








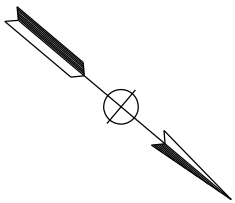
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06	Mad	99	0.1 / 8.1		

REGISTERED CIVIL ENGINEER    DATE

PLANS APPROVAL DATE

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PRELIMINARY PLAN  
SUBJECT TO CHANGE

SCALE 1"=50'

LAYOUT  
L-17

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	99	0.1 / 8.1		

REGISTERED CIVIL ENGINEER    DATE

PLANS APPROVAL DATE

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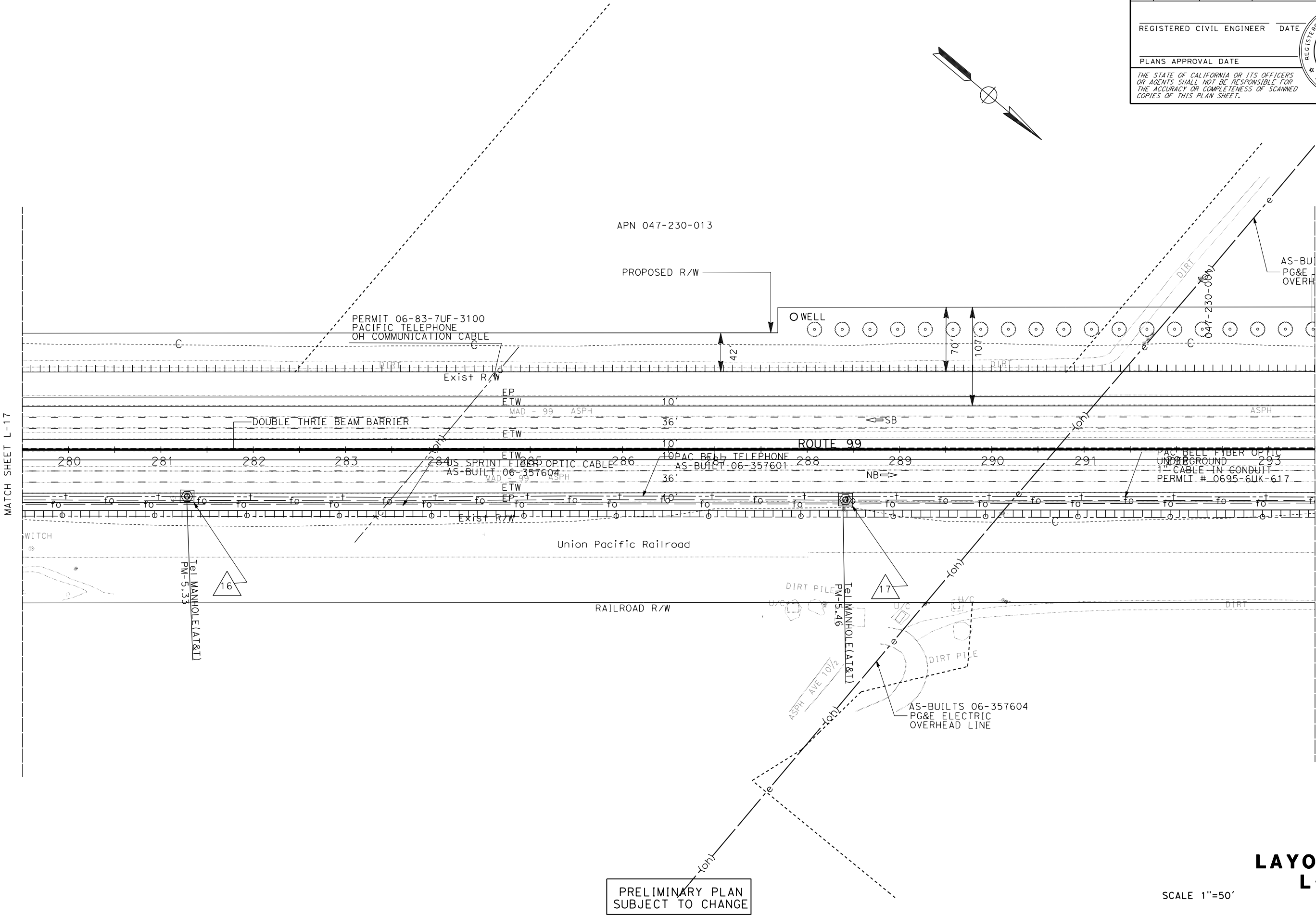
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No.

Exp.

CIVIL

STATE OF CALIFORNIA



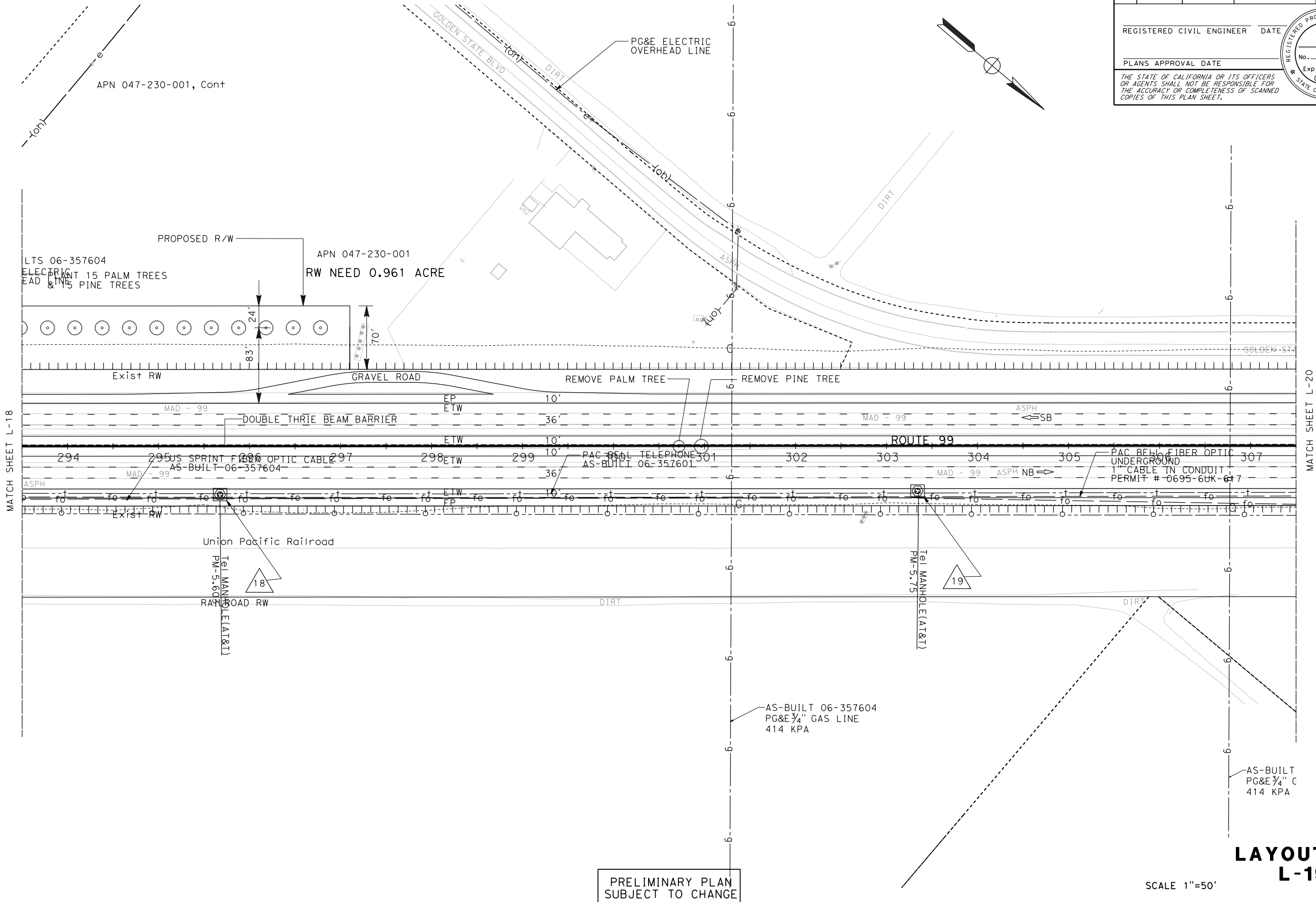
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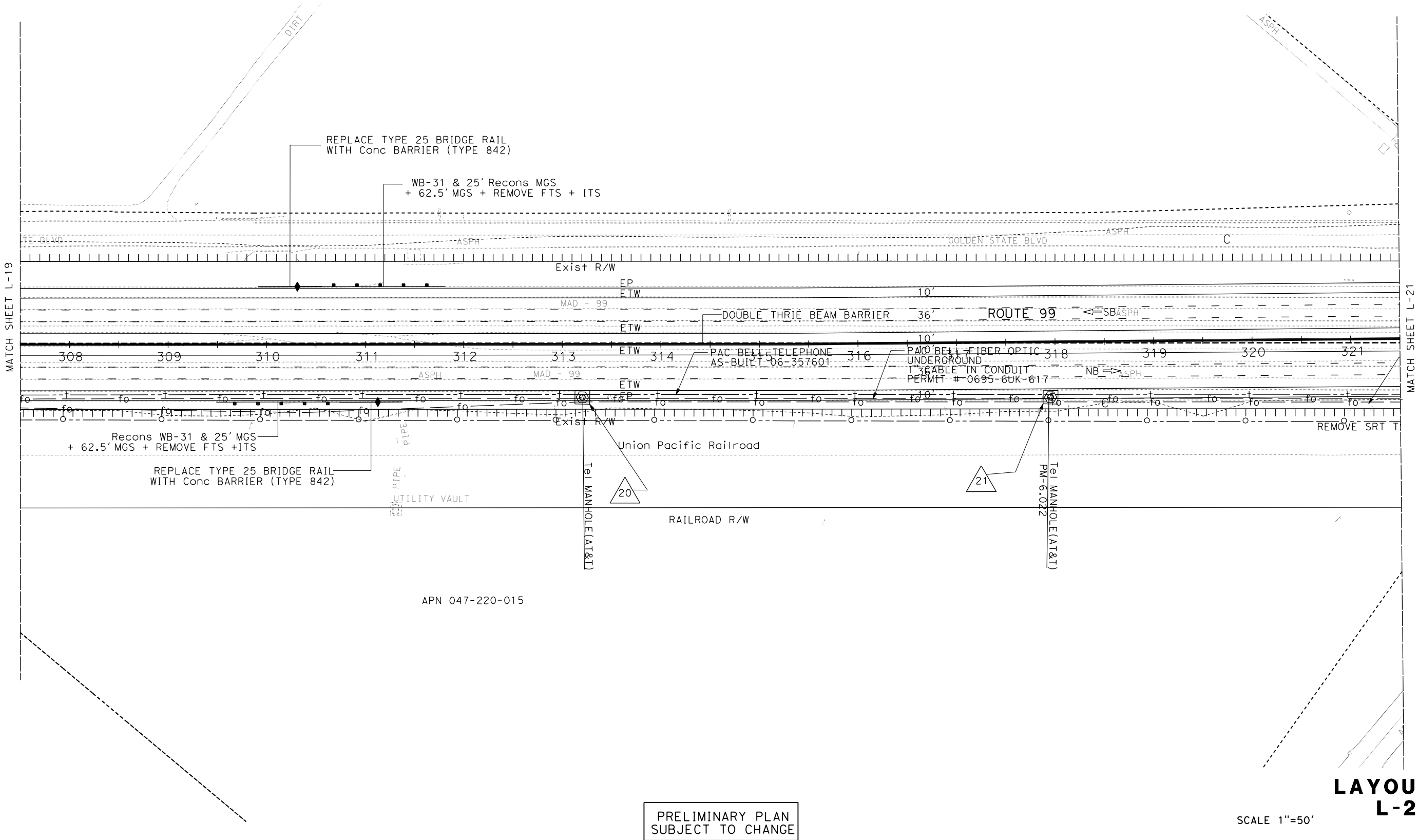
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PLANS APPROVAL DATE

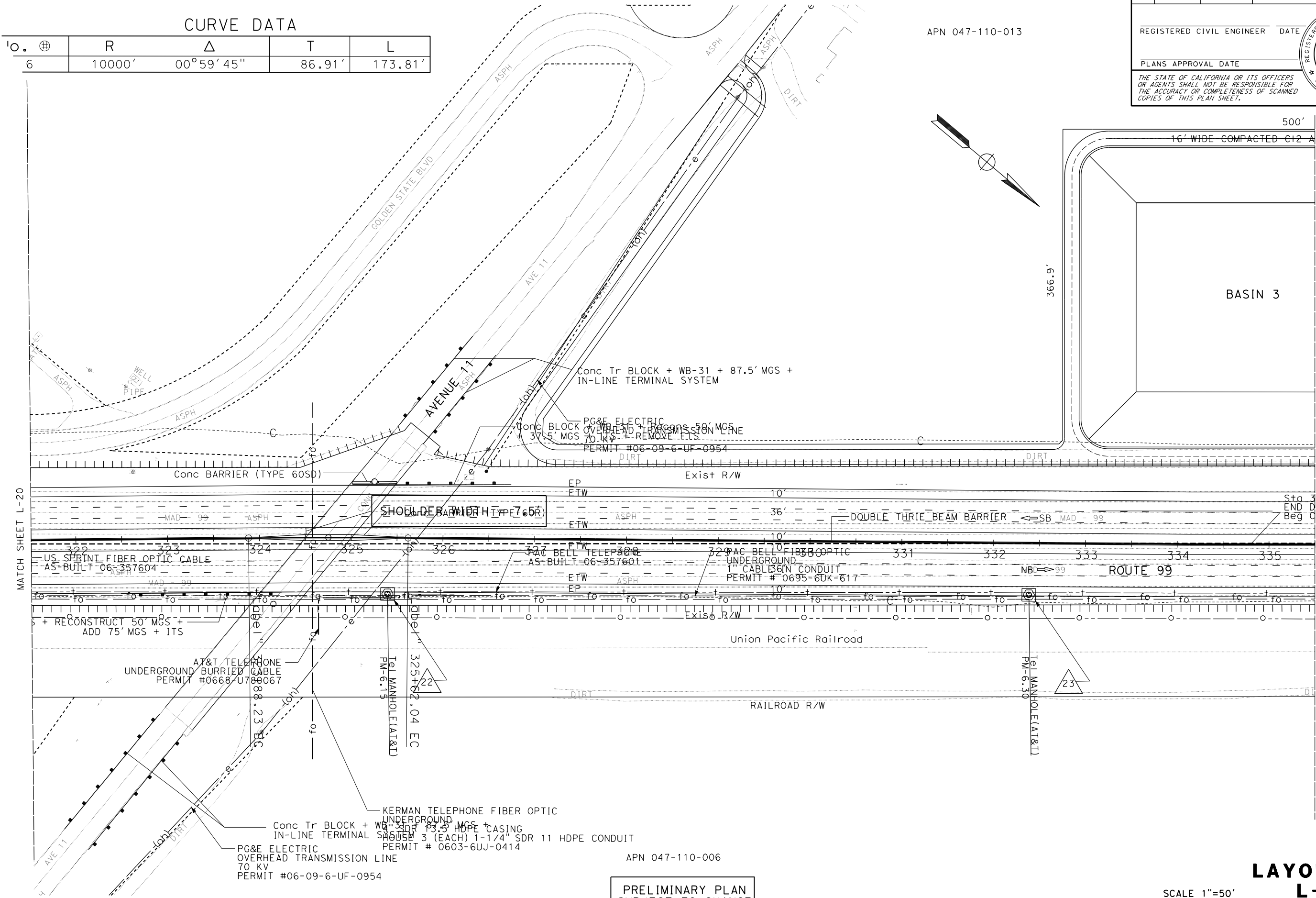
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REGISTERED PROFESSIONAL ENGINEER  
No.     
Exp.     
CIVIL  
STATE OF CALIFORNIA





CURVE DATA				
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10+00	10000'	00°59'45"	86.91'	173.81'



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	99	0.1 / 8.1		

REGISTERED CIVIL ENGINEER DATE  
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.

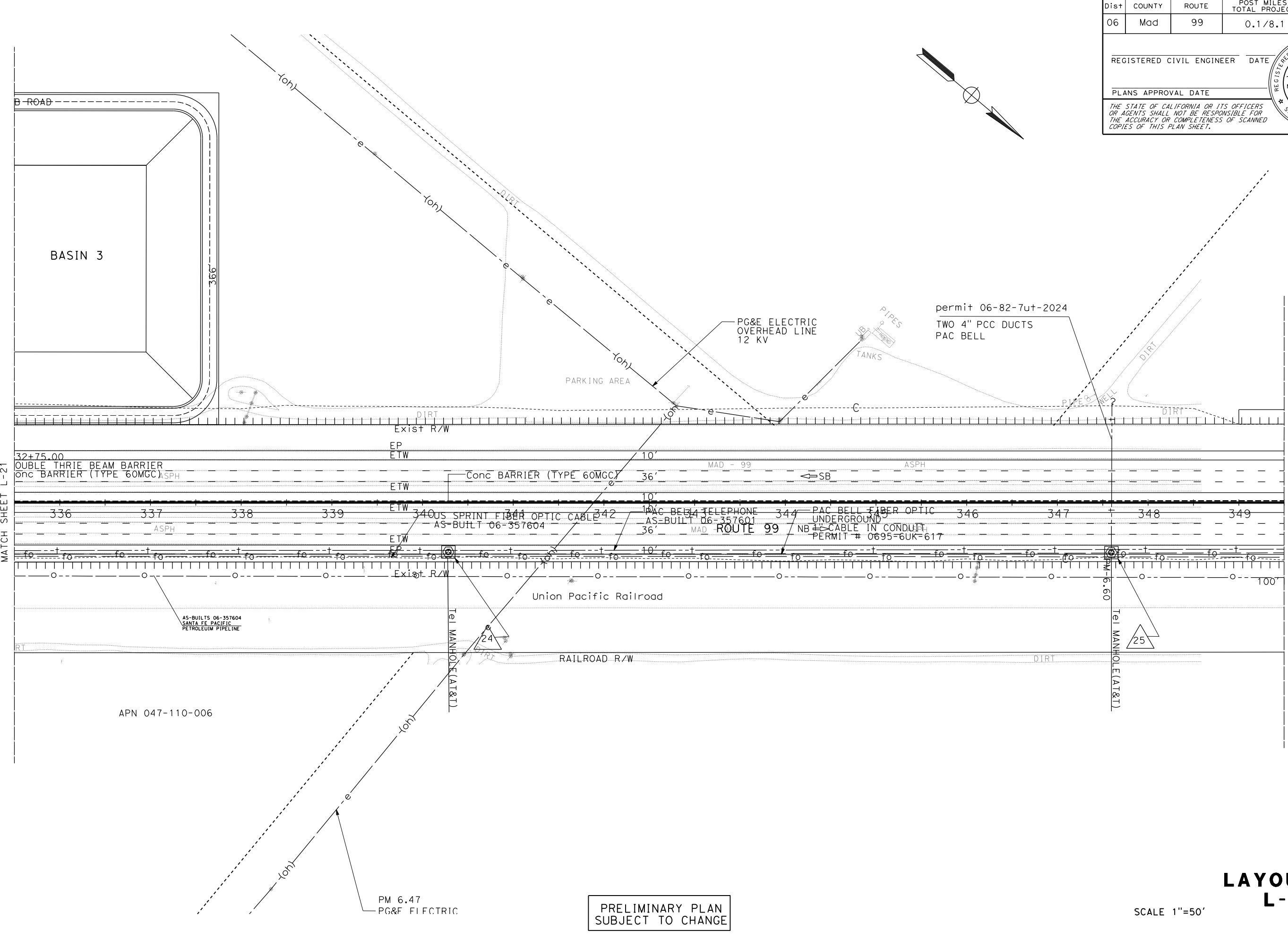
REGISTERED PROFESSIONAL ENGINEER  
No. \_\_\_\_\_  
Exp. \_\_\_\_\_  
CIVIL  
STATE OF CALIFORNIA

PRELIMINARY PLAN  
SUBJECT TO CHANGE

SCALE 1"=50'

LAYOUT  
L-21





Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	99	0.1 / 8.1		

REGISTERED CIVIL ENGINEER    DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
No.     
Exp.     
CIVIL  
STATE OF CALIFORNIA

PRELIMINARY PLAN  
SUBJECT TO CHANGE


SCALE 1"=50'

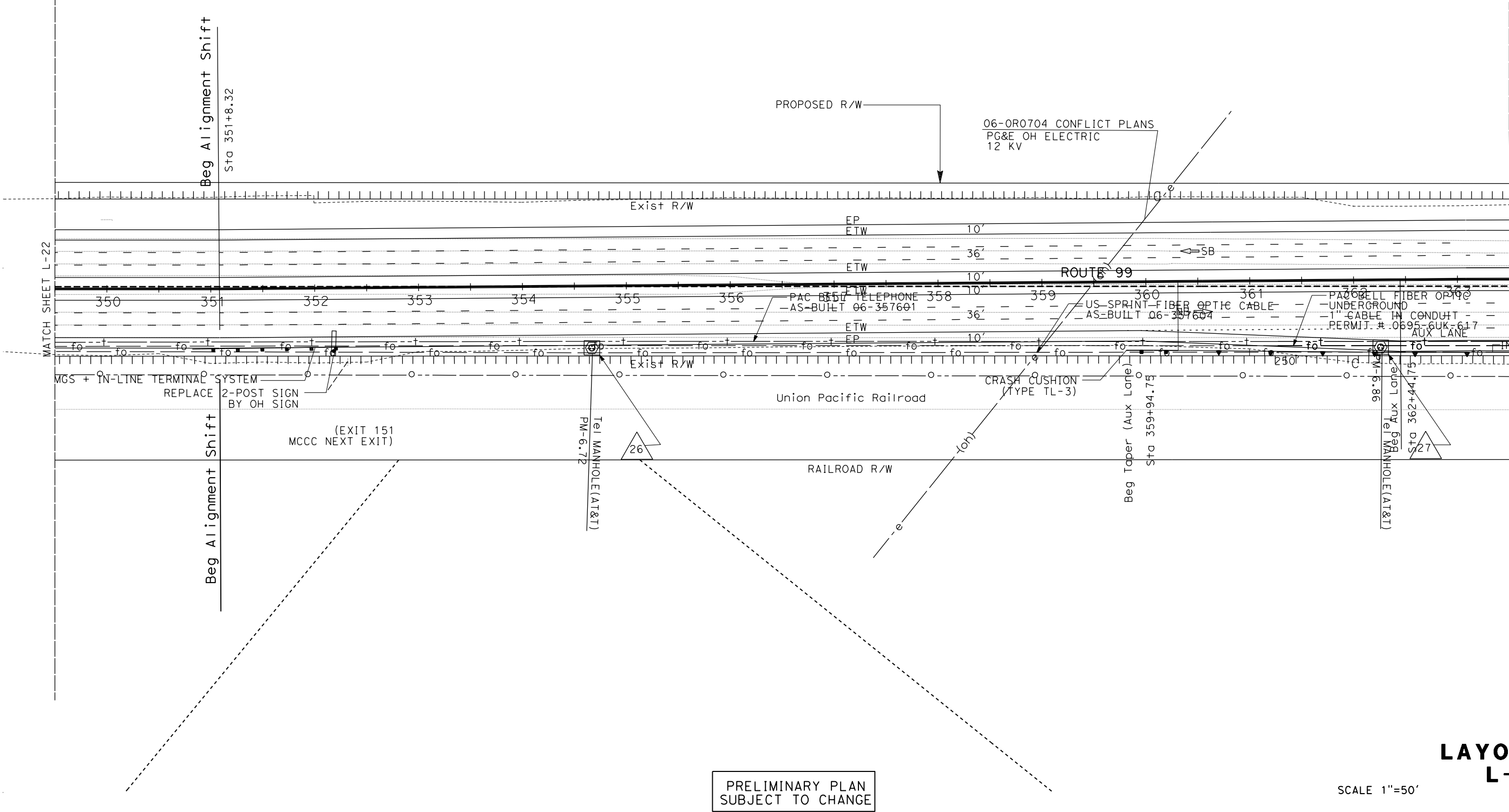
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	99	0.1 / 8.1		

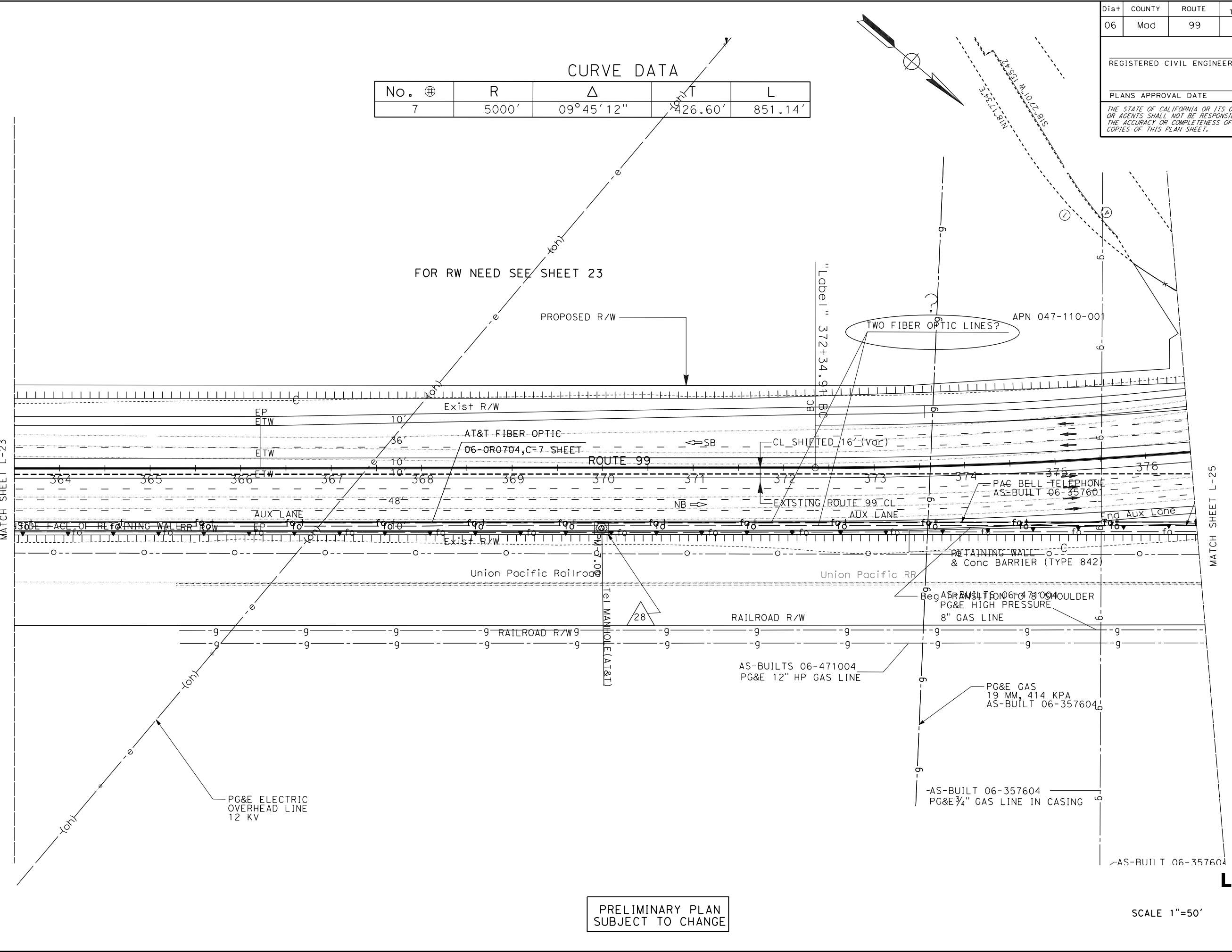
REGISTERED CIVIL ENGINEER    DATE

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.







CURVE DATA				
No. $\oplus$	R	$\Delta$	T	L
7	5000'	09°45'12"	426.60'	851.14'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	99	0.1 / 8.1		

REGISTERED CIVIL ENGINEER    DATE

PLANS APPROVAL DATE

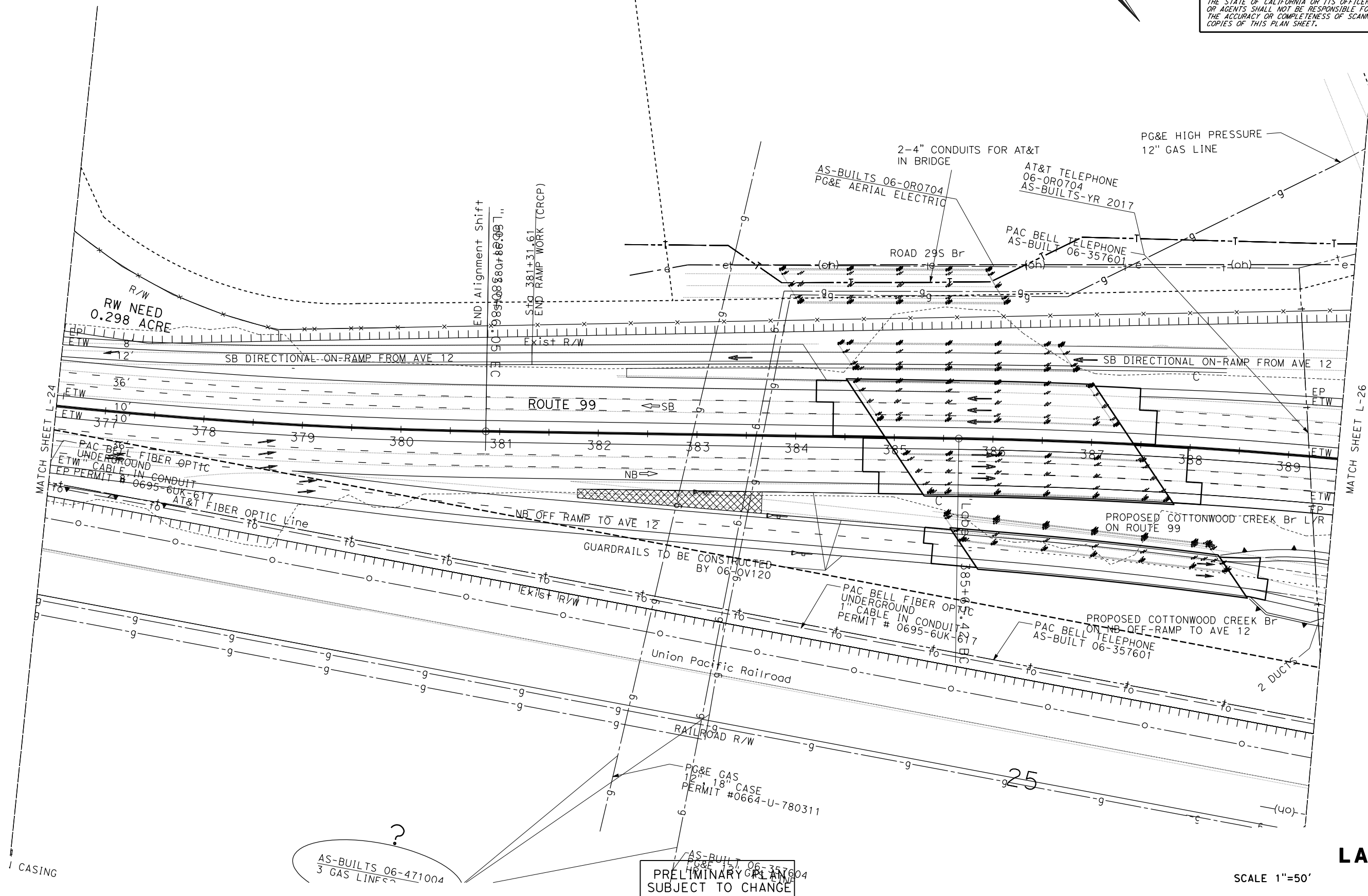
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OR AGENTS SHALL NOT BE RESPONSIBLE FOR  
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REGISTERED PROFESSIONAL ENGINEER  
No.     
Exp.     
CIVIL  
STATE OF CALIFORNIA

PRELIMINARY PLAN  
SUBJECT TO CHANGE

LAYOUT  
L-24

SCALE 1"=50'



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	99	0.1 / 8.1		

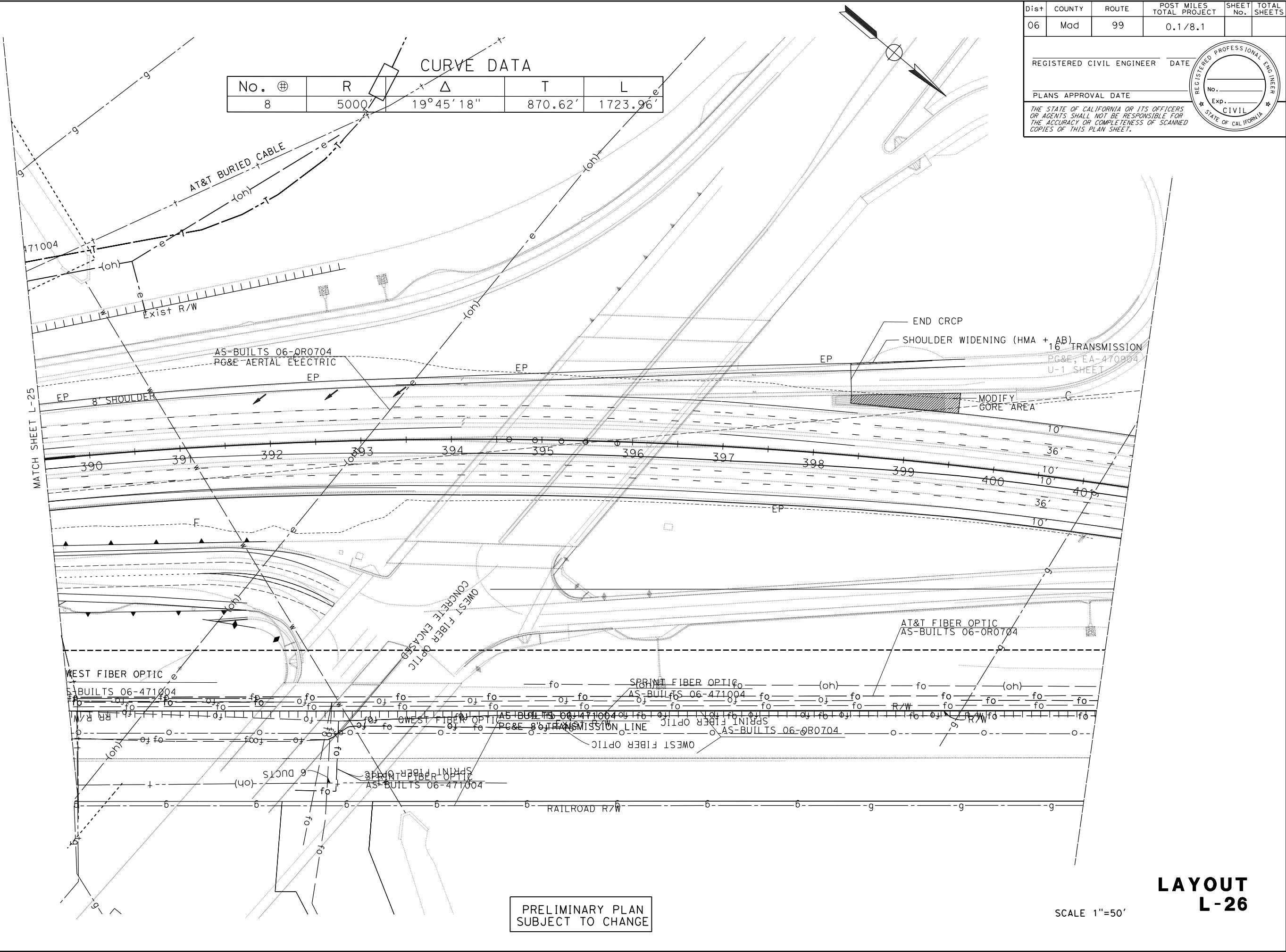
REGISTERED CIVIL ENGINEER    DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
No.     
Exp.     
CIVIL  
STATE OF CALIFORNIA

LAYOUT  
L-25



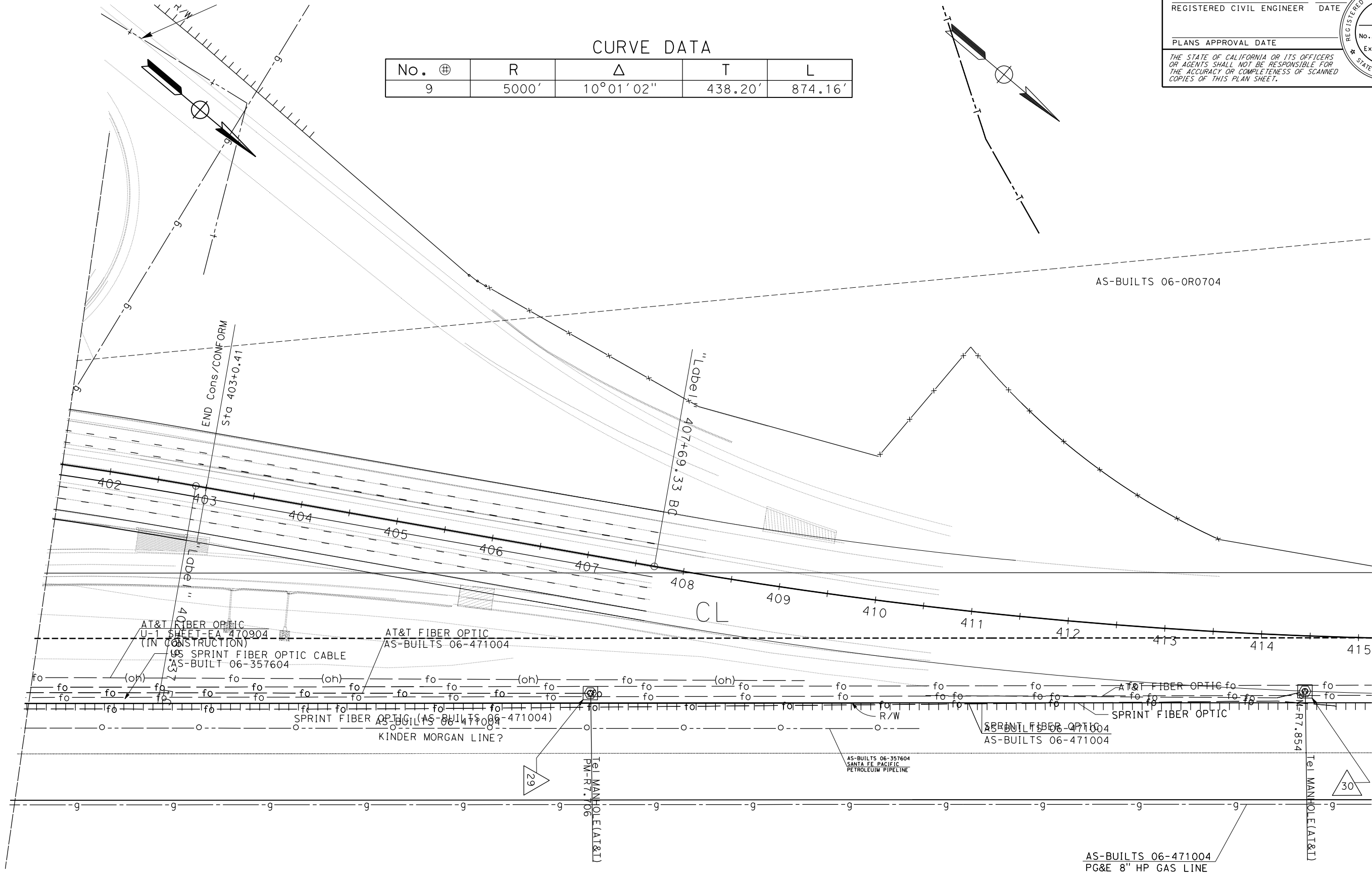
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	99	0.1 / 8.1		

REGISTERED CIVIL ENGINEER    DATE

PLANS APPROVAL DATE

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COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
No.    Exp.    CIVIL  
STATE OF CALIFORNIA



CURVE DATA				
No. ⊕	R	Δ	T	L
9	5000'	10°01'02"	438.20'	874.16'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	99	0.1 / 8.1		

REGISTERED CIVIL ENGINEER    DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
No.     
Exp.     
CIVIL  
STATE OF CALIFORNIA

PRELIMINARY PLAN  
SUBJECT TO CHANGE

SCALE 1"=50'

LAYOUT  
L-27

**Memorandum****To:** Anand Kapoor**Date:** 1/21/2021**Attn:** Akm Rahman**File:** CD 06 EA 0H2200 **Alt** Alt 1-A**Co** MAD **RTE** 99

Getachew Eshete

**From:** Department of Transportation  
Division of Right of Way Central Region**Subject:** RIGHT OF WAY DATA SHEET**DESCRIPTION:****Build - widen in the median  
4-Ln to 6-Ln Freeway**

We have completed an estimate of the right of way costs for the above-referenced project based on the Right of Way Data Sheet Request Form dated 1/21/2021

**The following assumptions and limiting conditions were identified:****Parcels**

The project proposes to build 3 basins, these basins are located on almond orchard private property, it is this estimator's assumption that no damages are present in the proposed basin area, research compiled through Google Earth and site visit. Hazardous waste site is indicated as Evident and studies were completed per the Right of Way Data Sheet request. It is assumed that these parcels will have continued access both during and after construction. This datasheet is estimated at a time in which the effects of COVID-19 pandemic are not fully known and may require re-evaluation at a time in which more information is present on the potential effects on the market.

**Utility**

Project engineer states that utility relocation and potholing will be required. This estimate is based on the information provided by Design Engineer, utility maps and Google Earth. The Freeway Master Agreement will apply to this project as this is a Freeway Project. Therefore, it is assumed the PG&E electric overhead lines and gas line facilities will be 50% Owner expense and 50% State expense. AT&T telephone poles and underground facilities are assumed to be 50% Owner expense and 50% State expense due to the existing Freeway master agreement. There are also several AT&T manholes that will either need to be adjusted to grade or relocated. If the manholes are to be relocated more likely additional right of way will be needed for AT&T to relocate the manholes. It is possible to request an exception from the LEC to allow to leave the AT&T manholes in their existing location. There is an oil line that can potentially be in conflict of the project. It is recommended for potholing activities to be conducted to determine the exact location of the underground facilities. If the oil line is called in conflict this will be at 100% State expense. It is recommended for the Utility Verification process to start as soon as possible to determine utility conflicts. Once additional information is obtained, it is recommended that a revised estimate is completed.

Right of Way Lead Time will require a minimum 19 months after we receive Certified Appraisal Maps and/or Utility Conflict Plans, obtained necessary environmental clearance and applicable freeway agreements have been approved.

Recommended for approval by:



DAVID SHERMAN

for

Senior Right of Way Agent  
(559) 445-6225**ATTACHMENT D**

**General Description of R/W and Excess Lands Required (zoning, use, major improvements, critical or sensitive parcels, etc.):**

This project is located on State Route 99 in Madera County, north of the San Joaquin River bridge to 0.6 miles north of Ave 12. The project proposes to widen the existing 4-lane freeway to a 6-lane freeway. The project will add two lanes to the median, one lane in each direction, rehabilitate the existing lanes and provide a 10' inside and outside shoulder. The project also proposes to add three drainage basins. There is a build and no build alternative, this data sheet is for the build alternative.

This project requires 16 partial acquisition parcels, all parcels are located on the southbound lane of State Route 99. The parcels consist of Agriculture use, apart from one vacant commercial parcel, and two government owned vacant parcels. The land is a mixture of almond orchard and wine grapes. The basins are located on three separate parcels with a total land value of 11.834 acres. All basins are almond orchard partial acquisitions. APN 047-230-001 is a grape vineyard and has personal property scattered along the fence bordering SR 99, and will require RAP to move this personal property. Four outdoor advertising signs are present in the project area and will require relocation.

**General Description of Utility Involvement:**

Route 99 is designated freeway in the project location. The project is located in Madera County near Madera from north of the San Joaquin River Bridge to 0.6 miles north of Avenue 12. The project proposes to widen the existing 4-lane freeway to a 6-lane freeway and provide 10' inside and outside shoulders. There are 8 AT&T telephone poles, a PG&E Gas line, Underground AT&T telephone line, PG&E distribution and transmission poles, Pac Bell (AT&T) Fiber Optic underground line in potential conflict. This proposed design's Right of Way requirements avoided the impact of Madera Irrigation District's facilities. Assumed liability is as follows: AT&T Poles 50%/50% liability, PG&E Gas line 50%/50% liability, Underground AT&T telephone line 50%/50%, PG&E distribution and transmission poles 50%/50% liability, and Pac Bel (AT&T) Fiber Optic underground line 50%/50% liability. Oil line is assumed to be 100% State Liability

**General Description of Railroad Involvement:**

UPRR tracks parallel on the east side of SR 99 within the project limits. A preliminary engineering agreement (phase 9) will be required as well as a TCE. A flagging agreement will also be needed (phase 4).



Right Of Way Cost Estimate	Current Year	Contingency Rate	Escalation Rate	Escalated Year
	2021	25%	5%	2023
<b>Acquisition:</b>	\$1,111,186	25%	5%	<b>\$1,225,083</b>
<b>Mitigation:</b>	\$148,379	25%	5%	<b>\$163,588</b>
<b>State Share of Utilities:</b>	\$1,459,375	25%	5%	<b>\$1,608,961</b>
<b>Expert Witness:</b>	\$0	25%	5%	<b>\$0</b>
<b>Relocation Assistance:</b>	\$6,250	25%	5%	<b>\$6,891</b>
<b>Demolition and Clearance:</b>	\$0	25%	5%	<b>\$0</b>
<b>Title and Escrow:</b>	\$28,612	25%	5%	<b>\$31,545</b>
<b>Ad Signs:</b>	\$106,250	25%	5%	<b>\$117,141</b>
<b>Total Current Value:</b>	\$2,860,052			<b>\$3,198,207</b>

If RW Cost Est fields are blank, Costs = \$0

NOTE: above estimate includes railroad engineering in the amount of: \$45,000.00

Estimated Construction Contract Work (CCW): 0 R/W LEAD TIME/Mo. 19

Cost Break Down		Parcel Data		
Pot Hole	150,000	# of Parcel Type X:	0	
# Pot Holes	150	# of Parcel Type A: less than \$10,000 non-complex	3	
<b>Mitigation</b>		# of Parcel Type B: more than \$10,000 non-complex	13	
Land	0	# of Parcel Type C: complex, special valuation	0	
Bank	0	# of Parcel Type D: most complex/time consuming	0	# of Duals Needed:
Permit Fees	118,703	<b>Totals:</b>	16	<b>Totals: 0</b>
<b>Parcel Area</b>		# of Excess Parcels:	0	
Total R/W Required:	26.51			
Total Excess Area:	0			

**Misc R/W Work**

# of RAP Displacements:	1
# of Clearance/Demos:	0
# of Const Permits:	0
# of Condemnations:	0

**Utilities**

<u>0</u> Companies to be potholed
<u>0</u> Companies for Verification
<u>0</u> Companies for Utility Relocations
JUA/CCUAs are not needed

**RR Involvement**

Railroad Facilities or Right of Way Affected?	yes
Const/Maint Agreement:	No
Service Contract Count:	2
Right of Entry:	Yes
Clauses:	Yes
Estimated Lead-time:	18 mos

Is there a significant effect on assessed valuation: Were any previously unidentified sites with hazardous waste or material found: Are RAP displacements required: # of single family:  # of muliti-family:  # of business/nonprofit:  # of farms: Sufficient replacement housing will be available without last resort housing: Are material borrow or disposal sites required: Are there potential relinquishments or abandonments: Are there any existing or potential airspace sites: Are environmental mitigation parcels required: **Data for evaluation provided by:**

Estimator:	N Olsen / Re-entered by SS	1/21/2021
Railroad Liaison Agent:	Michelle Hernandez	1/21/2021
Utility Relocation Coordinator:	A. Agsaulio/Re-entered by SS	1/21/2021

I have personally reviewed this Right of Way Sheet and all supporting information. I find this Data Sheet complete and current, subject to the limiting conditions set forth.

NICHOLAS G. DUMAS  
Office Chief, Central Region Right of Way

Date  
ENTERED PMCS 1/21/2021  
BY: Erika Graham



## Mitigation and Compliance Cost Estimate (MCCE)

### PART 1 - PROJECT INFORMATION

**DIST-CO-RTE:** 06 - MAD - 099 **PM/PM:** R0.100/R8.100

**EA/Project Number:** 06-0H220\_ / 0612000158

**Project Name:** South Madera 6-Lane

**Form Completed by:** David Arredondo

**Project Manager:** KAPOOR, ANAND **Phone:** (559) 243-3588

**Date:** 7/13/2020

**MCCE Phase prepared for:** DED

### PART 2 - ENVIRONMENTAL COMMITMENTS FOR PERMANENT IMPACTS

**Environmental Commitments for Alternative:** BUILD

Commitment	Design \$	FY	Ac/Crd	ROW \$ Planned	FY	ROW \$ Actual	Pd	Construction \$	FY
<b>Hazardous Waste</b>									
Bridge Study	\$11,568.77	19/20					<input checked="" type="checkbox"/>		
PSI	\$40,000	19/20					<input checked="" type="checkbox"/>		
Lead Compliance Plan							<input type="checkbox"/>	\$2,500	19/20
ISA	\$42,897	15/16					<input checked="" type="checkbox"/>		
<b>Paleontological</b>									
PMP	\$12,000	23/24					<input type="checkbox"/>		
Mitigation							<input type="checkbox"/>	\$175,000	24/25

### PART 3 - PERMITS AND AGREEMENTS

Permit/Agreement	ROW \$ Planned	FY	ROW \$ Actual	Pd	Construction \$	FY
CDFW Document Filing Fee	\$2,406.73	20/21		<input type="checkbox"/>		
1600	\$26,896.5	23/24		<input type="checkbox"/>		
401	\$89,400	23/24		<input type="checkbox"/>		
NOI/NOT (Stormwater)				<input type="checkbox"/>	\$6,870	19/20
<b>TOTAL</b>	<b>\$106,465.77</b>		<b>\$118,703.23</b>		<b>\$184,370</b>	

#### **Approved by:**

Richard Putler

Environmental Branch Chief (Print Name)

*Richard Putler*

Signature

*11-3-2020*

Date

#### **If Right of Way Capital is needed:**

Sara Blum

Right-of-Way Office Chief (Print Name)

*Sara Blum*

Signature

*11/3/20*

Date

EA/Project ID: 06-0H220\_/0612000158

Commitment	Design \$	FY	Ac/Crd	ROW \$ Planned	FY	ROW \$ Actual	Pd	Construction \$	FY
------------	-----------	----	--------	-------------------	----	------------------	----	--------------------	----

**If cultural and biology mitigation totals more than \$500,000:**

\_\_\_\_\_  
Environmental Office Chief (Print Name)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Submitted to PM on: \_\_\_\_\_ Initial \_\_\_\_\_

**Comments (explanation and risk management plan attached)**

Department of Transportation  
District 6

**TRANSPORTATION MANAGEMENT PLAN DATA SHEET**

06-MAD 99-PM 0.1/8.1

***SOUTH MADERA 6-LANE PROJECT***

**PROJECT/EA NO:** 0612000158-0H220

September 30, 2020

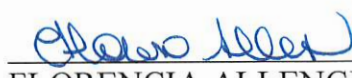
**Prepared For:** GETACHEW ESHETE, Design Senior  
Office of Design I, Branch L

**Prepared By:** FLORENCIA ALLENGER

**Concurred By:**

**Approved By:**

  
JOEL AGUILAR, P.E.  
District 6 – Traffic Management Chief

  
FLORENCIA ALLENGER  
District 6 – TMP Manager

This Transportation Management Plan (TMP) data sheet is prepared in response to a request from Office of Design I, Branch L dated September 10, 2020

- 1) The TMP Data Sheet shall be attached.
- 2) Any costs associated with the traffic impact mitigation measures listed in the TMP Data Sheet shall be included.
- 3) The following statements shall be included:

“Preliminary traffic impacts and mitigation for this project have been outlined in the attached Transportation Management Plan Data Sheet (TMP Data Sheet). Costs associated with the traffic impact mitigation measures listed in the TMP Data Sheet have been included in this documents estimate.”

“A TMP for this project is required and should be requested when the design is complete enough to determine specific traffic impacts, but yet early enough to make design changes/additions required for traffic mitigation.”

“Lane requirement charts and detailed TMP will be provided during PS&E stage.”

**ATTACHMENT E**

**TMP Data Sheet**                      **Project/EA No.** 0612000158/0H220  
**Design Senior:** Getachew Esheete  
**Date:** September 30, 2020

**Cty/Rte/PM:** Mad 99-PM 0.1/8.1  
**Office of Design I, Branch L**  
**Page 2 of 2**

“Lane closures are not allowed when the traffic volume is beyond the capacity of the remaining lanes. Nighttime work outside peak hours is anticipated for this project.”

If you have any questions, please feel free to contact Joel Aguilar at 559-779-6525 or Florencia Allenger at 559-488-4348.

**Attachments:**

- TMP Data Sheet



1.	Estimated Maximum Individual delay	<div></div>	minutes
2.	Existing or Acceptable Individual Vehicle Delay	<div></div>	minutes
3.	Estimated Individual Vehicle Delay Requiring Mitigation	<div></div>	minutes
4.	Estimate Delay Cost (Most Applicable)		
	<input type="checkbox"/> Extended Weekend Closure	<div></div>	
	<input type="checkbox"/> Weekly (7 days)		
5.	Estimated Duration of Project Related Delays	<div></div>	# of Days
6.	Cost of Construction Related delays	<div></div>	

PAGE 2 OF 2

Project/EA No: 0612000158 0H220

<b>PREPARED BY:</b> Florencia Allenger	<b>OFFICE OF TRAFFIC OPERATIONS</b>	<b>DATE:</b> September 30, 2020
---	-------------------------------------	------------------------------------



PROJECT  
PLANNING COST ESTIMATE ©

EA: 06-0H220  
PID: DS1234567

EA: 06-0H220 PID: DS1234567

District-County-Route: 06-Mad-099  
PM: 0.1 - 8.1

Type of Estimate : Project Report  
Program Code : STIP

Project Limits : In Madera, from north of Fresno-Madera County line to north of Avenue 12

Project Description: Widening in the median to convert Route 99 from a 4-lane freeway to 6-lane freeway within project limits  
Scope : Freeway Widening  
Alternative : Alternative # 1

SUMMARY OF PROJECT COST ESTIMATE

	Current Year Cost	Escalated Cost
TOTAL ROADWAY COST	\$ 105,702,100	\$ 119,895,368
TOTAL STRUCTURES COST	\$ -	\$ -
SUBTOTAL CONSTRUCTION COST	\$ 105,702,100	\$ 119,895,368
TOTAL RIGHT OF WAY COST	\$ 2,860,100	\$ 3,198,207
TOTAL CAPITAL OUTLAY COSTS	\$ 108,563,000	\$ 123,094,000
PA/ED SUPPORT	\$ -	\$ -
PS&E SUPPORT	\$ -	\$ -
RIGHT OF WAY SUPPORT	\$ -	\$ -
CONSTRUCTION SUPPORT	\$ -	\$ -
TOTAL SUPPORT COST	\$ -	\$ -
TOTAL PROJECT COST	\$ 109,000,000	\$ 124,000,000*

Programmed Amount

Date of Estimate (Month/Year) 4 / 2021  
Estimated Construction Start (Month/Year) 7 / 2024  
Number of Working Days = 360  
Estimated Mid-Point of Construction (Month/Year) 5 / 2025  
Estimated Construction End (Month/Year) 4 / 2026

Number of Plant Establishment Days

Estimated Project Schedule  
PID Approval 3/11/2008  
PA/ED Approval 5/1/2021  
Begin PS&E 7/1/2021  
RTL 8/1/2023  
Begin Construction

Reviewed by District O.E. or Cost Estimate Certifier  
Office Engineer / Cost Estimate Certifier  
Date 4/26/2021  
Phone (559) 246-7337

ATTACHMENT F

**I. ROADWAY ITEMS SUMMARY**

	<b>Section</b>	<b>Cost</b>
1	Earthwork	\$ 9,640,000
2	Pavement Structural Section	\$ 39,705,100
3	Drainage	\$ 3,041,900
4	Specialty Items	\$ 6,477,400
5	Environmental	\$ 8,084,500
6	Traffic Items	\$ 13,437,000
7	Detours	\$ 4,000,000
8	Minor Items	\$ 2,531,600
9	Roadway Mobilization	\$ 4,345,900
10	Supplemental Work	\$ 2,005,300
11	State Furnished	\$ 911,900
12	Time-Related Overhead	\$ 1,912,200
13	Total Roadway Contingency	\$ 9,609,300
<b>TOTAL ROADWAY ITEMS</b>		<b>\$ 105,702,100</b>

Estimate Prepared By : Akm Rahman, PE 12/7/2020 559-260-3191 (Cell)  
 Name and Title Date Phone

Estimate Reviewed By : Anand Kapoor Sheet-2  
 Name and Title Date Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

**SECTION 1: EARTHWORK**

Item code		Unit	Quantity		Unit Price (\$)		Cost
190101	Roadway Excavation	CY	260,000	x	25.00	= \$	6,500,000
19010X	Roadway Excavation (Insert Type) ADL	CY		x		= \$	-
198010	Imported Borrow	CY	20,000	x	14.00	= \$	280,000
194001	Ditch Excavation	CY		x		= \$	-
192037	Structure Excavation (Retaining Wall)	CY		x		= \$	-
193013	Structure Backfill (Retaining Wall)	CY		x		= \$	-
193031	Pervious Backfill Material (Retaining Wall)	CY		x		= \$	-
170103	Clearing & Grubbing	LS	1	x	60,000.00	= \$	60,000
100100	Develop Water Supply	LS		x		= \$	-
19801X	Imported Borrow	CY/TON		x		= \$	-
21012X	Duff	ACRE/SQFT		x		= \$	-
XXXXXX	Contaminated Soil to Class I hazwaste Site	CY	14,000	x	200	= \$	2,800,000

<b>TOTAL EARTHWORK SECTION ITEMS</b>	<b>\$ 9,640,000</b>
--------------------------------------	---------------------

**SECTION 2: PAVEMENT STRUCTURAL SECTION**

Item code		Unit	Quantity		Unit Price (\$)		Cost
401050	Jointed Plain Concrete Pavement	CY		x		= \$	-
400050	Continuously Reinforced Concrete Pavement	CY	139,000	x	235.00	= \$	32,665,000
390132	Hot Mix Asphalt (Type A)	TON	72,000	x	85.00	= \$	6,120,000
26020X	Class 2 Aggregate Base	CY		x		= \$	-
250401	Class 4 Aggregate Subbase	CY		x		= \$	-
270003	Cement Treated Base (Road Mixed, Class A)	CY	1,830	x	120.00	= \$	219,600
414240	Isolation Joint Seal (Asphalt Rubber)	LF		x		= \$	-
414241	Isolation Joint Seal (Silicone)	LF		x		= \$	-
280010	Rapid Strength Concrete Base	CY		x		= \$	-
410096	Drill and Bond (Dowel Bar)	EA		x		= \$	-
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON		x		= \$	-
391006	Asphalt Binder (Geosynthetic Pavement Interlayer)	TON		x		= \$	-
290201	Asphalt Treated Permeable Base	CY		x		= \$	-
374002	Asphaltic Emulsion (Fog Seal Coat)	TON		x		= \$	-
397005	Tack Coat	TON	6	x	1,000.00	= \$	6,000
377501	Slurry Seal	TON		x		= \$	-
374493	Polymer Asphaltic Emulsion (Seal Coat)	TON		x		= \$	-
370001	Sand Cover (Seal)	TON		x		= \$	-
731530	Minor Concrete (Textured Paving)	CY	800	x	650.00	= \$	520,000
731502	Minor Concrete (Miscellaneous Construction)	CY		x		= \$	-
39407X	Place Hot Mix Asphalt Dike (Insert Type)	LF	6,000	x	2.50	= \$	15,000
398100	Remove Asphalt Concrete Dike	LF	3,300	x	5.00	= \$	16,500
420201	Grind Existing Concrete Pavement	SQYD		x		= \$	-
398300	Remove Base and Surfacing	CY		x		= \$	-
390095	Replace Asphalt Concrete Surfacing	CY		x		= \$	-
41800X	Remove Concrete Pavement	SQYD/CY		x		= \$	-
394090	Place Hot Mix Asphalt (Miscellaneous Area)	SQYD		x		= \$	-
398200	Cold Plane Asphalt Concrete Pavement	SQYD		x		= \$	-
846046	6" Rumble Strip (Asphalt Concrete Pavement)	STA		x		= \$	-
846049	6" Rumble Strip (Concrete Pavement)	STA		x		= \$	-
846051	12" Rumble Strip (Asphalt Concrete Pavement)	STA		x		= \$	-
846052	12" Rumble Strip (Concrete Pavement)	STA	1,300	x	110.00	= \$	143,000
420102	Groove Existing Concrete Pavement	SQYD		x		= \$	-
394095	Roadside Paving (Miscellaneous Areas)	SQYD		x		= \$	-
390136	Minor Hot Mix Asphalt	TON		x		= \$	-
XXXXXX	Digouts	LS		x		= \$	-

<b>TOTAL PAVEMENT STRUCTURAL SECTION ITEMS</b>	<b>\$ 39,705,100</b>
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**SECTION 3: DRAINAGE**

Item code	Unit	Quantity	Unit Price (\$)	Cost
71013X Remove Culvert	EA/LF	x	= \$	-
710240 Modify Inlet	EA	x	= \$	-
710370 Sand Backfill	CY	x	= \$	-
71010X Abandon Culvert	EA/LF	x	= \$	-
710132 Remove Culvert	LF	2,000	x 35.00 = \$	70,000
710150 Remove Inlet	EA	30	x 1,500.00 = \$	45,000
710152 Remove Headwall	EA	14	x 1,000.00 = \$	14,000
510501 Minor Concrete	CY	x	= \$	-
510502 Minor Concrete (Minor Structure)	CY	x	= \$	-
710167 Remove Flared End Section (EA)	EA	8	x 300.00 = \$	2,400
6101XX XX" Alternative Pipe Culvert (Insert Type)	LF	x	= \$	-
510094 Structural Concrete Drainage Inlet	CY	140	x 2,500.00 = \$	350,000
650018 24" Reinforced Concrete Pipe	LF	10,200	x 125.00 = \$	1,275,000
6811XX XX" Plastic Pipe (Edge Drain)	LF	x	= \$	-
6901XX XX" Corrugated Steel Pipe Downdrain (0.XXX" Thi	LF	x	= \$	-
7006XX XX" Corrugated Steel Pipe Inlet (0.XXX" Thick)	LF	x	= \$	-
7032XX XX" Corrugated Steel Pipe Riser (0.XXX" Thick)	LF	x	= \$	-
705206 24" Concrete Flared End Section	EA	39	x 1,500.00 = \$	58,500
703233 Grated Line Drain	LF	7,200	x 160.00 = \$	1,152,000
72XXXX Rock Slope Protection (Type and Method)	CY/TON	x	= \$	-
72901X Rock Slope Protection Fabric (Insert Class)	SQYD	x	= \$	-
721420 Concrete (Ditch Lining)	CY	x	= \$	-
721430 Concrete (Channel Lining)	CY	x	= \$	-
750001 Miscellaneous Iron and Steel	LB	30,000	x 2.50 = \$	75,000
XXXXXX Drainage Systems Cost	LS	x	= \$	-

<b>TOTAL DRAINAGE ITEMS</b>	<b>\$ 3,041,900</b>
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**SECTION 4: SPECIALTY ITEMS**

Item code	Unit	Quantity	Unit Price (\$)	Cost
520103 Bar Reinforced Steel (Retaining Wall)	LB	32,400	x 1.50 = \$	48,600
5100XX Structural Concrete	CY	x	= \$	-
510060 Structural Concrete, Retaining Wall	CY	800	x 615.00 = \$	492,000
5201XX Bar Reinforcing Steel	LB	x	= \$	-
080050 Progress Schedule (Critical Path Method)	LS	1	x 8,000.00 = \$	8,000
XXXXXX Sound Wall	LF	x	= \$	-
510530 Minor Concrete (Wall)	CY	x	= \$	-
60005X Remove Sound Wall	LF/LS/SQFT	x	= \$	-
070030 Lead Compliance Plan	LS	1	x 5,000.00 = \$	5,000
141120 Treated Wood Waste	LB	x	= \$	-
839745 Concrete Barrier Transition	LF	50	x 725.00 = \$	36,250
839746 Concrete Barrier (Type 842)	LF	1,965	x 70.00 = \$	137,550
839750 Remove Barrier	LF	x	= \$	-
839752 Remove Guardrail	LF	54,000	x 8.00 = \$	432,000
710167 Remove Flared End Section	EA	x	= \$	-
800360 Chain Link Fence ( Type CL-6)	LF	20,000	x 20.00 = \$	400,000
802460 18" Chain Link Gate (Type CL-6) (?)	EA	3	x 3,200.00 = \$	9,600
832006 Midwest Guardrail System (Steel Post)	LF	2,100	x 40.00 = \$	84,000
839301 Single Thrie Beam Barrier	LF	x	= \$	-
839312 Double Thrie Beam Barrier (Steel Post)	LF	6,500	x 64.00 = \$	416,000
832070 Vegetation Control (Minor Concrete)	SQYD	1,500	x 60.00 = \$	90,000
839543 Transition Railing (Type WB-31)	EA	13	x 4,600.00 = \$	59,800
839566 Terminal System (Type CAT)	EA	x	= \$	-
839584 Alternative In-line Terminal System	EA	22	x 3,600.00 = \$	79,200
839585 Alternative Flared Terminal System	EA	x	= \$	-
4906XX XX" Cast-In-Drilled-Hole Concrete Piling	LF	x	= \$	-
8396XX Crash Cushion (TL-3)	EA	3	x 6,000.00 = \$	18,000
839647 Concrete Barrier (Type 60MGC)	LF	25,000	x 150.00 = \$	3,750,000
839713A Concrete Barrier (Type 60R)	LF	440	x 500.00 = \$	220,000
839716A Concrete Barrier (Type 60SD)	LF	100	x 630.00 = \$	63,000
475010 Retaining Wall (Masonry Wall)	SQFT	x	= \$	-
511035 Architectural Treatment	SQFT	x	= \$	-
780460 Anti-Graffiti Coating	SQFT	x	= \$	-
780450 Rock Stain	SQFT	x	= \$	-
4730XX Reinforced Concrete Crib Wall (Insert Type)	SQFT	x	= \$	-
83954X Transition Railing (Insert Type)	EA	x	= \$	-
839765 Reconstruct Guardrails	LF	1,300	x 30.00 = \$	39,000
839774 Remove Concrete Barrier	LF	3,200	x 25.00 = \$	80,000
780440 Prepare and Stain Concrete	SQFT	x	= \$	-
839561 Rail Tensioning Assembly	EA	x	= \$	-
839581 End Anchor Assembly (Type SFT)	EA	11	x 850.00 = \$	9,350

<b>TOTAL SPECIALTY ITEMS</b>	<b>\$ 6,477,400</b>
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Effective immediately, districts must input estimated item quantities in blue text above in the PRSM database for the pay items listed in the Design Memo, dated April 9, 2018, when Project Report is approved (Milestone 200). [Link to Design Memo.](#)

**SECTION 5: ENVIRONMENTAL****5A - ENVIRONMENTAL MITIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
Biological Mitigation, MCCE 11-3-2020	LS	1	x 410,000.00 = \$	410,000
146002 Contractor Supplied Biologist	LS	1	x 120,000.00 = \$	120,000
160110 Temporary High-Visibility Fence	LF	6,000	x 5.00 = \$	30,000
XXXXXX Reasonable Allowance	LS	1	x 3,531,000.00 = \$	3,531,000
130670 Temporary Reinforced Silt Fence	LF		x = \$	-
<b>Subtotal Environmental Mitigation</b>				<b>\$ 4,091,000</b>

**5B - LANDSCAPE AND IRRIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
20XXXX Highway Planting	LS	1	x 1,688,000.00 = \$	1,688,000
20XXXX Erosion Control	LS	1	x 1,087,500.00 = \$	1,087,500
204099 Plant Establishment Work	LS		x = \$	-
20XXXX Follow-up Landscape Project	LS		x = \$	-
206405 Remove Irrigation Facility	LS		x = \$	-
204096 Maintain Existing Planted Areas	LS		x = \$	-
206400 Check and Test Existing Irrigation Facilities	LS		x = \$	-
XXXXXX Irrigation Well	LS	1	x 250,000.00 = \$	250,000
21011X Imported Topsoil	CY/TON		x = \$	-
200114 Rock Blanket	3QFT/SQYD		x = \$	-
200122 Weed Germination	SQYD		x = \$	-
995100 Water Meter Charges	LS		x = \$	-
2087XX XX" Conduit (Use for Irrigation x-overs)	LF		x = \$	-
20890X Extend X" Conduit (Use for Extension of	LF		x = \$	-
<b>Subtotal Landscape and Irrigation</b>				<b>\$ 3,025,500</b>

**5C - EROSION CONTROL**

Item code	Unit	Quantity	Unit Price (\$)	Cost
211111 Permanent Erosion Control Establishment Work	LS		x = \$	-
210010 Move-In/Move-Out (Erosion Control)	EA		x = \$	-
210350 Fiber Rolls	LF		x = \$	-
210360 Compost Sock	LF		x = \$	-
2102XX Rolled Erosion Control Product (Insert Type)	SQFT		x = \$	-
21025X Bonded Fiber Matrix	3QFT/ACRE		x = \$	-
210300 Hydromulch	SQFT		x = \$	-
210420 Straw	SQFT		x = \$	-
210430 Hydroseed	SQFT		x = \$	-
210610 Compost	CY		x = \$	-
210630 Incorporate Materials	SQFT			-
<b>Subtotal Erosion Control</b>				<b>\$ -</b>

**5D - NPDES**

Item code	Unit	Quantity	Unit Price (\$)	Cost
130300 Prepare SWPPP	LS	1	x 10,000.00 = \$	10,000
130200 Prepare WPCP	LS		x = \$	-
130100 Job Site Management	LS	1	x 200,000.00 = \$	200,000
130330 Storm Water Annual Report	EA	4	x 2,500.00 = \$	10,000
130310 Rain Event Action Plan	EA		x = \$	-
130320 Storm Water Sampling and Analysis Day	EA	60	x 1,200.00 = \$	72,000
130510 Temporary Mulch	SQYD	60,000	x 0.60 = \$	36,000
130520 Temporary Hydraulic Mulch	SQYD	60,000	x 0.60 = \$	36,000
130550 Temporary Hydroseed	SQYD		x = \$	-
130505 Move-In/Move-Out (Temporary Erosion Control)	EA	10	x 1,000.00 = \$	10,000
130640 Temporary Fiber Roll	LF	10,000	x 5.00 = \$	50,000
130900 Temporary Concrete Washout	LS	1	x 120,000.00 = \$	120,000
130710 Temporary Construction Entrance	EA	12	x 4,000.00 = \$	48,000
130610 Temporary Check Dam	LF		x = \$	-
130620 Temporary Drainage Inlet Protection	EA	32	x 250.00 = \$	8,000
130730 Street Sweeping	LS	1	x 80,000.00 = \$	80,000
131103 Water Quality Sampling and Analysis Day	EA	60	x 1,200.00 = \$	72,000
131104 Water Quality Monitoring Reporting	EA	20	x 500.00 = \$	10,000
131105 Water Quality Annual Report	EA	3	x 2,000.00 = \$	6,000
141000 Temporary Fence (Type ESA)	LF	50,000	x 4.00 = \$	200,000
<b>Subtotal NPDES</b>				<b>\$ 968,000</b>

<b>TOTAL ENVIRONMENTAL</b>	<b>\$ 8,084,500</b>
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**Supplemental Work for NPDES**

066595 Water Pollution Control Maintenance Sharing*	LS		x = \$	-
066596 Additional Water Pollution Control**	LS		x = \$	-
066597 Storm Water Sampling and Analysis***	LS		x = \$	-
XXXXXX Some Item	LS		x = \$	-
<b>Subtotal Supplemental Work for NDPS</b>				<b>\$ -</b>

\*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

\*\*Applies to both SWPPPs and WPCP projects.

\*\*\* Applies only to project with SWPPPs.

**SECTION 6: TRAFFIC ITEMS****6A - Traffic Electrical**

Item code	Unit	Quantity	Unit Price (\$)	Cost
870200 Lighting System	LS	x	= \$	-
870300 Sign Illumination System	LS	x	= \$	-
870400 Signal and Lighting System	LS	x	= \$	-
870510 Ramp Metering System	LS	x	= \$	-
87181X Interconnection Conduit and Cable	LF/LS	x	= \$	-
5602XX Furnish Sign Structure (Insert Type)	LB	x	= \$	-
5602XX Install Sign Structure (Insert Type)	LB	x	= \$	-
4980XX XX" CIDHC Pile (Sign Foundation)	LF	x	= \$	-
87011X Inductive Loop Detector	EA/LS	x	= \$	-
870600 Traffic Monitoring Station System	LS	x	= \$	-
56804X Remove Sign Structure	EA/LS	x	= \$	-
568054 Reconstruct Sign Structure	EA	x	= \$	-
568060 Modify Sign Structure	EA	x	= \$	-
870009 Elements During Construction	LS	x	= \$	-
86XXXX Fiber Optic Conduit System	LS	x	= \$	-
XXXXX Electrical Items	LS	1	x 4,900,000.00 = \$	4,900,000
<b>Subtotal Traffic Electrical</b>				<b>\$ 4,900,000</b>

**6B - Traffic Signing and Striping**

Item code	Unit	Quantity	Unit Price (\$)	Cost
820840 Roadside Sign - One Post	EA	30	x 500.00 = \$	15,000
820850 Roadside Sign - Two Post	EA	x	= \$	-
5602XX Furnish Sign Structure (Insert Type)	SQFT	x	= \$	-
820890 Install Sign Panel on Existing Frame	SQFT	x	= \$	-
846030 Remove Thermoplastic Traffic Stripe	LF	46,000	x 1.00 = \$	46,000
141102 Remove Yellow Painted Traffic Stripe (Hazardous \	LF	x	= \$	-
810120 Remove Pavement Marker	EA	1,000	x 1.00 = \$	1,000
820250 Remove Roadside Sign	EA	x	= \$	-
820530 Reset Roadside Sign	EA	x	= \$	-
820610 Relocate Roadside Sign	LS	1	x 800,000.00 = \$	800,000
810230 Pavement Marker (Retroreflective)	EA	5,400	x 5.00 = \$	27,000
840502 Thermoplastic Traffic Stripe (Enhanced Wet Night \	LF	x	= \$	-
847060 6" Traffic Stripe Tape	LF	170,000	x 2.00 = \$	340,000
120090 Construction Area Signs	LS	1	x 35,000.00 = \$	35,000
847070 6" Traffic stripe Tape (Broken 36-12)	LF	170,000	x 2.00 = \$	340,000
847076 8" Traffic Stripe Tape (Broken 12-3)	LF	1,500	x 2.00 = \$	3,000
<b>Subtotal Traffic Signing and Striping</b>				<b>\$ 1,607,000</b>

**6C - Traffic Management Plan**

Item code	Unit	Quantity	Unit Price (\$)	Cost
128652 Portable Changeable Message Sign	EA/LS	1	x \$ 36,000 = \$	36,000
870009 Maintain Existing TMS During Construction	LS	\$ 1	x \$ 10,000 = \$	10,000
<b>Subtotal Traffic Management Plan</b>				<b>\$ 46,000</b>

**6C - Stage Construction and Traffic Handling**

Item code	Unit	Quantity	Unit Price (\$)	Cost
120198 Plastic Traffic Drums	EA	x	= \$	-
120165 Channelizer (Surface Mounted)	EA	1,200	x 35.00 = \$	42,000
120116 Type II Barricade	EA	x	= \$	-
120120 Type III Barricade	EA	x	= \$	-
129100 Temporary Crash Cushion Module	EA	172	x 250.00 = \$	43,000
120100 Traffic Control System	LS	1	x 1,400,000.00 = \$	1,400,000
120204 Portable Radar Speed Feedback Sign System	EA	700	x 130.00 = \$	91,000
120300 Temporary Pavement Marker	EA	5,400	x 5.00 = \$	27,000
129110 Temporary Crash Cushion	EA	x	= \$	-
129152 Temporary Radar Speed Feedback Sign System	LS	1	x 40,000.00 = \$	40,000
129000 Temporary Railing (Type K)	LF	204,000	x 20.00 = \$	4,080,000
120149 Temporary Pavement Marking (Paint)	SQFT	x	= \$	-
120151 Temporary Pavement Marking (Tape)	LF	387,000	x 3.00 = \$	1,161,000
8101XX Delineator (Insert Class)	EA	x	= \$	-
<b>Subtotal Stage Construction and Traffic Handling</b>				<b>\$ 6,884,000</b>

<b>TOTAL TRAFFIC ITEMS</b>	<b>\$ 13,437,000</b>
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**SECTION 7: DETOURS**

Includes constructing, maintaining, and removal

Item code		Unit	Quantity	Unit Price (\$)	Cost
190101	Roadway Excavation	CY	x	= \$	-
19801X	Imported Borrow	CY/TON	x	= \$	-
390132	Hot Mix Asphalt (Type A)	TON	x	= \$	-
26020X	Class 2 Aggregate Base	CY/TON	x	= \$	-
250401	Class 4 Aggregate Subbase	CY	x	= \$	-
130620	Temporary Drainage Inlet Protection	EA	x	= \$	-
129000	Temporary Railing (Type K)	LF	x	= \$	-
128601	Temporary Signal System	LS	x	= \$	-
120149	Temporary Pavement Marking (Paint)	SQFT	x	= \$	-
80010X	Temporary Fence (Insert Type)	LF	x	= \$	-
XXXXXX	Detours	LS	1	x 4,000,000 = \$	4,000,000

<b>TOTAL DETOURS</b>	<b>\$ 4,000,000</b>
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<b>SUBTOTAL SECTIONS 1 through 7</b>	<b>\$ 84,385,900</b>
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**SECTION 8: MINOR ITEMS****8A - Americans with Disabilities Act Items**

ADA Items	0.0%	\$	-	Place Holder 2%
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**8B - Bike Path Items**

Bike Path Items	0.0%	\$	-	Place Holder 3%
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**8C - Other Minor Items**

Other Minor Items	3.0%	\$	2,531,577	Place Holder 3%
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Total of Section 1-7	\$ 84,385,900	x	3.0%	= \$	2,531,577
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<b>TOTAL MINOR ITEMS</b>	<b>\$ 2,531,600</b>
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**SECTIONS 9: ROADWAY MOBILIZATION \***

Item code					
999990	Total Section 1-8	\$ 86,917,500	x	5%	= \$ 4,345,875

<b>TOTAL ROADWAY MOBILIZATION</b>	<b>\$ 4,345,900</b>
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**SECTION 10: SUPPLEMENTAL WORK**

Item code		Unit	Quantity	Unit Price (\$)	Cost
066670	Payment Adjustments For Price Index Fluctuations	LS	1	x 325,000.00 = \$	325,000
066094	Value Analysis	LS	1	x 10,000.00 = \$	10,000
066070	Maintain Traffic	LS	1	x 288,000.00 = \$	288,000
066919	Dispute Resolution Board	LS	1	x 15,000.00 = \$	15,000
066921	Dispute Resolution Advisor	LS		x = \$	-
066015	Federal Trainee Program	LS	1	x 30,000.00 = \$	30,000
066016	Just-in-Time Training	LS	1	x 10,000.00 = \$	10,000
066595	WPC Maintenance Sharing	LS	1	x 80,000.00 = \$	80,000
066596	Additional Water Pollution Control	LS	1	x 20,000.00 = \$	20,000
066597	Storm Water Sampling and Analysis	LS	1	x 10,000.00 = \$	10,000
066610	Partnering	LS	1	x 50,000.00 = \$	50,000
066204	Remove Rock and Debris	LS		x = \$	-
066222	Locate Existing Crossover	LS		x = \$	-
066393	HMA Smoothness Incentive	LS		x = \$	-
066405A	Concrete Pavement Smoothness Incentive	LS	1	x 650,000.00 = \$	650,000
XXXXXX	Flagging cost	Day	150	x 2,000.00 = \$	300,000
		Unit		x = \$	-
	<i>Cost of NPDES Supplemental Work specified in Section 5D</i>				= \$ -

Total Section 1-8	\$ 86,917,500	0.25%	= \$	217,294
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<b>TOTAL SUPPLEMENTAL WORK</b>	<b>\$ 2,005,300</b>
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**SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES**

Item code		Unit	Quantity		Unit Price (\$)		Cost
066105	Resident Engineers Office	LS	1	x	445,000.00	=	\$445,000
066063	Traffic Management Plan - Public Informal	LS	1	x	18,000.00	=	\$18,000
066901	Water Expenses	LS		x		=	\$0
8609XX	Traffic Monitoring Station (X)	LS		x		=	\$0
066841	Traffic Controller Assembly	LS		x		=	\$0
066840	Traffic Signal Controller Assembly	LS		x		=	\$0
066062	COZEEP Contract	LS	1	x	240,000.00	=	\$240,000
066838	Reflective Numbers and Edge Sealer	LS		x		=	\$0
066065	Tow Truck Service Patrol	LS		x		=	\$0
066915	BOE treated wood waste generation fee	LS	1	x	5,000.00	=	\$5,000
066916	Annual Construction General Permit Fee	LS	1	x	30,000.00	=	\$30,000
XXXXXX	Some Item	Unit		x		=	\$0

Total Section 1-8                      \$    86,917,500                      0.20%                      =    \$            173,835

<b>TOTAL STATE FURNISHED</b>	<b>\$911,900</b>
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**SECTION 12: TIME-RELATED OVERHEAD**

Total of Roadway and Structures Contract Items excluding Mobilization                      \$86,917,500    (used to calculate total TRO)  
Total Construction Cost (excluding TRO and Contingency)                      \$94,180,600    (used to check if project capital cost is greater than \$5 million)

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **2.20%**

Item code		Unit	Quantity		Unit Price (\$)		Cost
090100	Time-Related Overhead	WD	360	X	\$5,312	=	\$1,912,200

<b>TOTAL TIME-RELATED OVERHEAD</b>	<b>\$1,912,200</b>
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**SECTION 13: ROADWAY CONTINGENCY\***

Risk Amount from Risk Register	(for Known Risks)	2%	\$2,000,000
Additional or Residual Contingency	for Unknown/Undefined Risks)	8%	\$7,609,280
Total Section 1-12	\$    96,092,800	x <b>10%</b>	=    \$9,609,280

<b>TOTAL CONTINGENCY*</b>	<b>\$9,609,300</b>
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**II. STRUCTURE ITEMS****Bridge 1**

DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00
Bridge Name	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX		57-XXX		57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0 LF		0 LF		0 LF
Total Bridge Length (Feet)	0 LF		0 LF		0 LF
Total Area (Square Feet)	0 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	0 LF		0 LF		0 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0		\$0		\$0
<b>COST OF EACH</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>

**Building 1**

DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00
Building Name	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX		57-XXX		57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0 LF		0 LF		0 LF
Total Building Length (Feet)	0 LF		0 LF		0 LF
Total Area (Square Feet)	0 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	0 LF		0 LF		0 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0		\$0		\$0
<b>COST OF EACH</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>

<b>TOTAL COST OF BRIDGES</b>	<b>\$0</b>
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<b>TOTAL COST OF BUILDINGS</b>	<b>\$0</b>
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Time-Related Overhead	10%	<b>\$0</b>
STRUCTURES MOBILIZATION	10%	<b>\$0</b>
STRUCTURES CONTINGENCY*	25%	<b>\$0</b>

<b>TOTAL COST OF STRUCTURES</b>	<b>\$0</b>
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Estimate Prepared By: \_\_\_\_\_  
 XXXXXXXXXXXXXXXXXXXX ----- Division of Structures

\_\_\_\_\_  
 Date

## PROJECT COST ESTIMATE

EA: 06-0H220 PID: DS1234567

**III. RIGHT OF WAY**

Fill in all of the available information from the Right of Way Data Sheet.

			<i>Current Value Future Use</i>		<i>Escalated Value</i>
A)	A1)	Acquisition, including Excess Land, Fees, Damages, Goodwill	\$	1,111,186	\$ 0
	A2)	Acquisition of Offsite Mitigation	\$	148,379	\$ 0
	A3)	Railroad Acquisition	\$	0	\$ 0
B)	B1)	Utility Relocation (State Share)	\$	1,459,375	\$ 0
	B2)	Potholing (Design Phase)	\$		\$ 0
C)		Utility - Advance Engineering Estimate (Encumber with State Only Funds)	\$	0	\$ 0
D)		RAP and/or Last Resort Housing	\$	0	\$ 0
E)		Clearance & Demolition	\$	0	\$ 0
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	\$	6,250	\$ 0
G)		Title and Escrow	\$	28,612	\$ 0
H)		Ad Signs	\$	106,250	\$ 0
I)	Condemnation Settlements	<u>0%</u>	\$	0	\$ 0
J)	Design Appreciation Factor	<u>0%</u>	\$	0	\$ 0
K)		Utility Relocation (Construction Cost)	\$	0	\$ 0

L)	<b>TOTAL RIGHT OF WAY ESTIMATE</b>	<b>\$2,860,100</b>
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M)	<b>TOTAL R/W ESTIMATE: Escalated</b>	<b>\$3,198,207</b>
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N)	<b>RIGHT OF WAY SUPPORT</b>	<b>\$0</b>
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Support Cost Estimate  
Prepared By \_\_\_\_\_ Project Coordinator<sup>1</sup> \_\_\_\_\_ Phone \_\_\_\_\_

Utility Estimate Prepared  
By \_\_\_\_\_ Utility Coordinator<sup>2</sup> \_\_\_\_\_ Phone \_\_\_\_\_

R/W Acquisition Estimate  
Prepared By \_\_\_\_\_ Right of Way Estimator<sup>3</sup> \_\_\_\_\_ Phone \_\_\_\_\_

Note: Items G &amp; H applied to items A + B

<sup>1</sup> When estimate has Support Costs only<sup>2</sup> When estimate has Utility Relocation<sup>3</sup> When R/W Acquisition is required



Dist-County-Route: 06-Mad-99  
Post Mile Limits: 0.1/8.1  
Type of Work: Widen 4-Lane Freeway to 6 Lane Freeway  
Project ID (EA): 0612000158 (06-OH2200)  
Program Identification: 025.700  
Phase: ☐ PID ☒ PA/ED ☐ PS&E

Regional Water Quality Control Board(s): Central Valley Region (5-Fresno)  
Total Disturbed Soil Area: 61.2 acres PCTA: Exempt  
Alternative Compliance (acres): N/A ATA 2 (50% Rule)? Yes ☐ No ☒  
Estimated Const. Start Date: 4/1/23 Estimated Const. Completion Date: 11/1/25  
Risk Level: RL 1 ☒ RL 2 ☐ RL 3 ☐ WPCP ☐ Other: \_\_\_\_\_  
Is MWEL0 applicable? Yes ☐ No ☒  
Is the Project within a TMDL watershed? Yes ☐ No ☒  
TMDL Compliance Units (acres): N/A  
Notification of ADL reuse (if yes, provide date): Yes ☐ Date: \_\_\_\_\_ 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 only.*

*Akm Rahman*

Akm Rahman, Registered Project Engineer

1/28/2021

Date

*I concur with the Construction water pollution control strategy and selected temporary BMPs in this report:*

*Sarbjit Deol*

02/11/2021

Sarbjit Deol, District 6 Construction SW Coordinator

Date

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

*Eric Karlson*

03/04/2021

Eric Karlson, Project Manager

Date

Rene Sanchez, Designated Maintenance Representative

Date

*R. Brad Cole*

4/12/21

Brad Cole, Designated Landscape Architect Representative

Date

*Mazin Al Ali*

04/19/2021

Mazin Al-Ali, Regional SW Coordinator or Designee

Date

## **South Madera 6-Lane**

On State Route 99 from north of Avenue 7 to Avenue 12 in Madera County

06-MAD-99-PM 0.1-8.1

EA 06-0H220 and Project ID 0612000158

State Clearinghouse Number 2021020203

### **Initial Study with Mitigated Negative Declaration/ Environmental Assessment with Finding of No Significant Impact**



Prepared by the  
State of California Department of Transportation

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S. Code 327 and the Memorandum of Understanding dated December 23, 2016, and executed by the Federal Highway Administration and Caltrans.

**April 2021**



**ATTACHMENT H**

## **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 write to or call Caltrans, Attention: Richard Putler, Central Region Environmental, 2015 East Shields Avenue, Suite 200, Fresno, California, 93726; 559-304-6599 (Voice), or use the California Relay Service 1-800-735-2929 (Teletype), 1-800-735-2929 (Voice), or 711.

Widen State Route 99 from four lanes to six lanes from post miles 0.1 to 8.1  
in Madera County

**INITIAL STUDY  
with Mitigated Negative Declaration/  
ENVIRONMENTAL ASSESSMENT**

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  
Responsible Agencies: California Transportation Commission

  
\_\_\_\_\_  
Jennifer H. Taylor  
Office Chief, Central Region  
Southern San Joaquin Environmental Office  
California Department of Transportation  
NEPA and CEQA Lead Agency

  
\_\_\_\_\_  
Date

The following individual can be contacted for more information about this document:

Richard Putler, Senior Environmental Planner, 2015 East Shields Avenue, Suite 200, Fresno,  
California, 93726; 559-304-6599.




**CALIFORNIA DEPARTMENT OF TRANSPORTATION  
FINDING OF NO SIGNIFICANT IMPACT (FONSI)**

FOR

South Madera 6-Lane

The California Department of Transportation (Caltrans) has determined that the Build Alternative 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 actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S. Code 327 and the Memorandum of Understanding dated December 23, 2016, and executed by the Federal Highway Administration and Caltrans.

  
\_\_\_\_\_  
Jennifer H. Taylor  
Office Chief, Central Region  
Southern San Joaquin Environmental Office  
California Department of Transportation  
NEPA and CEQA Lead Agency

  
\_\_\_\_\_  
Date







## Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

**State Clearinghouse Number:** 2021020203

**District-County-Route-Post Mile:** 06-MAD-99-PM 0.1-8.1

**EA/Project Identification:** EA 06-0H220 and Project ID 0612000158

### Project Description

The California Department of Transportation (Caltrans) proposes to widen State Route 99 in Madera County from just north of Avenue 7 to Avenue 12 (post miles 0.1-8.1). One lane will be built in each direction in the highway median to create a six-lane highway. Additionally, the existing lanes and shoulders of State Route 99 will be rehabilitated, and a concrete median barrier will be installed along with an auxiliary lane at the Avenue 12 northbound off-ramp.

### Determination

An Initial Study has been prepared by the California Department of Transportation (Caltrans), District 6.

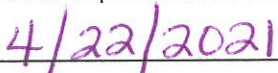
On the basis of this study, it was determined that the proposed action with the incorporation of the identified mitigation measures will not have a significant effect on the environment for the following reasons:

**Aesthetics:** "Where the Palm Meets the Pine" landmark will be permanently removed from the State Route 99 median within the project limits and relocated to the southbound shoulder of State Route 99. A single row of 15 Canary Island date palm trees followed by 15 Deodar Cedar pine trees will be planted on the southbound shoulder of State Route 99. Oleanders will be permanently removed from the State Route 99 median within the project limits. New oleanders will be planted on the southbound shoulders of State Route 99.

**Paleontology:** Mitigation will consist of pre-construction environmental awareness training, field monitoring during construction, and the salvaging, preparation, identification, and curation of scientifically significant fossils if discovered.

**Greenhouse Gases:** Mitigation will consist of installing level two electric vehicle chargers for public use.

  
\_\_\_\_\_  
Jennifer H. Taylor  
Office Chief  
California Department of Transportation

  
\_\_\_\_\_  
Date



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# **Chapter 1**      **Proposed Project**

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## **1.1 Introduction**

California participated in the “Surface Transportation Project Delivery Pilot Program” (Pilot Program) pursuant to 23 U.S. Code 327 for more than 5 years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Barack Obama on July 6, 2012, amended 23 U.S. Code 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, the Department entered into a Memorandum of Understanding pursuant to 23 U.S. Code 327 (NEPA Assignment Memorandum of Understanding) with the Federal Highway Administration. The NEPA Assignment Memorandum of Understanding became effective October 1, 2012, and was renewed on December 23, 2016, for a term of 5 years. In summary, the Department continues to assume Federal Highway Administration responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes.

With NEPA Assignment, Federal Highway Administration assigned, and the Department assumed all of the U.S. Department of Transportation Secretary’s responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions that the Federal Highway Administration assigned to the Department under the 23 U.S. Code 326 Categorical Exclusion Assignment Memorandum of Understanding, projects excluded by definition, and specific project exclusions.

Caltrans proposes to improve a segment of State Route 99 in Madera County from north of Avenue 7 to Avenue 12 (see Figures 1-1 and 1-2). The total length of the project is 8 miles. Widening in the median will occur from post mile 1.5 to post mile 7.6. From post mile 0.1 to post mile 1.5, State Route 99 already has the width of a six-lane highway but is currently striped as a four-lane highway. The Madera 99 Widening Project between Avenue 12 and Avenue 17 is currently under construction. That project will be built as a six-lane highway but will be striped as a four-lane highway from post mile 7.6 to post mile 8.1. Once the median widening from post mile 1.5 to post mile 7.6 is complete, the entire project limits will be restriped as a six-lane highway.

To the north and south of the project limits, State Route 99 is a six-lane facility. This project will lead to gap closure and continue the statewide objective of eliminating four-lane segments on State Route 99 in the San Joaquin Valley. The project will also eliminate the existing bottleneck, improve operation, and reduce congestion.



The project is included in the 2018 Interregional Transportation Improvement Program and is proposed for funding from the 2020 Regional Transportation Improvement Program. The project is also included in the Madera County Transportation Commission's 2019 Federal Transportation Improvement Program.

## **1.2 Purpose and Need**

### **1.2.1 Purpose**

The purpose of the project is to reduce congestion by increasing capacity, improving connectivity of the highway system, and preserving acceptable facility operation.

### **1.2.2 Need**

The State Route 99 highway within the project limits currently operates at acceptable levels of service during peak traffic hours and will continue to do so through the year 2027 without any improvements. However, by the year 2047, the highway mainline will have insufficient capacity to accommodate the forecasted traffic demand under the No-Build Alternative, and delays will significantly increase.

The existing (2019) level of service for the northbound and southbound lanes is Level of Service D. In the year 2027, the levels of service will be D to E for both the northbound and southbound lanes. Twenty years later, in the year 2047, the level of service will deteriorate to a level of service F for both the northbound and southbound lanes if the highway is still only two lanes in each direction.

The existing annual average daily traffic within the project limits is about 80,500.

In the year 2027, the annual average daily traffic is forecast to be 90,500. In the year 2047, the annual average daily traffic is forecast to be 127,000.

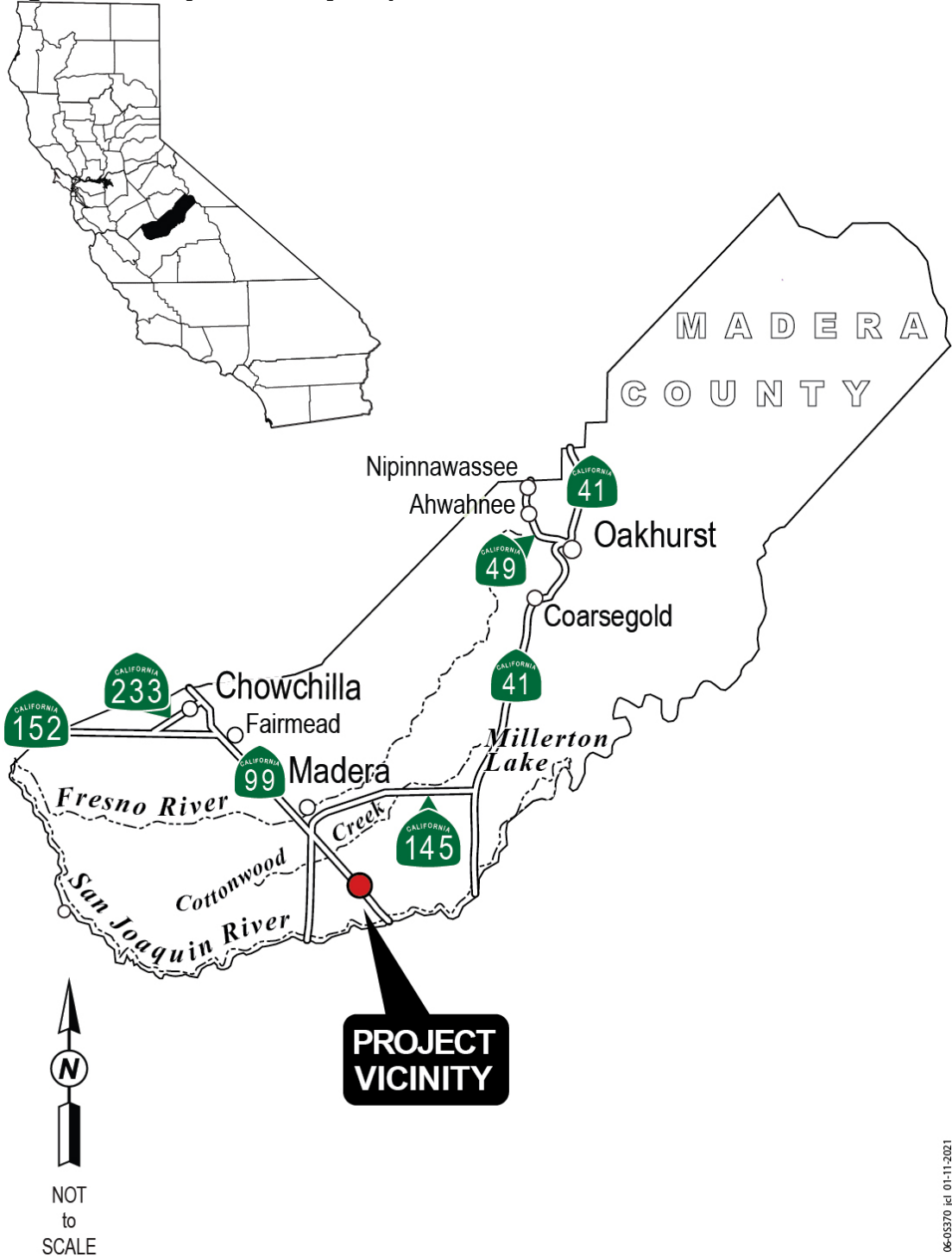
## **1.3 Project Description**

Caltrans proposes to widen State Route 99 in Madera County from just north of Avenue 7 to Avenue 12 (post miles 0.1-8.1). One lane will be built in each direction on the highway median to create a six-lane highway. The existing lanes and shoulders of State Route 99 will be rehabilitated. A concrete median barrier will be installed along with an auxiliary lane at the Avenue 12 northbound off-ramp.

The purpose of the project is to reduce congestion by increasing capacity, improving connectivity of the highway system, and preserving acceptable facility operation.

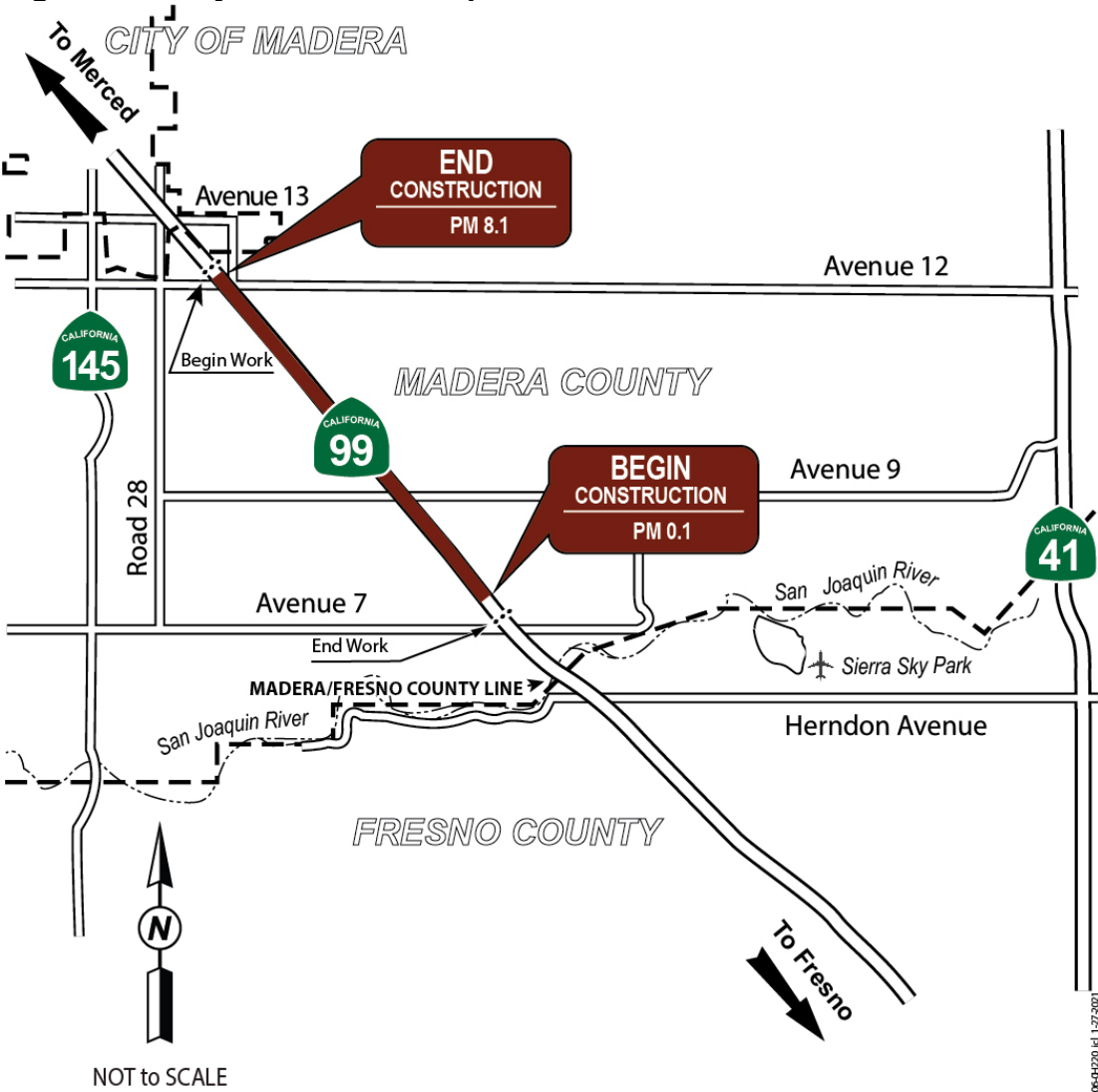
A future Caltrans project, the Cottonwood Creek Bridge Replacement, is at the northern end of the South Madera 6-Lane project limits at post mile 7.28. Construction of these two projects is expected to start at the same time in spring 2024 and be completed in summer 2027.

Figure 1-1 Project Vicinity Map



06-05370\_jcf\_01-11-2021

Figure 1-2 Project Location Map



## **1.4 Project Alternatives**

This project contains several standardized project measures that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. These measures are addressed in more detail in the Environmental Consequences sections found in Chapter 2.

### **1.4.1 Build Alternative**

The Build Alternative will convert the existing four-lane highway to a six-lane highway by adding new lanes in the median to accommodate 12-foot lanes and 10-foot shoulders in each direction. Widening in the median will occur from post mile 1.5 to post mile 7.6. From post mile 0.1 to post mile 1.5, State Route 99 already has the width of a six-lane highway but is currently striped as a four-lane highway. The Madera 99 Widening Project between Avenue 12 and Avenue 17 is under construction; it will be built as a six-lane highway but will be striped as a four-lane highway from post mile 7.6 to post mile 8.1. Once the median widening from post mile 1.5 to post mile 7.6 is complete, the entire project limits will be restriped as a six-lane highway.

A concrete median barrier will be installed, along with an auxiliary lane at the Avenue 12 northbound off-ramp. A retaining wall will be built at the auxiliary lane location to limit encroachment into the railroad right-of-way. Existing drainage systems will be abandoned or replaced with a combination of cross culverts and longitudinal drainage systems. Stormwater retention basins will be built to accommodate stormwater runoff. Preliminary design plans are shown in Appendix B.

The work will consist of widening the existing outside shoulders 4 feet to 8 feet to strengthen the existing lanes; work will also consist of preparing the existing shoulder for truck traffic. Lanes will then be restriped to shift traffic away from the median. K-rail will be placed along the length of the project to separate construction in the median from passing traffic. Work within the median will continue with little interruption to the detoured traffic. Work within the median will include removing the median barrier, clearing and grubbing oleanders, excavating soil for the placement of travel lanes, and building travel lanes and a concrete median barrier or thrie beam barrier. K-rail will be removed after the median barrier is installed. Two existing changeable message signs will be relocated 800 feet away from the Avenue 8 overcrossing and overhead. One changeable message sign will be relocated on the northbound side, and the other will be relocated on the southbound side of State Route 99.

Existing inlets in the median will be removed and culverts abandoned as required. To accommodate the additional storage requirements, the existing

side ditches will be changed to optimize drainage water storage capacity within the existing right-of-way.

Project construction is slated to start in the spring of 2024 and finish in the summer of 2027.

Construction, which is expected to be done in five stages, will take 320 working days to complete; about 120 nights of work are also expected. Activities will include working on resurfacing outside shoulders under temporary lane closures, building a temporary median detour, setting up K-rails (temporary concrete barriers), shifting K-rails to change temporary traffic control lanes, and removing the temporary median detour.

The total project cost for the Build Alternative, including right-of-way acquisition and roadway work, is estimated to be \$126,860,000.

#### **1.4.2 No-Build (No-Action) Alternative**

The No-Build Alternative will maintain the existing facility in its present condition. The No-Build Alternative will not address the deteriorating level of service of the existing facility and will make the already congested highway unable to preserve acceptable facility operation. The No-Build Alternative will not meet the purpose and need of the project.

### **1.5 Comparison of Alternatives**

When alternatives are evaluated, the purpose and need of the project, as well as the locations where environmental impacts could occur, need to be considered.

The Build Alternative will satisfy the purpose and need of the project because it will improve traffic flow, address current and future traffic operational needs, and alleviate congestion. Although the Build Alternative will result in changes to existing conditions, the changes will not be substantial with the incorporation of avoidance, minimization, and mitigation measures. Chapter 2 provides information on the project's potential environmental impacts.

The No-Build Alternative will not satisfy the purpose or need of the project because it will not address the projected increases in traffic volume over time, which will result in longer motorist delays and excessive congestion within the project limits on State Route 99. The No-Build Alternative will not result in any construction or changes to existing conditions. With the No-Build Alternative, longer motorist delays, excessive congestion, increased greenhouse gases, and a reduced level of service within the project limits will be expected.

## **1.6 Identification of a Preferred Alternative**

After the completion of the public review and comment period, the benefits and impacts of the Build Alternative versus the No-Build Alternative were compared. The Project Development Team identified the Build Alternative as the preferred alternative. The Build Alternative will satisfy the purpose and need of the project because it will improve traffic flow, address current and future traffic operational needs, and alleviate congestion.

The No-Build Alternative would not satisfy the purpose of or need for the project because the highway mainline will have insufficient capacity to accommodate the forecasted traffic demand, and delays will significantly increase. With the No-Build Alternative, traffic volume will continue to increase over time, resulting in traffic delays and excessive congestion within the project limits.

## **1.7 Alternatives Considered but Eliminated from Further Discussion**

Two other alternatives were considered for this project to address the increased congestion, connectivity of the highway system, and acceptable facility operation.

### *Build Alternative 2*

Build Alternative 2 would have added three new lanes to the west of the existing State Route 99 southbound lanes. An additional 80 feet of right-of-way would have been required to the west to accommodate a median width of 64 feet. After the construction of the new southbound lanes, the existing southbound lanes would have been demolished. The existing northbound lanes would have remained with the addition of a third lane along the west side of the existing travel lanes. Additionally, Build Alternative 2 would have required the construction of up to seven new structures after demolishing the existing structures. Proposed structures would have been built along their existing alignments with longer spans to accommodate the wider roadway, wider median, and higher vertical clearance.

### *Build Alternative 3*

Build Alternative 3 is similar to Build Alternative 2 except that the median width would have been a 42-foot paved median with the acquisition of 60 feet of right-of-way to the west. Up to seven new structures would have been built after demolishing the existing structures. Proposed structures would have been built along their existing alignments with longer spans to accommodate the wider roadway, wider median, and higher vertical clearance.

The Caltrans Project Development Team eliminated Build Alternative 2 and Build Alternative 3 due to excessive cost. The team concluded that the alignment shift of both alternatives would not have been consistent with similar improvements to State Route 99 to the north and south of this segment. Therefore, the Caltrans Project Development Team decided on Build Alternative 1 with a No-Build Alternative as the viable option to be considered for this project.

## 1.8 Permits and Approvals Needed

The following permits, licenses, agreements, and certifications are required for project construction:

Agency	Permit/Approval	Status
San Joaquin Valley Unified Air Pollution Control District	National Emission Standards for Hazardous Air Pollutants Notification	The contractor will be required to notify the San Joaquin Valley Unified Air Pollution Control District 10 days before construction starts.
California Department of Fish and Wildlife	California Fish and Wildlife 1602 Lake and Streambed Alteration Agreement	Application to be submitted during the project's final design phase.
U.S. Army Corps of Engineers	Clean Water Act Section 404 Nationwide Permit	Application to be submitted during the project's final design phase.
Regional Water Quality Control Board	Clean Water Act Section 401 Water Quality Certification	Application to be submitted during the project's final design phase.





## **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. So, there is no further discussion of these issues in this document.

- Coastal Zone—The project is not within or near the Coastal Zone. The project is set within an inland valley of California, more than 100 miles from the coast. (Field Review)
- Wild and Scenic Rivers—There are no wild and scenic rivers within the project limits. (Field Review)
- Parks and Recreational Facilities—There are no parks or recreational facilities within the project limits. (Field Review)
- Timberland—No timberland production zones are in the project area. (Madera County Planning Department, 2020)
- Community Character and Cohesion—The project will not change community character and cohesion in the project area.
- Environmental Justice—The project is in a rural agricultural setting. No minority or low-income populations that would be adversely affected by the project have been identified as determined above. Therefore, this project is not subject to the provisions of Executive Order 12898. (U.S. Census FactFinder)
- Geology, Soils, Seismicity, and Topography—No geologic or topographic features were identified within southern Madera County. (National Park Service/Registry of Natural Landmarks website, 2020) No active faults exist within the project area. (California Department of Conservation website, 2020)
- Natural Communities—A California Natural Diversity Database query did not identify any natural communities of special concern with the potential to occur within the project area. So, no potential impacts on natural communities of special concern are expected, and further discussion is not warranted. (Natural Environment Study-Minimal Impacts, 2020)
- Wetlands and Other Waters—No wetlands were identified within the project area. (Natural Environment Study-Minimal Impacts, 2020)

- **Plant Species**—Due to the high level of current and historic disturbance and habitat modification, the project area does not support appropriate conditions for any rare or special-status plant species, and no further discussion is warranted. (Natural Environment Study-Minimal Impacts, 2020)

## **2.1 Human Environment**

### **2.1.1 Existing and Future Land Use**

This section describes the current and planned land use within the project limits. Land use planning within the project limits is mainly a function of the Madera County General Plan. State law requires seven elements to be addressed in the general plan: land use, circulation, housing, natural resources, noise, open space, and public safety. Land use plans and zoning are the main methods of managing local land use. These mechanisms govern the type and density of development in accordance with the Madera County General Plan.

#### ***Affected Environment***

The project limits lie in southwest Madera County, just north of the Fresno/Madera County line, about 8 miles south of the City of Madera, and immediately north of the San Joaquin River. The foothills of the Sierra Nevada Mountains sit east of the project limits, and the gently rolling terrain consists mostly of agricultural lands.

#### ***Existing Land Use***

Within the project limits, most of the area surrounding State Route 99 is designated as rural agriculture or rural commercial. (Madera County General Plan) Roughly 90 percent of the project corridor is currently either open space grazing land or farm fields. The remaining 10 percent of the project corridor is built up and includes commercial and industrial uses and residential areas. There are currently no public schools, institutional facilities, community services or recreational facilities, or parks within or next to the project area. Emergency services are provided to this area by the Madera County Fire Department Station Number 1 (California Department of Forestry and Fire Protection station), at 14225 Road 28, Madera, California, 93638.

#### ***Future Land Use***

As mentioned above, lands next to the project area are within the jurisdiction of Madera County and designated as rural agriculture or rural commercial. Land use policies in the Madera County General Plan restrict activities to intensive agriculture or rural commercial activities. Land use activities near the project area are not expected to change in the foreseeable future.

### ***Environmental Consequences***

Most of the project will be built within the existing highway right-of-way, with some additional right-of-way needed for stormwater retention basins. The Build Alternative will not directly affect existing homes and businesses along State Route 99.

The Build Alternative will acquire 26.5 acres of right-of-way along the west side of the existing State Route 99. All the land is currently agricultural production and commercial development.

For additional information regarding the conversion of farmland due to the right-of-way needed for the project, such as Williamson Act contracts and soil types, please refer to Section 2.1.3 Farmland. For additional information regarding potentially affected employees and relocation assistance, please refer to Section 2.1.5 Relocations and Real Property Acquisitions.

### ***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***

#### ***Transportation Plans***

Transportation plans and programs applicable to this project include the Caltrans State Route 99 Corridor System Management Plan, the Madera County Transportation Commission Regional Transportation Plan, and the Madera County Transportation Commission Federal Transportation Improvement Program.

#### ***Caltrans Plan***

The 2030 concept for this segment of State Route 99 is a six-lane highway through Madera County. The Ultimate Transportation Concept is an eight-lane highway through Madera County.

#### ***Madera County Plans***

The Madera County plan significant to the project study area is the Madera County General Plan.

### ***Environmental Consequences***

#### ***Transportation Plans***

The project is currently included in Madera County's 2019 Regional Transportation Plan as a capacity-increasing project. The project will consist of widening State Route 99 to a six-lane highway from Avenue 7 to Avenue 12. Funding is proposed from the Interregional Improvement Program and Federal Stimulus funds. The project is also listed in the 2019 Madera County

Federal Transportation Improvement Program as a four-lane to six-lane improvement from Avenue 7 to Avenue 12, with funding proposed from the Trade Corridor Enhancement Program and Measure T funds. The Build Alternative is consistent with these plans, as amended. The No-Build Alternative will not be consistent with these plans.

Madera County Area Plans

Table 2.1 shows the consistency between the project alternatives and the Madera County area plans.

**Table 2.1 Consistency with Local Plans**

<b>Policy</b>	<b>Build Alternative</b>	<b>No-Build Alternative</b>
<i>Policy 2.A.12. The County shall provide for improvements to street and highway facilities as necessary to serve new development and to meet the traffic demands of the county.</i>	<b>Consistent</b> —Provides additional lanes to meet the future traffic demands of Madera County.	<b>Not Consistent</b> —Will not make any improvements to State Route 99 to meet the future traffic demands of Madera County.
<i>Policy 2.E.4. The County shall plan for and maintain a roadway system that provides for efficient and safe movement of goods within Madera County and provides for connections between truck and rail movements.</i>	<b>Consistent</b> —Creates a more efficient route for trucks that will reduce conflicts with automobile traffic.	<b>Not Consistent</b> —Will not provide an efficient route for trucks that will reduce conflicts with automobile traffic.
<i>Policy 5.A.1. The County shall maintain agriculturally designated areas for agricultural uses and direct urban uses to designated new growth areas, existing communities, and/or cities.</i>	<b>Consistent</b> —The Build Alternative has been designed to acquire only narrow strips of farmland along the sides of the existing roadway. These acquisitions will 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.	<b>Consistent</b> —No change to existing land use.

### **Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, and/or mitigation measures are required.

### **2.1.3 Farmland**

#### **Regulatory Setting**

The National Environmental Policy Act (NEPA) and the Farmland Protection Policy Act (Farmland Protection Policy Act, 7 U.S. 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 land of statewide or local importance.

The California Environmental Quality Act (CEQA) requires the review of projects that will convert Williamson Act contract land to nonagricultural 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***

Madera County is one of California's largest agricultural producing counties. Important Farmland—farmland classified by the California Department of Conservation's Farmland Mapping and Monitoring Program as prime farmland, farmland of statewide importance, farmland of local importance, and unique farmland—makes up 645,358 acres in Madera County. (U.S. Census of Agriculture 2017) The top commodities are fruits, nuts, berries, milk, and vegetables. Madera County's gross value from agricultural production was \$1,492,587,000 in 2017. (U.S. Census of Agriculture 2017)

Within the project limits, farmland is used mostly as almond orchards and grape vineyards. Five parcels under Williamson Act contracts, or agricultural preserve lands, were identified within the project limits.

NEPA and the provisions of the Farmland Protection Policy Act require that Caltrans examine the effects on farmland before taking or approving any federal action that will result in the conversion of farmland. The Natural Resource Conservation Service-CPA-106 Farmland Conversion Impact Rating for Corridor Type Projects form was submitted to the local Natural Resources Conservation Service office in Madera County, requesting a determination on whether the project location has farmland that is subject to the Farmland Protection Policy Act. Results of the Natural Resource Conservation Service-CPA-106 Farmland Conversion Impact Rating for Corridor Type Projects form completed for this project show that both prime farmland and farmland of statewide importance are within the project footprint. The Natural Resources Conservation Service determined that the project will convert about 8 acres of prime farmland and 15 acres of farmland of statewide importance to nonagricultural use.

### ***Environmental Consequences***

Research and consultation with the Natural Resources Conservation Service were conducted to evaluate the possible effects of the project on local farmlands. Documents reviewed included the California Department of Conservation Farmland Mapping and Monitoring Program data and aerial photographs. The current Madera County General Plans, zoning ordinances, and maps were also reviewed.

The Natural Resources Conservation Service Farmland Conversion Impact Rating (see Appendix C) was completed in August 2020. This rating

determines the relative value of farmland to be converted by using a formula that weighs farmland classification, soil characteristics, irrigation, acreage, creation of non-farmable land, availability of farm services, and other factors. If the rating is more than 160 points, Caltrans may consider measures that will minimize or mitigate farmland impacts. The Natural Resources Conservation Service Farmland Conversion Impact Rating for this project is 153.

The Farmland Mapping and Monitoring Program designates and tracks “important farmland” in California, including four categories of agricultural land:

- Prime Farmland—Land with the best combination of physical and chemical characteristics for producing agricultural crops.
- Unique Farmland—Land other than prime farmland that has lesser quality soils that are used for the production of high-value specialty crops.
- Farmland of Statewide Importance—Land that does not qualify as prime farmland or unique farmland. Land that is currently irrigated, pastureland, or produces nonirrigated crops and is important, as determined by the state.
- Farmland of Local Importance—Land that does not qualify as prime farmland or unique farmland. Land that is currently irrigated, pastureland, or produces nonirrigated crops and is important, as determined by the local government.

The Build Alternative will acquire 26.5 acres of right-of-way, 23 acres of which are currently zoned for agricultural use. Eight acres are prime or unique farmland, and 15 acres are statewide or locally important farmland. Table 2.2 shows the farmland amounts that will be converted to transportation use. The Build Alternative will acquire small slivers, or linear strips of land, from each parcel along State Route 99. The Build Alternative will not bisect parcels and will allow for continued farming on the parcels.

**Table 2.2 Farmland Conversion**

Alternative	Total Right-of-Way Needed (Acres)	Total Acres in Corridor	Prime and Unique Farmland (Acres)	Farmland of Statewide and Local Importance (Acres)	Percent of Farmland in Madera County (About 759,000 Acres)	Percent of Farmland in California (About 25.5 Million Acres)	Farmland Conversion Impact Rating
Build Alternative	26.5	883	8	15	0.0097	0.0002	153

Source: Form Natural Resources Conservation Service-CPA-106 (Farmland Conversion Impact Rating for Corridor Type Projects)



The conversion of farmland to transportation use cannot be avoided because farmland surrounds the project corridor, and there is no feasible alternative in this area that will not convert farmland to transportation use.

#### *Williamson Act*

Five parcels (see Table 2.3) under a Williamson Act contract or agricultural preserve lands were identified within the project limits. The five parcels are owned by four separate family farms on the west side of State Route 99, where right-of-way will be acquired for the project. These parcels will remain under a Williamson Act contract after Caltrans acquires the needed right-of-way. Of the 23 acres listed in Table 2.2 as prime or unique farmland and farmland of statewide and local importance, 9.49 acres are under a Williamson Act contract and will be acquired from the five parcels.

**Table 2.3 Potential Impacts to Williamson Act Parcels**

Assessor's Parcel Number	Total Area (Acres)	Build Alternative Acquisition (Acres)
048-190-001	82.96	1.06
048-180-001	48.95	0.235
047-230-014	100.02	6.996
047-230-013	12.98	1.032
047-110-003	75.47	0.167
Total	320.38	9.49

Acreage from Madera County Property Parcel website

Total acreage needed for the Build Alternative from parcels under Williamson Act contracts is about 9.49 acres, including 1.06 acres from an 82.96-acre parcel, 0.235 acre from a 48.95-acre parcel, 6.996 acres from a 100.02-acre parcel, 1.032 acres from a 12.98-acre parcel, and 0.167 acre from a 75.47-acre parcel. The conversion of small slivers, or linear strips, of land to transportation use will not affect the Williamson Act contracts or agricultural preserve status of the remaining parcels because the amount of acreage that will remain on the parcels will be above the 10-acre minimum required to avoid cancellation of a Williamson Act contract.

#### ***Avoidance, Minimization, and/or Mitigation Measures***

No avoidance, minimization, and/or mitigation measures are required.

#### **2.1.4 Growth**

##### ***Regulatory Setting***

The Council on Environmental Quality regulations, which established the steps necessary to comply with the National Environmental Policy Act of 1969, require evaluation of the potential environmental effects of all proposed federal activities and programs. This includes a requirement to examine indirect effects, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The Council on

Environmental Quality regulations (40 Code of Federal Regulations 1508.8) refer to these consequences as indirect impacts. Indirect impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act also requires the analysis of a project's potential to induce growth. The California Environmental Quality Act Guidelines (Section 15126.2[d]) require that environmental documents "...discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment..."

### ***Affected Environment***

A "first-cut screening" was completed for the project. The first-cut screening is the first phase of the evaluation of the project and asks specific questions used to identify potential growth-related impacts that will result from the project.

The first-cut screening analyzed the area bounded by the San Joaquin River on the south and east, Road 28 on the west, and Avenue 12 on the north.

The project will widen State Route 99 through a mostly rural area of Madera County; however, the project area is not remote. The project begins north of the Fresno/Madera County line at post mile 0.1 and ends at post mile 8.1, about 0.5 mile south of the City of Madera. The project proposes to add an additional lane in each direction of State Route 99 to meet the needs of planned growth next to and surrounding the project area.

### ***Environmental Consequences***

Caltrans conducted a preliminary analysis to determine whether there will be potential for project-related growth. Caltrans considered the interrelated factors of accessibility, project type, project location, and growth pressure. The screening process also took into consideration the General Plans of Madera County and the City of Madera.

For the following reasons, based on the first-cut screening, no further analysis is required:

The Build Alternative will not change access to State Route 99. The project will add an additional lane in each direction to relieve congestion, eliminate the existing bottleneck, enhance operational efficiency, and improve the level of service. The project will also lead to gap closure and continue the statewide objective of eliminating four-lane segments on State Route 99 in the San Joaquin Valley.

This type of project is consistent with accommodating growth and not influencing growth. The area is within the jurisdiction of Madera County and is

an intensive agricultural area. Madera County has strong policies that ensure the continued continuation of intensive agriculture in these areas.

***Avoidance, Minimization, and/or Mitigation Measures***

No avoidance, minimization, and/or mitigation measures are required.

**2.1.5 Relocations and Real Property Acquisition**

***Regulatory Setting***

Caltrans' Relocation Assistance Program is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act), and Title 49 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 will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Please see Appendix E for a summary of the Relocation Assistance Program.

All relocation services and benefits are administered without regard to race, color, national origin, persons with disabilities, religion, age, or sex. Please see Appendix A for a copy of Caltrans' Title VI Policy Statement.

***Affected Environment***

Caltrans completed a Draft Relocation Impact Report for this project in September 2016 and an updated Right-of-Way Data Sheet in December 2020 to address the project's Build Alternative and right-of-way changes.

Caltrans will need to acquire right-of-way from parcels that are directly next to State Route 99 in the project limits. The parcels are on land that is zoned Agricultural Exclusive and contains vegetation that is suitable for livestock grazing. The land is primarily used for orchards and vineyards.

Partial acquisitions could potentially affect agricultural operations, homes, and businesses if the remaining land or structures are not functional after the project is built. Therefore, proposed partial acquisitions can result in a full acquisition of the property parcel or structures on the parcel.

The project area is mostly rural, with agricultural lands and isolated commercial and residential development.

The various forms of potential residential displacements include single-family homes and multifamily homes. Single-family homes include any stand-alone, detached homes that accommodate a family or household. Multifamily homes have been separated into two categories, with "multifamily homes (four or more units)" representing apartment buildings or condominiums and "multifamily homes (two or three units)" being duplex or triplex units.

The Draft Relocation Impact Report also grouped the potential nonresidential displacements into four categories—commercial, industrial/manufacturing, nonprofit organizations, and agricultural/farms. Commercial includes retail stores, auto-related services, professional services, gas stations, and similar businesses. Industrial/manufacturing includes warehouses, manufacturing operations, storage units, and similar businesses. The Draft Relocation Impact Report did not identify any nonprofit organizations within the project limits.

### ***Environmental Consequences***

The project requires partially acquiring 16 parcels with a total of 26.5 acres; all parcels are on the southbound lane of State Route 99. The parcels consist of agriculture use, apart from one vacant commercial parcel and two government-owned vacant parcels. The land is a mixture of almond orchards and wine grapes.

The proposed stormwater detention basins are on three separate parcels with a total of 11.834 acres. All proposed stormwater detention basins will be almond orchard partial acquisitions. One property is a grape vineyard and has personal property scattered along the fence bordering State Route 99; relocation assistance will be required to move this personal property. Four outdoor advertising signs are present in the project area and will require relocation. The new right-of-way that will be required from the parcels is shown below in Table 2.4.

**Table 2.4 Proposed Right-of-Way Acquisition**

<b>Build Alternative: Assessor's Parcel Number</b>	<b>Build Alternative: Right-of-Way (Acres)</b>
048-190-002	0.58
048-190-001	1.06
048-180-001	0.235
048-070-016	5.241
048-070-015	0.587
Madera County Road 31 1/2	1.677
048-070-013	1.337
048-070-007	0.182
047-420-021	1.030
047-230-014	6.996
047-230-013	1.032
047-230-001	0.961
047-110-013	4.210
047-110-003	0.167
047-110-021	0.916
Madera County Road 29	0.298

### ***Avoidance, Minimization, and/or Mitigation Measures***

Caltrans will assist in the moving process, payments for moving expenses, and counseling in accordance with the Uniform Act and Relocation Assistance Program of 1970 (as amended). This act was created to provide

protection and assistance services to people who have properties that are being acquired for transportation projects and those being relocated in the event a displacement is required. Relocation benefits offered under the Uniform Act include assistance in the moving process and payments for moving expenses.

## 2.1.6 Utilities and Emergency Services

### ***Affected Environment***

Caltrans completed a Right-of-Way Data Sheet for the project in December 2020.

#### ***Utilities***

The following utilities are found within the project corridor: Pacific Gas and Electric Company distribution and transmission poles, underground American Telephone and Telegraph telephone lines, and Pacific Bell (American Telephone and Telegraph) fiber-optic underground lines.

#### ***Emergency Services***

The closest fire station to the project is Madera County Fire Department Station Number 1, about 4 miles north of the project near the census-designated town of Parksdale. The closest police station to the project is the City of Madera Police Department, about 3.5 miles north of the project in the City of Madera. The closest medical facility to the project is the Madera Community Hospital, about 3 miles north of the project in the City of Madera. Table 2.5 lists the locations of the emergency services in the area and how far they are from the project.

**Table 2.5 Emergency Services Near the Project Area**

<b>Name</b>	<b>Facility Type</b>	<b>Address</b>	<b>Distance (Miles)</b>
Madera Community Hospital	Hospital	1250 East Almond Avenue, Madera, California, 93637	2.7
Pistoresi Ambulance	Ambulance Service	113 North R Street Madera, California, 93637	4
City of Madera Police Department	Police Station	330 South C Street, Madera, California, 93638	3
Madera County Sheriff's Headquarters	Sheriff's Office	2725 Falcon Drive, Madera, California, 93637	7
Madera County Fire Department Station Number 1	Fire Station	14225 Road 28, Madera, California, 93638	3.6

### ***Environmental Consequences***

There are eight American Telephone and Telegraph telephone poles, a Pacific Gas and Electric Company gas line, underground American Telephone and Telegraph telephone lines, Pacific Gas and Electric Company distribution and transmission poles, and Pacific Bell (American Telephone and Telegraph) fiber-optic underground lines being evaluated for utility relocation at this time.

### ***Avoidance, Minimization, and/or Mitigation Measures***

Detours will be available to lessen any impacts to emergency services. Detours will allow emergency services on State Route 99 to function as they normally would.

## **2.1.7 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). Caltrans 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 expected 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 27) implementing Section 504 of the Rehabilitation Act. (29 U.S. 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***

#### ***Traffic and Transportation***

State Route 99 is one of the main thoroughfares in the Central Valley and takes traffic from its start point south of Bakersfield to its end point east of the City of Red Bluff. State Route 99 has a high percentage of truck traffic and is used by farmers and commercial industries throughout the valley to transport goods to markets. State Route 99 is the most used north-south highway in

Madera County. It is used by commuters to get to and from the City of Madera, along with being used by interstate and intrastate commuters.

Because of this heavy use, two projects are planned near the project's vicinity. The Madera Widening project, a project to the north from Avenue 12 to Avenue 17 and currently in construction, will widen State Route 99 from a four-lane highway to a six-lane highway. A bridge replacement project also to the north, the proposed Cottonwood Creek Bridge Replacement project, will involve the construction of a six-lane bridge to accommodate the future six-lane facility of both the Madera Widening project and the South Madera 6-Lane project.

State Route 99 in the project area is currently a divided four-lane highway. To the north and south of the project limits, State Route 99 is a six-lane highway. The South Madera 6-Lane project will close the 6.1-mile gap and become a continuous six-lane highway. The posted speed limit in the project area is 70 miles per hour. Pedestrians and bicyclists are prohibited from using State Route 99 and will not be impacted by this project. The nearest interchange is the Avenue 12/Road 29 interchange at the north end of the project limits.

Residential communities closest to the project are Irrigosa, Parkwood, Parksdale, and Madera. Irrigosa is in the project vicinity and next to the project. Irrigosa is an unincorporated community in Madera County. Irrigosa has not been included in past census counts, so there is no population information for this community. Parkwood is about 0.5-mile northwest of the project. Parkwood is a census-designated town in Madera County. Its population was 2,268 in the 2010 Census, up from 2,119 in 2000.

### *Traffic Volumes*

Traffic volume and quality of traffic flow are used to analyze highway operation and related congestion issues:

- Traffic volumes are represented as annual average daily traffic counts, which are the average number of vehicles that pass a given point within a 24-hour period.
- Quality of traffic flow is represented as Level of Service. Level of Service ranges from A to F. Level of Service "A" indicates free-flowing traffic, while Level of Service "F" indicates gridlock and stop-and-go conditions. Caltrans strives to provide a minimum Level of Service D/E in rural areas.
- A traffic analysis was performed for existing conditions (2019), open-to-traffic year (2027), and design-year conditions (2047).

The State Route 99 segment was analyzed for its Level of Service. Table 2.6 shows the existing traffic conditions and level of service for State Route 99 between Avenue 7 and Avenue 12.

**Table 2.6 Existing Traffic Conditions and Level of Service on State Route 99 between Avenue 7 and Avenue 12**

Year	Annual Average Daily Traffic (Total)	Annual Average Daily Traffic-Truck (19.23 Percentage)	Morning/Evening Peak Volume	Morning/Evening Peak Speed	Morning/Evening Peak Level of Service
2019	80,500	15,480	14,600/16,600	62/62	D/D

Source: Caltrans Updated Traffic Operational Analysis 2019

#### *Pedestrian and Bicycle Facilities*

There are currently no designated pedestrian facilities on State Route 99, including bicycle lanes or sidewalks.

#### *Public Transportation*

The Madera County Connection transit system uses State Route 99 to provide service from Downtown Madera to La Vina through its Eastin Arcola-Ripperdan-La Vina route.

### **Environmental Consequences**

#### *Traffic and Transportation*

Tables 2.7 and 2.8 show the traffic conditions and level of service with and without the project for the open-to-traffic year (2027) and future conditions (2047).

**Table 2.7 Traffic Conditions and Level of Service on State Route 99 Between Avenue 7 and Avenue 12 No-Build Alternative**

Year	Annual Average Daily Traffic (Total)	Annual Average Daily Traffic-Truck (19.23 Percentage)	Morning/Evening Peak Volume	Morning/Evening Peak Speed	Morning/Evening Peak Level of Service
2027	90,500	17,403	17,000/18,900	62/61	D/E
2047	127,000	24,422	23,800/26,300	53/49	F/F

Source: Caltrans Updated Traffic Operational Analysis 2019



**Table 2.8 Traffic Conditions and Level of Service on State Route 99  
Between Avenue 7 and Avenue 12 for the Build Alternative**

Year	Annual Average Daily Traffic (Total)	Annual Average Daily Traffic- Truck (19.23 Percentage)	Morning/Evening Peak Volume	Morning/Evening Peak Speed	Morning/Evening Peak Level of Service
2027	90,500	17,403	17,000/18,900	64/63	B/C
2047	127,000	24,422	23,800/26,300	62/62	D/D

Source: Caltrans Updated Traffic Operational Analysis 2019

Based on the data presented, without the project, the level of service will worsen to Level of Service F by 2047 for both morning and evening peak hour traffic. Without the project, traffic is expected to be congested and operate with considerable delays.

With the project, there will be an improved level of service for the open-to-traffic year (2027). A decrease in the level of service is expected for future conditions. However, the project will avoid a level of service designation below D in future conditions.

Construction impacts on traffic and transportation will not be substantial. Access to and from State Route 99 will be available during construction, and the highway will remain open to traffic during construction.

#### *Pedestrian and Bicycle Facilities*

There are currently no designated pedestrian facilities on State Route 99, including bicycle lanes or sidewalks.

#### *Public Transportation*

The Madera County Connection transit system uses State Route 99 to provide service from Downtown Madera to La Vina through its Eastin Arcola-Ripperdan-La Vina route.

### ***Avoidance, Minimization, and/or Mitigation Measures***

#### *Traffic and Transportation*

No mitigation measures are required for impacts to traffic and transportation. During construction, a traffic management plan will be developed to handle local traffic patterns and reduce delays, congestion, and the likelihood of accidents. The traffic management plan will include incident management through the Construction Zone Enhanced Enforcement Program, notifying the public of construction activities via changeable message signs, construction strategies, and the Central Valley Traffic Management Center. The center reduces congestion by monitoring traffic and informing the public via media outlets, such as radio and television.

### ***Pedestrian and Bicycle Facilities***

No avoidance, minimization, and/or mitigation measures are required for pedestrian facilities.

### ***Public Transportation***

No avoidance, minimization, and/or mitigation measures are required for public transportation.

## **2.1.8 Visual/Aesthetics**

### ***Regulatory Setting***

The National Environmental Policy Act (NEPA) of 1969, as amended, 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 U.S. Code 4331[b][2]) To further emphasize this point, the Federal Highway Administration, in its implementation of NEPA (23 U.S. Code 109[h]), directs that final decisions on projects are to be made in the best overall public interest considering adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act (CEQA) 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.” (California Public Resources Code Section 21001[b])

California Streets and Highways Code Section 92.3 directs Caltrans to use drought-resistant landscaping and recycled water when feasible and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.

### ***Affected Environment***

A visual impact assessment was completed for the project in December 2020. The visual impact assessment was prepared in accordance with the guidelines in the Federal Highway Administration’s Visual Impact Assessment for Highway Projects. (Federal Highway Administration 2015)

### ***Visual Setting***

The landscape is characterized by relatively flat terrain throughout the project limits. To the east and west are the Sierra Nevada and coastal mountain ranges. The project site is surrounded by agricultural croplands and commercial and industrial sites that service the agricultural community.

The flat terrain does not limit the viewing distance within the project limits. Occasionally, as the highway profile rises and falls with overpasses and

underpasses, the viewing distance varies. Air quality can also affect distant views within the project limits.

The project is not listed as a State Scenic Highway.

### *Existing Visual Resources*

The most notable feature within the project limits is a regional landmark, “Where the Palm Meets the Pine,” located at post mile 5.7 in Madera County. There are two trees in the median that symbolize the “center” of California. A Canary Island date palm (*Phoenix canariensis*) symbolizes Southern California, and a Deodar Cedar (*Cedrus deodara*) pine tree is symbolic of Northern California. The two trees are symbolic of the geographic “center” of the state. While the two trees have been replaced over the years, it is believed that “Where the Palm Meets the Pine” landmark trees were originally planted in the 1920s. Even though the landmark is not the actual geographic center of California, the trees are well-known and widely recognized as a landmark on State Route 99.

There are mature oleanders in the median throughout the project limits. Within the 8-mile project length, there are 5.2 miles of oleanders in the median. The oleanders in the median are the last of the oleanders in Madera County, south of the City of Madera. The oleanders in the median are a “signature planting” of State Route 99 in the Central Valley, as defined by local agencies. The vegetation provides a visual screen from oncoming traffic as well as visually screening nearby land uses.

Oleanders in the median, together with large, towering eucalyptus trees, were once an iconic relic of the State Route 99 corridor. While a small portion of the oleanders remains, the eucalyptus trees are all but gone. There are six remaining eucalyptus trees at the Avenue 9 interchange area and a few more scattered along the project corridor.

### *Visual Characteristics*

The large, expansive agricultural fields provide the strongest sense of visual character in the project corridor. Some crops are permanent crops like orchards and vineyards. This vegetation provides a different visual experience from seasonal crops like corn and cotton. The orchard trees and vineyards provide visual interest through all the seasons of the year. All the row crops provide a strong pattern of parallel lines in the landscape. The overall visual effect is a patchwork of patterns and textures throughout the project corridor.

The residential, industrial, and commercial structures within the project limits provide an inconsistent variety of colors and textures that are typical of a rural agricultural area. The roadway is visually separated by large, mature oleanders in the median. This vegetation creates a strong, noticeable line that is continuous from Avenue 7 to Avenue 12.

“Where the Palm Meets the Pine” landmark trees add to the visual character of the project corridor. As shown in Appendix D, “Where the Palm Meets the Pine” landmark is in the median about 10 feet away from the inside travel lane. Metal thrie-beam guardrail shields the trees. The trees are a focal point and can be easily identified by passing motorists. The trees add a unique visual element to the rural agricultural setting.

### ***Environmental Consequences***

The project will remove 5.2 miles of oleanders in the median. While the removal of the oleanders from the median will be noticeable, the new concrete median barrier to take its place will provide visual continuity with the existing concrete median barrier south of Avenue 7 and north of Avenue 12. The overall visual effect from the loss of vegetation in the median is a transition from a rural highway to an urban highway with a concrete median barrier. In an urban setting, this new urban character will be visually fitting. However, the project is in a rural agricultural area. So, the net effect is that of building an urban highway in a rural, agricultural environment.

With the loss of the oleanders from the median, there is expected to be an increase in oncoming headlight glare. However, the concrete median barrier being built will be 56 inches high and will provide a visual screen from the oncoming headlight glare. The change from oleanders to concrete in the median will change the color and texture of the visual experience. This change will be heightened by the extent of the change. After project construction, there will be no more oleanders on State Route 99 from the Madera County line to the City of Madera in southern Madera County.

The project will replace “Where the Palm Meets the Pine” landmark. The replacement planting will occur on the southbound side of the highway, south of the existing trees. As a result of relocating the trees from the median, the visual scale and the dominance of the trees will be greatly reduced.

The Project Development Team analyzed “Where the Palm Meets the Pine” landmark and explored several design options (see Appendix D) that would have allowed the landmark to remain in the median.

One option would have left the landmark undisturbed in its existing location. This option would have provided a 14-foot-wide median at the location of the landmark. However, the northbound inside and outside shoulders would have been 7 feet wide instead of 10 feet wide, which would have required a design exception. The southbound direction would have had standard 10-foot-wide shoulders. This option was rejected because of safety concerns with creating a sudden reduction in the shoulder width at the location of the existing trees. This option would have also created restricted maintenance access.

The second option that would have allowed the landmark to remain in the median included leaving the northbound lanes in their current alignment and

moving the southbound lanes 16 feet to the west, creating a 14-foot-wide, 150-foot-long median. A new palm tree and a new pine tree would have been planted in the median. This option would have impacted a nearby home and a local road—Golden State Boulevard. Relocating Golden State Boulevard would have been feasible because it would have been relocated on agricultural land. However, this design option was also rejected because of safety concerns similar to those in the first option described above.

The third option included removing the landmark from the median and planting 15 new palm trees and 15 new pine trees on the west side of State Route 99 at 55 feet from the edge of the traveled way for clear recovery. This option would have impacted a nearby home. However, shifting the new row of trees about 330 feet south of the existing location of the landmark would have avoided impacts to the home. This alternative was preferred because of the safety to the traveling public and maintenance personnel.

As a result of removing the oleanders and relocating “Where the Palm Meets the Pine” landmark, the overall change to visual character will be high.

The realignment of irrigation canals and the construction of stormwater drainage basins will require the removal of some orchard trees, which will disrupt the visual pattern of the landscape. Since there are additional orchard trees, the loss of these trees is expected to be visually negligible.

#### *No-Build Alternative*

Under the No-Build Alternative, the project will not be built, and the project site will remain unaltered. Therefore, there will not be a change in visual quality.

#### ***Avoidance, Minimization, and/or Mitigation Measures***

This section describes avoidance, minimization, and/or mitigation measures to address specific visual impacts. These avoidance, minimization, and/or mitigation measures will be designed and implemented with concurrence from the Caltrans District 6 Landscape Architect.

The following avoidance and minimization measures will be incorporated into the project to avoid or minimize visual impacts:

1. Minimize vegetation removal. Remove only vegetation and shrubs required for the construction of the new roadway facilities. Avoid removing vegetation and shrubs for temporary uses such as construction staging areas or temporary stormwater conveyance systems.
2. Where feasible, avoid grading areas where existing vegetation provides screening of nearby properties.

The following mitigation measures will be incorporated into the project to offset visual impacts:

1. “Where the Palm Meets the Pine” will be permanently removed from the median and relocated to the southbound shoulder of State Route 99. A single row of 15 palm trees followed by 15 pine trees will be planted on the southbound side, south of the existing trees, to compensate for the visual loss in relocating the landmark trees.
2. The oleanders in the median will be removed, and new oleanders will be planted outside of the roadside a minimum of 55 feet from the edge of the traveled way.

### **2.1.9 Cultural Resources**

#### ***Regulatory Setting***

The term “cultural resources,” as used in this document, refers to the “built environment” (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms, including “historic properties,” “historic sites,” “historical resources,” and “tribal cultural resources.” 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, the First Amended Section 106 Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and Caltrans went into effect for Caltrans projects, both state and local, with Federal Highway Administration involvement. The Programmatic Agreement implements the Advisory Council on Historic Preservation’s regulations, 36 Code of Federal Regulations 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 U.S. Code 327)

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as “unique” archaeological resources. California Public Resources Code Section 5024.1 established the California Register of Historical Resources and outlined the necessary criteria for a cultural resource to be

considered eligible for listing in the California Register of Historical Resources and, therefore, a historical resource. Historical resources are defined in California Public Resources Code Section 5020.1(j). In 2014, Assembly Bill 52 added the term “tribal cultural resources” to CEQA, and Assembly Bill 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in California Public Resources Code Section 21074(a), a tribal cultural resource is a California Register of Historical Resources or local register eligible site, feature, place, cultural landscape, or object which has a cultural value to a California Native American tribe. Tribal cultural resources must also meet the definition of a historical resource. Unique archaeological resources are referenced in California Public Resources Code Section 21083.2.

California Public Resources Code Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the National Register of Historic Places listing criteria. It further requires Caltrans to inventory state-owned structures in its rights-of-way. Procedures for compliance with California Public Resources Code Section 5024 are outlined in a Memorandum of Understanding between Caltrans and the State Historic Preservation Officer, effective January 1, 2015. For most Federal-aid projects on the State Highway System, compliance with the Section 106 Programmatic Agreement will satisfy the requirements of California Public Resources Code Section 5024.

### ***Affected Environment***

A Historic Property Survey Report that was prepared in August 2020 summarizes the Archaeological Survey Report and Archaeological Evaluation. A Historic Resource Evaluation Report was prepared in August 2020. Sixteen historic-era properties were identified and formally evaluated.

Cultural resource studies for the project included fieldwork, such as archaeological survey and visual inspection. Identification efforts included record searches of the National Register of Historic Places, California Register of Historical Resources, California Points of Historical Interest, California Historical Resources Information System, National Historic Landmark, California Historical Landmarks, Caltrans Historic Bridge Inventory, Caltrans Cultural Resources Database, and the Southern San Joaquin Valley Information Center at California State University, Bakersfield. The Native American Heritage Commission requested a sacred lands file records search and a Native American contact list.

The Area of Potential Effects was established as the area subject to direct and indirect effects of activities during the project. The Area of Potential Effects for the Build Alternative includes widening the roadway over the Madera Canal (also sometimes called Friant-Madera Canal), widening the shoulders to the standard width of 10 feet, changing/replacing culverts, and

raising the road profile. A 160-foot horizontal Area of Potential Effects along the length of the project and a vertical Area of Potential Effects of 6 feet for the culvert work was established for the project.

### *Archaeological Resources*

There are no known prehistoric sites within the Area of Potential Effects. No archaeological resources eligible for the National Register of Historic Places or California Register of Historical Resources have been recorded within the Archaeological Study Area. No archaeological sites were discovered during pedestrian surveys of the Archaeological Survey Coverage Area in 2016 or 2019.

### *Architectural Resources*

Caltrans identified 16 potential historical properties within the Area of Potential Effects and determined that the following properties are not eligible for the National Register of Historic Places. The State Historic Preservation Officer provided concurrence for this determination of eligibility on November 3, 2020, for the South Madera 6-Lane project.

“Where the Palm Meets the Pine” landmark was determined to be exempt from Section 106 review because the original trees have been replaced several times over the years. The most recent replacement occurred in 2007 by Caltrans.

Caltrans notified the Madera County Historical Society about the project on July 18, 2019. On September 9, 2019, the Madera County Historical Society called Caltrans to inquire about the fate of the Deodar Cedar pine tree and the Canary Island date palm tree in the State Route 99 median. These trees are of interest to the City of Madera and the County of Madera. A Caltrans Project Development Team provided a presentation to the Madera County Historical Society and the County of Madera on the three alternatives being proposed for the “Where the Palm Meets the Pine” landmark. All parties agreed that the relocation of the landmark to the southbound shoulder will be the best option.

## ***Environmental Consequences***

### *Archaeological Resources*

Caltrans has made a determination of “No Historic Properties Affected.” No known prehistoric sites will be impacted within the Area of Potential Effects. No archaeological resources eligible for the National Register of Historic Places or California Register of Historical Resources have been recorded within the Archaeological Study Area. No archaeological sites were discovered during pedestrian surveys of the Archaeological Survey Coverage Area in 2016 or 2019.



### *Architectural Resources*

The project has a “no adverse effect” finding for the historic properties. Caltrans identified 16 potential historical properties within the Area of Potential Effects and determined the properties are not eligible for the National Register of Historic Places. The November 3, 2020 concurrence letter from the State Historic Preservation Officer is included in Appendix F.

### *Section 4(f) Resources*

There are no historic sites, parks, recreational resources, or wildlife and waterfowl refuges that meet the definition of a Section 4(f) resource within the project vicinity. Therefore, this project is not subject to the provisions of Section 4(f) of the Department of Transportation Act of 1966.

### ***Avoidance, Minimization, and/or Mitigation Measures***

The following avoidance and minimization measures will be incorporated into the project to avoid or minimize cultural impacts.

- If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.
- If human remains are discovered, California Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the county coroner should be contacted. If the coroner thinks the remains to be Native American, the coroner will notify the Native American Heritage Commission, who, pursuant to Public Resources Code Section 5097.98, will then notify the Most Likely Descendant. At this time, the person who discovers the remains will contact Richard Putler, Senior Environmental Planner, Central Region Environmental, so that he may work with the Most Likely Descendant on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.

No mitigation measures will be required.

## **2.2 Physical Environment**

### **2.2.1 Hydrology and Floodplain**

#### ***Regulatory Setting***

The following text has been added since the draft environmental document: 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. Requirements for compliance are outlined in 23 Code of Federal Regulations 650 Subpart A.

To comply, the following must be analyzed:

- The 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***

A location hydraulic study was completed in June 2019 to determine if there would be base floodplain encroachments from the project.

General rain floods can occur in Madera anytime from November through March. Flooding is more severe when rain has already caused saturated ground conditions, when the ground is very cold and infiltration is minimal, or when rain or snowmelt in the higher elevations on the east side adds to runoff.

The Flood Insurance Rate Maps were evaluated to determine if any portion of the project is in an area that could be subject to flooding. Most of the project is designated as being in Other Areas Zone X, which is defined as “Areas determined to be outside the 500-year floodplain.” They designate two segments of the project limits within a 100-year floodplain. The first segment is at post mile 7.28 at Cottonwood Creek and is designated as “Zone AE.” The second segment is from 1.0 mile south to 0.18 mile north of Avenue 11. The Federal Emergency Management Agency designates this segment as “Zone AO.” Both “Zone AE” and “Zone AO” are also defined as the Special Flood Hazard, which is an area subject to flooding by a 1 percent annual chance of flood with average flood depths of 1 to 3 feet.

The 100-year flood has been adopted by the Federal Emergency Management Agency as the base flood for floodplain management purposes. The 100-year flood has a 1 percent chance of being equaled or exceeded during any year. Although the occurrence interval represents the long-term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. Flood Insurance Studies and Flood Insurance Rate Maps were reviewed for this study.

### ***Environmental Consequences***

The first segment where the river crosses State Route 99 at Cottonwood Creek is designated “Special Flood Hazard Areas Subject To Inundation By The 1 Percent Annual Chance Flood Event” Zone AE with “base flood elevations determined.” The zone is further described as “the 1 percent annual chance flood (100-year flood), also known as the base flood that has a 1 percent chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1 percent annual chance flood.”

The second segment from 1.0 mile south to 0.18 mile north of Avenue 11 along State Route 99 is designated “Special Flood Hazard Areas Subject To Inundation By The 1 Percent Annual Chance Flood Event” Zone AO with “base flood elevations determined.” The zone is further described as “the 1 percent annual chance flood (100-year flood), also known as the base flood that has a 1 percent chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1 percent annual chance flood.”

These two segments of the South Madera 6-Lane project would not substantially affect the hydrology present in the project area and do not constitute a significant floodplain encroachment as defined in Code of Federal Regulations Title 23 Section 650.105 (see Appendix L).

### ***Avoidance, Minimization, and/or Mitigation Measures***

No substantial flooding concerns exist within the project limits. Roadway drainage facilities would be expanded to accommodate the proposed roadwork. The cross slope of the pavement and median will be raised to drain to the outside, and the proposed median profile grade will be below floodplain elevations. Also, the construction of a double thrie beam median barrier in lieu of a concrete median barrier at these locations will eliminate any additional backwater and will allow the normal flood pattern to continue. There are no substantial floodplain impacts expected from this project.

## **2.2.2 Water Quality and Stormwater 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 unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System permit. [A point source is any discrete conveyance such as a pipe or a human-made ditch]. 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 stormwater 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 will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).
- 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 stormwater 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 U.S. 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 Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effects. 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 Regional or Nationwide Permit may be permitted under one of the U.S. Army Corps of Engineers’ Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the U.S. Army Corps of Engineers’ decision to approve is based on compliance with the U.S. Environmental Protection Agency’s Section 404(b)(1) Guidelines (40 Code of Federal Regulations 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, which will 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 will 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 standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause “significant degradation” to waters of the U.S. [The U.S. Environmental Protection Agency defines “effluent” as “wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall].” 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.

*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.; groundwater and surface waters are not considered waters of the U.S. Additionally, 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 Boards Basin Plan. In California, Regional Water Quality Control Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect those 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 Waste 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 stormwater discharges, including Municipal Separate Storm Sewer Systems. A Municipal Separate Storm Sewer System 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 stormwater, that is designed or used for collecting or conveying stormwater.” The State Water Resources Control Board has identified the Department as an owner/operator of a Municipal Separate Storm Sewer System under federal regulations. The Department’s Municipal Separate Storm Sewer System 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 5 years, and permit requirements remain active until a new permit has been adopted.

The Department’s Municipal Separate Storm Sewer System Permit, Order Number 2012-0011-DWQ (adopted on September 19, 2012, and effective on July 1, 2013), as amended by Order Number 2014-0006-EXEC (effective January 17, 2014), Order Number 2014-0077-DWQ (effective May 20, 2014) and Order Number 2015-0036-EXEC (conformed and effective April 7, 2015), has three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (see below);
2. The Department must implement a year-round program in all parts of the state to effectively control stormwater and non-stormwater discharges; and

3. The Department's stormwater discharges must meet water quality standards through the 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, the Department developed the Statewide Stormwater Management Plan to address stormwater pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The Statewide Stormwater Management Plan assigns responsibilities within the Department for implementing stormwater management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The Statewide Stormwater Management Plan describes the minimum procedures and practices the Department uses to reduce pollutants in stormwater and non-stormwater discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of Best Management Practices. The project will be programmed to follow the guidelines and procedures outlined in the latest Statewide Stormwater Management Plan to address stormwater runoff.

#### Construction General Permit

Construction General Permit, Order Number 2009-0009-DWQ (adopted on September 2, 2009, and effective on July 1, 2010), as amended by Order Number 2010-0014-DWQ (effective February 14, 2011), and Order Number 2012-0006-DWQ (effective on July 17, 2012). The permit regulates stormwater discharges from construction sites that result in a Disturbed Soil Area of 1 acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all stormwater discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least 1 acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than 1 acre is subject to the 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 Stormwater Pollution Prevention Plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Level 1, 2, or 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 will require compulsory stormwater runoff potential of hydrogen 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 effective Stormwater Pollution Prevention Plans. In accordance with the Department's Stormwater Management Plans and Standard Specifications, a Water Pollution Control Program is necessary for projects with a Disturbed Soil Area less than 1 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 will be in compliance with state water quality standards. The most common federal permit that triggers 401 Certification is a Clean Water Act Section 404 permit 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 benefitting water quality. Waste Discharge Requirements can be issued to address both permanent and temporary discharges of a project.

#### **Affected Environment**

Caltrans completed a Water Quality Assessment Report for the project on December 9, 2019.

The project area is in Madera County, just outside of the southeast corner of the City of Madera limits. The San Joaquin River forms the southern and western boundaries of Madera County and is the drainage basin for about 90 percent of Madera County. The San Joaquin River runs about 1 mile south of the project limits.

This segment of State Route 99 traverses two creeks near the northern end of the project limits, Cottonwood Creek and Little Dry Creek. Cottonwood Creek discharges into an area of southwestern Madera County.

Little Dry Creek traverses the project area south of Cottonwood Creek. The extent of Little Dry Creek crossing beneath State Route 99 is not shown on maps, which indicates that this area is likely the western end portion of the creek's segment that gets periodically flooded and is dry for most of the year.



There are no receiving water bodies within the project limits listed as impaired and threatened, such as stream and river segments or lakes that have been identified and reported to the U.S. Environmental Protection Agency.

No drinking water reservoirs and/or recharge facilities have been identified within the project limits. There are no known Regional Water Quality Control Board special requirements or concerns related to the project.

Currently, all stormwater runoff flows to side storage ditches or to open rangeland or farmland.

The project will result in new impervious surfaces. However, new drainage inlets, drainage ditches, and culverts will be installed to address the increased runoff. Any additional runoff beyond the holding capacity of the proposed drainage system will overflow into Cottonwood Creek, Little Dry Creek, and swales next to State Route 99, allowing groundwater recharge into the underlying aquifer.

### ***Environmental Consequences***

The Build Alternative proposes three detention basins to accommodate stormwater runoff generated as a result of the project (see Appendix B Layout Plans L-5, L-6, L-16, L-21, and L-22).

The total Disturbed Soil Area for the Build Alternative is about 76.2 acres. The existing impervious (solid) surface area is 59 acres. The Build Alternative will add a new impervious surface area of 17.2 acres.

Dewatering and active treatment systems are not expected because the project will not affect groundwater.

### ***Construction***

The project will not result in a substantial increase in sediment runoff. The project will capture and detain stormwater runoff within Caltrans' right-of-way; therefore, the project will not result in sediment loading to any receiving waters. No temporary detention basins are proposed.

Construction activities will include grading, paving, striping, material stockpiling and storage at staging areas, and installing new drainage ditches and inlets. In-channel work will also occur for the widening of State Route 99 crossing Cottonwood Creek. Hydrology and water quality impacts will primarily be related to vehicle use and maintenance activities along the roadway.

Potential sources of water pollution associated with this project include stormwater runoff containing sediment from soil erosion, petroleum and wear products from motor vehicle operation, accidental spills of hazardous materials during construction activities, and accidental spills during normal

roadway operation. Contaminants in stormwater runoff from the road will include sediment, oil and grease, and heavy metals. However, implementing commonly used construction Best Management Practices will minimize potential impacts.

#### *After Construction*

Construction of the project is estimated to result in the addition of a maximum of 134 acres of new impervious surface. Detention basins will be used to treat the stormwater runoff from the roadway (impervious surface) after construction is complete. Three detention basins are proposed for the Build Alternative. The detention basins will be designed to detain two 10-year/24-hour storm events. Preliminary locations have been determined but may be revised during the Plans, Specifications, and Estimates phase of the project.

The increase of impervious surface area from widening State Route 99 has the potential to increase stormwater velocity, volume, and potential sediment load being carried into lower elevation areas through culverts and ditches.

New drainage inlet systems are proposed along the highway to capture roadway runoff. An increase from the existing 59 acres to an estimated 76.2 acres of impervious surface area will result from project construction.

The new roadway drainage system is expected to create or change existing ditches and detention basins. The proposed drainage system is expected to be similar to the existing drainage system, with culverts directing runoff to roadside ditches.

#### ***Avoidance, Minimization, and/or Mitigation Measures***

No measures are required for impacts to water quality because any potentially significant impacts will be prevented by the Best Management Practices in the required Stormwater Pollution Prevention Plan. Those Best Management Practices during construction will include the following:

- To the extent practicable, activities that increase the erosion potential shall be restricted to the relatively dry summer and early fall periods to minimize the potential for rainfall events to transport sediment to surface water features. If these activities must take place during the late fall, winter, or spring, then temporary erosion and sediment control structures shall be in place and operational at the end of each construction day and shall be maintained until permanent erosion control structures are in place.
- Best Management Practices, such as silt fences, straw wattles, or catch basins, shall be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These structures shall be installed before starting any clearing or grading activities.

Construction specifications shall include the following measures to minimize the potential for adverse effects resulting from accidental spills of pollutants (e.g., fuel, oil, grease):

- A site-specific spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials and procedures for cleaning up and reporting any spills. If necessary, containment berms shall be built to prevent spilled materials from reaching surface water features.
- Equipment and hazardous materials shall be stored a minimum of 50 feet away from surface water features.
- Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 50 feet away from surface water features or within an adequate fueling containment area.

#### *Post Construction*

All disturbed areas will be restored to pre-construction contours with permanent erosion control per requirements of the Construction General Permit.

### **2.2.3 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.

The 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.

The 16 U.S. Code Section 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.

The 23 U.S. Code 1.9(a) requires that the use of Federal-aid funds must be in conformity with all federal and state laws.

The 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.

Public Resources Code Section 5097.5 states that no person shall knowingly and willfully excavate upon, remove, destroy, injure, or deface any paleontological site situated on public lands (i.e., owned by or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof).

Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

In addition, the Madera County General Plan (1995) has established mitigation policies and implementation measures for the protection and preservation of paleontological resources.

### ***Affected Environment***

Caltrans completed a Paleontological Identification Report for the project in July 2019 and a Paleontological Evaluation Report/Preliminary Mitigation Plan in November 2020. The reports included information obtained from paleontological database searches, reviews of published journals, and the findings from previous Caltrans paleontological mitigation projects that involved excavation in similar geologic materials within the project area.

The geologic units expected to underlie the project area are the Modesto Formation and the Riverbank Formation. As classified according to Caltrans' guidelines, the Modesto and Riverbank Formations are identified as having a "high potential" to contain scientifically significant nonrenewable paleontological resources.

Due to the widespread presence of these formations throughout the San Joaquin Valley, the Modesto and Riverbank Formations are expected to be present beneath the area of the project.

A search for paleontological records was completed using available databases, published peer-reviewed journals, and paleontological monitoring reports from past Caltrans projects that involved excavations into previously undisturbed portions of the Modesto and Riverbank Formations.

### ***Environmental Consequences***

Caltrans has determined that scientifically significant paleontological resources underlying the project area consist of the Quaternary Modesto

Formation and the Pleistocene Riverbank Formation. Caltrans has also determined that the project will impact both formations. Excavations extending into the Modesto and Riverbank Formations will impact scientifically significant resources.

Excavation extending more than 1 foot below the ground surface will impact undisturbed sediments of the Modesto Formation. Depending upon the depth of excavation, which is expected to be at least 10 feet, the Riverbank Formation could also be affected. Some of the excavation activities associated with the project will include the construction of the Avenue 12 retaining wall and the construction of stormwater retention basins.

### ***Avoidance, Minimization, and/or Mitigation Measures***

Due to the potential to affect scientifically significant nonrenewable paleontological resources, mitigation will be required. A Caltrans-supplied consultant will prepare a Paleontological Mitigation Plan before construction starts. The plan will recommend the measures required to minimize potential impacts to paleontological resources. The mitigation measures will include:

- Identifying and acknowledging construction site safety protocols.
- Conducting paleontological worker environmental awareness training for all earth-moving personnel and supervisors.
- Conducting mitigation field monitoring of excavations into undisturbed sediments of the Modesto and Riverbank Formations. Excavations from 1 foot to 3 feet below ground surface are to be spot-checked. Continuous or full-time monitoring will be required for excavations deeper than 3 feet.
- Establishing a protective 25-foot radius buffer zone around fossil discovery locations.
- Curating salvaged fossils at a receiving museum or academic institution.
- Preparing a Paleontological Mitigation Report following completion of all paleontological monitoring activities, documenting compliance with all mitigation measures.

## **2.2.4 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 the 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 the following:

- Community Environmental Response Facilitation Act
- 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 addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts the disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact groundwater and surface water quality. California regulations that address waste management and prevention and cleanup of 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 materials are vital if hazardous materials are found, disturbed, or generated during project construction.

### ***Affected Environment***

Caltrans completed an Initial Site Assessment for the project in May 2019, which included a review of regulatory databases. The Initial Site Assessment

identified and evaluated possible hazardous waste sites; it includes the following tasks:

- A review of previous environmental reports about the project site, including the original Initial Site Assessment in July 2015.
- A geologic evaluation regarding naturally occurring asbestos within the project limits.
- A review of government databases of hazardous waste sites.
- A written report summarizing the records search results.

#### *Aerially Deposited Lead*

An aerially deposited lead study performed in 2015 for State Route 99 between Avenue 7 and Avenue 12 (post miles 1.7 and 7.5) indicated lead was present.

#### *Asbestos-Containing Materials*

A Preliminary Site Investigation was completed in September 2019 to evaluate asbestos-containing materials on structures and surface soils within the project limits for proper handling and disposal.

#### *Cortese List*

The Cortese List is a compilation of contaminated and potentially contaminated sites. The Cortese List was reviewed as part of the initial screening for this project. The list, or a property's presence on the list, has a bearing on the local permitting process as well as on compliance with the California Environmental Quality Act. There were three sites in the project area listed on the Cortese List.

#### *Lead-Containing/Lead-Based Paint*

A Preliminary Site Investigation was completed in September 2019 to evaluate lead-based paint on structures and surface soils within the project limits for proper handling and disposal.

### ***Environmental Consequences***

#### *Aerially Deposited Lead*

Results of the northbound shoulder and median samples indicated that lead concentrations were hazardous by California standards—greater than 5 milligrams per liter by the Deionized Water Waste Extraction Test and equal to or below 1.5 milligrams per kilogram by the Deionized Water Waste Extraction Test or greater than 320 milligrams per kilogram but equal to or less than 1,600 milligrams per kilogram—which means that soils can either be disposed of at a hazardous waste disposal facility or reused onsite under a clean soil cover that is at least 1-foot thick. Samples collected from the southbound shoulder of State Route 99 were classified as nonhazardous

soils—provided that at least the top 2 feet of material be removed completely; shallower soils contain hazardous lead concentrations if solely removed).

Aerially deposited lead from the historical use of leaded gasoline exists along roadways throughout California. If encountered, soil with elevated concentrations of lead as a result of aerially deposited lead on the State Highway System right-of-way within the limits of the project will be managed under the July 1, 2016, Aerially Deposited Lead Agreement between Caltrans and the California Department of Toxic Substances Control. This Aerially Deposited Lead Agreement allows such soils to be safely reused within the project limits as long as all requirements of the agreement are met.

### *Asbestos-Containing Materials*

Asbestos-containing materials may be present in existing buildings and related structures, including concrete box culverts, within the project footprint. San Joaquin Valley Air Pollution Control District regulations require that an asbestos survey be conducted on any building or structure before demolition or modification. The following bridges were evaluated for asbestos.

- Avenue 11 Overcrossing (Bridge Number 41-0061)
- Avenue 9 Overcrossing (Bridge Number 41-0063)
- Avenue 8 Overcrossing (Bridge Number 41-0060)
- Cottonwood Creek Bridge (Bridge Number 41-00651/R/S)

A total of 40 bulk asbestos samples representing 18 material types were collected from these bridges. Chrysotile asbestos was detected at a concentration of 50 percent in samples representing non-friable sheet packing, which is used as barrier rail shims (totaling about 20 square feet) on all four bridges.

- Little Dry Creek Bridge (Bridge Number 41-0035)

One representative bulk concrete sample was collected and analyzed for Little Dry Creek Bridge. The analytical results did not indicate the presence of asbestos minerals.

### *Cortese List*

The database review resulted in identifying three existing facilities—Britz Fertilizers, Incorporated, Madera Pumps, Incorporated, and Family Mart Number 131—within the project limits (post miles 0.1 to 8.1). All three facilities are on the northwest corner of the project limits, west of State Route 99. No right-of-way will be required from these parcels, and the Build Alternative will not impact these facilities.



### ***Lead-Containing/Lead-Based Paint***

Lead-based paint may be present in existing buildings and related structures within the project footprint. The following bridges were evaluated for lead-based paint.

- Avenue 11 Overcrossing (Bridge Number 41-0061)
- Avenue 9 Overcrossing (Bridge Number 41-0063)
- Avenue 8 Overcrossing (Bridge Number 41-0060)
- Cottonwood Creek Bridge (Bridge Number 41-00651/R/S)

Samples were collected from suspected lead-containing paint at the Avenue 8, 9, and 11 overcrossing bridges. Lead concentrations ranged from 16 to 24 milligrams per kilogram. A California Waste Extraction Test reported lead at a concentration of 1.4 milligrams per liter in the sample collected from the Avenue 9 Overcrossing (Bridge Number 41-0063). Undetectable amounts of lead were collected from the Avenue 8 Overcrossing (Bridge Number 41-0060). Cottonwood Creek Bridge did not present painted structural features; therefore, no samples were collected from this location.

The paints investigated will not be classified as California or Federal hazardous materials based on lead concentrations.

- Little Dry Creek Bridge (Bridge Number 41-0035)

On August 15, 2019, Caltrans personnel visually inspected Little Dry Creek Bridge (Bridge Number 41-0035). No paint was seen on the bridge structure, and no sampling occurred.

### ***Other Hazardous Substances or Wastes***

Other potential hazardous substances or hazardous wastes in the project area include yellow and white pavement paint, striping and markings that may contain high levels of lead, and treated wood waste on roadside signs and guardrails. These potentially hazardous substances or hazardous wastes in the project area will need to be properly disposed of and handled.

### ***Avoidance, Minimization, and/or Mitigation Measures***

Caltrans' Standard Specifications and Nonstandard Special Provisions that pertain to hazardous waste will be provided during the Plans, Specifications and Estimates phase of the project before construction starts.

- Aerially deposited lead on the northbound shoulder will either be disposed of at a hazardous waste disposal facility or reused onsite under a clean soil cover at least 1-foot thick. Aerially deposited lead on the southbound shoulder of State Route 99 is classified as nonhazardous soil. This soil can be reused onsite provided that the material comes from excavations exceeding 2 feet.

- The contractor will be required to prepare an Asbestos Compliance Plan before the start of construction.
- The contractor will be required to prepare a Lead Compliance Plan before the start of construction.
- Project-specific special provisions and/or nonstandard special provisions will be included in the construction contract to address proper handling and disposal of hazardous waste and to minimize exposure to potential hazards.
- San Joaquin Valley Air Pollution Control District regulations require that an asbestos survey be conducted on any bridge/building before demolition or modification, regardless of the construction date. A written National Emission Standards for Hazardous Air Pollutants notification to the San Joaquin Valley Air Pollution Control District is required no less than 14 days before starting demolition activities, whether asbestos is present or not.

### **2.2.5 Air Quality**

#### ***Regulatory Setting***

The Federal Clean Air Act, as amended, is the main federal law that governs air quality; the California Clean Air Act is its companion state law. These laws, and related regulations by the U.S. Environmental Protection Agency and the 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. The 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, nitrogen dioxide, ozone, sulfur dioxide, and particulate matter, which is broken down for regulatory purposes into particles of 10 micrometers or smaller and particles of 2.5 micrometers and smaller. In addition, national and state standards exist for lead, and state standards exist for visibility-reducing particles, sulfates, hydrogen sulfide, 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 the State Implementation Plan for attaining 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 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. The 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, nitrogen dioxide, ozone, Particulate Matter 10 and Particulate Matter 2.5, and in some areas (although not in California), sulfur dioxide. California has nonattainment or maintenance areas for all of these transportation-related “criteria pollutants” except sulfur dioxide, and also has a nonattainment area for lead; 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 Plans) and 4 years (for the Federal Transportation Improvement Programs).

Regional Transportation Plans and Federal Transportation Improvement Programs conformity uses travel demand and emission models to determine whether or not the implementation of those projects will conform to emission budgets or other tests at various analysis years showing that requirements of the Federal Clean Air Act and the State Implementation Plan are met. If the conformity analysis is successful, the Metropolitan Planning Organization, Federal Highway Administration, and Federal Transit Administration make the determinations that the Regional Transportation Plans and Federal Transportation Improvement Programs 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 Plans and/or Federal Transportation Improvement Programs must be modified until conformity is attained. If the design concept and scope and the “open-to-traffic” schedule of a proposed transportation project are the same as described in the Regional

Transportation Plans and Federal Transportation Improvement Programs, then the project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that the project comes from a conforming Regional Transportation Plan and Transportation Improvement Program; the project has a design concept and scope that has not changed significantly from those in the Regional Transportation Plans and Transportation Improvement Programs; project analyses have used the latest planning assumptions and Environmental Protection Agency-approved emissions models; and in particulate matter areas, the project complies with any control measures in the State Implementation Plan. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects in carbon monoxide and particulate matter nonattainment or maintenance areas to examine localized air quality impacts.

### ***Affected Environment***

Caltrans completed an Air Quality Report for the project in November 2020. The project limits used in the November 2020 report and for an air conformity concurrence began at post mile 0.1 and ended at post mile 8.6.

Madera County is in a state nonattainment area for the smallest particulate matter (Particulate Matter 2.5), other particulate matter (Particulate Matter 10), and ozone. It is also in a federal nonattainment area for the 8-hour ozone levels (ozone is considered a regional pollutant) and smallest particulate matter (Particulate Matter 2.5), and in attainment for other particulate matter (Particulate Matter 10). Historical air quality data shows that existing carbon monoxide levels for the project area and the general vicinity do not exceed either the state or federal ambient air quality standards. A project-level hot-spot analysis was required because the project is in a state nonattainment area for Particulate Matter 2.5 and Particulate Matter 10. Table 2.9 shows the state and federal criteria for air pollutant effects and their sources. A figure showing the Federal and State Ambient Air Quality Standards and the relevant footnotes have been removed from the document and placed in the technical studies.

**Table 2.9 State and Federal Criteria Air Pollutant Effects and Sources**

<b>Pollutant</b>	<b>Principal Health and Atmospheric Effects</b>	<b>Typical Sources</b>
Ozone	High concentrations irritate the 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 volatile organic compounds may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds and nitrogen oxides 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.
Respirable Particulate Matter	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 and other aerosol and solid compounds are part of Particulate Matter 10.	Dirt- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.
Fine Particulate Matter	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 Particulate Matter 2.5 size range. Many toxic and other aerosol and solid compounds are part of Particulate Matter 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 nitrogen oxides, sulfur oxides, ammonia, and reactive organic gases.
Carbon Monoxide	Carbon monoxide interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. Carbon monoxide also is a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. Carbon monoxide is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.
Nitrogen Dioxide	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain and nitrate contamination of stormwater. Part of the nitrogen oxides group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.

Sulfur Dioxide	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, and steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing, and some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel is not used.
Lead	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.
Visibility-Reducing Particles	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 1" areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.
Sulfate	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.
Hydrogen Sulfide	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.
Vinyl Chloride	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes.

Source: Caltrans Air Quality Report, November 2020

## **Environmental Consequences**

### **Regional Air Quality Conformity**

The South Madera 6-Lane project is included in the Madera County Transportation Commission's Year 2018 Regional Transportation Plan/Sustainable Communities Strategy and the Year 2019 cost-constrained Federal Transportation Improvement Program, Formal Amendment (Type 3) Number 21 dated December 14, 2020.

The regional air quality conformity analysis concluded the Madera County Transportation Commission's Year 2018 Regional Transportation Plan/Sustainable Communities Strategy and the Year 2019 cost-constrained

Federal Transportation Improvement Program are conforming projects and will have air quality impacts consistent with those identified in the State Implementation Plans for achieving the National Ambient Air Quality Standards.

The following information from the Federal Highway Administration has been added since the draft environmental document to address project level air quality conformity.

On March 15, 2021, Caltrans submitted a request to the Federal Highway Administration for a project-level conformity determination for the South Madera 6-Lane project.

On April 1, 2021, the Federal Highway Administration concurred that the project-level transportation conformity requirements of 40 Code of Federal Regulations Part 93 have been met. The project is included in the Madera County Transportation Commission's current Regional Transportation Plan and Transportation Improvement Program, as amended. Please see Appendix K.

#### *Particulate Matter Analysis*

In particulate matter nonattainment or maintenance areas, if a project is determined to be a project of air quality concern, a hot-spot analysis needs to be conducted under the conformity requirement. In November 2015, the U.S. Environmental Protection Agency released an updated version of Transportation Conformity Guidance for Quantitative Hot-spot Analyses in Particulate Matter 2.5 and Particulate Matter 10 Nonattainment and Maintenance Areas.

The guidance defines a project of air quality concern as:

1. New or expanded highway projects that have a significant number of or a significant increase in diesel vehicles;
2. Projects affecting intersections that are at Level of Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level of Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;
3. New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;
4. Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and
5. Projects in or affecting locations, areas, or categories of sites which are identified in the Particulate Matter 2.5 and Particulate Matter 10 applicable

implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The paved shoulders in the project area should minimize particulate matter (Particulate Matter 10 emissions) and road dust.

It is estimated that the annual average daily traffic count for the year 2047 will be 127,000 vehicles, and truck traffic will be less than 25,000. Table 2.10 shows the annual average daily traffic data provided by Caltrans traffic engineers for the years 2019, 2027, and 2047 for the Build Alternative and No-Build Alternative scenarios.

**Table 2.10 Current and Future Traffic Conditions**

Year	Annual Average Daily Traffic (Total)	Annual Average Daily Traffic-Truck (19.23 Percentage)
2019 Existing	80,500	15,480
2027 No-Build Alternative	90,500	17,403
2047 No-Build Alternative	127,000	24,422
2027 Build Alternative	90,500	17,403
2047 Build Alternative	127,000	24,422

Source: Caltrans Air Quality Report, November 2020

#### *Particulate Matter 2.5 Hot-Spot Conformity Assessment*

The project is in a nonattainment area for Particulate Matter 2.5. Table 2.11 shows the violations of the federal standards for Particulate Matter 2.5 registered over the last 5 years at the Madera monitoring station at 28261 Avenue 14 in Madera, the closest monitoring station to the project.

**Table 2.11 Monitoring Station Particulate Matter 2.5 Data**

Standard Monitored	2013	2014	2015	2016	2017	2018
Days Greater Than the 24-Hour Standard (Micrograms per Cubic Meter)	Not Available	26	12.1	9	16.7	23.9
Maximum 24-Hour Concentration (Micrograms per Cubic Meter)	Not Available	80.2	62.0	47.7	70.6	80.0

Source: Caltrans Air Quality Report, November 2020

#### *Particulate Matter 10 Hot-Spot Conformity Assessment*

The project is in a nonattainment area for Particulate Matter 10. The Madera monitoring station at 28261 Avenue 14, Madera, California, 93638 has



registered the following violations (see Table 2.12) of the federal standard in the last 5 years.

**Table 2.12 Monitoring Station Particulate Matter 10 Data**

Standard Monitored	2013	2014	2015	2016	2017	2018
Days Greater Than the 24-Hour Standard (Micrograms per Cubic Meter)	0	0	0	0	0	Not Available
Maximum 24-Hour Concentration (Micrograms per Cubic Meter)	110.3	92.3	112.0	122.7	149.5	Not Available

Source: Caltrans Air Quality Report, November 2020

#### *Particulate Matter Analysis Conclusion*

Based on the data, the project will not create a new violation or worsen an existing violation of the Particulate Matter 2.5 and Particulate Matter 10 of the National Ambient Air Quality Standards.

The project was determined not to be a project of air quality concern. Concurrence was received from the Federal Highway Administration and the U.S. Environmental Protection Agency in August 2020 (see Appendix G).

Caltrans has completed this air quality conformity assessment and has determined that the project is not a project of air quality concern.

#### *Ozone Analysis*

The project is in a nonattainment area for the federal and state 8-hour ozone levels. Ozone is considered to be a regional pollutant. Currently, there are no project-level analysis tools or approved guidelines for ozone. When projects are listed in an approved Regional Transportation Plan and associated conformity emissions analysis, the projects are considered to be conforming to the State Implementation Plan for ozone.

#### *Mobile Source Air Toxics*

Mobile source air toxics are a subset of the 188 air toxics defined by the Clean Air Act. Mobile source air toxics are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or impurities in oil or gasoline.

Projects that create new travel lanes, relocate lanes, or relocate economic activity closer to homes, schools, businesses, and other populated areas may

increase concentrations of mobile source air toxics at those locations compared to a No-Build Alternative.

The Federal Highway Administration developed a tiered approach with three categories for analyzing mobile source air toxics in National Environmental Policy Act documents, depending on specific project circumstances:

1. No analysis for projects with no potential for meaningful mobile source air toxic effects,
2. Qualitative analysis for projects with low potential for mobile source air toxic effects, or
3. Quantitative analysis for projects with higher potential for mobile source air toxic effects.

Caltrans determined that the project falls into the category of a “Project with Low Potential for Mobile Source Air Toxics.” This category includes projects that serve to improve operations of highway, transit, or freight without adding substantial new capacity or without creating a facility that is likely to meaningfully increase emissions. For projects on an existing alignment, mobile source air toxics are expected to decline because of the new U.S. Environmental Protection Agency engine and fuel standards. Projects that result in increased travel speeds will reduce mobile source air toxics emissions on a per vehicle miles traveled basis.

Generally, this speed benefit may be offset somewhat by increased vehicle miles traveled if the more efficient facility attracts more vehicle trips. However, attracting more vehicle trips is not expected to be a factor because State Route 99 is the major north-south interregional route through the area. There are few crossings of the San Joaquin River between Fresno County and Madera County. The nearest crossing to the east is about 7 miles away on State Route 41. The nearest crossing to the west is on State Route 145, about 8 miles away.

#### *Naturally Occurring Asbestos*

Madera County is not among the counties listed as containing serpentine and ultramafic rock. Fresno County has areas of serpentine and ultramafic rock, but the project site does not pass through any of these areas. (Governor’s Office of Planning and Research, October 26, 2000) Therefore, the impact of naturally occurring asbestos during project construction will be minimal to none.

#### *Construction*

The project will temporarily generate air pollutants. The exhaust from construction equipment contains hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors. The largest percentage of pollutants will be windblown dust generated during excavation, grading,

hauling, and various other activities. The impacts of these activities will vary each day as construction progresses. Dust and odors at some homes very close to the right-of-way could probably cause occasional annoyance and complaints. The addition of paved shoulders in the project area will minimize particulate matter (Particulate Matter 10 emissions) during the operation of the project by eliminating the emission of road dust when vehicles pull off of the roadway.

Caltrans' Standard Specifications that pertain to dust control and dust palliative requirements are a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans' Standard Specifications, Section 14-9.02 "Air Pollution Control" and Section 14-9.03 "Dust Control" require the contractor to comply with the San Joaquin Valley Air Pollution Control District rules, ordinances, and regulations. A construction impact analysis will be performed as the project moves closer to construction. Monitoring and abatement requirements of Caltrans' Standard Specifications and Standard Special Provisions will be followed.

The San Joaquin Valley Air Pollution Control District Rule 9510 (Indirect Source Review rule) applies to construction equipment emissions for transportation projects that exceed 2 tons of either Particulate Matter 10 and/or nitrogen oxide air pollutants. Compliance with the rule will ensure that any unexpected impacts are minimized. The construction contractor will be responsible for the Indirect Source Review Air Impact Analysis and any applicable fees. The analysis estimates the construction equipment emissions. The contractor can choose to reduce the emissions by using a construction fleet that is cleaner than the California state average, or if emissions exceed the limits, the contractor can make the payment of fees to the San Joaquin Valley Air Pollution Control District.

Construction activities may also generate a temporary increase in mobile source air toxic emissions; however, these impacts will be temporary. Project construction is expected to generate about 2,829 tons of carbon dioxide during the 320 working days duration.

In general, when project-level assessments render a decision to pursue construction emission minimization measures, there are several technologies and operational practices that contractors can use to help lower short-term mobile source air toxics. Additionally, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users has emphasized a host of diesel retrofit technologies in the law's Congestion Mitigation and Air Quality Improvement Program that are designed to lessen several mobile source air toxics.

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 Code of Federal Regulations 93.123(c)(5))

### ***Avoidance, Minimization, and/or Mitigation Measures***

No mitigation is required for impacts to air quality. However, several measures can be taken to minimize impacts from both construction-related impacts and operational impacts. Such actions are:

- The addition of paved shoulders in the project area will minimize Particulate Matter 10 emissions by eliminating the emission of road dust when vehicles pull off the roadway.
- The project will be subject to the San Joaquin Valley Air Pollution Control District Rule 9510 (Indirect Source Review rule) that applies to construction equipment emissions for transportation projects that exceed 2 tons of either Particulate Matter 10 and/or nitrogen oxide air pollutants. Compliance with the rule will ensure that any unexpected impacts are minimized. The construction contractor will be responsible for the Indirect Source Review Air Impact Analysis and any applicable fees. The analysis estimates the construction equipment emissions. The contractor can choose to reduce the emissions by using a construction fleet that is cleaner than the California state average, or if emissions exceed the limits, the contractor can make the payment of fees to the San Joaquin Valley Air Pollution Control District.
- Caltrans' Standard Specifications that pertain to dust control and dust palliative requirements are a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans' Standard Specifications, Section 14-9.02 "Air Pollution Control" and Section 14-9.03 "Dust Control" require the contractor to comply with the San Joaquin Valley Air Pollution Control District rules, ordinances, and regulations.

### ***Climate Change***

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. The Federal Highway Administration emphasizes concepts of resilience and sustainability in highway planning, project development, design, operations, and maintenance. Because there have been requirements set forth in California legislation and executive orders on climate change, the issue is addressed in the California Environmental Quality Act (CEQA) chapter of this document. The CEQA analysis may be used to inform the National Environmental Policy Act (NEPA) determination for the project.

## 2.2.6 Noise

### ***Regulatory Setting***

The California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) 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 CEQA and NEPA.

#### *California Environmental Quality Act*

CEQA requires a strictly existing versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA/Title 23 Part 772 of the Code of Federal Regulations noise analysis; please see Chapter 3 of this document for further information on noise analysis under CEQA.

#### *National Environmental Policy Act and 23 Code of Federal Regulations 772*

For highway transportation projects with Federal Highway Administration involvement (and Caltrans, as assigned), the Federal-Aid Highway Act of 1970 and its 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 will occur. The noise abatement criteria differ depending on the type of land use under analysis. For example, the noise abatement criteria for residences (67 A-weighted decibels) is lower than the noise abatement criteria for commercial areas (72 A-weighted decibels). The following table lists the noise abatement criteria for use in the NEPA/23 Code of Federal Regulations 772 analysis.

In Table 2.13 below, undeveloped lands are permitted for activity categories B and C.

**Table 2.13 Noise Abatement Criteria**

<b>Activity Category</b>	<b>Noise Abatement Criteria, Hourly A-Weighted Noise Level, <math>Leq(h)</math></b>	<b>Description of Activity Category</b>
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	67 (Exterior)	Residential.
C	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 warehouses.
G	No Noise Abatement Criteria—Reporting Only	Undeveloped lands that are not permitted.

Figure 2-2 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

**Figure 2-2 Noise Levels of Common Activities**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet Fly-over at 300m (1000 ft)	110	Rock Band
Gas Lawn Mower at 1 m (3 ft)	100	
Diesel Truck at 15 m (50 ft), at 80 km (50 mph)	90	Food Blender at 1 m (3 ft)
Noisy Urban Area, Daytime	80	Garbage Disposal at 1 m (3 ft)
Gas Lawn Mower, 30 m (100 ft)	70	Vacuum Cleaner at 3 m (10 ft)
Commercial Area		Normal Speech at 1 m (3 ft)
Heavy Traffic at 90 m (300 ft)	60	Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	30	Library
Quiet Rural Nighttime	20	Bedroom at Night, Concert Hall (Background)
	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

According to Caltrans' 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 12 A-weighted decibels or more) or when the future noise level with the project approaches or exceeds the Noise Abatement Criteria. A noise level is considered to approach the Noise Abatement Criteria if it is within 1 decibel of the Noise Abatement Criteria.

If it is determined that the project will 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 will likely be incorporated into the project.

Caltrans' Traffic Noise Analysis Protocol sets forth the criteria for determining when an abatement measure is reasonable and feasible. The feasibility of noise abatement is basically an engineering concern. Noise abatement must be predicted to reduce noise by at least 5 A-weighted decibels at an impacted receptor to be considered feasible from an acoustical perspective. It must also be possible to design and construct the noise abatement measure for it to be considered feasible. Factors that affect the design and constructability of noise abatement include, but are not limited to, safety, barrier height, topography, drainage, access requirements for driveways, presence of local cross streets, underground utilities, other noise sources in the area, and maintenance of the abatement measure. The overall reasonableness of noise abatement is determined by the following three factors: 1) the noise reduction design goal of 7 A-weighted decibels at one or more impacted receptors; 2) the cost of noise abatement; and 3) the viewpoints of benefitted receptors (including property owners and residents of the benefitted receptors).

### ***Affected Environment***

A Noise Study Report was completed for the project in February 2016 and revalidated in March 2020. A Noise Abatement Decision Report was completed in December 2020.

A field investigation was conducted to identify land uses that could be subject to traffic noise impacts from the project. Single-family homes and industrial/commercial land uses were identified. The residential properties within the project limits are single-family homes spaced apart in a field/rural setting. The land use for industrial/commercial has no Noise Impact Criteria, and noise levels for this category are reported for informational use only.

As required by Caltrans protocol, noise abatement is considered for areas of frequent human use that will benefit from a lowered noise level. Accordingly, this noise study focuses primarily on locations with defined outdoor activity areas, such as residential backyards.

This noise study analyzes the locations of 13 receptors based on proximity to State Route 99 within the project limits. Below is a discussion of the receptors within the project limits. See Appendix I for aerial mapping that shows the locations of the receptors and proposed soundwalls.

#### ***Receptor 1***

Receptor 1 is on the west side of State Route 99 at 7628 Golden State Boulevard, Madera, California, 93637, and represents a single-family home. Receptor 1 is set back about 350 feet from the edge of the traveled way of the highway. The noise level at this home was modeled because there was no access to the gathering location in the backyard.



### *Receptor 2*

Receptor 2 is on the east side of State Route 99 at 7770 Road 33, Madera, California, 93636, and represents a warehouse. Receptor 2 is set back about 200 feet from the edge of the traveled way of the highway. The noise level at this receptor was modeled because there was no access to the business.

### *Receptor 3*

Receptor 3 is on the west side of State Route 99 at 8177 Road 32, Madera, California, 93637, and represents a cluster of single-family homes (a total of 26 single-family homes). Receptor 3 is set back about 150 feet from the edge of the traveled way of the highway. A field measurement was conducted at this receptor.

### *Receptor 4*

Receptor 4 is on the east side of State Route 99 at 31664 Avenue 9, Madera, California, 93636, and represents an industrial site (E and J Gallo Winery). Receptor 4 is set back about 250 feet from the edge of the traveled way of the highway. The noise level at this location was modeled because there was no access to the business.

### *Receptor 5*

Receptor 5 is on the west side of State Route 99 at 9456 Golden State Boulevard, Madera, California, 93637, and represents a single-family home set back about 150 feet from the edge of the traveled way of the highway. A field measurement was conducted at this receptor.

### *Receptor 6*

Receptor 6 is on the west side of State Route 99 at 9576 Golden State Boulevard, Madera, California, 93637, and represents a cluster of single-family homes (a total of 14 single-family homes) set back about 150 feet from the edge of the traveled way of the highway. Due to the acoustical similarity with Receptor 5, there was no need to get a separate field measurement at this location; the noise level at Receptor 5 will be similar to the noise level at Receptor 6.

### *Receptor 7*

Receptor 7 is on the west side of State Route 99 at 9758 Golden State Boulevard, Madera, California, 93637, and represents a single-family home set back about 150 feet from the edge of the traveled way of the highway. Due to the acoustical similarity with Receptor 5, there was no need to get a separate field measurement at this location; the noise level at Receptor 5 will be similar to the noise level at Receptor 7.

#### *Receptor 8*

Receptor 8 is on the west side of State Route 99 at 10597 Road 30, Madera, California, 93637, and represents a single-family home set back about 360 feet from the edge of the traveled way of the highway. A field measurement was conducted at this receptor.

#### *Receptor 9*

Receptor 9 is on the west side of State Route 99 at 10696 Road 30, Madera, California, 93637, and represents a single-family home set back about 360 feet from the edge of the traveled way of the highway. The noise level at this home was modeled because there was no access to the gathering location in the backyard.

#### *Receptor 10*

Receptor 10 is on the west side of State Route 99 at 10696 Road 30, Madera, California, 93637, and represents a single-family home set back about 450 feet from the edge of the traveled way of the highway. The noise level at this home was modeled because there was no access to the gathering location in the backyard.

#### *Receptor 11*

Receptor 11 is on the west side of State Route 99 at 11674 Road 29, Madera, California, 93637, and represents a single-family home set back about 350 feet from the edge of the traveled way of the highway. The noise level at this home was modeled because there was no access to the gathering location in the backyard.

#### *Receptor 12*

Receptor 12 is on the west side of State Route 99 at 11856 Road 29, Madera, California, 93637, and represents an industrial site (Britz-Simplot Grower Solutions). Receptor 12 is set back about 450 feet from the edge of the traveled way of the highway. The noise level at this receptor was modeled because there was no access to the business.

#### *Receptor 13*

Receptor 13 is on the east side of State Route 99 at 9677 Road 33 1/2, Madera, California, 93636, and represents an industrial site (Specialty Crop Company). Receptor 13 is set back about 350 feet from the edge of the traveled way of the highway. A field measurement was conducted at this receptor.

### ***Environmental Consequences***

The project is a Type 1 project, as defined by the Federal Highway Administration, because it will increase the number of through-traffic lanes, potentially increase the volume or speed of traffic, and will move traffic closer

to receptors. The project will result in noise impacts that will require the consideration of noise abatement. Five soundwalls are proposed for the project.

A noise study field investigation was performed on February 9, 2016, and during the highest traffic noise hour (9:00 a.m.). Short-term (10-minute) noise measurements were conducted at four sites to evaluate the existing noise environment. The measured sites are shown in Table 2.14; the data collected is representative of nearby frequent outdoor use areas. Noise measurements were collected between 9:00 a.m. and 10:55 a.m. Traffic volumes were counted during measurements. Measurements were taken when traffic was moving at a free pace (peak hour traffic volumes) that occurred around 9:00 a.m. Long-term monitoring was not done and considered unnecessary to determine the noise peak hour for this project since traffic conditions were suitable for uniform short-term samples of 10 minutes for each collection period. Table 2.14 shows the noise measurement results.

**Table 2.14 Short-Term Noise Measurement Results**

Receptor Number	Location	Land Use	Noise Level Meter Distance From Right-of-Way (Feet)	Date	Start Time (Morning)	Duration (Minutes)	Measured A-Weighted Decibels
Receptor 3	8177 Road 32, Madera, California, 93637	Residential	40	February 9, 2016	9:00	10	70
Receptor 5	9456 Golden State Boulevard, Madera, California, 93637	Residential	55	February 9, 2016	9:35	10	69
Receptor 8	10597 Road 30, Madera, California, 93637	Residential	338	February 9, 2016	10:00	10	61
Receptor 13	9677 Road 30 1/2, Madera, California, 93636	Commercial	127	February 9, 2016	10:55	10	67

Source: Noise Study Report, February 2016.

Table 2.15 shows the existing noise levels for the identified 13 receptors. The table includes the modeling locations and land use. A map of the noise receptors is provided in Appendix I.

**Table 2.15 Existing Noise Levels**

Receptor Number	Location or Address	Land Use	Existing Noise Level (A-Weighted Decibels)	Measured or Modeled
Receptor 1	7628 Golden State Boulevard, Madera, California, 93637	Residential	65	Modeled
Receptor 2	7770 Road 33, Madera, California, 93636	Commercial	69	Modeled
Receptor 3	8177 Road 32, Madera, California, 93637	Residential	73	Measured
Receptor 4	31664 Avenue 9, Madera, California, 93636	Commercial	67	Modeled
Receptor 5	9456 Golden State Boulevard, Madera, California, 93637	Residential	72	Measured
Receptor 6	9576 Golden State Boulevard, Madera, California, 93637	Residential	70	Modeled
Receptor 7	9758 Golden State Boulevard, Madera, California, 93637	Residential	72	Modeled
Receptor 8	10597 Road 30, Madera, California, 93637	Residential	64	Measured
Receptor 9	10696 Road 30, Madera, California, 93637	Residential	64	Modeled
Receptor 10	10696 Road 30, Madera, California, 93637	Residential	63	Modeled

Receptor Number	Location or Address	Land Use	Existing Noise Level (A-Weighted Decibels)	Measured or Modeled
Receptor 11	11674 Road 29, Madera, California, 93637	Residential	65	Modeled
Receptor 12	11856 Road 29, Madera, California, 93637	Commercial	63	Modeled
Receptor 13	9677 Road 33 1/2 Madera, California, 93636	Commercial	66	Measured

Source: Noise Study Report, February 2016.

### *Future Noise Environment and Impacts*

A noise study was conducted to determine future traffic noise impacts of the project at frequent outdoor human use areas within the highway project limits. The future worst-case traffic noise impact at frequent outdoor human use areas along the project alignment was modeled for the Build Alternative to determine appropriate abatement measures. This section discusses the future noise environment and feasible noise abatement measures for impacted locations.

The modeling results indicate that predicted traffic noise levels for the design year with project conditions approach or exceed the Noise Abatement Criteria of 67 A-weighted decibels for land use (residential) and 72 A-weighted decibels for commercial establishments throughout the study area. Therefore, traffic noise impacts are predicted to occur within the study area. Accordingly, noise abatement must be considered.

Table 2.16 summarizes predicted future noise levels with and without the project and the reasonableness and feasibility of noise abatement.

**Table 2.16 Noise Impact Analysis**

Receptor	Location	Soundwall Number	Existing Noise Level (A-Weighted Decibels)	Predicted Noise Levels No-Build Alternative (A-Weighted Decibels)	Predicted Noise Levels Build Alternative (A-Weighted Decibels)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with 8-Foot Wall (A-Weighted Decibels)	Predicted Noise Level with 10-Foot Wall (A-Weighted Decibels)	Predicted Noise Level with 12-Foot Wall (A-Weighted Decibels)	Predicted Noise Level with 14-Foot Wall (A-Weighted Decibels)	Predicted Noise Level with 16-Foot Wall (A-Weighted Decibels)	Feasible	Reasonable
<b>Receptor 1</b>	7628 Golden State Boulevard, Madera, California, 93637	Soundwall 1	65	67	67	Yes	65	65	62	61	60	Yes	No
<b>Receptor 2</b>	7770 Road 33, Madera, California, 93636	Not Applicable	69	71	71	No	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<b>Receptor 3</b>	8177 Road 32, Madera, California, 93637	Soundwall 2	73	75	75	Yes	72	70	68	66	65	Yes	No
<b>Receptor 4</b>	31664 Avenue 9, Madera, California, 93636	Not Applicable	67	69	69	No	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<b>Receptor 5</b>	9456 Golden State Boulevard, Madera, California, 93637	Soundwall 3	72	74	74	Yes	71	70	67	65	65	Yes	No
<b>Receptor 6</b>	9576 Golden State Boulevard, Madera, California, 93637	Soundwall 3	70	72	72	Yes	71	70	67	65	65	Yes	No
<b>Receptor 7</b>	9758 Golden State Boulevard, Madera, California, 93637	Soundwall 3	72	74	74	Yes	71	70	67	65	65	Yes	No
<b>Receptor 8</b>	10597 Road 30, Madera, California, 93637	Soundwall 4	64	66	66	Yes	65	65	62	61	60	Yes	No
<b>Receptor 9</b>	10696 Road 30, Madera, California, 93637	Soundwall 4	64	66	66	Yes	65	65	62	61	60	Yes	No

Receptor	Location	Soundwall Number	Existing Noise Level (A-Weighted Decibels)	Predicted Noise Levels No-Build Alternative (A-Weighted Decibels)	Predicted Noise Levels Build Alternative (A-Weighted Decibels)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with 8-Foot Wall (A-Weighted Decibels)	Predicted Noise Level with 10-Foot Wall (A-Weighted Decibels)	Predicted Noise Level with 12-Foot Wall (A-Weighted Decibels)	Predicted Noise Level with 14-Foot Wall (A-Weighted Decibels)	Predicted Noise Level with 16-Foot Wall (A-Weighted Decibels)	Feasible	Reasonable
Receptor 10	10696 Road 30, Madera, California, 93637	Not Applicable	63	65	65	No	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Receptor 11	11674 Road 29, Madera, California, 93637	Soundwall 5	65	67	67	Yes	66	65	63	62	62	Yes	No
Receptor 12	11856 Road 29, Madera, California, 93637	Not Applicable	63	65	65	No	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Receptor 13	9677 Road 33 1/2 Madera, California, 93636	Not Applicable	66	68	68	No	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Source: Noise Study Report, February 2016.

### *Construction Noise*

Temporary construction noise impacts will be unavoidable in areas immediately next to the project. Noise from construction activities may intermittently dominate the noise environment in the immediate construction area.

Construction noise varies greatly depending on the construction process, type and condition of equipment used, and the construction site layout. Many of these factors are traditionally left to the contractor's discretion, which makes it difficult to accurately estimate levels of construction noise. Construction noise estimates are approximate because of the lack of specific information available at the time of the assessment.

Construction is expected to take 320 working days to complete; about 120 of those working days will be night work. Temporary construction noise impacts will be unavoidable in areas immediately next to the project and will be minimized in residential areas during the evening, nighttime, weekends, and holidays.

Table 2.17 lists the type of construction equipment typically used for similar projects. As indicated, equipment involved in construction is expected to generate noise levels ranging from 80 A-weighted decibels to 95 A-weighted decibels at a distance of 50 feet. The noise that construction equipment produces will be reduced over distance at a rate of about 6 A-weighted decibels per doubling of distance.



**Table 2.17 Construction Equipment Noise**

Noise Source	50-Foot Maximum Noise Level (A-Weighted Decibels)
Portable Air Compressor	89
Stationary Air Compressor	89
Auger, Drilled Shaft Rig	89
Backhoe	90
Chain Saw	88
Compactor	85
Concrete Mixer (Small Trailer)	68
Concrete Mixer Truck	89
Concrete Pump Trailer	84
Concrete Vibrator	81
Crane, Derrick	90
Mobile Crane	85
Dozer (Bulldozer)	90
Excavator	92
Forklift	86
Front End Loader	90
Generator	87
Gradall	85
Grader	89
Grinder	82
Impact Wrench	85
Jackhammer	88
Paver	92
Pavement Breaker	85
Pneumatic Tool	88
Pump	80
Roller	83
Sand Blaster	87
Electric Saw	80
Scraper	91
Shovel	90
Tamper	88
Tractor	90
Trucks (Under Load)	95
Water Truck	94
Other Equipment with Diesel	88

Certain construction activities could cause intermittent localized concern from vibration in the project area. During certain construction phases, processes, such as earth-moving with bulldozers, the use of vibratory compaction rollers, demolitions, or pavement braking may cause construction-related vibration impacts such as human annoyance or, in some cases, building damages. The following measures could be used to minimize potential impacts from construction vibration:

- Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts to residents are minimal (e.g., weekdays during daytime hours only when as many residents as possible are away from home).

- The owner of a building close enough to a construction vibration source that could potentially damage that structure due to vibration will be entitled to a pre-construction building inspection to document the pre-construction condition of that structure.
- Conduct vibration monitoring during vibration-intensive activities.

### **Avoidance, Minimization, and/or Noise Abatement Measures**

The Noise Abatement Decision Report analyzed noise barriers with heights ranging from 8 feet to 16 feet to determine feasible noise abatement. Soundwalls are considered feasible when they provide a noise reduction of at least 5 A-weighted decibels. The Noise Reduction Design Goal, which is one measure in determining whether a soundwall is reasonable, is achieved when a noise barrier is predicted to provide a noise reduction of at least 7 A-weighted decibels at one or more benefitted receptors. Other considerations include topography, access requirements, other noise sources, and safety considerations.

Factors used in determining whether a proposed noise abatement measure is reasonable include residents' acceptance and the cost per benefitted home. From a cost perspective, the estimated cost of the noise barrier should be equal to or less than the total cost allowance calculated for the noise barrier to be considered reasonable. 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.

The following is a discussion of noise abatement considered for each area where traffic noise impacts are predicted. Table 2.18 summarizes key information used in determining noise abatement decisions regarding noise barrier construction for the project.

**Table 2.18 Noise Barrier Evaluation**

Barrier Number	Location Description	Noise Barrier Height (Feet)	Number of Benefitted Homes	Total Reasonable Allowance	Estimated Cost of Soundwall	Acoustical Design Goal Met	Cost Less Than Allowance?
Soundwall 1	Along the right-of-way on the west side of State Route 99 between the Avenue 7 overcrossing and Avenue 8 overcrossing.	16	1	\$107,000	\$1,270,000	Yes	No

Barrier Number	Location Description	Noise Barrier Height (Feet)	Number of Benefitted Homes	Total Reasonable Allowance	Estimated Cost of Soundwall	Acoustical Design Goal Met	Cost Less Than Allowance?
Soundwall 2	Along the right-of-way on the west side of State Route 99 between the Avenue 8 overcrossing and Avenue 9 overcrossing.	12	13	\$1,391,000	\$1,540,000	Yes	No
Soundwall 3	Along the right-of-way on the west side of State Route 99 between the Madera Irrigation canal and Avenue 10 overcrossing.	12	16	\$1,712,000	\$2,850,000	Yes	No
Soundwall 4	Along the right-of-way on the west side of State Route 99 between Avenue 10 1/2 and Avenue 11.	18	2	\$214,000	\$1,440,000	Yes	No
Soundwall 5	Along the right-of-way on the west side of State Route 99 between Road 29 south of the Cottonwood Creek Bridge and the southbound segment of Cottonwood Creek Bridge.	16	1	\$107,000	\$840,000	No	No

Source: Noise Abatement Decision Report, 2020.

### *Soundwall 1*

Receptor 1 at 7628 Golden State Boulevard, Madera, California, 93637 consists of the following receptor category: one single-family home. The predicted noise level for the design year with the project at this represented receptor is 67 A-weighted decibels. A 16-foot noise barrier along the right-of-way on the west side of State Route 99 is expected to reduce traffic noise by 5 A-weighted decibels or more for one home. Soundwall 1 will start along the right-of-way on the west side of State Route 99 and extend north for an approximate length of 1,565 feet to cover the single-family home. The cost allowance for this soundwall is calculated at \$107,000 based on a cost allowance of \$107,000 per benefitted receptor. The estimated cost of the soundwall is \$1,270,000, exceeding the cost allowance. Therefore, this soundwall is not reasonable.

### *Soundwall 2*

Receptor 3 at 8177 Road 32, Madera, California, 93637 consists of the following receptor category: 31 single-family homes. The predicted noise level for the design year with the project at this receptor is 75 A-weighted decibels. Soundwall 2 is proposed along the edge of the shoulder on the west side of State Route 99 and is expected to provide 7 A-weighted decibels of traffic noise reduction at most locations with a 12-foot noise barrier. The noise barrier will start along the right-of-way on the west side of State Route 99 and extend north for an approximate length of 1,894 feet to cover the single-family homes. The soundwall will provide noise attenuation for 13 single-family homes. The total cost allowance for the benefitted homes is \$1,391,000 based on a cost allowance of \$107,000 per benefitted receptor. The cost of the soundwall is estimated at \$1,540,000 and is more than the cost allowance. Therefore, this soundwall is not considered reasonable.

### *Soundwall 3*

Receptors 5, 6, and 7 at 9456, 9576, and 9758 Golden State Boulevard, Madera, California, 93637 consist of the following receptor category: 16 single-family homes. The predicted noise levels for the design year with the project at the receptors are 74 A-weighted decibels, 72 A-weighted decibels, and 74 A-weighted decibels, respectively. Soundwall 3 is proposed along the edge of the shoulder on the west side of State Route 99 and is expected to provide 7 A-weighted decibels of traffic noise reduction at most locations with a 12-foot noise barrier. The noise barrier will start along the right-of-way on the west side of State Route 99 and extend north for an approximate length of 3,821 feet to cover the single-family homes. The soundwall will provide noise attenuation for 16 single-family homes. The total cost allowance for the benefitted homes is \$1,712,000 based on a cost allowance of \$107,000 per benefitted receptor. The cost of the soundwall is estimated at \$2,850,000 and is more than the cost allowance. Therefore, this soundwall is not reasonable.

#### *Soundwall 4*

Receptor 8 at 10597 Road 30, Madera, California, 93637, and Receptor 9 at 10696 Road 30, Madera, California, 93637 consists of the following receptor category: two single-family homes. The predicted noise level for the design year with the project at the receptors is 66 A-weighted decibels. An 18-foot noise barrier along the right-of-way on the west side of State Route 99 is expected to provide 5 A-weighted decibels or more of traffic noise reduction for two homes. Soundwall 4 will start along the right-of-way on the west side of State Route 99 and extend north for an approximate length of 2,640 feet to cover the single-family homes. The total cost allowance for the benefitted homes is \$214,000 based on a cost allowance of \$107,000 per benefitted receptor. The cost of the soundwall is estimated at \$1,440,000 and is more than the cost allowance. Therefore, this soundwall is not reasonable.

#### *Soundwall 5*

Receptor 11 at 11674 Road 29, Madera, California, 93637 consists of the following receptor category: one single-family home. The predicted noise level for the design year with the project at this receptor is 67 A-weighted decibels. A 16-foot noise barrier along the right-of-way on the west side of State Route 99 is expected to reduce traffic noise by 5 A-weighted decibels or more for one home. Soundwall 5 will start along the right-of-way on the west side of State Route 99 and extend north for an approximate length of 1,159 feet to cover the single-family home. The cost allowance for this soundwall is calculated at \$107,000 based on a cost allowance of \$107,000 per benefitted receptor. The estimated cost of the soundwall is \$840,000, exceeding the cost allowance. Therefore, this soundwall is not reasonable.

Based on the studies completed to date, Caltrans does not intend to incorporate noise abatement in the form of soundwalls for the project. If conditions substantially change during the final design, noise abatement may be necessary. The final decision on noise abatement will be made upon completion of the project design and the public involvement process.

#### *Construction Noise*

The following control measures will be implemented to minimize noise disturbances at sensitive areas during construction:

- All equipment shall have sound-control devices no less effective than those provided on the original equipment. Each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine should be operated on the job site without an appropriate muffler.
- Construction methods or equipment that will provide the lowest level of noise impact should be used.

- Idling equipment shall be turned off.
- Truck loading, unloading, and hauling operations shall be restricted so that noise and vibration are kept to a minimum through residential neighborhoods to the greatest possible extent.
- Temporary noise barriers will be used and relocated, as needed, to protect sensitive receptors against excessive noise from construction activities involving large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers. The decision to use temporary noise barriers will be made during the construction phase of the project based upon the type of work being performed and the proximity to sensitive receptors.
- Newer equipment with improved noise muffling shall be used, and all equipment items shall have the manufacturers' recommended noise abatement measures (such as mufflers, engine covers, and engine vibration isolators) intact and operational. All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (such as mufflers and shrouding).
- Construction activities shall be minimized near residential areas during the evening, nighttime, weekend, and holiday periods. Noise impacts are typically minimized when construction activities are performed during daytime hours. However, nighttime construction may be desirable (such as in commercial areas where businesses may be disrupted during daytime hours) or necessary to avoid major traffic disruption. Coordination with the city or county shall occur before construction can be performed in noise-sensitive areas between 9:00 p.m. and 6:00 a.m.
- The contractor will select construction laydown or staging areas, which should be in industrially zoned districts. If industrially zoned areas are not available, commercially zoned areas should be used, or locations that are at least 100 feet from any noise-sensitive land use (such as homes, hotels, and motels).
- The contractor shall prepare a Noise and Vibration Monitoring and Mitigation Plan by a qualified acoustical engineer and submit it for approval. The plan must outline noise and vibration monitoring procedures at predetermined noise and vibration-sensitive sites and historic properties.
- Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts to residents are minimal (e.g., weekdays during daytime hours only when as many residents as possible are away from home).
- The owner of a building close enough to a construction vibration source that could potentially damage that structure due to vibration will be entitled to a pre-construction building inspection to document the pre-construction condition of that structure.

- Conduct vibration monitoring during vibration-intensive activities.

The contractor will be required to adhere to the following administrative noise control measures:

- Once details of the construction activities become available, the contractor shall work with local authorities to develop an acceptable approach to minimize interference with the business and residential communities, traffic disruptions, and the total duration of the construction.
- Good public relations shall be maintained with the community to minimize objections to unavoidable construction impacts. Frequent activity updates of all construction activities shall be provided. A construction noise monitoring program to track sound levels and limit the impacts shall be implemented.
- In case of construction noise complaints by the public, the Caltrans Resident Engineer shall coordinate with the construction manager, and the specific noise-producing activity may be changed, altered, or temporarily suspended, if necessary.

## **2.3 Biological Environment**

### **2.3.1 Threatened and Endangered Species**

#### ***Regulatory Setting***

The primary 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 (and Caltrans, as assigned), 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 or a Letter of Concurrence. Section 3 of 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 2080 of the California 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 California Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” 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 Federal Endangered Species Act, the California Department of Fish and Wildlife may also authorize impacts to California Department of Fish and Wildlife 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 U.S., 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***

A Natural Environment Study (Minimal Impacts) was completed for this project on January 29, 2020.

A list of federally endangered or threatened species and critical habitat(s) that may be affected by the project was first requested from the U.S. Fish and Wildlife Service on December 23, 2019 and has been updated regularly throughout the project studies. These species lists can be found in the Natural Environment Study (Minimal Impacts) Appendices A, B, and C. The National Marine Fisheries Service’s species list can be found in Appendix D of the Natural Environment Study (Minimal Impacts). Caltrans’ Federal Endangered Species Act Determinations are listed in Appendix J. Based on in-office research (California Native Plant Society, the California Department of Fish and Wildlife, and the U.S. Fish and Wildlife Service) and field surveys, Caltrans biologists determined that there were potentially two animal species listed as federally or state threatened or endangered that may be affected by the project. Of these two species, only the Swainson’s hawk has been seen during biological surveys to date; however, potentially suitable habitat for the California tiger salamander may be present within the project footprint.



### *California Tiger Salamander*

The California tiger salamander (*Ambystoma californiense*) is listed as a federally and state threatened species. The Central Valley population is found below about 1,500 feet in elevation. Long-term habitat loss due to land conversion and fragmentation of existing habitat continues to threaten the survival of the California tiger salamander. The species is found in annual grasslands, foothills, oak savanna, and the edges of mixed woodland; it spends most of its life underground in ground squirrel burrows or gopher burrows. California tiger salamanders appear after rainfall and use vernal pools for breeding.

No California tiger salamanders were seen during biological surveys conducted in 2019. The nearest occurrences were 2 miles to the east of the project limits. Immediately east of and running parallel to State Route 99 are train tracks that act as a natural barrier to dispersal for California tiger salamanders. As a result, there are no California tiger salamander occurrences west of said train tracks. A reconnaissance survey was conducted for California tiger salamanders during migration season, and no upland habitat or temporary aquatic habitat was seen. There were no occurrences of pooling and no sign of small mammal burrows that could serve as burrowing habitat for California tiger salamanders.

### *Swainson's Hawk*

Swainson's hawks are broad-winged hawks between 48 and 56 centimeters in length, with females slightly larger than males. Males and females have similar plumage. Swainson's hawks are polymorphic with pale, light, and intermediate morph plumage ranging from dark to light or rufous in color. Most Swainson's hawks have a sharp contrast between the wing linings and flight feathers. However, some of the darkest Swainson's hawks do not have this distinction.

The Swainson's hawk (*Buteo swainsoni*) is listed as a California state-threatened species. Swainson's hawks breed or migrate in the Central Valley, with about 95 percent of Swainson's hawk habitat occurring in the Central Valley. The species inhabits grasslands, alfalfa fields, and livestock pastures where it forages on mice, gophers, ground squirrels, rabbits, large arthropods, amphibians, reptiles, birds, and occasionally fish. Swainson's hawks soar at various heights to search for prey; they usually catch insects and bats in flight or invertebrate prey on the ground.

Swainson's hawks are well-documented in the project area. Numerous records of Swainson's hawks were identified within a 10-mile radius of the Biological Study Area, though within the project area, there was only one such occurrence, dated 2016. This occurrence was an active nest on the State Route 99 and Avenue 12 interchange. Two mature Swainson's hawks were seen in the nest and actively foraging in the area.

Suitable foraging habitat is present throughout the Biological Study Area as well as suitable nesting habitat.

### ***Environmental Consequences***

#### ***California Tiger Salamander***

No California tiger salamanders were seen during biological surveys conducted in 2019. Because work will occur in the median of State Route 99, the amount of ground disturbance associated with the project will be minimal. The only marginal habitat for California tiger salamanders that exists near the project area is agricultural fields to the east, which could potentially serve as dispersal habitat if California tiger salamanders were present. This will still be the case even though the railroad immediately to the east of the project area serves as a barrier of entry into the project area. The farthest extent of work on northbound State Route 99 is the existing shoulder within a Caltrans right-of-way, where no potential for California tiger salamanders exists. Work on southbound State Route 99 includes the existing shoulder and extends to the newly acquired right-of-way that is currently made up of intensive agriculture; this includes three proposed detention basins that will be built in previously disturbed areas. Therefore, no impacts on California tiger salamanders are expected with the implementation of avoidance and minimization measures.

#### ***Swainson's Hawk***

Surveys of the project area yielded no observations. The project area contains suitable nest trees for Swainson's hawks, but there is no tree removal associated with the project. If Swainson's hawks were to enter the project area, noise or disturbance from construction activities will not impact the species more than the current disturbances on State Route 99 and the nearby train tracks. Therefore, no impacts on Swainson's hawks are expected with the implementation of avoidance and minimization measures.

### ***Avoidance, Minimization, and/or Mitigation Measures***

#### ***California Tiger Salamander***

For work conducted during the California tiger salamander migration season (November 1 to March 31), a qualified biologist will survey active work areas (including access roads) in the morning, following measurable precipitation that measures less than 0.25 inch. Construction may not start until a biologist has confirmed that no California tiger salamanders are in the work area.

Before any ground disturbance, the contractor, all employees of the contractor, subcontractors, and subcontractors' employees will attend an employee education program conducted by a Caltrans biologist or other approved biologist. The program will consist of a brief presentation on California tiger salamanders, legislative protection, and measures to avoid impacts to the species during project implementation.

### *Swainson's Hawk*

According to the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (May 2000), qualified biologists will complete protocol-level pre-construction surveys during the nesting season (February 1 to September 30) the year before construction (added since draft). The biologist will complete the surveys before ground-disturbing activities to ensure no nesting Swainson's hawks will be affected if construction occurs during the nesting season.

If construction occurs during the nesting season—February 1 to September 30—Swainson's hawk pre-construction surveys shall be conducted within 10 (added since draft) days before construction to determine if Swainson's hawks are nesting within 0.5 mile of the project area. If Swainson's hawks are seen nesting within 0.5 mile of the project area, a 600-foot radius no-work buffer will be designated by an Environmentally Sensitive Area fence around the nest tree wherever the no-work buffer may overlap the project construction limits. A qualified biologist shall monitor the nest tree during construction activities in proximity to the nest until the birds have fledged.

A special provision for migratory birds will be included to ensure that no potential nesting migratory birds are affected during construction activities. The following information from the California Department of Fish and Wildlife has been added since the draft environmental document to address additional project provisions for migratory birds. Caltrans will implement and enforce a 500-foot no-disturbance buffer for non-listed nesting raptors and a 250-foot buffer for other avian species.

Removing any trees within the project area should be done outside of the nesting season; however, if a tree within the project area needs to be removed during the nesting season, a qualified biologist will inspect the tree before the removal to ensure that no nests are present.

Before any ground disturbance, the contractor, all employees of the contractor, subcontractors, and subcontractors' employees will attend an employee education program conducted by a Caltrans biologist or other approved biologist. The program will consist of a brief presentation on Swainson's hawks, legislative protection, and measures to avoid impacts to the species during project implementation.

With the above avoidance and minimization efforts, the project is not expected to impact Swainson's hawks.

## **Chapter 3**      CEQA Evaluation

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### **3.1      Determining Significance Under CEQA**

The proposed project is a joint project by Caltrans and the Federal Highway Administration and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the National Environmental Policy Act (known as NEPA) and the California Environmental Quality Act (known as CEQA). The Federal Highway Administration's responsibilities for environmental review, consultation, and any other actions required by applicable federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S. Code Section 327 (23 U.S. Code 327) and the Memorandum of Understanding dated December 23, 2016, and executed by the Federal Highway Administration and Caltrans. Caltrans is the lead agency under NEPA and CEQA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an Environmental Impact Statement, or a lower level of documentation, will be required. NEPA requires that an Environmental Impact Statement be prepared when the proposed federal action (the project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an Environmental Impact Statement, it is the magnitude of the impact that is evaluated, and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental document.

CEQA, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report must be prepared. Every significant effect on the environment must be disclosed in the Environmental Impact Report and mitigated if feasible. In addition, the CEQA Guidelines list a number of "mandatory findings of significance," which also require the preparation of an Environmental Impact Report. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

## 3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the project. Potential impact determinations include Potentially Significant Impact, Less Than Significant with Mitigation Incorporated, Less Than Significant Impact, and No Impact. In many cases, background studies performed in connection with a project will indicate that there are no impacts to a particular resource. A No Impact answer reflects this determination. The questions in this checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

### 3.2.1 Aesthetics

#### ***CEQA Significance Determinations for Aesthetics***

Except as provided in Public Resources Code Section 21099, will the project:

a) Have a substantial adverse effect on a scenic vista?

**No Impact**—The project will not have a substantial adverse effect on a scenic vista. (Visual Impact Assessment, 2020)

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

**No Impact**—The project will not substantially damage scenic resources within a state scenic highway. (Visual Impact Assessment, 2020)

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, will the project conflict with applicable zoning and other regulations governing scenic quality?

**Less Than Significant with Mitigation Incorporated**—The project will have a high impact on the existing visual character of the site and its surroundings. “Where the Palm Meets the Pine” landmark will be permanently removed from the median and relocated to the southbound shoulder of State Route 99. To compensate for the visual loss in relocating the landmark trees, a single row of 15 palm trees followed by 15 pine trees will be planted on the southbound shoulder of State Route 99, about 330 feet south of the existing trees. The oleanders in the median will be replaced and planted on the outside roadsides, a minimum of 55 feet from the edge of the traveled way. (Visual Impact Assessment, 2020)

d) Create a new source of substantial light or glare which will adversely affect day or nighttime views in the area?

**Less Than Significant Impact**—The project will not create a new source of substantial light or glare, which will adversely affect day or nighttime views in the area. The project will have a low impact on the creation of a new source of light or glare.

The new concrete median barrier will provide a visual screen from the oncoming headlight glare. The 56-inch-high concrete barrier will avoid the impacts of oncoming headlight glare. (Visual Impact Assessment, 2020)

### 3.2.2 Agriculture and Forest Resources

#### ***CEQA Significance Determinations for 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 Department 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.

Will 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 nonagricultural use?

**Less Than Significant Impact**—The project will convert about 8 acres of prime farmland and 15 acres of farmland of statewide importance to nonagricultural use. This is about 0.0097 percent of the total important farmland that is subject to the Farmland Protection Policy Act in Madera County and is negligible when compared to the available farmland in the area.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

**Less Than Significant Impact**—The project will not conflict with existing zoning for agricultural use or a Williamson Act contract. The existing zoning and Williamson Act contracts will remain in place with the project. A letter will be sent to the Department of Conservation as notification that Caltrans proposes to acquire land that is under several Williamson Act contracts in accordance with Government Code Section 51291(b).

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))?

**No Impact**—There is no forest land or timberland in the project area. The project will not conflict with existing zoning or cause rezoning of forest land.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

**No Impact**—There is no forest land or timberland in the project area. The project will not 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 nonagricultural use or conversion of forest land to non-forest use?

**No Impact**—There are no other changes expected to farmland or forest land. The project will not involve other changes in the existing environment which, due to their location or nature, could result in the conversion of farmland to nonagricultural use or conversion of forest land to non-forest use.

### 3.2.3 Air Quality

#### ***CEQA Significance Determinations for Air Quality***

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

Will the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

**No Impact**—The project will not conflict with or obstruct the implementation of an air quality plan.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

**Less Than Significant Impact**—As discussed in the Air Quality section in Chapter 2, the South Madera 6-Lane project is included in the Madera County Transportation Commission's Year 2019 Regional Transportation Plan/Sustainable Communities Strategy Draft Amendment Number 1, 2019, and the Year 2019 cost-constrained Federal Transportation Improvement Program. The regional air quality conformity analysis concluded the Madera County Transportation Commission's Year 2018 Regional Transportation Plan/Sustainable Communities Strategy and the Year 2019 cost-constrained Federal Transportation Improvement Program are conforming projects and will have air quality impacts consistent with those identified in the State Implementation Plans for achieving the National Ambient Air Quality Standards. The project will not create a new violation or worsen an existing violation of the Particulate Matter 2.5 and Particulate Matter 10 of the National Ambient Air Quality Standards.

The project is in a nonattainment area for the federal and state 8-hour ozone levels. Ozone is considered to be a regional pollutant. The project is in attainment for the federal and state carbon monoxide standards. Caltrans determined the project falls into the category of a "Project with Low Potential for Mobile Source Air Toxics." No mitigation is required for impacts to air quality. However, several measures can be taken to minimize construction-related impacts and operational impacts. These measures can be found in Chapter 2.

The project was determined not to be a project of air quality concern. Concurrence was received from the Federal Highway Administration and the U.S. Environmental Protection Agency in August 2020. Caltrans has determined that the project is not a project of air quality concern. The U.S. Environmental Protection Agency and the Federal Highway Administration concurred with Caltrans' determination in August 2019 (see Appendix G).

c) Expose sensitive receptors to substantial pollutant concentrations?

**Less Than Significant Impact**—As discussed in the Air Quality section in Chapter 2, the project was determined not to be a project of air quality concern. Concurrence was received from the Federal Highway Administration and the U.S. Environmental Protection Agency in August 2020. Caltrans has



determined that the project is not a project of air quality concern. The U.S. Environmental Protection Agency and the Federal Highway Administration concurred with Caltrans' determination in August 2019 (see Appendix G).

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

**No Impact**—The project will temporarily generate air pollutants; impacts will be less than significant. Several measures can be taken to minimize construction-related impacts and operational impacts, which can be found in Chapter 2 and Appendix M. No mitigation will be required.

### 3.2.4 Biological Resources

#### ***CEQA Significance Determinations for Biological Resources***

Will 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 Wildlife or U.S. Fish and Wildlife Service?

**Less Than Significant Impact**—The project will have a less than significant impact on the California tiger salamander and Swainson's hawk. With the incorporation of avoidance and minimization measures—discussed in Chapter 2 under Biological Environment and in Appendix M—into the project, these impacts are considered to be less than significant.

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 Wildlife or U.S. Fish and Wildlife Service?

**No Impact**—A California Natural Diversity Database query did not identify any riparian habitat or other sensitive natural communities of special concern within the project area. So, no potential impacts to riparian habitat or natural communities of special concern are expected.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

**No Impact**—No wetlands were identified within the project area.

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?

**Less Than Significant Impact**—Migratory birds may try to nest in vegetation or on structures within the Caltrans right-of-way or easement during their nesting season between February 1 and September 30. No impacts to migratory birds are expected with the implementation of Caltrans' Standard Special Provisions.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

**No Impact**—The project will not conflict with any local policies or ordinances protecting biological resources.

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?

**No Impact**—The project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

### 3.2.5 Cultural Resources

#### ***CEQA Significance Determinations for Cultural Resources***

Will the project:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

**No Impact**—As discussed in the Cultural Resources Section in Chapter 2, Caltrans identified 16 potential historic properties within the Area of Potential Effects and determined that the properties are not eligible for the National Register of Historic Places. The State Historic Preservation Officer provided concurrence for this determination of eligibility on November 3, 2020.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

**No Impact**—As discussed in the Cultural Resources Section in Chapter 2, there are no known prehistoric sites within the Area of Potential Effects. No archaeological resources eligible for the National Register of Historic Places or California Register of Historical Resources have been recorded within the Archaeological Study Area. No archaeological sites were discovered during pedestrian surveys of the Archaeological Survey Coverage Area in 2016 or 2019.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

**No Impact**—As discussed in the Cultural Resources Section and the avoidance and minimization measures in Chapter 2, the project is not expected to disturb any human remains, including those interred outside of dedicated cemeteries.

### 3.2.6 Energy

#### ***CEQA Significance Determinations for Energy***

Will the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

**No Impact**—The project will not result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

**No Impact**—The project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

### 3.2.7 Geology and Soils

#### ***CEQA Significance Determinations for Geology and Soils***

Will the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

**No Impact**— The project will not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death.

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?

**No Impact**— Rupture of a known earthquake fault is not expected since the project is not in a known earthquake fault area.

ii) Strong seismic ground shaking?

**No Impact**—Strong seismic ground shaking is not expected since the project is not in a known earthquake fault area.

iii) Seismic-related ground failure, including liquefaction?

**No Impact**—The project is in an area with low potential for seismic-related ground failure, including liquefaction, because the project area does not contain soil that is prone to liquefaction or seismic-related ground failure.

iv) Landslides?

**No Impact**—The project area will not be subject to landslides because of the generally flat topography and because the project will not involve large cuts and fills or steep excavation.

b) Result in substantial soil erosion or the loss of topsoil?

**No Impact**—Project construction will not result in substantial soil erosion or the loss of topsoil because the project will include appropriate Best Management Practices to prevent substantial soil erosion or loss of topsoil.

c) Be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?

**No Impact**—Project construction will not cause the project area to become unstable or cause onsite or offsite landslides, lateral spreading, subsidence, or collapse. The soil in the project area is not subject to liquefaction.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

**No Impact**—The project is not on expansive soil and will not create substantial direct or indirect risks to life or property.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

**No Impact**—The project will not include septic tanks or alternative wastewater disposal systems; therefore, there will be no impact.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

**Less Than Significant with Mitigation Incorporated**—As discussed in Chapter 2 under Paleontology, the Build Alternative will affect the Modesto Formation and the Riverbank Formation. The Build Alternative will acquire 26.5 acres for the project, which will include 11.8 acres of excavation for three stormwater detention basins. All ground disturbance during general

construction excavation activities and excavation associated with drainage conveyance and stormwater detention basins in the high-sensitivity Modesto Formation and the Riverbank Formation could affect fossils. Mitigation measures will be incorporated into the project to minimize potential impacts. These measures are listed in Chapter 2 and Appendix M.

### 3.2.8 Greenhouse Gas Emissions

#### ***CEQA Significance Determinations for Greenhouse Gas Emissions***

Will the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

**Less Than Significant Impact with Mitigation Incorporated**—As discussed in Chapter 3 under Climate Change, the project will result in an increase in greenhouse gas emissions under the Build Alternative. However, the additional lane in each direction proposed by this project will improve traffic flow, relieve congestion, enhance operational efficiency, and improve the level of service. These proposed improvements, along with the construction and operational mitigation measures discussed in the project-level greenhouse gas reduction strategies section below, will result in a less than significant impact.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

**No Impact**—The project will not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

### 3.2.9 Hazards and Hazardous Materials

#### ***CEQA Significance Determinations for Hazards and Hazardous Materials***

Will the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

**Less Than Significant Impact**—As discussed in Chapter 2 under Hazardous Waste, applicable Caltrans' Standard Special Provisions and/or Non-Standard Special Provisions addressing proper handling and disposal of aerially deposited lead, asbestos-containing materials, lead-based paint, and treated wood waste will be included in the construction contract to protect construction personnel and the public.

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?

**No Impact**—Project construction will not 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 0.25 mile of an existing or proposed school.

**No Impact**—No public schools exist within 0.25 mile of the project area.

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, will it create a significant hazard to the public or the environment?

**No Impact**—The project is not on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, will the project result in a safety hazard or excessive noise for people residing or working in the project area?

**No Impact**—The project is not within an airport land use plan or within 2 miles of a public or private airport that will result in a safety hazard or excessive noise for people living or working in the project area.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

**No Impact**—The project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

**No Impact**—The project will not expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

### 3.2.10 Hydrology and Water Quality

#### ***CEQA Significance Determinations for Hydrology and Water Quality***

Will the project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality?

**No Impact**—With the implementation of Best Management Practices and Caltrans' Standard Specifications, the project will not violate any water quality standards or waste discharge requirements or substantially degrade surface water or groundwater quality. Adherence to construction provisions and precautions described in the National Pollutant Discharge Elimination System permit will be upheld.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

**No Impact**—The construction or operation of the project will not impede sustainable groundwater management of the basin since the project will not use groundwater or interfere with groundwater recharge.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which will:

i) Result in substantial erosion or siltation onsite or offsite;

**No Impact**—Project construction will not result in substantial soil erosion or siltation because the project will include appropriate Best Management Practices to prevent soil erosion and siltation.

ii) Substantially increase the rate or amount of surface runoff in a manner which will result in flooding onsite or offsite;

**Less Than Significant Impact**—The project will not substantially increase the rate or amount of surface runoff in a manner that will result in flooding onsite or offsite. As discussed in Chapter 2 under Water Quality, the Build Alternative proposes three detention basins to accommodate stormwater runoff. The detention basins will be designed with sufficient capacity to detain two 10-year/24-hour storm events.

iii) Create or contribute runoff water which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

**Less Than Significant Impact**—The project will not create or contribute runoff water that will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. As discussed in Chapter 2 under Water Quality, the Build Alternative proposes three detention basins to accommodate stormwater runoff. The

detention basins will be designed with sufficient capacity to detain two 10-year/24-hour storm events.

iv) Impede or redirect flood flows?

**Less Than Significant Impact**—The project will not impede or redirect flood flows. As discussed in Chapter 2 under Water Quality, the Build Alternative proposes three detention basins to accommodate stormwater runoff. The detention basins will be designed with sufficient capacity to detain two 10-year/24-hour storm events.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

**No Impact**—The project is not in a flood hazard, tsunami, or seiche zone.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

**No Impact**—The project will not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan.

### 3.2.11 Land Use and Planning

#### ***CEQA Significance Determinations for Land Use and Planning***

Will the project:

a) Physically divide an established community?

**No Impact**—The project will not physically divide an established community.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

**No Impact**—The project will not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

### 3.2.12 Mineral Resources

#### ***CEQA Significance Determinations for Mineral Resources***

Will the project:

a) Result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state?



**No Impact**—The project will not result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state. The project is not on land that is classified as a Mineral Resource Zone, according to the state geologist.

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?

**No Impact**—The project will not 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. The project is not within a locally important mineral resource recovery site.

### 3.2.13 Noise

#### ***CEQA Significance Determinations for Noise***

Will the project result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

**Less Than Significant Impact**—As discussed in Chapter 2 under Noise and Vibration, the Build Alternative will move future traffic closer to the identified receptors on State Route 99.

According to the Caltrans 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 an increase of 12 A-weighted decibels or more), or when the future noise level with the project approaches or exceeds the noise abatement criterion (67 A-weighted decibels, in this case); approaching the noise abatement criterion is defined as coming within 1 decibel of the noise abatement criterion. Therefore, potential abatement measures must be considered.

Based on the studies completed to date, Caltrans does not intend to incorporate noise abatement in the form of soundwalls for the project. If conditions have substantially changed during the final design, noise abatement may be necessary. The final decision on noise abatement will be made upon completion of the project design and the public involvement process.

Details of the recommended noise abatement measures are included in Chapter 2 and Appendix M.

b) Generation of excessive groundborne vibration or groundborne noise levels?

**Less Than Significant Impact**—Groundborne vibration may occur during project construction; however, equipment noise control and administrative measures will be in place. Application of these measures will reduce construction-related noise impacts; nevertheless, a temporary increase in noise and vibration may still occur. These measures are detailed in Chapter 2 and Appendix M.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, will the project expose people residing or working in the project area to excessive noise levels?

**No Impact**—The project is not within the vicinity of a private airstrip or an airport land use plan and is not within 2 miles of a public airport or public use airport.

### 3.2.14 Population and Housing

#### ***CEQA Significance Determinations for Population and Housing***

Will the project:

a) Induce substantial unplanned 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)?

**No Impact**—The project will not induce substantial unplanned population growth in the area, either directly or indirectly, because the project will not add capacity or extend roads or other infrastructure.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

**No Impact**—The project will not displace substantial numbers of existing people or housing.

### 3.2.15 Public Services

#### ***CEQA Significance Determinations for Public Services***

a) Will 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?

**No Impact**—The project will not result in an impact on parks, schools, or other public facilities and will not impact emergency response times.

### 3.2.16 Recreation

#### ***CEQA Significance Determinations for Recreation***

a) Will the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated?

**No Impact**—No parks and recreational facilities exist within the project area.

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?

**No Impact**—The project does not propose any recreational facilities or require the construction or expansion of recreational facilities.

### 3.2.17 Transportation

#### ***CEQA Significance Determinations for Transportation***

Will the project:

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

**No Impact**—The project will not conflict with any applicable program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. The project will ensure the safe operation of the highway system for motorists, bicyclists, and emergency responders.

b) Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

**No Impact**—The project will not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b); it will not have an impact on vehicle miles traveled.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

**No Impact**—The project will not increase hazards due to a geometric design feature.

d) Result in inadequate emergency access?

**No Impact**—The project will not result in inadequate emergency access.

### 3.2.18 Tribal Cultural Resources

#### ***CEQA Significance Determinations for Tribal Cultural Resources***

Will the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or

**No Impact**—No resources in the project area are listed or eligible for listing in the California Register of Historical Resources or a local register of historical resources, as defined in Public Resources Code Section 5020.1(k).

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

**No Impact**—There are no tribal cultural resources in the project area that are significant to a California Native American tribe pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

### 3.2.19 Utilities and Service Systems

#### ***CEQA Significance Determinations for Utilities and Service Systems***

Will the project:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

**Less Than Significant Impact**—The project will require the relocation of existing stormwater drainage, electric power, and telecommunications

facilities. These facilities will be relocated as needed within the project area, which will not cause significant environmental effects.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

**No Impact**—The project will have sufficient water supplies for construction and will not require additional water supplies in future years.

c) 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?

**No Impact**—The project will not generate significant amounts of wastewater or require future capacity for wastewater treatment.

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

**No Impact**—The project will not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

**No Impact**—The construction contractor will be responsible for controlling/discharging of solid waste in accordance with federal, state, and local statutes and regulations.

### 3.2.20 Wildfire

#### ***CEQA Significance Determinations for Wildfire***

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, will the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

**No Impact**—The project will not substantially impair an adopted emergency response plan or emergency evacuation plan. The project is not within a very high fire hazard severity zone.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

**No Impact**—The project will not exacerbate wildfire risks, expose project occupants to pollutant concentrations from a wildfire, or promote the uncontrolled spread of a wildfire. The project is not within a very high fire hazard severity zone.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

**No Impact**—The project will not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. The project is not within a very high fire hazard severity zone.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

**No Impact**—The project will not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. The project is not within a very high fire hazard severity zone.

There is the potential that construction activities could create an unintended fire. However, the contractor will use adequate precautions and procedures as outlined in the contract's standard specifications to prevent and extinguish fire incidents during construction.

### **3.2.21 Mandatory Findings of Significance**

#### ***CEQA Significance Determinations for Mandatory Findings of Significance***

a) Does the project have the potential to substantially 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?

**Less Than Significant Impact**—The project does not have the potential to substantially 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).

**No Impact**—The project does not have impacts that are individually limited but cumulatively considerable.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

**Less Than Significant Impact**—The project will not cause substantial adverse effects on human beings, either directly or indirectly.

### 3.3 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 led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of greenhouse gases generated by human activity, including carbon dioxide, methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, and various hydrofluorocarbons. Carbon dioxide is the most abundant greenhouse gas; while it is a naturally occurring component of Earth’s atmosphere, fossil-fuel combustion is the main source of additional, human-generated carbon dioxide.

Two terms are typically used when discussing how we address the impacts of climate change: “greenhouse gas mitigation” and “adaptation.” “Greenhouse gas mitigation” covers the activities and policies aimed at reducing

greenhouse gas emissions to limit or “mitigate” the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels). This analysis will include a discussion of both.

### **3.3.1 Regulatory Setting**

This section outlines federal and state efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

#### ***Federal***

To date, no national standards have been established for nationwide mobile-source greenhouse gas reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and greenhouse gas emissions reduction at the project level.

The National Environmental Policy Act (known as NEPA) (42 U.S. Code Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. The Federal Highway Administration, therefore, supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices. (Federal Highway Administration 2019) This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability.” (Federal Highway Administration n.d.) Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Various efforts have been made at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 U.S. Code Section 6201) and Corporate Average Fuel Economy Standards. This act establishes fuel economy standards for on-road motor vehicles sold in the U.S. Compliance with federal fuel economy standards is determined through the Corporate Average Fuel Economy program based on each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the U.S.



Energy Policy Act of 2005, 109th Congress H.R.6 (2005-2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) the establishment of the Office of Indian Energy Policy and Programs within the Department of Energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

The U.S. Environmental Protection Agency, in conjunction with the National Highway Traffic Safety Administration, is responsible for setting greenhouse gas emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the U.S. Fuel efficiency standards directly influence greenhouse gas emissions.

### **State**

California has been innovative and proactive in addressing greenhouse gas emissions and climate change by passing multiple Senate and Assembly bills and executive orders including, but not limited to, the following:

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 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill 32 in 2006 and Senate Bill 32 in 2016.

Assembly Bill 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: Assembly Bill 32 codified the 2020 greenhouse gas emissions reduction goals outlined in Executive Order S-3-05, while further mandating that the California Air Resources Board create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020. (Health and Safety Code Section 38551(b)) The law requires the California Air Resources Board to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas reductions.

Executive Order S-01-07 (January 18, 2007): This order sets 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 percent by the year 2020. The California Air Resources Board readopted the low carbon fuel standard regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the

low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 greenhouse gas reduction goals.

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 how it will achieve 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 identify strategies to address California's climate change goals under Assembly Bill 32.

Executive Order B-16-12 (March 2012) orders State entities under the direction of the Governor, including the California Air Resources Board, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

Executive Order B-30-15 (April 2015) establishes an interim statewide greenhouse gas emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of greenhouse gas emissions to implement measures pursuant to statutory authority to achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets. It also directs the California Air Resources Board to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent. Greenhouse gases differ in how much heat each trap in the atmosphere (global warming potential). Carbon dioxide is the most important greenhouse gas, so amounts of other gases are expressed relative to carbon dioxide, using a metric called "carbon dioxide equivalent." The global warming potential of carbon dioxide is assigned a value of 1, and the global warming potential of other gases is assessed as multiples of carbon dioxide. Finally, it requires the California Natural Resources Agency to update the state's climate adaptation strategy, *Safeguarding California*, every 3 years and to ensure that its provisions are fully implemented.

Senate Bill 32, Chapter 249, 2016, codifies the greenhouse gas reduction targets established in Executive Order B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

Senate Bill 1386, Chapter 545, 2016, declared "it to be the policy of the state that the protection and management of natural and working lands...is an important strategy in meeting the state's greenhouse gas reduction goals, and

will require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands.”

Assembly Bill 134, Chapter 254, 2017, allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.

Senate Bill 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles traveled to promote the state’s goals of reducing greenhouse gas emissions and traffic-related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

Senate Bill 150, Chapter 150, 2017, Regional Transportation Plans: This bill requires the California Air Resources Board to prepare a report that assesses progress made by each metropolitan planning organization in meeting its established regional greenhouse gas emission reduction targets.

Executive Order B-55-18 (September 2018) sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing greenhouse gas emissions.

Executive Order N-19-19 (September 2019) advances California’s climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce greenhouse gas emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This order also directs the California Air Resources Board to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

### **3.3.2 Environmental Setting**

The project sits along State Route 99 and is within the San Joaquin Valley Air Basin in Madera County. The project area is rural and predominantly agricultural. Traffic volume in past years has grown in relative proportion to the population in the project vicinity. State Route 99 is the only major regional route in the area, carrying commuter, truck, and interregional traffic.

There are few crossings of the San Joaquin River between Fresno County and Madera County. The nearest crossing to the east of State Route 99 is about 7 miles away on State Route 41; the nearest crossing to the west is on

State Route 145, about 8 miles away. State Route 99 is the most direct route for people living and working along the corridor, which includes the main population centers in both counties—the cities of Fresno and Madera.

State Route 99 is a major route for the goods movement in California. Truck traffic on this segment of the highway is 19.23 percent. Agricultural products and manufactured items are sent from this region throughout the nation and the world.

State Route 99 also carries a large amount of interregional traffic. This traffic can include people traveling for business or pleasure with origins and destinations both inside and outside of California.

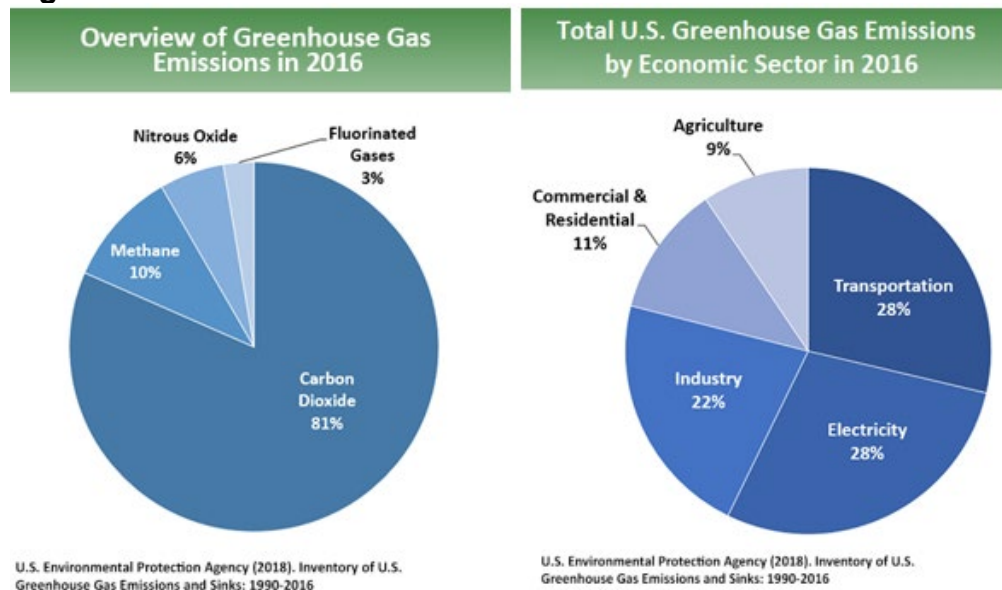
The Madera County Transportation Commission identifies the segment of State Route 99 within the project limits as one of the highway's most congested segments in Madera County. The segment that will be widened under the project forms a four-lane bottleneck between two six-lane segments immediately north and south of the project limits.

A greenhouse gas emissions inventory estimates the amount of greenhouse gases discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual greenhouse gas emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. The U.S. Environmental Protection Agency is responsible for documenting greenhouse gas emissions nationwide, and the California Air Resources Board does so for the state, as required by Health and Safety Code Section 39607.

### ***National Greenhouse Gas Inventory***

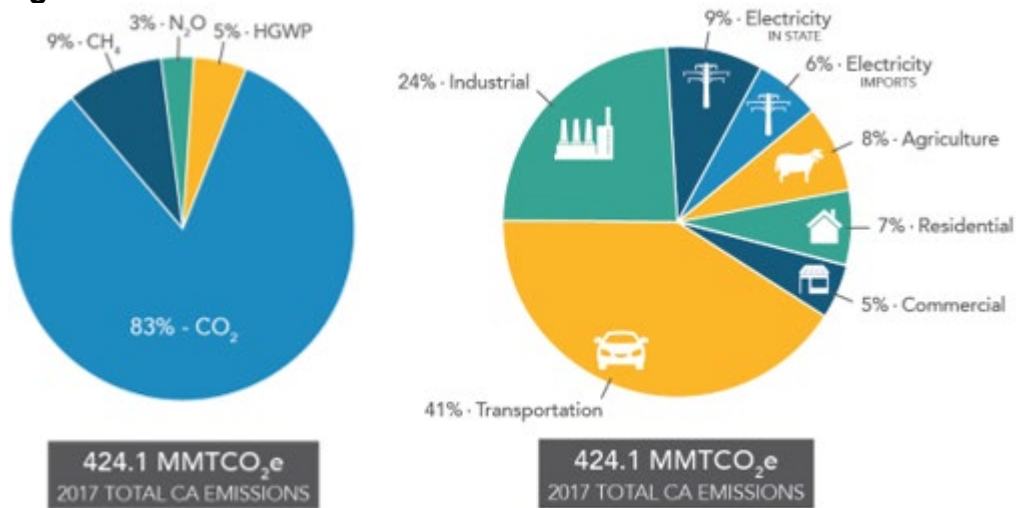
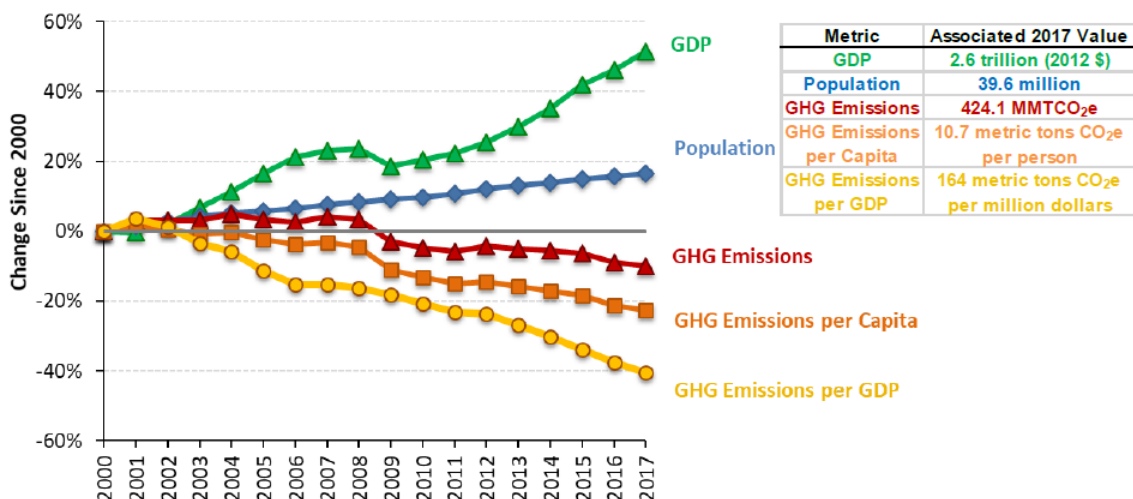
The U.S. Environmental Protection Agency prepares a national greenhouse gas inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change. The inventory provides a comprehensive accounting of all human-produced sources of greenhouse gases in the U.S., reporting emissions of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride. It also accounts for emissions of carbon dioxide that are removed from the atmosphere by “sinks” such as forests, vegetation, and soils that uptake and store carbon dioxide (carbon sequestration).

The 1990-2016 inventory found that of 6,511 million metric tons of carbon dioxide equivalent greenhouse gas emissions in 2016, 81 percent consist of carbon dioxide, 10 percent are methane, and 6 percent are nitrous oxide; the balance consists of fluorinated gases. (U.S. Environmental Protection Agency 2018) In 2016, greenhouse gas emissions from the transportation sector accounted for nearly 28.5 percent of U.S. greenhouse gas emissions. See Figure 3-1.

**Figure 3-1 U.S. 2016 Greenhouse Gas Emissions****State Greenhouse Gas Inventory**

The California Air Resources Board collects greenhouse gas emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its greenhouse gas reduction goals.

The 2019 edition of the greenhouse gas emissions inventory found total California emissions of 424.1 million metric tons of carbon dioxide equivalent for 2017, with the transportation sector responsible for 41 percent of total greenhouse gases. It also found that overall statewide greenhouse gas emissions declined from 2000 to 2017 despite growth in population and state economic output. (ARB 2019a) See Figures 3-2 and 3-3.

**Figure 3-2 California 2017 Greenhouse Gas Emissions****Figure 3-3 Change in California Gross Domestic Product, Population, and Greenhouse Gas Emissions since 2000**

Assembly Bill 32 required the California Air Resources Board to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing greenhouse gas emissions to 1990 levels by 2020, and to update it every 5 years. The California Air Resources Board adopted the first scoping plan in 2008. The second updated plan, California's 2017 Climate Change Scoping Plan, adopted on December 14, 2017, reflects the 2030 target established in Executive Order B-30-15 and Senate Bill 32. The Assembly Bill 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce greenhouse gas emissions.

### **Regional Plans**

The California Air Resources Board sets regional targets for California's 18 Metropolitan Planning Organizations to use in their Regional Transportation

Plan/Sustainable Communities Strategy to plan future projects that will cumulatively achieve greenhouse gas reduction goals. Targets are set at a percent reduction of passenger vehicle greenhouse gas emissions per person from 2005 levels. The Madera County Transportation Commission is the Metropolitan Planning Organization for the project area. The regional reduction targets for Madera County are 10 percent by 2020 and 16 percent by 2035. (ARB 2019c)

The Madera County Transportation Commission 2018 Regional Transportation Plan/Sustainable Communities Strategy details how the region will reduce greenhouse gas emissions to state-mandated levels over time. The inclusion of the Sustainable Communities Strategy is required by Senate Bill 375 and stresses the importance of meeting greenhouse gas per capita emission reduction targets set by the California Air Resources Board.

The Madera County Transportation Commission participated in the San Joaquin Valley Blueprint Integration Project, which supported small valley cities in integrating smart growth principles into their general plans and other planning policies. (Fresno Council of Governments 2009) The Madera County General Plan Air Quality Element contains objectives and policies to assess and mitigate potentially significant air quality and climate change impacts from proposed projects within the county. (Madera County Planning Department 2010)

**Table 3.1 Regional and Local Greenhouse Gas Reduction Strategies**

Title	Greenhouse Gas Reduction Policies or Strategies
Madera County Transportation Commission 2018 Regional Transportation Plan/Sustainable Communities Strategy	Achieve Senate Bill 375 Greenhouse Gas reduction goals. To promote intermodal transportation systems that are fully accessible, encourage quality growth and development, support the region's environmental resource management strategies, and be responsive to the needs of current and future travelers. To promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to foster economic competitiveness of the Madera region. To enhance transportation system coordination, efficiency, and intermodal connectivity to keep people and goods moving and meet regional transportation goals. To maintain the efficiency, safety, and security of the region's transportation system. To improve the quality of the natural and human-built environment through regional cooperation of transportation systems planning activities.

### 3.3.3 Project Analysis

Greenhouse gas emissions from transportation projects can be divided into those produced during the operation of the State Highway System and those produced during construction. The main greenhouse gases produced by the

transportation sector are carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons. Carbon dioxide emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of methane and nitrous oxide are emitted during fuel combustion. In addition, a small amount of hydrofluorocarbon emissions is included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change. (Public Resources Code, Section 21083(b)(2)) As the California Supreme Court explained, “because of the global scale of climate change, any one project’s contribution is unlikely to be significant by itself.” (Cleveland National Forest Foundation versus San Diego Association of Governments (2017) 3 Cal. 5th 497, 512.) In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable.” (CEQA 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. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

### ***Operational Emissions***

Carbon dioxide accounts for 95 percent of transportation greenhouse gas emissions in the U.S. The largest sources of transportation-related greenhouse gas emissions are passenger cars and light-duty trucks, including sport utility vehicles, pickup trucks, and minivans. These sources account for over half of the emissions from the sector. The remainder of greenhouse gas emissions comes from other modes of transportation, including freight trucks, commercial aircraft, ships, boats, trains, pipelines, and lubricants. Because carbon dioxide emissions represent the greatest percentage of greenhouse gas emissions, it has been selected as a proxy within the following analysis for potential climate change impacts generally expected to occur.

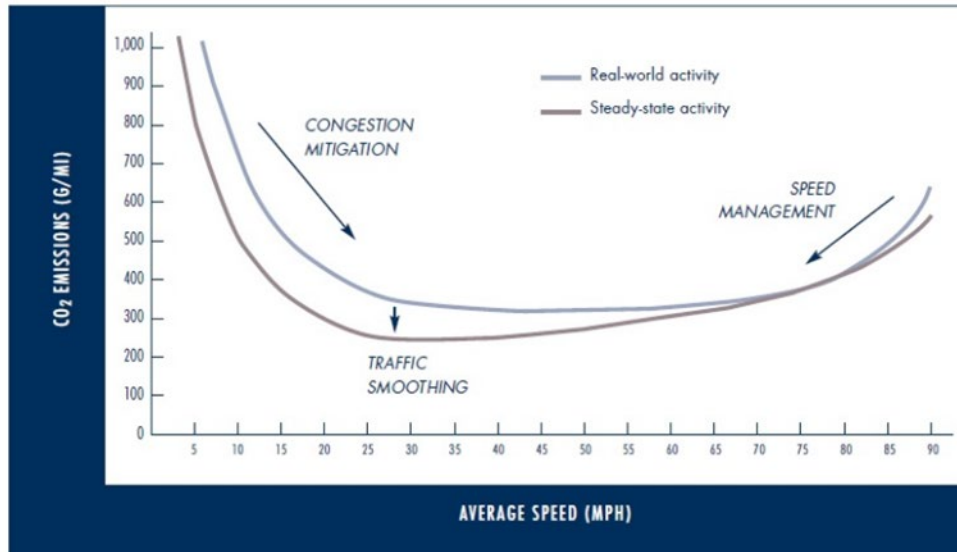
The highest levels of carbon dioxide from mobile sources such as automobiles occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0-25 miles per hour (see Figure 3-4). To the extent that a project relieves congestion by enhancing operations and improving travel times in high-congestion travel corridors, greenhouse gas emissions, particularly carbon dioxide, may be reduced.

The following four main strategies can reduce 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. All four strategies should be pursued concurrently to be most effective.

**Figure 3-4 Possible Use of Traffic Operation Strategies in Reducing On-Road Carbon Dioxide Emissions**



Source: Barth and Boriboonsomsin 2010

The project is included in the Madera County Transportation Commission 2018 Regional Transportation Plan/Sustainable Communities Strategy, which reflects the region's strong commitment to building a more sustainable transportation system through long-range planning efforts. The South Madera 6-Lane project is identified in the Regional Transportation Plan/Sustainable Communities Strategy as one of the priority corridors with the greatest overall expected system benefit. The Madera County Transportation Commission-endorsed scenario for the 2018 Regional Transportation Plan/Sustainable Communities Strategy will achieve an 11 percent reduction in per capita greenhouse gas emissions by 2030 relative to 2005, meeting the California Air Resources Board's regional target for Madera County.

The Madera County Transportation Commission identifies the segment of State Route 99 within the project limits as one of the highway's most congested segments in Madera County. Adding an additional travel lane in each direction is expected to improve traffic operations by reducing travel delay, reducing buffer time, improving vehicle flow and speed, and reducing collisions throughout the corridor. Reducing existing and predicted future peak-hour congestion relative to existing (2018) will address the 2018 Regional Transportation Plans action item aimed at "reducing congestion in highly traveled and highly congested corridors." Because congested traffic increases vehicle greenhouse gas emissions, reducing congestion will provide a long-term benefit by reducing greenhouse gas emissions.

In addition to the travel lanes, the project will include other Transportation System Management elements such as a closed-circuit television to monitor real-time operations, a vehicle detection system to monitor traffic flow and speed, and a fiber-optic infrastructure network to ensure transmission of real-time motion video. These features will contribute to the 2018 Regional Transportation Plans Transportation System Management goals and contribute to the reduction of greenhouse gases by improving the transportation system and operational efficiencies.

### *Quantitative Analysis*

Caltrans Emission Factors version 2017 model and traffic data from Caltrans Traffic Forecasting and Operations Analysis Report 2019 were used to estimate annual carbon dioxide emissions for existing (2019) conditions, open-to-traffic year (2027) conditions, and design year (2047) conditions. Modeling incorporated off-model adjustment factors approved by the California Air Resources Board to address the Safer Affordable Fuel-Efficient Rule part 2 changes in future fuel consumption standards. The National Highway Traffic Safety Administration and the U.S. Environmental Protection Agency's Safer Affordable Fuel-Efficient Vehicles Rule Part One, which revokes California's authority to set its own greenhouse gas emissions standards, was published on September 27, 2019, and became effective on November 26, 2019. The Safer Affordable Fuel-Efficient Vehicles Rule Part Two became effective on June 30, 2020; it amends existing Corporate Average Fuel Economy and tailpipe carbon dioxide emissions standards for passenger cars and light trucks and establishes new standards covering model years 2021 through 2027. The rule retains the model year 2020 standards for both programs through the model year (2027). The California Air Resources Board introduced off-model adjustment factors to Emission Factors version 2017 to account for these changes. Modeling with Emission Factors version 2017 or Caltrans Emission Factors version 2017 remains the most precise means of estimating future greenhouse gas emissions.

Table 3.2 shows projected carbon dioxide emissions for the existing condition in 2019 and No-Build and Build Alternative in the open-to-traffic year (2027) and design year (2047), respectively.

### *Open-to-Traffic Year (2027)*

For the No-Build Alternative, carbon dioxide emissions in the open-to-traffic year (2027) will be 127,750 tons per year compared to 131,613 tons from the existing (2019), which is 3,863 tons less carbon dioxide emissions per year. The predicted increase in vehicles and the lower speeds will result in reduced greenhouse gas emissions between 2019 and 2027 (see Figure 3-4). However, without the project, operational efficiency will not improve, and the level of service in the project area will not be acceptable.

With the Build Alternative, carbon dioxide emissions in the open-to-traffic year (2027) will be 135,272 tons, which is 3,659 tons more than the existing (2019). The predicted increase in vehicles and the higher speeds will result in increased greenhouse gas emissions between 2019 and 2027 (see Figure 3-4). Greenhouse gas emissions will increase with the project, however operational efficiency will improve, and the level of service in the project area will be acceptable.

*Design Year (2047)*

For the No-Build Alternative, carbon dioxide emissions in the design year (2047) will be 139,010 tons per year compared to 131,613 tons from the existing (2019), which is 7,397 tons more carbon dioxide emissions per year.

For the Build Alternative, carbon dioxide emissions in the design year (2047) will be 151,454 tons, which is 19,841 tons more than the existing (2019).

**Table 3.2 Estimated Annual Carbon Dioxide Emissions**

<b>Build Alternative</b>	<b>Annual Carbon Dioxide Emissions (Tons/Year)</b>
Existing (2019)	131,613
Open-to-Traffic Year 2027 No-Build Alternative	127,750
Open-to-Traffic Year 2027 Build Alternative	135,272
Design Year 2047 No-Build Alternative	139,010
Design Year 2047 Build Alternative	151,454

Source: Caltrans Emission Factors version 2017

As shown in Table 3.2 above, under the design year (2047), the Build Alternative will increase carbon dioxide emissions compared to the existing (2019) and the No-Build Alternative. The project will increase greenhouse gas emissions due to projected increases in population and a corresponding increase in vehicles. The project will, however, improve traffic circulation, operational efficiency, and level of service.

Congested traffic conditions overall are very complicated to model, and current traffic models do not fully capture the stop-and-go conditions during traffic congestion. As shown in Figure 3-4, vehicles traveling at 10 miles per hour produce roughly double the amount of carbon dioxide emissions compared to vehicles traveling at 30 miles per hour. Stop-and-go traffic further increases carbon dioxide emissions during highly congested conditions.

While Caltrans Emission Factors version 2017 has a rigorous scientific foundation and has been vetted through multiple stakeholder reviews, its greenhouse gas emissions rates are based on tailpipe emission test data. Moreover, the model does not account for factors such as the rate of acceleration and vehicle aerodynamics, which influence the amount of emissions generated by a vehicle. Greenhouse gas emissions quantified using Caltrans Emission Factors version 2017 are therefore estimates and may not reflect actual physical emissions. Though Caltrans Emission Factors version 2017 is currently the best available tool for calculating greenhouse gas emissions from mobile sources, it is important to note that the greenhouse gas emissions results are only useful for a comparison of alternatives.

### ***Construction Emissions***

Construction greenhouse gas emissions will result from material processing, onsite construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence will be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the greenhouse gas emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Carbon dioxide emissions generated from construction equipment were estimated using the Caltrans Construction Emissions Tool. The estimated emissions will be 2,829 tons generated during the 320 working-day construction period.

All construction contracts include Caltrans' Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all California Air Resources Board emission reduction regulations. All projects also include Caltrans' Standard Specifications Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes, including those of the San Joaquin Valley Air Pollution Control District.

The project will also implement Caltrans' standardized measures (such as construction Best Management Practices) that apply to most or all Caltrans projects. Certain common regulations, such as equipment idling restrictions and development and implementation of a traffic control plan that reduce construction vehicle emissions also help reduce greenhouse gas emissions.

### **CEQA Conclusion**

The project will result in an increase in greenhouse gas emissions during the construction and operation of the Build Alternative. For the Build Alternative, carbon dioxide emissions will be higher in the design year (2047) than in the existing (2019). Except for the open-to-traffic year (2027) No-Build Alternative option, carbon dioxide emissions are projected to increase throughout the design year (2047). Although technological improvements in automobile and fuel efficiency, as well as public interest in hybrid and electric vehicle purchases, continue to advance, by 2047, the annual average daily traffic will have increased by 63 percent compared to existing conditions, or 46,500 more vehicles on the road in comparison to 2019. This surge in the annual average daily traffic will be due solely to projected population growth.

The additional lane in each direction of the widened highway is intended to address population growth by allowing higher capacity, more free-flowing traffic movement within the project limits, and more efficient operation. Ideally, the presence of an additional lane will encourage slower-moving vehicles to move to the side lanes and allow faster vehicles to pass, relieving congestion, enhancing operational efficiency, and improving the level of service.

It is the policy or objective of Caltrans to provide a quality of service equal to level of service C in rural areas and a quality of service equal to level of service C/D in urban areas. Table 3.3 shows the four-lane section, which currently operates at a level of service D/D. Table 3.3 also shows that in the open-to-traffic year (2027), the quality of service will degrade to a level of service D/E under No-Build Alternative conditions; this quality of service will not meet the standard set by Caltrans for state highway facilities. The Build Alternative, however, will allow the highway to operate at an improved level of service of B/C in the open-to-traffic year (2027) and gradually transition to an acceptable level of service D/D in the design year (2047).

Under the design year 2047, the No-Build Alternative will see increased congestion as annual average daily traffic increases due to projected growth, thereby reducing morning/evening peak speeds. The Build Alternative will enhance operational efficiency by reducing congestion and increasing free-flowing movement. Morning/evening peak speed will see an improvement from 53/49 miles per hour to 62/62 miles per hour within the project limits (see Table 3.3 below).

**Table 3.3 Comparison of 2019, 2027, and 2047 Build Traffic**

Year	Annual Average Daily Traffic (Total)	Annual Average Daily Traffic-Truck (19.23 Percentage)	Morning/Evening Peak Volume	Morning/Evening Peak Speed	Morning/Evening Peak Level of Service
2019 Existing	80,500	15,480	14,600/16,600	62/62	D/D
2027 No-Build Alternative	90,500	17,403	17,000/18,900	62/61	D/E
2047 No-Build Alternative	127,000	24,422	23,800/26,300	53/49	F/F
2027 Build Alternative	90,500	17,403	17,000/18,900	64/63	B/C
2047 Build Alternative	127,000	24,422	23,800/26,300	62/62	D/D

Traffic Operations Analysis 2020

Operations will also be enhanced by eliminating the existing bottleneck within the project limits. The additional lane in each direction will reduce stop-and-go traffic during peak hours.

The widening of State Route 99 is in proportion to future land use and population growth set forth by the Madera County general land use plan and will accommodate the future travel demand required to meet the plan. The project will not cause changes to the land use within the project area and will not cause changes to travel patterns predicted in the travel demand model for the region. Based on Table 3.3, the annual average daily traffic remains the same for both the future Build Alternative and No-Build Alternative.

Caltrans considers and integrates climate change through greenhouse gas reduction and adaptation strategies. These construction, operational, and adaptation measures are discussed in the project-level greenhouse gas reduction strategies section of this analysis. By integrating these reduction strategies, Caltrans will promote measures, practices, and business operations to minimize greenhouse gas emissions into the design and maintenance of its transportation system.

Greenhouse gas emissions in the design year 2047 will be higher than both existing (2019) and No-Build Alternative conditions. Annual average daily traffic will remain the same under Build Alternative and No-Build Alternative scenarios. Vehicle and fuel technologies will improve and continue to decrease greenhouse gas emissions. The additional lane in each direction proposed by this project will improve traffic flow, relieve congestion, enhance

operational efficiency, and improve the level of service. These improvements, along with the construction and operational mitigation measures discussed in the project-level greenhouse gas reduction strategies section below, will result in a less than significant impact.

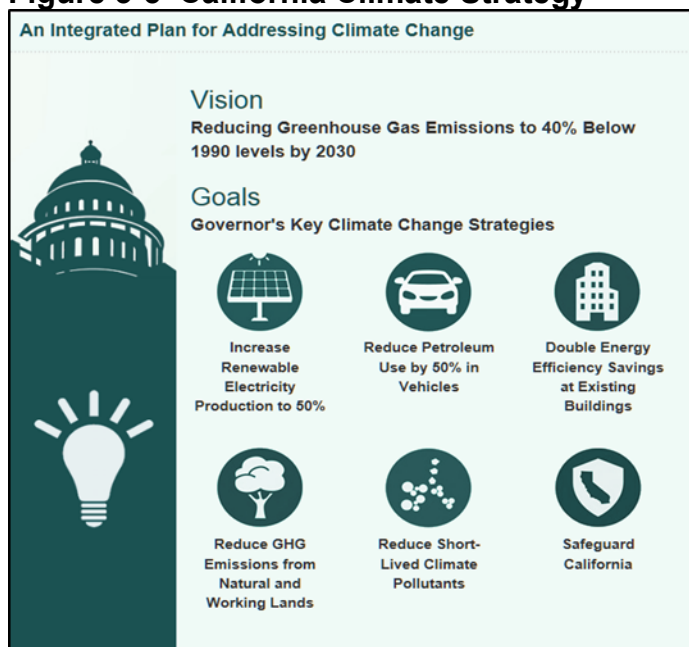
Caltrans is firmly committed to implementing measures to help reduce greenhouse gas emissions. These measures are outlined in the following section.

### **3.3.4 Greenhouse Gas Reduction Strategies**

#### ***Statewide Efforts***

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 greenhouse gas emissions targets. Former Governor Edmund G. Brown Jr. promoted greenhouse gas reduction goals that involved (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, *Safeguarding California*. See Figure 3-5.

The transportation sector is integral to the people and economy of California. To achieve greenhouse gas emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. Greenhouse gas emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled. A key state goal of reducing greenhouse gas emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030. (State of California 2019)

**Figure 3-5 California Climate Strategy**

In addition, Senate Bill 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forest lands, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above-ground and below-ground matter.

### *Caltrans Activities*

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. Executive Order B-30-15, issued in April 2015, and Senate Bill 32 (2016), set a new interim target to cut greenhouse gas emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

### *California Transportation Plan (CTP 2040)*

The California Transportation Plan is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas emissions. In 2016, Caltrans completed the *California Transportation Plan 2040*, which establishes a new model for developing ground transportation systems, consistent with carbon dioxide reduction goals. It serves as an umbrella document for all the other statewide transportation planning documents. Over the next 25 years, California will be working to improve transit and reduce long-run repair and maintenance costs of roadways and developing a comprehensive assessment of climate-related transportation demand



management and new technologies rather than continuing to expand capacity on existing roadways.

Senate Bill 391 (Liu 2009) requires the California Transportation Plan to meet California's climate change goals under Assembly Bill 32. Accordingly, the California Transportation Plan 2040 identifies the statewide transportation system needed to achieve maximum feasible greenhouse gas emission reductions while meeting the state's transportation needs. While Metropolitan Planning Organizations have primary responsibility for identifying land use patterns to help reduce greenhouse gas emissions, the California Transportation Plan 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

#### *Caltrans Strategic Management Plan*

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce greenhouse gas emissions, among other goals. Specific performance targets in the plan that will help to reduce greenhouse gas emissions include:

- Increasing percentage of non-auto mode share
- Reducing vehicle miles traveled

Reducing Caltrans' internal operational (buildings, facilities, and fuel) greenhouse gas emissions.

#### *Funding and Technical Assistance Programs*

In addition to developing plans and performance targets to reduce greenhouse gas emissions, Caltrans also administers several sustainable transportation planning grants. These grants encourage local and regional multimodal transportation, housing, and land use planning that furthers the region's Regional Transportation Plan/Sustainable Communities Strategy; contribute to the State's greenhouse gas reduction targets and advance transportation-related greenhouse gas emission reduction project types/strategies; and support other climate adaptation goals (e.g., *Safeguarding California*).

#### *Caltrans Policy Directives and Other Initiatives*

The Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a department policy that will ensure coordinated efforts to incorporate climate change into departmental decisions and activities.

*Caltrans Activities to Address Climate Change* (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce greenhouse gas emissions resulting from agency operations.

*Project-Level Greenhouse Gas Reduction Strategies*

The following measures will also be implemented in the project to reduce greenhouse gas emissions and potential climate change impacts from the project. Caltrans staff will enhance the environmental training provided for contractor staff by adding a module on greenhouse gas reduction strategies.

The contractor will be required to:

- Reduce construction waste and maximize the use of recycled materials wherever possible (reduces the consumption of raw materials, reduces landfill waste, and encourages cost savings).
- Incorporate measures to reduce the use of potable water.

Seek to operate construction equipment with improved fuel efficiency by:

- Properly tuning and maintaining equipment.
- Limiting equipment idling time.
- Using the right-size equipment for the job.
- Caltrans Standard Specifications Section 14-9.02, Air Pollution Control, requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Measures that reduce construction vehicle emissions also help reduce greenhouse gas emissions.
- In disturbed areas, use compost and native hydroseed mix to promote revegetation success and provide erosion control. Vegetation helps sequester carbon dioxide.
- Limit idling to 5 minutes for delivery and dump trucks and other diesel-powered equipment.
- Schedule truck trips outside of peak morning and evening commute hours.
- Install Continuously Reinforced Concrete Pavement to lower the rolling resistance of the highway. In 2008, the California Department of Transportation (Caltrans) conducted a study to measure and compare the fuel economy of vehicles traveling on different pavement types. Vehicles on concrete pavements had 2 percent less fuel consumption.
- Use ultra-reflective sign materials that are illuminated by headlights. Current overhead signs are illuminated with an external light source that requires electricity. The new ultra-reflective sign materials will not use electricity.
- For ease of maintenance vehicle movement, a Class 2 aggregate base roadway that is 16 feet wide and 8 inches thick will be built around each basin. Class 2 aggregate base materials have lower greenhouse gas emissions than concrete or hot mix asphalt materials.

- The project will match the existing grade and will reduce earthwork. The matching grade will avoid the need for excavating excess material or filling with an imported borrow. This will avoid the use of heavy machinery for excavation, trucks for bringing in imported borrow, and compactors for compacting the imported borrow.
- Lengthen lane closure duration to reduce necessary mobilization efforts.

Increased Lane Closure Length—A lane closure that is 1 mile long will be proposed in the construction specifications for this project. Doubling the lane closure length from a standard 0.5-mile length to 1 mile will double the production of work during each shift requiring lane closures. This will result in reduced greenhouse gas emissions due to the reduced number of working days requiring lane closures and reduced construction mobilization associated with setup and removal of temporary lane closures.

Increased Lane Closure Duration—An expanded work window of 10 hours will be proposed in the construction specifications for this project. A 10-hour lane closure for every shift requiring temporary traffic control will allow 25 percent more production to be completed during each shift. This will result in reduced greenhouse gas emissions due to the reduced number of working days requiring lane closures and reduced construction mobilization associated with setup and removal of temporary lane closures.

Measures to reduce operational greenhouse gas emissions will include the following:

- Design and install long-life pavement structures to minimize maintenance and life cycle costs. The structural section for this project will be Continuously Reinforced Concrete Pavement. Continuously Reinforced Concrete Pavement will last about 40 to 50 years with virtually no rehabilitation or maintenance. Continuously Reinforced Concrete Pavement will reduce the life cycle cost, maintenance cost and will contribute to fuel savings, reducing greenhouse gas emissions.
- Swales and detention basins will be designed to convey and retain stormwater. They will be treated with native or drought-tolerant grasses and forbs that nurture infiltration. This will reduce dependence on mechanical equipment, concrete channels, and drainage systems that will produce greenhouse gas emissions to move and treat stormwater.
- Trees will be preserved wherever feasible to minimize the loss of tree covering within the project limits. Trees that must be removed for project construction will be replaced at a 15 to 1 ratio, which means that 15 trees will be planted for every tree removed.
- Provide native and drought-tolerant seed mix on disturbed slopes and exposed soils. The project will maximize the use of compost as opposed to synthetic fertilizers to improve soil health.

- Implement intelligent transportation systems and traffic demand management elements to smooth traffic flow and increase system efficiency. Overhead changeable message signs will be installed at two locations to inform northbound and southbound traffic of congestion.
- Install level two electric vehicle chargers for public use. Potential sites include roadside rest areas, park and ride areas, and district facilities. Locations will be determined during the Plans, Specifications, and Estimates phase of the project.
- Monitoring program for travel information—Five years after the project has been built, Caltrans will prepare a traffic growth report for the project segment. The report will compare the growth that has occurred to what was forecasted during project development and what was indicated in the travel demand model for the project. The report will be provided to Caltrans Headquarters to assess how accurate forecasting and travel demand model growth rates were for this project and how they could be applied to future transportation projects.

### **3.3.5 Adaptation**

Reducing greenhouse gas emissions is only one part of an approach to addressing climate change. Caltrans must 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 their intensity, and variability in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads. Longer periods of intense heat can buckle pavement and railroad tracks. Storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

#### ***Federal Efforts***

Under NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and Federal Highway Administration NEPA regulations, policies, and guidance.

The U.S. Global Change Research Program delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990. (15 U.S. Code Chapter 56A Section 2921 et seq.) The Fourth National Climate Assessment, published in 2018, presents the foundational science and the “human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national

topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways.” Chapter 12, “Transportation,” presents a key discussion of vulnerability assessments. It notes that “asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime.” (USGCRP 2018)

The U.S. Department of Transportation Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to “integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of Department of Transportation in order to ensure that taxpayer resources are invested wisely and that transportation infrastructure, services, and operations remain effective in current and future climate conditions.” (U.S. DOT 2011)

Federal Highway Administration Order 5520 (Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events, December 15, 2014) established Federal Highway Administration policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems.

The Federal Highway Administration has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels. (Federal Highway Administration 2019)

### **State Efforts**

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. California’s Fourth Climate Change Assessment (2018) is the state’s latest effort to “translate the state of climate science into useful information for action” in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- Adaptation to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- Adaptive capacity is the “combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities.”
- Exposure is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.

- Resilience is the “capacity of any entity—an individual, a community, an organization, or a natural system—to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience.” Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- Sensitivity is the level to which a species, natural system, or community, government, etc., will be affected by changing climate conditions.
- Vulnerability is the “susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt.” Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factor(s). These factors include, but are not limited to: ethnicity, class, sexual orientation and identification, national origin, and income inequality. Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

Executive Order S-13-08, issued by then-Governor Arnold Schwarzenegger in November 2008, focused on sea-level rise and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk*. (Safeguarding California Plan) The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

Executive Order S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* in 2010, with instructions for how state agencies could incorporate “sea-level rise projections into planning and decision making for projects in California” in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017, and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the State of California Sea-Level Rise Guidance Update in 2018.

Executive Order B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This order recognizes that effects of climate change other than sea-level rise also threaten California’s infrastructure. At the direction of Executive Order B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017, to encourage a uniform and systematic approach. Representatives of Caltrans participated

in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

Assembly Bill 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and expected climate change impacts.

### *Caltrans Adaptation Efforts*

#### *Caltrans Vulnerability Assessments*

Caltrans is conducting climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects, including precipitation, temperature, wildfire, storm surge, and sea-level rise. The approach to the vulnerability assessments was tailored to the practices of a transportation agency and involves the following concepts and actions:

- *Exposure*—Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.
- *Consequence*—Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization*—Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the State Highway System, allowing Caltrans to both reduce the costs of storm damage and provide and maintain transportation that meets the needs of all Californians.

### *Project Adaptation Analysis*

Measures to address adaptation will include the following:

- Improved drainage
- Improve drainage systems to adapt to localized flooding risks.

### Sea Level Rise

The project is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

### Floodplains Analysis

Based on the Federal Emergency Management Agency website, the project is in an Area of Minimal Flood Hazard (unshaded Zone X) within Madera County, which is determined to be outside the 0.2 percent annual floodplain (500-year frequency). The unshaded Zone X represents most of the area within the Build Alternative. The remaining project area on the northern end of the project is within the shaded Zone A, where the Build Alternative is within the 1 percent annual (100-year frequency) floodplain.

To accommodate additional roadway runoff from increased impervious surfaces, the project will involve the construction of a series of detention basins and drainage ditches within a Caltrans right-of-way. Three detention basins are proposed under the Build Alternative. All detention basins will be at least 5 feet deep with 2 feet freeboard, while drainage ditches will be 3 feet deep. The Caltrans District 6 Climate Change Vulnerability Assessment mapping for precipitation change shows a less than 5 percent increase in 100-year storm precipitation through 2085. Given these project features, the project will accommodate precipitation changes due to climate change.

### Wildfire

The project is not in a very high fire hazard severity zone. (California Department of Forestry and Fire Protection, 2007) The project is about 0.70 mile west of the westernmost boundary of the nearest fire hazard severity zone. Construction activities could create an unintended fire in roadside vegetation; however, Caltrans' 2018 revised Standard Specifications Section 7-1.02M(2) mandates fire prevention procedures during construction, including a fire prevention plan. By implementing this specification and construction best practices, the project is not expected to exacerbate the impacts of wildfires intensified by climate change.



### ***Climate Change References***

- Barth, Matthew and Kanok Boriboonsomsin. 2010. Real-World Carbon Dioxide Impacts of Traffic Congestion. Berkeley, California: University of California Transportation Center. UCTC-FR-2010-11. Available: <https://www.researchgate.net/publication/46438207>. Accessed: October 31, 2019.
- California Air Resources Board (ARB). 2008. *Climate Change Scoping Plan Appendices. Volume II: Analysis and Documentation*. Appendix I, pages. 1-19. December. Available: [https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/document/appendices\\_volume2.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/document/appendices_volume2.pdf). Accessed: October 31, 2019.
- California Air Resources Board (ARB). 2019a. *California Greenhouse Gas Emissions Inventory–2019 Edition*. <https://ww3.arb.ca.gov/cc/inventory/data/data.htm>. Accessed: August 21, 2019.
- California Air Resources Board (ARB). 2019b. *California Greenhouse Gas Emissions for 2000 to 2017. Trends of Emissions and Other Indicators*. [https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000\\_2017/ghg\\_inventory\\_trends\\_00-17.pdf](https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf). Accessed: August 21, 2019.
- California Air Resources Board (ARB). 2019c. *SB 375 Regional Plan Climate Targets*. <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets>. Accessed: August 21, 2019.
- California Department of Transportation. 2018. *Caltrans Climate Change Vulnerability Assessments. District 6 Technical Report*. Prepared by WSP. Accessed: August 21, 2019.
- Federal Highway Administration. 2019. *Sustainability*. <https://www.fhwa.dot.gov/environment/sustainability/resilience/>. Last updated February 7, 2019. Accessed: August 21, 2019.
- Federal Highway Administration. No date. *Sustainable Highways Initiative*. <https://www.sustainablehighways.dot.gov/overview.aspx>. Accessed: August 21, 2019.
- Fresno Council of Governments (on behalf of the eight San Joaquin Valley Regional Planning Agencies). 2009. *San Joaquin Valley Blueprint Integration Final Report*. Prepared by URS Corporation and Circuit Planners. <https://www.fresnocog.org/project/san-joaquin-valley-blueprint/>. Accessed: August 21, 2019.

- Madera County Planning Department. 2010. *General Plan Air Quality Element*.  
<https://www.maderacounty.com/Home/ShowDocument?id=2846>.  
Accessed: August 21, 2019
- State of California. 2018. *California's Fourth Climate Change Assessment*.  
<http://www.climateassessment.ca.gov/>. Accessed: August 21, 2019.
- State of California. 2019. *California Climate Strategy*.  
<https://www.climatechange.ca.gov/>. Accessed: August 21, 2019.
- U.S. Department of Transportation (U.S. DOT). 2011. *Policy Statement on Climate Change Adaptation*. June.  
[https://www.fhwa.dot.gov/environment/sustainability/resilience/policy\\_and\\_guidance/usdot.cfm](https://www.fhwa.dot.gov/environment/sustainability/resilience/policy_and_guidance/usdot.cfm). Accessed: August 21, 2019.
- U.S. Environmental Protection Agency (U.S. Environmental Protection Agency). 2009. *Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Section 202(a) of the Clean Air Act*.  
<https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a-clean>.  
Accessed: August 21, 2019.
- U.S. Environmental Protection Agency (U.S. Environmental Protection Agency). 2018. *Inventory of U.S. Greenhouse Gas Emissions and Sinks*. <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>. Accessed: August 21, 2019.
- U.S. Global Change Research Program (USGCRP). 2018. *Fourth National Climate Assessment*. <https://nca2018.globalchange.gov/>. Accessed: August 21, 2019.



## **Chapter 4**      Comment Letters and Responses

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The following text has been added since the draft environmental document: This Chapter contains the comments received during the public circulation and comment period from February 10, 2021, to March 11, 2021, retyped for readability. A Caltrans response follows each comment presented. Copies of the original comment letters and documents can be found in Volume 2 of this document.

A public notice was posted in The Fresno Bee and the Madera Tribune on February 10, 2021. A public notice in Spanish was posted in Vida en el Valle on February 10, 2021. All newspaper publications stated the public comment period ran from February 10, 2021, to March 11, 2021, and offered the public an opportunity to request a virtual open house.

There were no requests for a virtual open house during public circulation. Five comments were received—the State Clearinghouse and Planning Unit, a member of the public, the San Joaquin Valley Air Pollution Control District, the California Department of Fish and Wildlife, and the North Fork Rancheria of Mono Indians of California (see below). A Caltrans response follows these comments.

**Comment From: State Clearinghouse and Planning Unit**

The State Clearinghouse (SCH) would like to inform you that our office will transition from providing close of review period acknowledgement on your CEQA environmental document, at this time. During the phase of not receiving notice on the close of review period, comments submitted by State Agencies at the close of review period (and after) are available on CEQAnet.

Please visit: <https://ceqanet.opr.ca.gov/Search/Advanced>

Filter for the SCH# of your project OR your “Lead Agency”

If filtering by “Lead Agency”

Select the correct project

Only State Agency comments will be available in the “attachments” section: bold and highlighted

Thank you for using CEQA Submit.

Meng Heu

Office of Planning and Research (OPR)

State Clearing House

**Response to comment:** Thank you for circulating the Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment for the South Madera 6-Lane Project and acknowledging Caltrans’ compliance with California Environmental Quality Act requirements pursuant to State Clearinghouse guidelines. Caltrans has recorded the corresponding State Clearinghouse number for this project.

**Comment From: Jackson Hurst**

February 23, 2021

From: Jackson Hurst <ghostlightmater@yahoo.com>

Sent: Tuesday, February 23, 2021 8:28 AM

To: Putler, Richard C@DOT <richard.putler@dot.ca.gov>

Subject: South Madera 6-Lane Initial Study with Proposed Mitigated Negative Declaration/ Environmental Assessment Public Comment

Name - Jackson Hurst

Address - 4216 Cornell Crossing, Kennesaw, Georgia 30144

Comment - I have reviewed the environmental document for the South Madera 6-Lane Project and I support the build alternative because widening SR-99 from Avenue 7 to Avenue 12 from 2 lanes to 3 lanes for a total of 6 lanes on SR-99 will help reduce congestion and will improve freight movement.

sent from ghostlightmater@yahoo.com

**Response to comment:** Thank you for your comments on the environmental document.

**Comment From: San Joaquin Valley Air Pollution Control District**

March 4, 2021

Richard Putler

California State Transportation Agency

Department of Transportation

855 M. Street, Suite 200

Fresno, CA 93721

Project: South Madera 6-Lane Project

District CEQA Reference No: 20210182

Dear Mr. Putler,

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the project referenced above from the Department of Transportation (DOT). The project consists of adding one lane in each direction on highway 99 just north of Avenue 7 to Avenue 12 (Project). The Project is located in Madera, CA.

**Project Scope**

The Project consists of widening State Route 99 in Madera County from just north of Avenue 7 to Avenue 12. One lane would be built in each direction on the highway median to create a six-lane highway. Additionally, the existing lanes and shoulders of State Route 99 would be rehabilitated, and a concrete median barrier would be installed along with an auxiliary lane at the Avenue 12 northbound off-ramp.

Based on information provided to the District, Project specific annual emissions from construction emissions of criteria pollutants are not expected to exceed any of the following District significance thresholds: 100 tons per year of carbon monoxide (CO), 10 tons per year of oxides of nitrogen (NO<sub>x</sub>), 10 tons per year of reactive organic gases (ROG), 27 tons per year of oxides of sulfur (SO<sub>x</sub>), 15 tons per year of particulate matter of 10 microns or less in size (PM<sub>10</sub>), or 15 tons per year of particulate matter of 2.5 microns or less in size (PM<sub>2.5</sub>).

Other potential significant air quality impacts related to Toxic Air Contaminants (see information below under Health Risk Assessment), Ambient Air Quality Standards, Hazards and Odors, may require

assessments and mitigation. More information can be found in the District's Guidance for Assessing and Mitigating Air Quality Impacts at:

[https://www.valleyair.org/transportation/GAMAQI\\_12-26-19.pdf](https://www.valleyair.org/transportation/GAMAQI_12-26-19.pdf)

The District offers the following comments:

## **1) Project Related Criteria Pollutant Emissions**

### **1a) Construction Emissions:**

Although the construction-related emissions are expected to have a less than significant impact, the District suggests that DOT advise project proponents with construction-related exhaust emissions and activities resulting in less than significant impact on air quality to utilize the cleanest reasonably available off-road construction fleets and practices (i.e. eliminating unnecessary idling) to further reduce impacts from construction-related exhaust emissions and activities.

## **2) District Rules and Regulation**

The District issues permits for many types of air pollution sources and regulates some activities not requiring permits. A project subject to District rules and regulation would reduce its impacts on air quality through compliance with regulatory requirements. In general, a regulation is a collection of rules, each of which deals with a specific topic. For example, Regulation II - Permits encompasses multiple rules associated with the permitting of emission sources such as Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), and others.

### **2a) District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources**

Stationary Source emissions include any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission. District Rule 2010 requires operators of emission sources to obtain an Authority to Construct (ATC) and Permit to Operate (PTO) from the District. District Rule 2201 requires that new and modified stationary sources of emissions mitigate their emissions using best available control technology (BACT). This Project may be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and may require District permits.

Prior to commencing construction on any permit-required equipment or process, a finalized Authority to Construct (ATC) must be issued to the Project proponent by the District. For further information or assistance, the project proponent may contact the District's Small Business Assistance (SBA) Office at (559) 230-5888.



## **2b) District Rule 9510 (Indirect Source Review)**

The purpose of District Rule 9510 (Indirect Source Review) is to reduce the growth in both NO<sub>x</sub> and PM<sub>10</sub> emissions associated with development and transportation projects from mobile and area sources associated with construction and operation of development projects. The rule encourages clean air design elements to be incorporated into the development project. In case the proposed project clean air design elements are insufficient to meet the targeted emission reductions, the rule requires developers to pay a fee used to fund projects to achieve off-site emissions reductions.

The proposed Project is subject to District Rule 9510 because it will receive a project-level discretionary approval from a public agency and will exceed 2 tons of either Particulate Matter 10 and/or nitrogen oxide air pollutants. When subject to the rule, an Air Impact Assessment (AIA) application is required no later than applying for project-level approval from a public agency. In this case, if not already done, please inform the project proponent to immediately submit an AIA application to the District to comply with District Rule 9510.

An AIA application is required, and the District recommends that demonstration of compliance with District Rule 9510, before issuance of the first building permit, be made a condition of Project approval.

Information about how to comply with District Rule 9510 can be found online at: <http://www.valleyair.org/ISR/ISRHome.htm>.

The AIA application form can be found online at:  
<http://www.valleyair.org/ISR/ISRFormsAndApplications.htm>

## **2c) District Rule 4002 (National Emissions Standards for Hazardous Air Pollutants)**

In the event an existing building will be renovated, partially demolished or removed, the Project may be subject to District Rule 4002. This rule requires a thorough inspection for asbestos to be conducted before any regulated facility is demolished or renovated. Information on how to comply with District Rule 4002 can be found online at:  
<http://www.valleyair.org/busind/comply/asbestosbultn.htm>.

## **2d) District Regulation VIII (Fugitive PM<sub>10</sub> Prohibitions)**

The Project will be subject to Regulation VIII. The project proponent is required to submit a Construction Notification Form or submit and receive approval of a Dust Control Plan prior to construction.

Information on how to comply with Regulation VIII can be found online at:

[http://www.valleyair.org/busind/comply/PM10/compliance\\_PM10.htm](http://www.valleyair.org/busind/comply/PM10/compliance_PM10.htm).

## 2e) Other District Rules and Regulations

The Project may also be subject to the following District rules: Regulation VIII, (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). In the event an existing building will be renovated, partially demolished or removed, the project may be subject to District Rule 4002 (National Emission Standards for Hazardous Air Pollutants).

The list of rules above is neither exhaustive nor exclusive. Current District rules can be found online at: [www.valleyair.org/rules/1ruleslist.htm](http://www.valleyair.org/rules/1ruleslist.htm). To identify other District rules or regulations that apply to this Project or to obtain information about District permit requirements, the applicant is strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (559) 230-5888.

If you have any questions or require further information, please contact Will Worthley by e-mail at [will.worthley@valleyair.org](mailto:will.worthley@valleyair.org) or by phone at (559) 230-5925.

Sincerely,

Brian Clements

Director of Permit Services

John Stagnaro

Program Manager

BC: ww

**Response to comment:** 1a) Construction Emissions: Although construction-related emissions are expected to have a less than significant impact, the San Joaquin Valley Air Pollution Control District suggests that Caltrans advise project proponents with construction-related exhaust emissions and activities resulting in a less than significant impact on air quality, to use the cleanest reasonably available off-road construction fleets and practices (i.e., eliminating unnecessary idling) to further reduce impacts from construction-related exhaust emissions and activities.

The following measures will be implemented in the project to reduce greenhouse gas emissions and construction-related impacts from the project:

- Properly tuning and maintaining equipment.
- Limiting equipment idling time.
- Using the right-size equipment for the job.
- Caltrans' Standard Specifications Section 14-9.02, Air Pollution Control, requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Measures that reduce construction vehicle emissions also help reduce greenhouse gas emissions.
- Limit idling to 5 minutes for delivery and dump trucks and other diesel-powered equipment.
- Schedule truck trips outside of peak morning and evening commute hours.
- Lengthen lane closure duration to reduce necessary mobilization efforts.

2a) District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources: Stationary source emissions are not expected for this project. If needed, Caltrans will require the contractor to comply with the San Joaquin Valley Air Pollution Control District rules, ordinances, and regulations and obtain the necessary approvals per Caltrans' Standard Specifications 14-9.02.

2b) District Rule 9510 (Indirect Source Review): We will include a Non-Standard Specification in the project contract to ensure compliance with Indirect Source Review Rule 9510.

2c) District Rule 4002 (National Emissions Standards for Hazardous Air Pollutants): District Rule 4002 National Emission Standards for Hazardous Air Pollutants do not apply to this project because no existing building will be renovated, partially demolished, or removed.

2d) District Regulation VIII (Fugitive PM<sub>10</sub> Prohibitions): Caltrans' Standard Specifications that pertain to dust control and dust palliative requirements are a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans' Standard Specifications, Section 14-9.02 "Air Pollution Control," and Section 14-9.03 "Dust Control," require the contractor to comply with the San Joaquin Valley Air Pollution Control District rules, ordinances, and regulations.

2e) Other District Rules and Regulations: Regulation VIII: Caltrans' Standard Specifications that pertain to dust control and dust palliative requirements are a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans' Standard Specifications, Section 14-9.02 "Air Pollution Control," and Section 14-9.03 "Dust Control," require the contractor to comply with the San Joaquin Valley Air Pollution Control District rules, ordinances, and regulations per Caltrans' Standard Specification Section 14-9.02.

District Rule 4102: Nuisance impacts are not expected for this project. If needed, Caltrans will require the contractor to comply with the San Joaquin Valley Air Pollution Control District's rules, ordinances, regulations and obtain the necessary approvals, per Caltrans' Standard Specification Section 14-9.02.

District Rule 4601: Architectural coatings are not expected for this project. If needed, Caltrans will require the contractor to comply with the San Joaquin Valley Air Pollution Control District's rules, ordinances, and regulations and obtain the necessary approvals, per Caltrans' Standard Specification Section 14-9.02.

District Rule 4641: Cutback, slow cure, emulsified asphalt, paving, and maintenance operations are not expected for this project. If needed, Caltrans will require the contractor to comply with the San Joaquin Valley Air Pollution Control District's rules, ordinances, and regulations and obtain the necessary approvals, per Caltrans' Standard Specification Section 14-9.02.

District Rule 4002: National Emission Standards for Hazardous Air Pollutants do not apply to this project because no existing building will be renovated, partially demolished, or removed.

**Comment From: California Department of Fish and Wildlife**

March 11, 2021

Richard Putler

California Department of Transportation, District 6

855 M Street, Suite 200

Fresno, CA 93726

**Subject: South Madera 6-Lane (Project)**

**Initial Study with proposed Mitigated Negative Declaration**

**State Clearinghouse No. 202102020203**

Dear Mr. Putler:

The California Department of Fish and Wildlife (CDFW) received a proposed Mitigated Negative Declaration (MND) and its supporting Initial Study (IS) prepared by the California Department of Transportation (Caltrans) for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under Fish and Game Code.

**CDFW ROLE**

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects

that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

## **PROJECT DESCRIPTION SUMMARY**

**Proponent:** Caltrans

**Objective:** Caltrans proposes to widen and rehabilitate an approximately 8-mile segment of State Route 99 (SR 99) between Post Mile 0.1 and Post Mile 8.1 (Project site) in Madera County. All Project-related activities will occur within existing right-of-way, paved travel lanes, unpaved but compacted and engineered shoulder backing, the highway median, proposed new right-of-way, and within the ruderal habitat areas beyond the travel lanes and shoulder backing. Work would include the widening and resurfacing of the existing SR 99, construction of a median barrier, abandonment or replacement of existing culvert locations, the installation of a retaining wall, and construction of stormwater retention basins. Activities include trenching, grading, resurfacing outside shoulders, temporary lane closures and temporary traffic control.

**Location:** The Project site exists between Post Mile 0.1 and Post Mile 8.1 and is between the City of Madera and the City of Fresno in Madera County.

**Timeframe:** Spring 2024-Summer 2027.

## **COMMENTS AND RECOMMENDATIONS**

CDFW offers the following comments to assist Caltrans in adequately identifying and sufficiently reducing to less-than-significant the potentially significant, direct and indirect Project-related impacts to fish and wildlife (biological) resources.

Currently, the proposed IS/MND indicates that the Project-related impacts to Biological Resources would be less-than-significant with implementation of specific avoidance and minimization efforts. In particular, Caltrans concludes there will be: 1) less-than-significant impacts to the State threatened Swainson's hawk (*Buteo swainsoni*).

However, as currently drafted, it is unclear whether the measures proposed in the

IS/MND sufficiently reduce to less-than-significant the potential Project-related impacts to State-listed species. Therefore, CDFW does not agree with these conclusions and will herein suggest measures to survey for and avoid Project-related impacts to the species, thereby reducing to less-than-significant the Project-related impacts. Further, CDFW considers other migratory birds potentially present in the vicinity of the Project and will herein suggest measures to survey for and avoid Project-related impacts to migratory birds in general, thereby reducing to less-than-significant the Project-related impacts. CDFW also recommends that Caltrans identify a path forward in the event that avoidance of the State-listed species is not feasible.

#### I. Environmental Setting and Related Impact

**Would the Project have a substantial adverse impact, 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 CDFW or the United States Fish and Wildlife Service (USFWS)?**

##### **COMMENT 1: Migratory Birds including Swainson's Hawk (SWHA)**

**Issue:** Migratory birds, including SWHA, are known to nest in the vicinity of the Project with the nearest occurrence approximately 0.3 miles from the Project as reported in CNDDB. The Project activities will involve varying degrees of ground disturbance and CDFW considers it possible that the Project-related activities would represent a novel stimulus which could result in nest abandonment to migratory birds and to SWHA specifically if they occur within ½-mile of an active SWHA nest. This nest failure of the State threatened SWHA would represent a significant impact to SWHA and possibly take as it is defined in section 86 of Fish and Game Code.

**Specific Impacts:** In the IS, Caltrans addresses SWHA and it further indicates it will maintain a 600-foot no disturbance buffer from active SWHA nests during Project implementation. However, CDFW considers this 600-foot no disturbance buffer insufficient to avoid take of SWHA. Further, Caltrans does not cite any relevant scientific peer reviewed literature as the basis for ensuring no significant impacts to nesting SWHA and to validate the efficacy of take avoidance in the implementation of the 600-foot no disturbance buffer. Therefore, CDFW does not agree that the proposed 600-foot no-disturbance buffer reduces to less-than-significant the potential Project-related impacts to the species.

**Evidence impact would be significant:** SWHA exhibit high nest-site fidelity year after year and lack of suitable nesting habitat in the San Joaquin Valley limits their local distribution and abundance (CDFW 2016). Adoption of the MND as it is written will allow Project-related activities that will involve ground disturbance, grading, and excavation employing heavy equipment and work

crews within ½-mile of active SWHA nests. These activities occurring within ½-mile of active SWHA nests have the potential to result in nest abandonment, significantly impacting nesting SWHA.

**Recommended Potentially Feasible Avoidance and Mitigation**

**Measure(s)** Because the Project-related activities represent novel stimuli and threaten nest abandonment, CDFW advises Caltrans amend the IS/MND that a ½-mile no-disturbance buffer will be implemented around active SWHA nests in order to reduce to less-than-significant the Project-related impacts to the species. CDFW recommends edits to the IS to include Migratory Bird avoidance and minimization measures in the IS. Further, CDFW recommends these edited measures be made quantifiable and enforceable conditions of Project approval.

**Recommended Edits to Avoidance and Minimization Measures to specifically address SWHA on page 83 of the IS.**

Currently, under the SWHA avoidance and minimization measures section of the IS, Caltrans proposes a “600-foot radius no-work buffer” around active SWHA nests detected within a ½-mile of the Project limits during preconstruction surveys. CDFW recommends Caltrans edit this measure to propose numeric no-work buffers for unlisted passerine, raptors, and listed raptors (including SWHA). Alternatively, general migratory bird measures could be focused and discussed outside the SWHA section.

CDFW recommends Caltrans include edits in the avoidance and minimization measure section of the IS to require pre-activity surveys for active nests no more than 10 days prior to the start of ground disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW then recommends Caltrans propose a minimum no-disturbance buffer of 250 feet around active nests of non-listed passerine bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. Variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the construction area would be concealed from a nest site by topography. CDFW recommends that a qualified biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.

For SWHA specifically, CDFW recommends Caltrans require focused surveys for active nests and ½-mile no-disturbance buffers around any active nests until the young have fledged and are no longer reliant upon the nest or parental care for survival. If the ½-mile no-disturbance buffer is not feasible, CDFW recommends Caltrans propose obtaining take authorization through the acquisition of an Incidental Take Permit pursuant to section 2081



subdivision (b) of Fish and Game Code in the revised IS. In summary, if the edited avoidance measure is not feasible, mitigation

(take authorization) would be warranted to reduce to less-than-significant the unavoidable Project-related impacts to SWHA.

## **ENVIRONMENTAL DATA**

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code,

§ 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to CNDDDB. The CNDDDB field survey form can be found at the following link:

<https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The completed form can be mailed electronically to CNDDDB at the following email address: [CNDDDB@wildlife.ca.gov](mailto:CNDDDB@wildlife.ca.gov). The types of information reported to CNDDDB can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.

## **FILING FEES**

If it is determined that the Project has the potential to impact biological resources, an assessment of filing fees will be necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089).

CDFW appreciates the opportunity to comment on the Project to assist Caltrans in identifying and avoiding the Project's impacts on biological resources.

More information on survey and monitoring protocols for sensitive species can be found at CDFW's website (<https://www.wildlife.ca.gov/Conservation/Survey-Protocols>). If you have any questions, please contact Mr. Javier Mendez, Environmental Scientist, at the address provided on this letterhead, or by electronic mail at [javier.mendez@wildlife.ca.gov](mailto:javier.mendez@wildlife.ca.gov).

Sincerely,

Julie A Vance

Regional Manager

Attachment 1: Recommended Mitigation Monitoring and Reporting Program

cc: United States Fish and Wildlife Service 2800 Cottage Way, Suite W-2605  
Sacramento, California 95825

ec: Office of Planning and Research, State Clearinghouse  
state.clearinghouse@opr.ca.gov

**LITERATURE CITED**

CDFW. 2016. Five Year Status Review for Swainson's Hawk (*Buteo swainsoni*). California Department of Fish and Wildlife. April 11, 2016.

**Attachment 1**

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE**

**RECOMMENDED MITIGATION MONITORING AND REPORTING  
PROGRAM (MMRP)**

**PROJECT: South Madera 6-Lane (Project)**

**SCH No.: 2021020203**

**RECOMMENDED MITIGATION MEASURE**

Before Disturbing Soil or Vegetation

Mitigation Measure 1: SHWA Avoidance

Mitigation Measure 2: SHWA Take Authorization (if avoidance is not feasible)

**Response to comment:** Migratory Birds, including Swainson's Hawk. State Route 99 is a major arterial through the San Joaquin Valley. Activities of all sort are a common sight through this corridor, whether routine maintenance, project-related, or from members of the traveling public. Raptors that nest within the highway right-of-way would presumably be accustomed to a certain degree of activity. Caltrans would have a biological monitor present during any work taking place near an active Swainson's hawk nest, who would then be able to determine if or when project activities begin to cause adverse effects to nesting Swainson's hawks and then stop construction.

Specific Impacts: Caltrans has demonstrated a 600-foot no disturbance buffer with a biological monitor present to be a viable alternative to a 0.5-mile no-disturbance buffer. If a Swainson's hawk begins nesting in the project area

while construction is underway, a Caltrans biologist can begin monitoring the nest immediately to establish baseline conditions, and to enable variances from these baseline conditions to be noted, as a means of determining when project activities begin to cause adverse effects to nesting Swainson's hawks. There are currently no known nesting raptors in the project area, but if a nesting pair enters the project area, the biological monitor would watch for changes to the behavioral baseline and stop construction if adverse effects resulting from project activity are seen.

Evidence impact would be significant: Caltrans biologists will perform focused, protocol-level surveys according to the "Recommended Timing and Methodology For Swainson's Hawk Nesting Surveys in California's Central Valley" (May 31, 2001) during nesting season (February 1 to September 30) the year before ground-disturbing activities to ensure no nesting Swainson's hawks will be affected if construction occurs during the nesting season.

Recommended Potentially Feasible Avoidance and Mitigation Measure(s): Caltrans will implement and enforce a 600-foot no disturbance buffer around active Swainson's hawks with a biological monitor present, in addition to Migratory Bird Avoidance and Minimization Measures.

Recommended Edits to Avoidance and Minimization Measures to specifically address Swainson's hawks on page 83 of the IS: Caltrans will implement and enforce the following no-disturbance buffers. These include:

<b>Species</b>	<b>Protective Radius (Feet)</b>
Nesting Swainson's Hawk	600
Non-listed nesting raptors	500
Other avian species	250

Caltrans biologists will perform focused, protocol-level surveys according to the "Recommended Timing and Methodology For Swainson's Hawk Nesting Surveys in California's Central Valley" (May 31, 2001) during nesting season (February 1 to September 30) the year before ground-disturbing activities to ensure no nesting Swainson's hawks will be affected if construction occurs during the nesting season. Caltrans will proceed with a 600-foot no-disturbance buffer but will not pursue an Incidental Take Permit at this time because there are currently no known Swainson's hawk nests in the project area. Following protocol-level surveys, if a 600-foot no-disturbance buffer proves ineffectual to the needs of the project, Caltrans will reevaluate the need for an Incidental Take Permit.

**Comment From: North Fork Rancheria of Mono Indians of California**

From: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>  
Sent: Thursday, April 1, 2021 1:27 PM  
To: Kapoor, Anand@DOT <anand.kapoor@dot.ca.gov>  
Subject: South Madera 6-Lane Project  
Importance: High

Hi Anand:

The tribe has received the letter regarding the Notice of Availability of Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment for the South Madera 6 lane Project. We do have concerns regarding the area closest to the San Joaquin River, Avenue 7 area. We were unable to comment on the project within the comment period. I did not see any mention of cultural monitoring in the Avoidance, Minimization and/or Mitigation Strategy. Please confirm.

The San Joaquin River is an area of extreme importance.

Thank you.

Christina McDonald, EPD Director

**North Fork Rancheria of Mono Indians of California**

33143 Road 222, North Fork, CA 93643

PO Box 929, North Fork, CA 93643

(559) 877-2461

**Response to comment:**

Thank you for your email. From the San Joaquin River to north of Avenue 7, the work involves restriping the already widened lanes and installing appropriate signs.

The widening north of Avenue 7 is proposed within the existing right-of-way and in the median. There will be some median work south of the start of widening for traffic detour.

The start of widening is where the extra wide median ends; more than 2,000 feet from Avenue 7.

No monitoring will occur for this project as there are no known prehistoric sites within the Area of Potential Effects. No archaeological resources eligible for the National Register of Historic Places or California Register of Historical Resources have been recorded within the Archaeological Study Area. No archaeological sites were discovered during pedestrian surveys of the Archaeological Survey Coverage Area in 2016 or 2019.

## **Chapter 5**      List of Preparers

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This document was prepared by the following Caltrans Central Region staff:

Allam Alhabaly, Transportation Engineer. B.S., Civil Engineering, California State University, Fresno; 18 years of experience in environmental technical studies, with emphasis on noise studies. Contribution: Noise Study Report.

David Arredondo, Associate Environmental Planner. B.A., Sociology, University of California, Davis; 12 years of environmental planning experience. Contribution: Environmental generalist and prepared the Initial Study/Environmental Assessment.

Myles Barker, Editorial Specialist. B.A., Mass Communication and Journalism, California State University, Fresno; 6 years of writing and editing experience. Contribution: Technical Editor.

Jon L. Brady, Associate Environmental Planner/Architectural Historian. M.A., History, California State University, Fresno; B.A., Political Science/Anthropology, California State University, Fresno; over 35 years of experience as a consulting archaeologist and historian. Contribution: Historic Resource Evaluation Report.

Getachew Eshete, Senior Transportation Engineer. M.E., Civil Engineering, Registered Professional Engineer, The City College of New York; B.S., Civil Engineering, The City College of New York; 24 years of experience in transportation design. Contribution: Design Management.

David Ewing, Staff Services Manager I. B.A., Graphic Design, Minor in Business Administration, California State University, Fresno; more than 20 years of graphic design, transportation graphics, and public participation experience. Contribution: Environmental Document Graphics, and Quality Assurance/Quality Control.

Tom Fisher, Central Region Hydraulics Engineer. B.S., Civil Engineering, San Jose State University; 21 years of hydraulic engineering experience. Contribution: Prepared Location Hydraulic Study and Floodplain Compliance.

Roland Garcia, Associate Environmental Planner/Natural Sciences. B.S., Biology, California State University, Fresno; 10 years of biological experience. Contribution: Natural Environment Study.

Maya Jean Hildebrand-Garcia, Associate Environmental Planner (Air Quality Coordinator). B.S., Geology, Utah State University; 5 years of

experience in air quality analysis and 4 years of experience in combined geological/environmental hazards. Contribution: Air Quality.

Adam Inman, Engineering Geologist. M.S., Geology, California State University, Fresno; B.S., Geology with a Minor in Applied Geology, California State University, Stanislaus; 5 years of experience in engineering and environmental geology. Contribution: Paleontological Study.

Christine Kelley, Associate Environmental Planner. M.A., Geography, California State University, Fresno; B.A., Geography, California State University, Fresno; 23 years of environmental compliance experience. Contribution: Document Reviewer.

David Lanner, Associate Environmental Planner. B.F.A., Art, Utah State University; 14 years of cultural resources experience. Contribution: Archaeological Survey Report and Historic Property Survey Report.

Rogério Leong, Engineering Geologist. B.S., Geology, University of Sao Paulo, Brazil; 18 years of environmental site assessment and investigation experience. Authored and co-authored several Remedial Investigation/Feasibility Study Reports for Superfund contaminated sites. Contribution: Water Quality Compliance Study.

Joseph Llanos, Graphic Designer 3. B.A., Graphic Design, California State University, Fresno; 17 years of visual design and public participation experience. Contribution: Graphics.

Mandy Macias, Associate Environmental Planner/Archaeology. B.A., Anthropology, California State University, Fresno; more than 20 years of experience in California and Great Basin archaeology and cultural resources management. Contribution: Prehistoric Archaeology, Native American Consultation.

Michael Mills, Professional Landscape Architect California Number 4770. B.A., Landscape Architecture and Environmental Planning, Utah State University; 20 years of landscape architecture experience. Contribution: Visual Impact Assessment.

Kai Pavel, Engineering Geologist. Professional Geologist. M.A., Geography, Geology, Heinrich Heine University Dusseldorf, Germany; 14 years of experience in hazardous waste/materials, water quality, and environmental technical studies. Contribution: Hazardous Waste Study.

Richard Putler, Senior Environmental Planner. M.A., City and Regional Planning, California State University, Fresno; B.A., Political Science,

University of California, Davis; 16 years of environmental planning experience. Contribution: Environmental Manager.

Jennifer H. Taylor, Environmental Office Chief. Double B.A., Political Studies and Organizational Sciences, Pitzer College; more than 30 years of experience in environmental and land use planning. Contribution: Oversight review of the environmental document.

Juergen Vespermann, Senior Environmental Planner. Civil Engineering, Fachhochschule Muenster, Germany; more than 30 years of experience in transportation planning/environmental planning. Contribution: Reviewed the draft environmental document.





## **Chapter 6**      **Distribution List**

---

- Alex Padilla, U.S. Senate, 2500 Tulare Street, Suite 5290, Fresno, California, 93721
- Dianne Feinstein, U.S. Senate, 2500 Tulare Street, Suite 4290, Fresno, California, 93721
- Tom McClintock, U.S. House of Representatives, California District 4, 2200A Douglas Boulevard, Suite 240, Roseville, California, 95661
- Jim Costa, U.S. House of Representatives, California District 16, 855 M Street, Suite 940, Fresno, California, 93721
- Frank Bigelow, State 5th Assembly District Representative, 730 North I Street, Suite 102, Madera, California, 93637
- Anna Caballero, 12th State Senate District Senator, 1640 North Street, Suite 210, Merced, California, 95340
- Max Rodriguez, Madera County Board of Supervisors Member, 200 West 4th Street, Madera, California, 93637
- Tyson Pogue, Madera County Sheriff's Headquarters, 2725 Falcon Drive, Madera, California, 93637
- Todd Lile, Madera Unified School District Superintendent, 1902 Howard Road, Madera, California, 93637
- Commander, California Highway Patrol, 3051 Airport Drive, Madera, California, 93637
- Director, Madera County Agricultural Commission, 332 South Madera Avenue, Madera, California, 93637
- Executive Director, Madera County Farm Bureau, 1102 South Pine Street, Madera, California, 93637
- Chief, Madera County Fire Department Station Number 1, 14225 Road 28, Madera, California, 93638
- Director, Madera County Planning Division, 200 West 4th Street, Suite 3100, Madera, California, 93637
- Executive Director, Madera County Transportation Commission, 2001 Howard Road, Suite 201, Madera, California, 93637
- Andrea Saldate, Deputy Director, Madera County Public Works Department, 200 West 4th Street, Madera, California, 93637
- Patricia Cole, Chief, U.S. Fish and Wildlife Service, San Joaquin Valley Division, 2800 Cottage Way, Room W-2605, Sacramento, California, 95825

- Scott Hatton, Supervising Water Resource Control Engineer, Central Region Water Quality Control Board, 1685 East Street, Fresno, California, 93706
- Ted Pistoresi, Pistoresi Ambulance, 113 North R Street, Madera, California, 93637
- Executive Director, Madera Irrigation District, 12152 Road 28, Madera, California, 93637
- Mesa Verde Farms LLC, 23400 Road 24, Chowchilla, California, 93610
- Taylor Creek Farms, 800 South Front Street, Chowchilla, California, 93610
- Awadis and Garabed Manoukian, 7066 North West Avenue, Fresno, California, 93711
- Creekside Land Company Limited Liability Company, 30814 Avenue 9, Madera, California, 93637
- Slam Clam Incorporated, 2952 East University Avenue, Fresno, California, 93703
- Harvest Point Limited Liability Company, 4007 Via Valle Verde, Rancho Santa Fe, California, 92091
- Ravi and Jay Thiara Farms, Post Office Box 3599, Yuba City, California, 95992
- Jagraj Singh Gill, 10631 North Bonadelle Avenue, Fresno, California, 93730
- Leslie Busick, Post Office Box 4150, Incline Village, Nevada, 89450
- Jackson Hurst, 4216 Cornell Crossing, Kennesaw, Georgia, 30144.

# Appendix A Title VI Policy Statement

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STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

Gavin Newsom, Governor

## DEPARTMENT OF TRANSPORTATION

OFFICE OF THE DIRECTOR  
P.O. BOX 942873, MS-49  
SACRAMENTO, CA 94273-0001  
PHONE (916) 654-6130  
FAX (916) 653-5776  
TTY 711  
[www.dot.ca.gov](http://www.dot.ca.gov)



Making Conservation  
a California Way of Life.

November 2019

## NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page:  
<https://dot.ca.gov/programs/business-and-economic-opportunity/title-vi>.

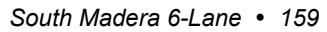
To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, at 1823 14<sup>th</sup> Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at [Title.VI@dot.ca.gov](mailto:Title.VI@dot.ca.gov).

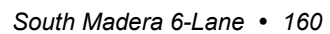
A blue ink signature of Toks Omishakin, consisting of a stylized 'T' followed by a cursive 'O' and a horizontal line.

Toks Omishakin  
Director

*"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"*







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UNIT 1475

PROJECT NUMBER & PHASE

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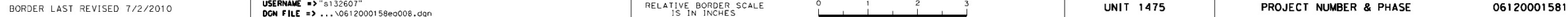
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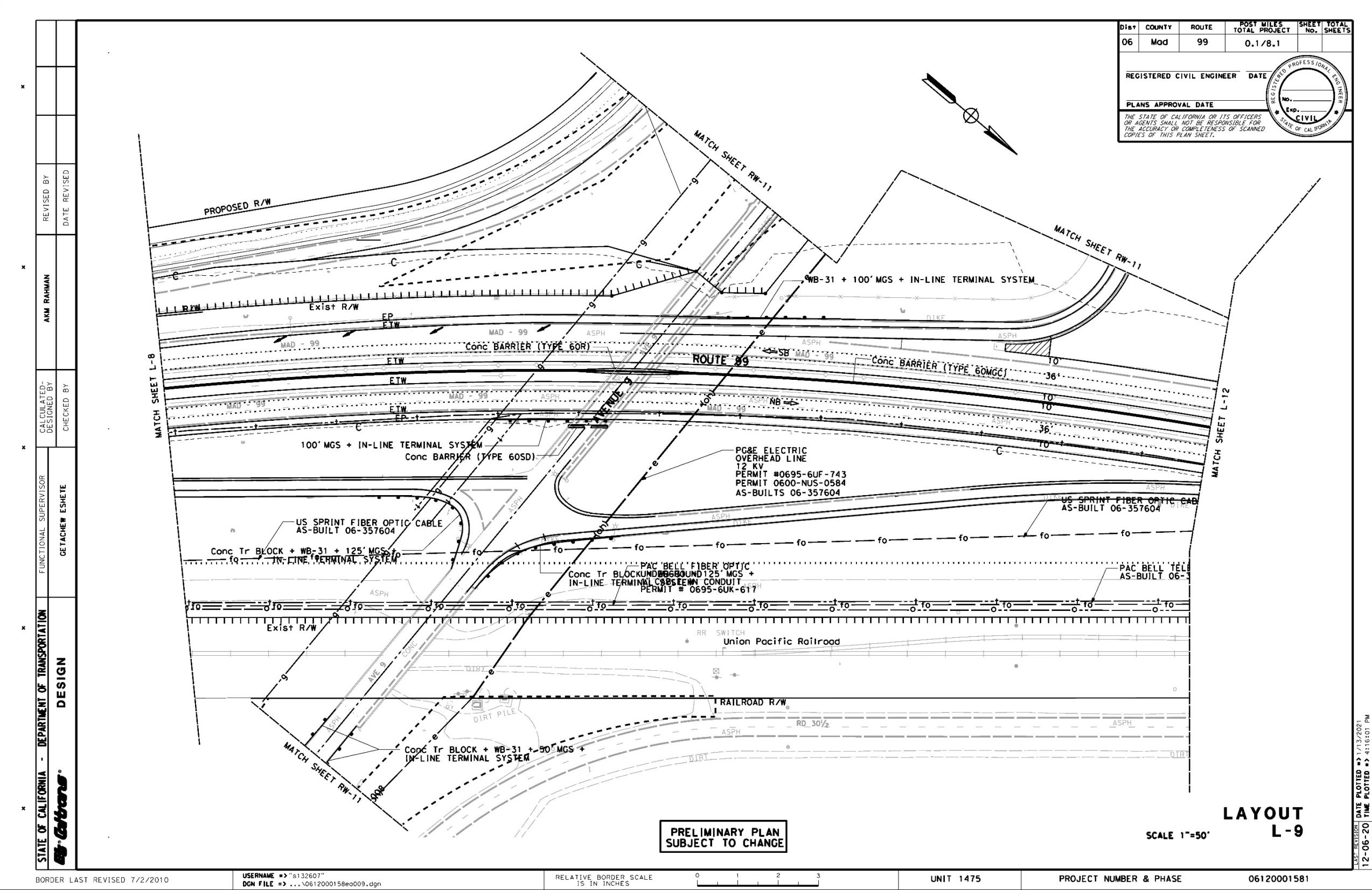
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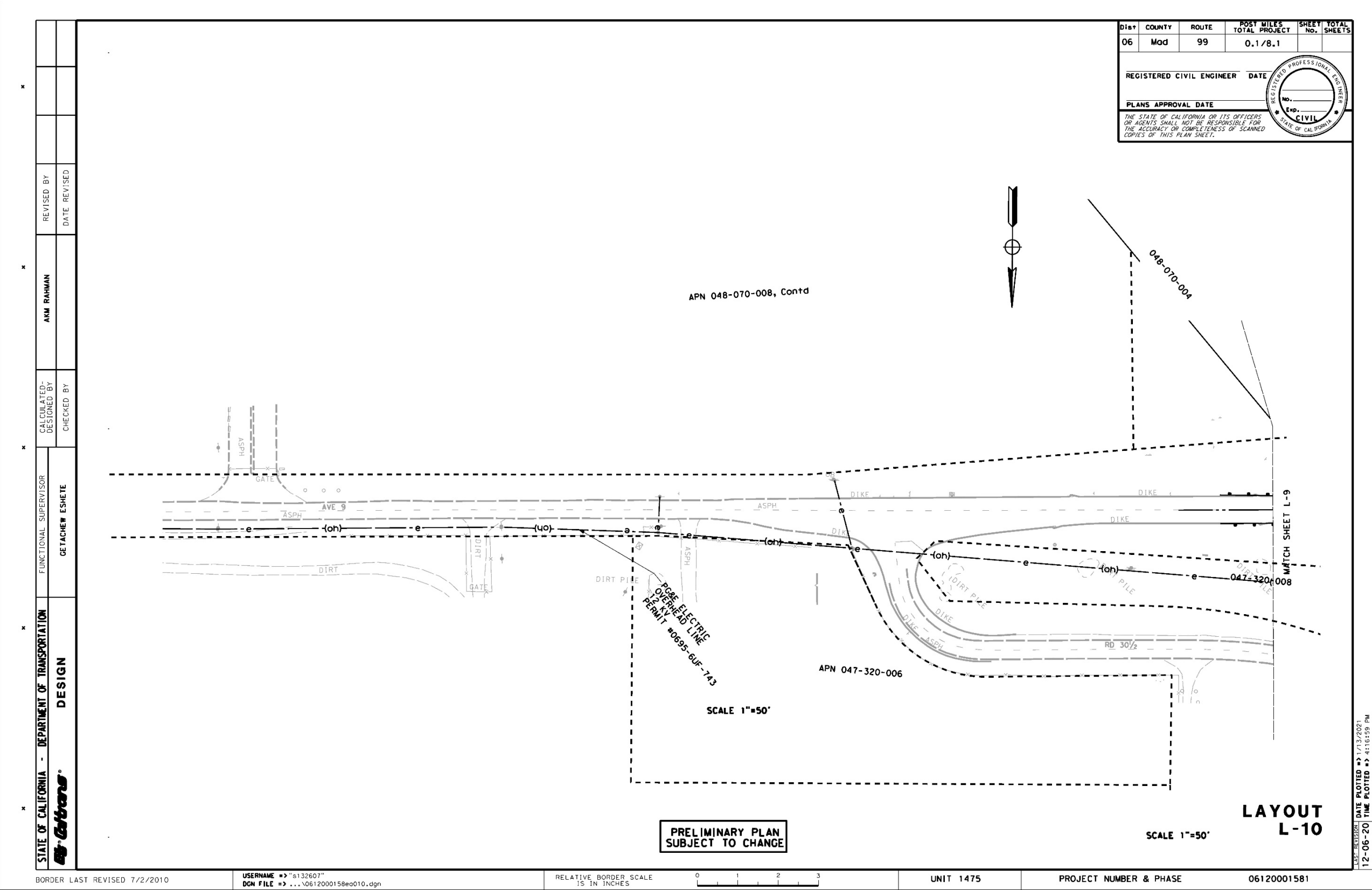
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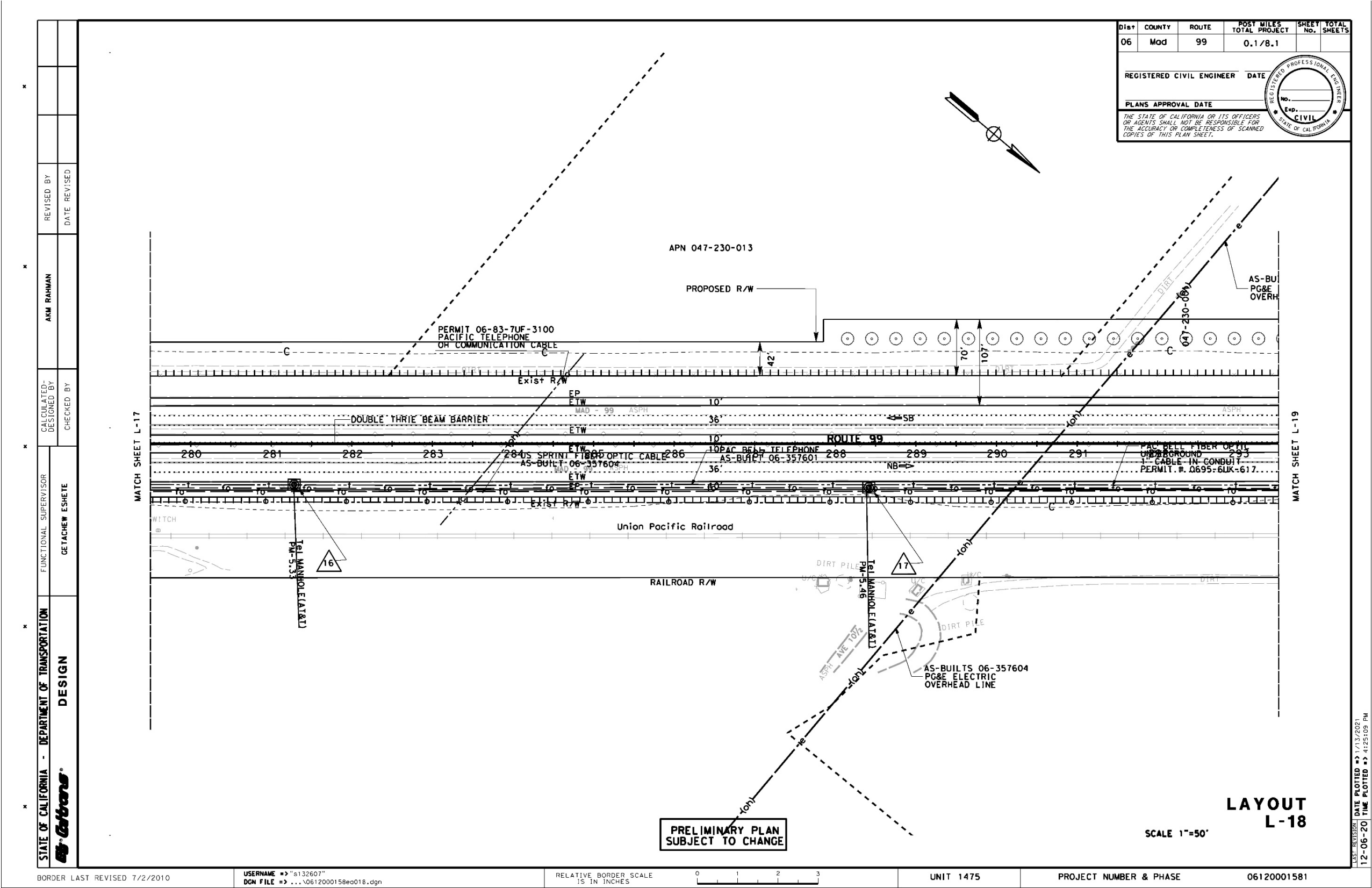
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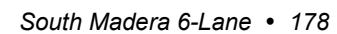
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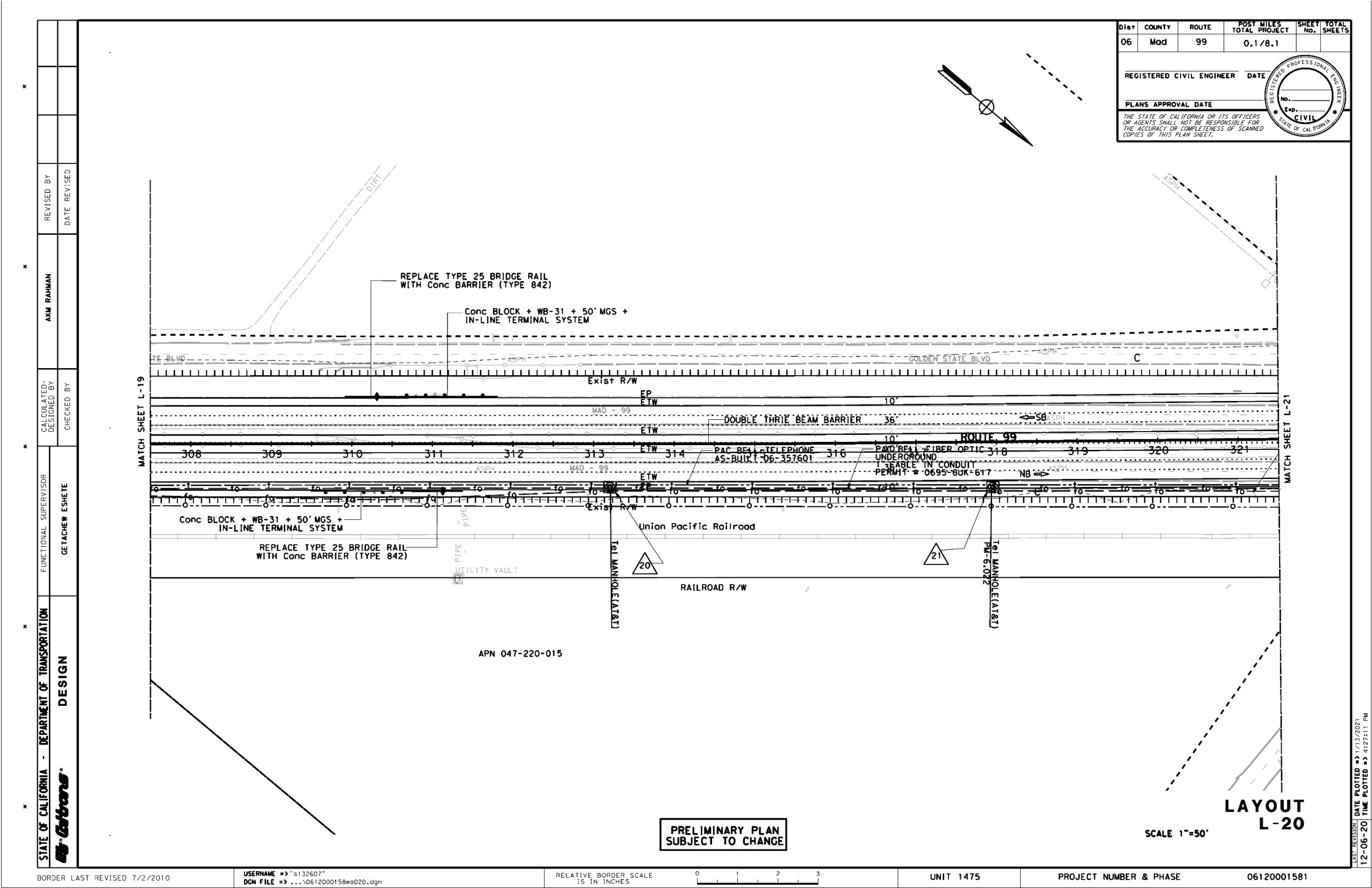
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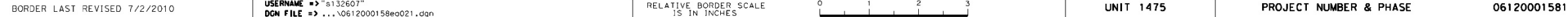
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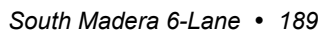


# Appendix C Farmland Conversion Impact Rating

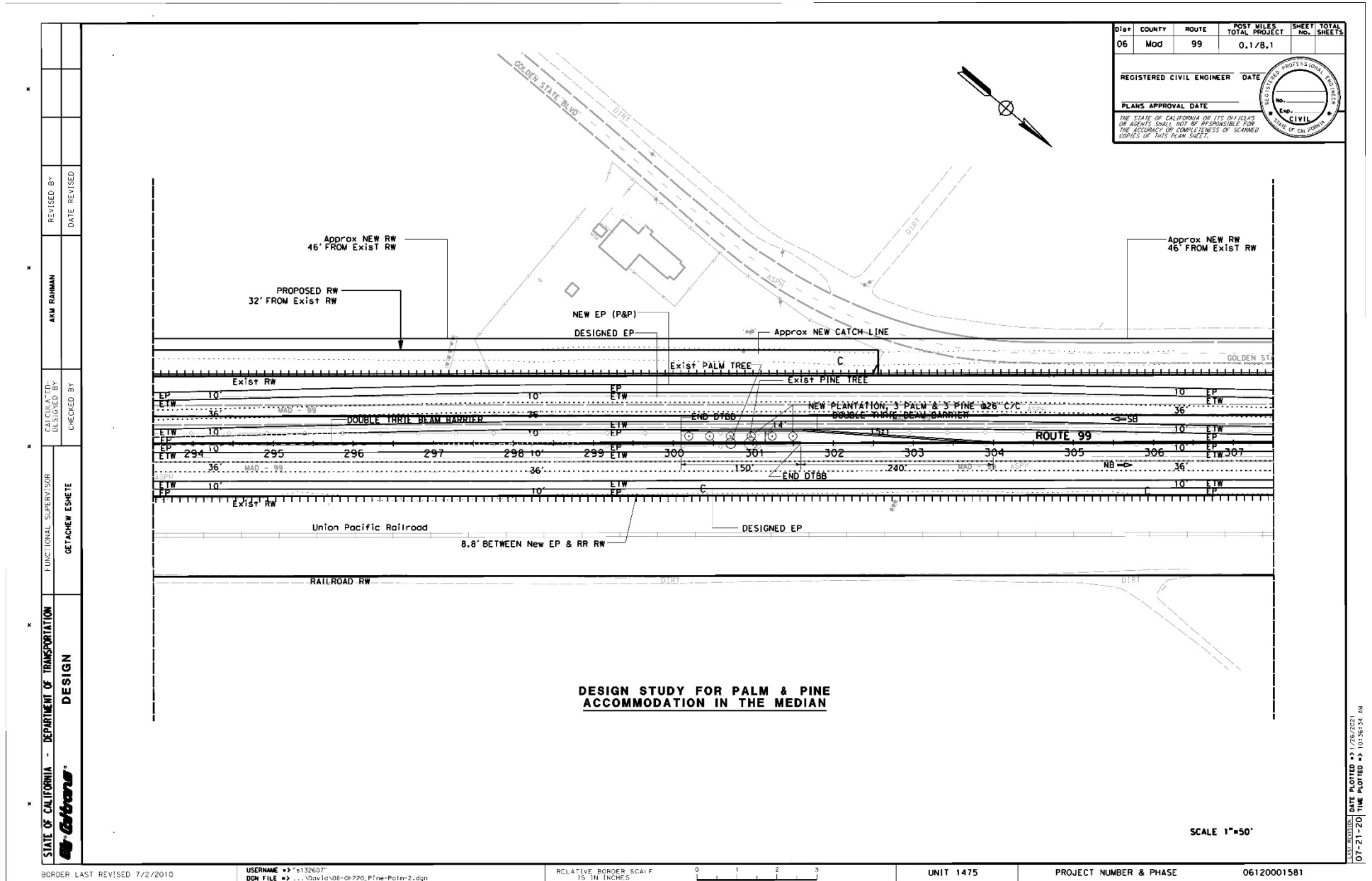
U.S. DEPARTMENT OF AGRICULTURE Natural Resources Conservation Service		NRCS-CPA-106 (Rev. 1-91)	
<b>FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS</b>			
<b>PART I (To be completed by Federal Agency)</b>		3. Date of Land Evaluation Request <b>8/18/20</b>	4. Sheet 1 of <b>1</b>
1. Name of Project <b>South Madera 6 Lane</b>		5. Federal Agency Involved <b>Federal Highway Administration (FHWA)</b>	
2. Type of Project <b>Transportation</b>		6. County and State <b>Madera, CA</b>	
<b>PART II (To be completed by NRCS)</b>		1. Date Request Received by NRCS	2. Person Completing Form
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form) YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		4. Acres Irrigated <b>300,234</b>	Average Farm Size <b>466 Acres</b>
5. Major Crop(s) <b>Almonds, Grapes</b>	6. Farmable Land in Government Jurisdiction Acres: <b>543,511</b> % <b>39.4</b>	7. Amount of Farmland As Defined in FPPA Acres: <b>237,572</b> % <b>17.2</b>	
8. Name Of Land Evaluation System Used <b>CA Revised Storie Index</b>	9. Name of Local Site Assessment System <b>None</b>	10. Date Land Evaluation Returned by NRCS <b>8/24/20</b>	
<b>PART III (To be completed by Federal Agency)</b>		<b>Alternative Corridor For Segment</b>	
		Corridor A	Corridor B
A. Total Acres To Be Converted Directly		<b>22.658</b>	
B. Total Acres To Be Converted Indirectly, Or To Receive Services		<b>0</b>	
C. Total Acres In Corridor		<b>883.42</b>	
<b>PART IV (To be completed by NRCS) Land Evaluation Information</b>		Corridor C	Corridor D
A. Total Acres Prime And Unique Farmland		<b>8</b>	
B. Total Acres Statewide And Local Important Farmland		<b>15</b>	
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted		<b>0.0097</b>	
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		<b>30.88</b>	
<b>PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)</b>		<b>77</b>	
<b>PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.6(c))</b>		Maximum Points	
1. Area in Nonurban Use	15	<b>10</b>	
2. Perimeter in Nonurban Use	10	<b>8</b>	
3. Percent Of Corridor Being Farmed	20	<b>10</b>	
4. Protection Provided By State And Local Government	20	<b>20</b>	
5. Size of Present Farm Unit Compared To Average	10	<b>9</b>	
6. Creation Of Nonfarmable Farmland	25	<b>2</b>	
7. Availability Of Farm Support Services	5	<b>5</b>	
8. On-Farm Investments	20	<b>10</b>	
9. Effects Of Conversion On Farm Support Services	25	<b>1</b>	
10. Compatibility With Existing Agricultural Use	10	<b>1</b>	
TOTAL CORRIDOR ASSESSMENT POINTS		<b>160</b>	<b>76</b>
		<b>0</b>	<b>0</b>
<b>PART VII (To be completed by Federal Agency)</b>		<b>0</b>	<b>0</b>
Relative Value Of Farmland (From Part V)		<b>100</b>	<b>77</b>
Total Corridor Assessment (From Part VI above or a local site assessment)		<b>160</b>	<b>76</b>
TOTAL POINTS (Total of above 2 lines)		<b>260</b>	<b>153</b>
		<b>0</b>	<b>0</b>
1. Corridor Selected: <b>A</b>	2. Total Acres of Farmlands to be Converted by Project: <b>22.658</b>	3. Date Of Selection: <b>8/24/20</b>	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
5. Reason For Selection:			
<i>David Arredondo</i> Signature of Person Completing this Part:		DATE <b>8/24/20</b>	
NOTE: Complete a form for each segment with more than one Alternate Corridor			



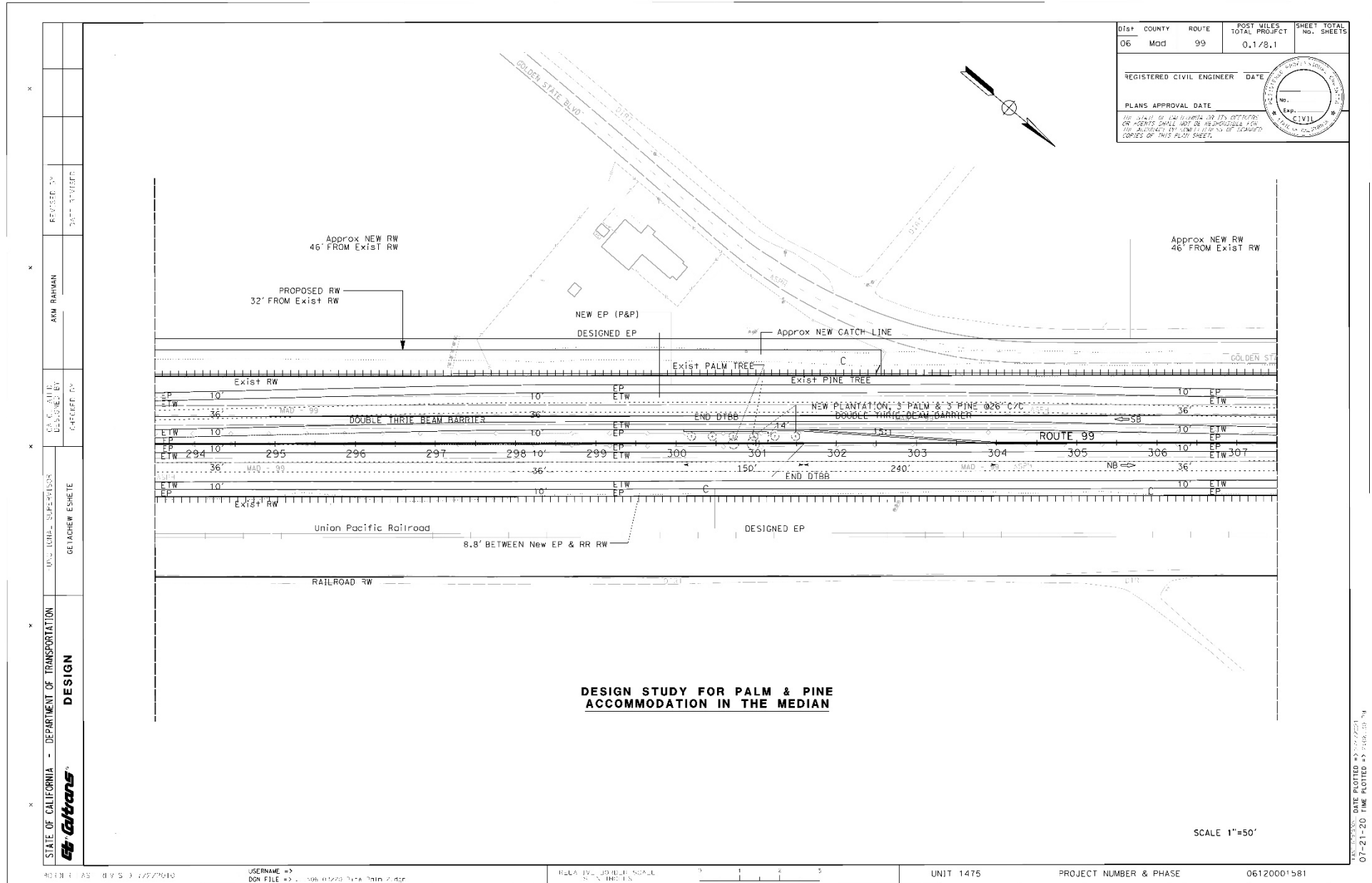
## Palm and Pine Alternative 1



## Palm and Pine Alternative 2


 DATE PLOTTED => 7/26/2021  
 TIME PLOTTED => 10:56:54 AM

## Palm and Pine Alternative 3


 DATE PLOTTED: 03/27/2004  
 TIME PLOTTED: 14:06:03



# **Appendix E** Summary of Relocation Benefits

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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 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 the Department 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 90 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.

### *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.

To receive any relocation benefits, the displaced person must buy or rent and occupy a “decent, safe and sanitary” replacement dwelling within 1 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 90 days and tenants in legal occupancy prior to the Department's initiation of negotiations. The 1-year eligibility period in which to purchase and occupy a "decent, safe and sanitary" replacement dwelling will apply.

### *Last Resort Housing*

Federal regulations (49 Code of Federal Regulations 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 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 \$25,000 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 \$40,000.

## **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 the Department's Division of Right of Way and Land Surveys. 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.

# Appendix F State Office of Historic Preservation Concurrence Letter

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State of California • Natural Resources Agency

Gavin Newsom, Governor

**DEPARTMENT OF PARKS AND RECREATION  
OFFICE OF HISTORIC PRESERVATION**

Armando Quintero, Director

Julianne Polanco, State Historic Preservation Officer  
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100  
Telephone: (916) 445-7000 FAX: (916) 445-7053  
calshpo.ohp@parks.ca.gov [www.ohp.parks.ca.gov](http://www.ohp.parks.ca.gov)

November 3, 2020

VIA EMAIL

In reply refer to: FHWA\_2020\_0908\_001

Ms. Aubrie Morlet, Branch Chief  
Southern San Joaquin Valley Cultural Resources Branch  
Caltrans District 6  
855 M Street, Suite 200  
Fresno, CA 93721-2716

Subject: Determinations of Eligibility for the Proposed State Route 99 South Madera 6-Lane Project, South of Madera, Madera County, CA

Dear Ms. Morlet:

Caltrans is initiating consultation regarding the above project in accordance with the January 1, 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (PA). As part of your documentation, Caltrans submitted a Historic Property Survey Report (HPSR), Historical Resources Evaluation Report (HRER) and Archaeological Survey Report for the proposed project.

The California Department of Transportation, in cooperation with the County of Madera, proposes to widen and realign State Route 99 from a four-lane to a six-lane freeway with 10-foot shoulders south of the city of Madera. The project extends from just south of Avenue 7 at post mile 0.1 to north of Avenue 12 Overpass at post mile 8.1. The proposed project would improve traffic circulation, address safety concerns, and provide a transportation facility consistent with Caltrans Standards. A full description and depiction of the Area of Potential Effects (APE) can be found on pages one through two and Figure 3 of the HPSR.

Pursuant to Stipulation VIII.C.6 of the PA, Caltrans determined that the following properties are not eligible for the National Register of Historic Places:

- 8241 Road 32, Madera, CA
- 9465 Golden State Boulevard, Madera, CA
- 9486 Golden State Boulevard, Madera, CA
- 9510 Golden State Boulevard, Madera, CA

Ms. Morlet  
November 3, 2020  
Page 2 of 2

FHWA\_2020\_0908\_001

- 9522 Golden State Boulevard, Madera, CA
- 9532 Golden State Boulevard, Madera, CA
- 9542 Golden State Boulevard, Madera, CA
- 9554 Golden State Boulevard, Madera, CA
- 9564 Golden State Boulevard, Madera, CA
- 9576 Golden State Boulevard, Madera, CA
- 9586 Golden State Boulevard, Madera, CA
- 9598 Golden State Boulevard, Madera, CA
- 9610 Golden State Boulevard, Madera, CA
- 9620 Golden State Boulevard, Madera, CA
- 9758 Golden State Boulevard, Madera, CA
- 10597 Golden State Boulevard, Madera, CA

Based on review of the submitted documentation, I concur with the above determinations.

If you have any questions, please contact Natalie Lindquist at (916) 445-7014 with e-mail at [natalie.lindquist@parks.ca.gov](mailto:natalie.lindquist@parks.ca.gov).

Sincerely,



Julianne Polanco  
State Historic Preservation Officer

## Appendix G Air Quality Conformity

---

From: OConnor, Karina <OConnor.Karina@epa.gov>

Sent: Tuesday, August 11, 2020 4:46 PM

To: Hildebrand, Maya@DOT; Alex Marcucci; Bagde, Abhijit J@DOT; Ahron Hakimi (ahakimi@kerncog.org); Arellano, Alexis@DOT; Andrew Chesley (chesley@sjcog.org); Lee, Anita; Mahaney, Ann@DOT; Anna Myers; Antonio Johnson; Becky Napier (bnapier@kerncog.org); Ben Giuliani (BGiuliani@tularecog.org); Ben Raymond; Braden Duran; De Terra, Bruce W@DOT; Knecht, Carey@ARB; Chris Jasper; Christopher Xiong; Crystal Yunker; Deel, David@DOT; Cheser, Dawn@CATC; Debbie Trujillo; Derek Winning; Diane Nguyen (nguyen@sjcog.org); Dylan Stone (dylan@maderactc.org); Ed Flickinger; Edith Robles; Elisabeth Hahn; Elizabeth Wright (EWright@tularecog.org); Thompson, Erin M@DOT; Gabriel Gutierrez (ggutierrez@tularecog.org); Valencia, Gilbert@DOT; King, Heather@ARB; External, IOjeda@DOT; Kahrs, Jacqueline J@DOT; Gentry, Jamaica@DOT; Perrault, James R@DOT; Jasmine Amanin; Jeff Findley (Jeff@maderactc.org); Jennifer Soliz; Jessica Coria; Joseph Stramaglia (jstramaglia@kerncog.org); Joseph Vaughn (Joseph.Vaughn@dot.gov); Swearingen, Joshua B@DOT; Kai Han (khan@fresnocog.org); Kasia Poleszcuk; Romero, Ken J@DOT; Mariant, Kevin B@DOT; Kevin Wing; Vu, Khanh D@DOT; Kim Kloeb (kloeb@sjcog.org); Kristine Cai (kcai@fresnocog.org); Lang Yu; Carr, Laura@ARB; Lawrence, Laura; Kimura, Lezlie@ARB; Huy, Lima A@DOT; Mendibles, Lorena@DOT; Sanchez, Lucas@DOT; Evans, Marcus B@DOT; Mark Hays; Matt Fell; Navarro, Michael@DOT; Aljabiry, Muhaned M@DOT; Kalandiyur, Nesamani@ARB; Fung, Nicholas@DOT; Patricia Taylor (patricia@maderactc.org); Marquez, Paul Albert@DOT; Ramirez, Pedro@DOT; Martinez- Velez, Priscilla@DOT; Raquel Pacheco (rpacheco@kerncog.org); Rob Ball (rball@kerncog.org); Robert Phipps; Roberto Brady (RBrady@tularecog.org); Rochelle Invina; Tavitias, Rodney A@DOT; Mays, Rory; Rosa Park (rpark@stancog.org); Ryan Niblock (niblock@sjcog.org); Yazdi, Sadegh@DOT; Scherr, Sandra L@DOT; Santosh Bhattarai; Scott Carson; Christian, Shalanda M@DOT; Martinez, Steven R@DOT; Suzanne Martinez; Vanderspek, Sylvia@ARB; Tashia Clemons; Ted Matley (Ted.Matley@fta.dot.gov); Ted Smalley (tsmalley@tularecog.org); Terri King (terri.king@co.kings.ca.us); Dumas, Thomas A@DOT; tom.jordan@valleyair.org; Tony Boren; Tray Wadsworth; Ty Phimmasone (ty.phimmasone@mcagov.org); Vincent Liu (vliu@kerncog.org); Tasat, Webster@ARB; Choi, Yoojoong@DOT

Subject: RE: Request for Further Info - Caltrans S Madera 6-Lane PM2.5 and PM10



**EXTERNAL EMAIL. Links/attachments may not be**

EPA concurs that this is not a project of air quality concern.

Thanks, Karina

Karina OConnor Air Planning Office

US EPA Region 9 (AIR-2)

75 Hawthorne St.

San Francisco, CA 94105 (775) 434-8176

oconnor.karina@epa.gov

From: Vaughn, Joseph (FHWA) <Joseph.Vaughn@dot.gov>

Sent: Thursday, August 13, 2020 12:27 PM

To: Hildebrand, Maya@DOT; Alex Marcucci; Bagde, Abhijit J@DOT; Ahron Hakimi (ahakimi@kerncog.org); Arellano, Alexis@DOT; chesley sjcog.org; Anita Lee; Mahaney, Ann@DOT; Anna Myers; Johnson, Antonio (FHWA); Becky Napier (bnapier@kerncog.org); Ben Giuliani (BGiuliani@tularecog.org); Ben Raymond; Braden Duran; De Terra, Bruce W@DOT; Knecht, Carey@ARB; Chris Jasper; Christopher Xiong; Crystal Yunker; Deel, David@DOT; Cheser, Dawn@CATC; Debbie Trujillo; Derek Winning; Diane Nguyen (nguyen@sjcog.org); Dylan Stone (dylan@maderactc.org); Ed Flickinger; Edith Robles; Elisabeth Hahn; Elizabeth Wright (EWright@tularecog.org); Thompson, Erin M@DOT; Gabriel Gutierrez (ggutierrez@tularecog.org); Valencia, Gilbert@DOT; King, Heather@ARB; External, IOjeda@DOT; Kahrs, Jacqueline J@DOT; Gentry, Jamaica@DOT; Perrault, James R@DOT; Amanin, Jasmine (FHWA); Jeff Findley (Jeff@maderactc.org); Jennifer Soliz; Jessica Coria; Joseph Stramaglia (jstramaglia@kerncog.org); Swearingen, Joshua B@DOT; Kai Han (khan@fresnocog.org); Karina O'Connor (OConnor.Karina@epamail.epa.gov); Kasia Poleszcuk; Romero, Ken J@DOT; Mariant, Kevin B@DOT; Kevin Wing; Vu, Khanh D@DOT; Kim Klob (klob@sjcog.org); Kristine Cai (kcai@fresnocog.org); Lang Yu; Carr, Laura@ARB; Laura Lawrence; Kimura, Lezlie@ARB; Huy, Lima A@DOT; Mendibles, Lorena@DOT; Sanchez, Lucas@DOT; Evans, Marcus B@DOT; Mark Hays; Matt Fell; Navarro, Michael@DOT; Aljabiry, Muhaned M@DOT; Kalandiyur, Nesamani@ARB; Fung, Nicholas@DOT; patricia maderactc.org; Marquez, Paul Albert@DOT; Ramirez, Pedro@DOT; Martinez-Velez, Priscilla@DOT; Raquel Pacheco (rpacheco@kerncog.org); Rob Ball (rball@kerncog.org); Robert Phipps; Roberto Brady (RBrady@tularecog.org); Rochelle Invina; Tavit, Rodney A@DOT; Rory Mays; Rosa Park

(rpark@stancog.org); Ryan Niblock (niblock@sjcog.org); Yazdi, Sadegh@DOT; Scherr, Sandra L@DOT; Santosh Bhattarai; Carson, Scott (FHWA); Christian, Shalanda M@DOT; Martinez, Steven R@DOT; Suzanne Martinez; Vanderspek, Sylvia@ARB; Clemons, Tashia (FHWA); Matley, Ted (FTA); Ted Smalley (tsmalley@tularecog.org); terri.king co.kings.ca.us; Dumas, Thomas A@DOT; Tom Jordan; Tony Boren; Tray Wadsworth; Ty Phimmasone (ty.phimmasone@mcagov.org); Vincent Liu (vliu@kerncog.org); Tasat, Webster@ARB; Choi, Yoojoong@DOT

Subject: RE: Request for Further Info - Caltrans S Madera 6-Lane PM2.5 and PM10

**EXTERNAL EMAIL. Links/attachments may not be**

FHWA concurs that this is not a project of air quality concern. Thanks.

Joseph Vaughn Environmental Specialist FHWA, CA Division

(916) 498-5346



Appendix H Predicted Future Noise and Barrier Analysis

Predicted Future Noise and Barrier Analysis

Receptor	Location	Soundwall Number	Existing Noise Level (A-Weighted Decibels)	Predicted Noise Levels No-Build Alternative (A-Weighted Decibels)	Predicted Noise Levels Build Alternative (A-Weighted Decibels)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with 8-Foot Wall (A-Weighted Decibels)	Predicted Noise Level with 10-Foot Wall (A-Weighted Decibels)	Predicted Noise Level with 12-Foot Wall (A-Weighted Decibels)	Predicted Noise Level with 14-Foot Wall (A-Weighted Decibels)	Predicted Noise Level with 16-Foot Wall (A-Weighted Decibels)	Feasible	Reasonable
Receptor 1	7628 Golden State Boulevard, Madera, California, 93637	Soundwall 1	65	67	67	Yes	65	65	62	61	60	Yes	No
Receptor 2	7770 Road 33, Madera, California, 93636	Not Applicable	69	71	71	No	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Receptor 3	8177 Road 32, Madera, California, 93637	Soundwall 2	73	75	75	Yes	72	70	68	66	65	Yes	No
Receptor 4	31664 Avenue 9, Madera, California, 93636	Not Applicable	67	69	69	No	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Receptor 5	9456 Golden State Boulevard, Madera, California, 93637	Soundwall 3	72	74	74	Yes	71	70	67	65	65	Yes	No
Receptor 6	9576 Golden State Boulevard, Madera, California, 93637	Soundwall 3	70	72	72	Yes	71	70	67	65	65	Yes	No
Receptor 7	9758 Golden State Boulevard, Madera,	Soundwall 3	72	74	74	Yes	71	70	67	65	65	Yes	No

Receptor	Location	Soundwall Number	Existing Noise Level (A-Weighted Decibels)	Predicted Noise Levels No-Build Alternative (A-Weighted Decibels)	Predicted Noise Levels Build Alternative (A-Weighted Decibels)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with 8-Foot Wall (A-Weighted Decibels)	Predicted Noise Level with 10-Foot Wall (A-Weighted Decibels)	Predicted Noise Level with 12-Foot Wall (A-Weighted Decibels)	Predicted Noise Level with 14-Foot Wall (A-Weighted Decibels)	Predicted Noise Level with 16-Foot Wall (A-Weighted Decibels)	Feasible	Reasonable
	California, 93637												
Receptor 8	10597 Road 30, Madera, California, 93637	Soundwall 4	64	66	66	Yes	65	65	62	61	60	Yes	No
Receptor 9	10696 Highway 99, Madera, California, 93637	Soundwall 4	64	66	66	Yes	65	65	62	61	60	Yes	No
Receptor 10	10696 Road 30, Madera, California, 93637	Not Applicable	63	65	65	No	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Receptor 11	11674 Road 29, Madera, California, 93637	Soundwall 5	65	67	67	Yes	66	65	63	62	62	Yes	No
Receptor 12	11856 Road 29, Madera, California, 93637	Not Applicable	63	65	65	No	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Receptor 13	9677 Road 33 1/2 Madera, California, 93636	Not Applicable	66	68	68	No	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable



## Appendix I Noise Receptor Location Map

### Noise Receptor Soundwall 1 Location





Noise Receptor Soundwall 2 Location





Noise Receptor Soundwall 3 Location





Noise Receptor Soundwall 3 Location (continued)





Noise Receptor Soundwall 4 Location





Noise Receptor Soundwall 5 Location



## Appendix J Federal Endangered Species Act Determinations

Species	Status	Possible In Which Habitat Type	Federal Endangered Species Act Determination
Blunt-nosed leopard lizard	Federally Endangered	Semiarid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan. Common where there are abundant rodent burrows.	No Effect
California red-legged frog	Federally Threatened	Ponds, perennial pools, slow-moving streams, and nearby riparian areas. Can be found in livestock watering impoundments. In the Sierra Nevada, limited to foothill areas below 5,000 feet in elevation.	No Effect
California tiger salamander	Federally Threatened	Cismontane woodland, meadows and seeps, riparian woodland, vernal pools and wetlands, valley and foothill grassland. Need underground refuges and a water source for breeding.	No Effect
Conservancy fairy shrimp	Federally Endangered	Vernal pool complexes part of undulating landscapes, where soil mounds are interspersed with basins, swales, and drainages.	No Effect
Delta smelt	Federally Threatened	Spawns in freshwater but lives in the mixing zone of freshwater and saline water in the Sacramento and San Joaquin estuaries of the San Francisco Bay.	No Effect
Fleshy owl's-clover	Federally Threatened	Vernal pools. Moist places, often in acidic soils at elevations below 2,500 feet. Blooms yellow to orange April to June.	No Effect
Giant garter snake	Federally Endangered	Freshwater marsh and low gradient streams, including drainage ditches and irrigation canals.	No Effect
Hairy orcutt grass	Federally Endangered	Found in vernal pools and wetlands. Blooms May to September. The elevation is less than 660 feet.	No Effect
San Joaquin kit fox	Federally Endangered	Alkali sink, valley grassland, and open woodlands, in valleys and nearby gentle foothills with suitable prey base.	No Effect
Vernal pool fairy shrimp	Federally Threatened	Vernal pool complexes part of undulating landscapes, where soil mounds are interspersed with basins, swales, and drainages.	No Effect



# Appendix K Federal Highway Administration Project-Level Conformity Determination Letter

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U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**California Division**

April 1, 2021

650 Capitol Mall, Suite 4-100  
Sacramento, CA 95814  
(916) 498-5001  
(916) 498-5008 (FAX)

In Reply, Refer To:  
HDA-CA

Diana Gomez, Director  
California Department of Transportation  
District 6  
855 M St., Suite 200  
Fresno, CA 93721

SUBJECT: Project Level Conformity Determination for the State Route 99 South Madera 6-Lane Project  
(CTIPS ID: 221-0000-00243)

Dear Ms. Gomez:

On March 15, 2021, the California Department of Transportation (Caltrans) submitted to the Federal Highway Administration (FHWA) a complete request for a project level conformity determination for the State Route 99 South Madera 6-Lane Project. The project is in an area that is designated Non-Attainment or Maintenance for Ozone and Particulate Matter (PM<sub>10</sub>, PM<sub>2.5</sub>).

The project level conformity analysis submitted by Caltrans indicates that the project-level transportation conformity requirements of 40 CFR Part 93 have been met. The project is included in the Madera County Transportation Commission's (MCTC) current Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP), as amended. The design concept and scope of the preferred alternative have not changed significantly from those assumed in the regional emissions analysis.

As required by 40 CFR 93.116 and 93.123, the localized PM<sub>2.5</sub> and PM<sub>10</sub> analyses are included in the documentation. The analyses demonstrate that the project will not create any new violations of the standards or increase the severity or number of existing violations.

Based on the information provided, FHWA finds that the State Route 99 South Madera 6-Lane Project conforms with the State Implementation Plan (SIP) in accordance with 40 CFR Part 93.

If you have any questions pertaining to this conformity finding, please contact Joseph Vaughn at (916) 498-5346 or [Joseph.Vaughn@dot.gov](mailto:Joseph.Vaughn@dot.gov).

Sincerely,

ANTONIO  
JOHNSON

Digitally signed by  
ANTONIO JOHNSON  
Date: 2021.04.01  
08:20:05 -0700

Antonio Johnson  
Team Leader, Planning and Air Quality  
Federal Highway Administration

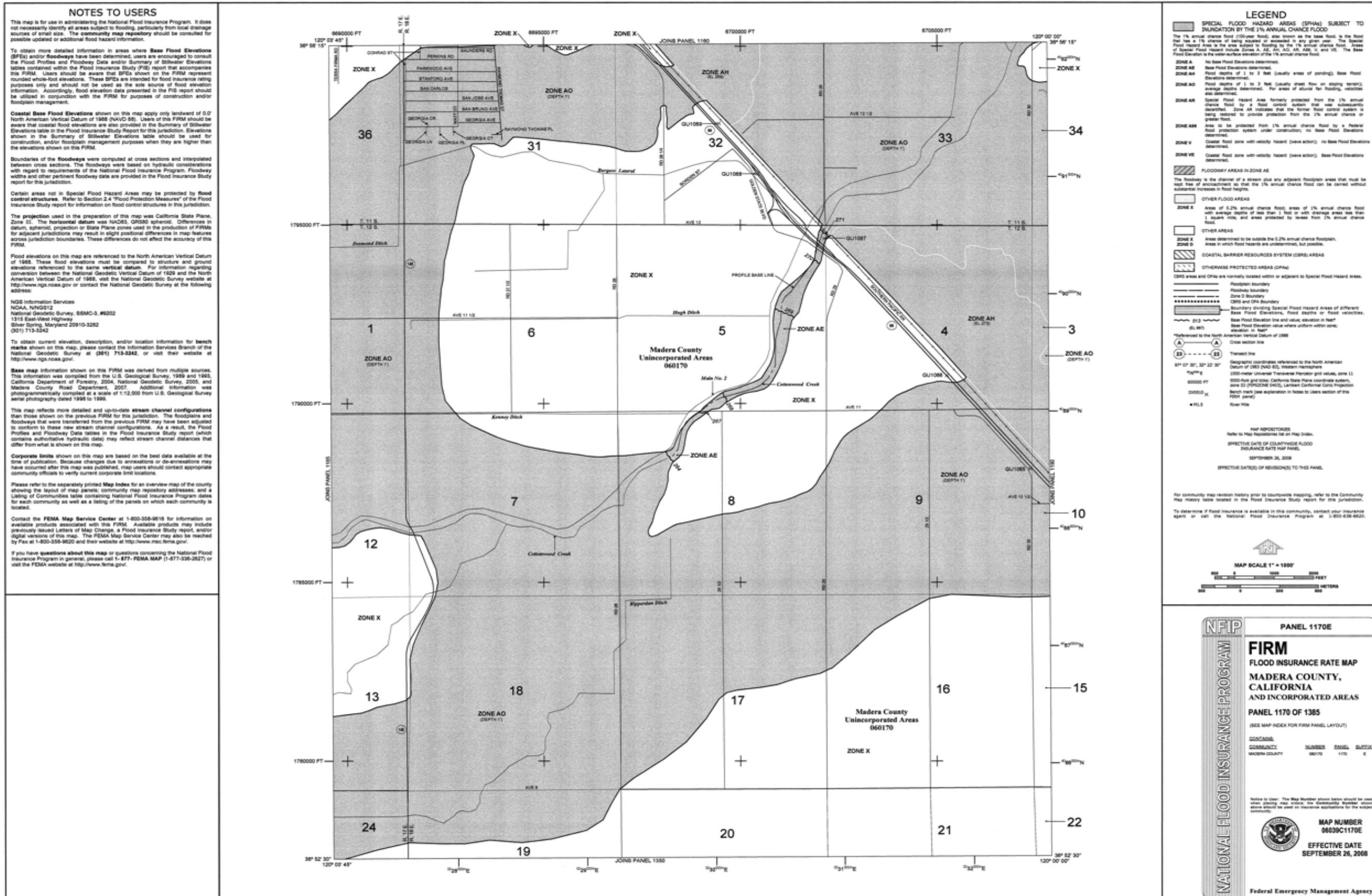


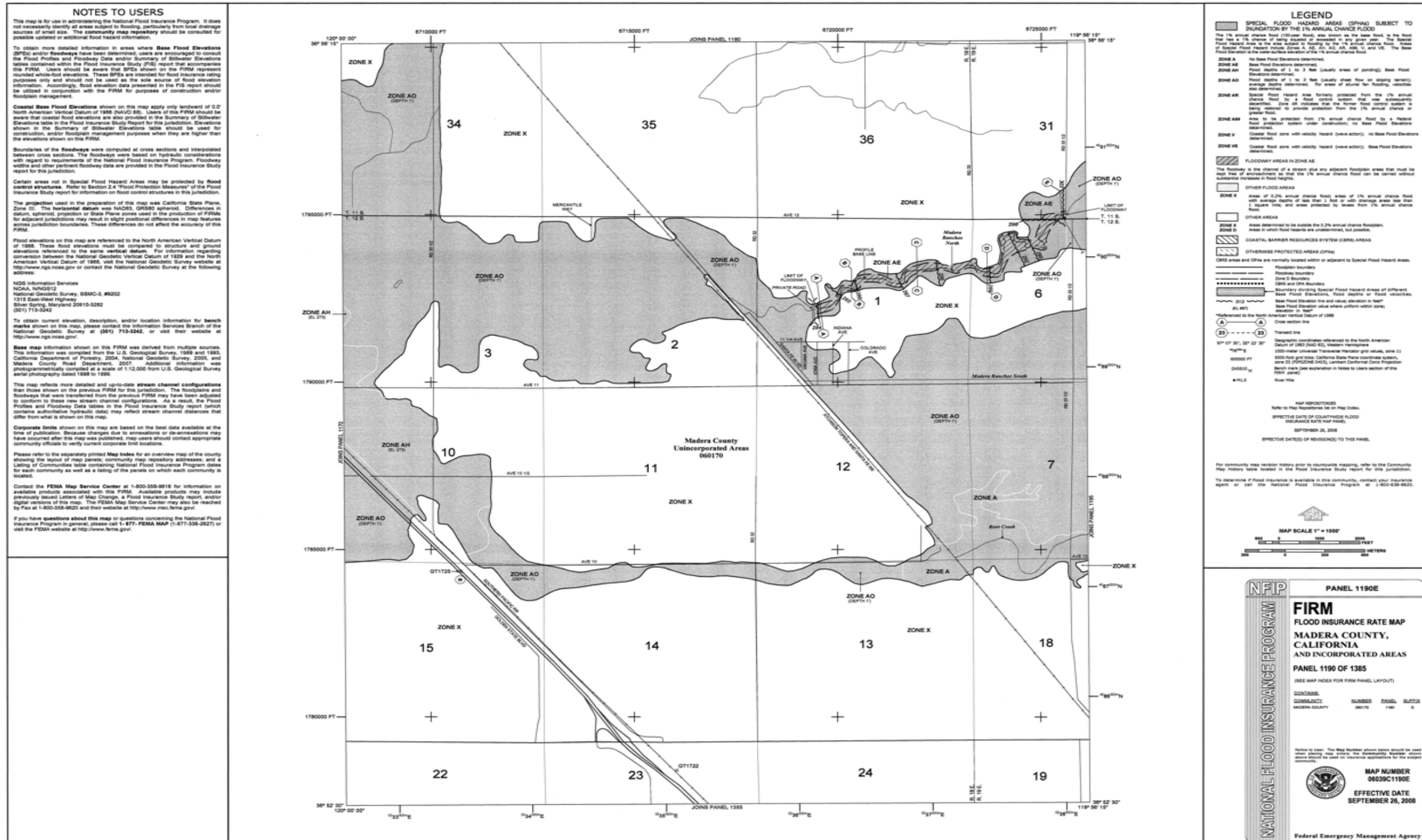
# Appendix L Federal Emergency Management Agency Flood Insurance Rate Maps

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The following has been added since the draft environmental document:







## **Appendix M** Avoidance, Minimization and/or Mitigation Summary

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To ensure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record that follows) will be implemented. During project design, avoidance, minimization, and/or mitigation measures will be incorporated into the project's final Plans, Specifications, and Cost Estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the commitments contained in the Environmental Commitments Record are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. Because the following Environmental Commitments Record is a draft, some fields have not been completed; they will be filled out as each of the measures is implemented.

Note: Some measures may apply to more than one resource area. Duplicated or redundant measures have not been included in this Environmental Commitments Record.

### ***Traffic and Transportation***

During construction, a traffic management plan will be developed to handle local traffic patterns, reduce delay, congestion, and the likelihood of accidents during construction. The traffic management plan will include incident management through the Construction Zone Enhanced Enforcement Program to notify the public of construction activities via media outlets and use changeable message signs and construction strategies. The program will also use the Central Valley Traffic Management Center, which will reduce congestion by monitoring traffic and informing the public via media outlets, such as radio and television.

### ***Visual/Aesthetics***

Avoidance, minimization, and/or mitigation measures will be designed and implemented with concurrence from a Caltrans District 6 Landscape Architect.

The following measures will be incorporated into the project to avoid or minimize visual impacts:

Minimize vegetation removal. Remove only vegetation and shrubs required for the construction of the new roadway facilities. Avoid removing vegetation and shrubs for temporary uses such as construction staging areas or temporary stormwater conveyance systems.

- Where feasible, avoid grading areas where existing vegetation provides screening of nearby properties.

The following mitigation measures will be incorporated into the project to offset visual impacts:

- “Where the Palm Meets the Pine” will be permanently removed from the median and relocated to the southbound shoulder of State Route 99. To compensate for the visual loss in relocating the landmark trees, a single row of 15 palm trees followed by 15 pine trees will be planted on the southbound side about 330 feet south of the existing trees.
- The oleanders in the median will be removed, and new oleanders will be planted outside of the roadside, a minimum of 55 feet from the edge of the traveled way.

### ***Paleontology***

Due to the potential to affect scientifically significant nonrenewable paleontological resources, mitigation will be required. A Caltrans-supplied consultant will prepare a Paleontological Mitigation Plan before construction starts. The plan will recommend the measures required to minimize potential impacts to paleontological resources. The mitigation measures will include:

- Identifying and acknowledging construction site safety protocols.
- Conducting paleontological worker environmental awareness training for all earth-moving personnel and supervisors.
- Conducting mitigation field monitoring of excavation into undisturbed sediments of the Modesto and Riverbank Formations. Excavations from 1 foot to 3 feet below ground surface are to be spot-checked. Continuous or full-time monitoring will be required for excavations deeper than 3 feet.
- Establishing a protective 25-foot radius buffer zone around fossil discovery locations.
- Notifying a Caltrans Resident Engineer upon fossil discovery.
- Processing bulk soil samples for microfossil identification.
- Using plaster casting to stabilize and preserve macrofossils.
- Preparing salvaged fossils for identification to the lowest taxonomic level (preparation for an exhibition is prohibited).
- Curating salvaged fossils at a receiving museum or academic institution.
- Preparing a Paleontological Mitigation Report following completion of all paleontological monitoring activities, documenting compliance with all mitigation measures.

## ***Threatened and Endangered Species***

### ***California Tiger Salamander***

For work conducted during the California tiger salamander migration season (November 1 to March 31), a qualified biologist will survey active work areas (including access roads) in the morning, following measurable precipitation that measures less than 0.25 inch. Construction may not start until a biologist has confirmed that no California tiger salamanders are in the work area.

Before any ground disturbance, the contractor, all employees of the contractor, subcontractors, and subcontractors' employees will attend an employee education program conducted by a Caltrans biologist or other approved biologist. The program will consist of a brief presentation on California tiger salamanders, legislative protection, and measures to avoid impacts to the species during project implementation.

### ***Swainson's Hawk***

Even though the likelihood that a Swainson's hawk will be found on the project site is low, Caltrans proposes the following avoidance and minimization efforts to ensure the project will not result in measurable impacts to this species:

A qualified biologist will complete protocol-level pre-construction surveys during the nesting season (February 1 to September 30) the year before construction (added since draft). The biologist will complete the surveys before groundbreaking activities to ensure no nesting Swainson's hawks will be affected if construction occurs during the nesting season.

If construction occurs during the nesting season—February 1 to September 30—Swainson's hawk pre-construction surveys shall be conducted within 10 (added since draft) days before construction to determine if Swainson's hawks are nesting within 0.5 mile of the project area. If Swainson's hawks are seen nesting within 0.5 mile of the project area, a 600-foot radius no-work buffer will be designated by an environmentally sensitive area fence around the nest tree wherever the no-work buffer may overlap the project construction limits. A qualified biologist shall monitor the nest tree during construction activities in proximity to the nest until the birds have fledged.

A special provision for migratory birds will be included to ensure that no potential nesting migratory birds are affected during construction activities. The following information from the California Department of Fish and Wildlife has been added since the draft environmental document to address additional project provisions for migratory birds. Caltrans will implement and enforce a 500-foot no-disturbance buffer for non-listed nesting raptors and a 250-foot buffer for other avian species.

## ***Air Quality***

No mitigation is required for impacts to air quality. However, several measures can be taken to minimize impacts from both construction-related impacts and operational impacts. Such actions are:

- The addition of paved shoulders in the project area will minimize Particulate Matter 10 emissions by eliminating the emission of road dust when vehicles pull off of the roadway.
- The project will be subject to the San Joaquin Valley Air Pollution Control District Rule 9510 (Indirect Source Review rule) that applies to construction equipment emissions for transportation projects that exceed 2 tons of either Particulate Matter 10 and/or nitrogen oxide air pollutants. Compliance with the rule will ensure that any unexpected impacts are minimized. The construction contractor will be responsible for the Indirect Source Review Air Impact Analysis and any applicable fees. The analysis estimates the construction equipment emissions. The contractor can choose to reduce the emissions by using a construction fleet that is cleaner than the California state average, or if emissions exceed the limits, the contractor can make the payment of fees to the San Joaquin Valley Air Pollution Control District.
- Caltrans' Standard Specifications that pertain to dust control and dust palliative requirements are a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans' Standard Specifications, Section 14-9.02 "Air Pollution Control" and Section 14-9.03 "Dust Control" require the contractor to comply with the San Joaquin Valley Air Pollution Control District rules, ordinances, and regulations.

## ***Noise***

Based on the studies completed to date, Caltrans does not intend to incorporate noise abatement in the form of soundwalls for the project. If conditions have substantially changed during the final design, noise abatement may be necessary. The final decision on noise abatement will be made upon completion of the project design and the public involvement process.

### ***Construction Noise***

The following control measures will be implemented to minimize noise disturbances at sensitive areas during construction:

- All equipment shall have sound-control devices no less effective than those provided on the original equipment. Each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No

internal combustion engine should be operated on the job site without an appropriate muffler.

- Construction methods or equipment that will provide the lowest level of noise impact should be used.
- Idling equipment shall be turned off.
- Truck loading, unloading, and hauling operations shall be restricted so that noise and vibration are kept to a minimum through residential neighborhoods to the greatest possible extent.
- Construction activities shall be coordinated to build recommended permanent soundwalls during the first phase of construction to protect sensitive receptors from subsequent construction noise, dust, light, glare, and other impacts, to the extent feasible.
- Temporary noise barriers shall be used and relocated, as needed, to protect sensitive receptors against excessive noise from construction activities involving large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers.
- Newer equipment with improved noise muffling shall be used, and all equipment items shall have the manufacturers' recommended noise abatement measures (such as mufflers, engine covers, and engine vibration isolators) intact and operational. All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (such as mufflers and shrouding).
- Construction activities shall be minimized in residential areas during the evening, nighttime, weekend, and holiday periods. Noise impacts are typically minimized when construction activities are performed during daytime hours. However, nighttime construction may be desirable (such as in commercial areas where businesses may be disrupted during daytime hours) or necessary to avoid major traffic disruption. Coordination with the city or county shall occur before construction can be performed in noise-sensitive areas between 9:00 in the evening and 6:00 in the morning.
- Construction laydown or staging areas shall be selected in industrially zoned districts. If industrially zoned areas are not available, commercially zoned areas may be used, or locations that are at least 100 feet from any noise-sensitive land use (such as homes, hotels, and motels).
- Contractor shall prepare a Noise and Vibration Monitoring and Mitigation Plan by a qualified acoustical engineer and submit it for approval. The plan must outline noise and vibration monitoring procedures at predetermined noise and vibration-sensitive sites and historic properties.
- Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts to residents are minimal (e.g., weekdays

during daytime hours only when as many residents as possible are away from home).

- The owner of a building close enough to a construction vibration source that could potentially damage that structure due to vibration will be entitled to a pre-construction building inspection to document the pre-construction condition of that structure.
- Conduct vibration monitoring during vibration-intensive activities.

The contractor will be required to adhere to the following administrative noise control measures:

- Once details of the construction activities become available, the contractor shall work with local authorities to develop an acceptable approach to minimize interference with the business and residential communities, traffic disruptions, and the total duration of the construction.
- Good public relations shall be maintained with the community to minimize objections to unavoidable construction impacts. Frequent activity updates of all construction activities shall be provided. A construction noise monitoring program to track sound levels and limit the impacts shall be implemented.
- In case of construction noise complaints by the public, a Caltrans Resident Engineer shall coordinate with the construction manager, and the specific noise-producing activity may be changed, altered, or temporarily suspended, if necessary.

### **Climate Change**

The following measures will also be implemented in the project to reduce greenhouse gas emissions and potential climate change impacts from the project. Caltrans staff will enhance the environmental training provided for contractor staff by adding a module on greenhouse gas reduction strategies.

The contractor will be required to:

- Reduce construction waste and maximize the use of recycled materials wherever possible (reduces the consumption of raw materials, reduces landfill waste, and encourages cost savings).
- Incorporate measures to reduce the use of potable water.

Seek to operate construction equipment with improved fuel efficiency by:

- Properly tuning and maintaining equipment.
- Limiting equipment idling time.
- Using the right-size equipment for the job.



- Caltrans' Standard Specifications Section 14-9.02, Air Pollution Control, requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Measures that reduce construction vehicle emissions also help reduce greenhouse gas emissions.
- In disturbed areas, use compost and native hydroseed mix to promote revegetation success and provide erosion control. Vegetation helps sequester carbon dioxide.
- Limit idling to 5 minutes for delivery and dump trucks and other diesel-powered equipment.
- Schedule truck trips outside of peak morning and evening commute hours.
- Install Continuously Reinforced Concrete Pavement to lower the rolling resistance of the highway. In 2008, the California Department of Transportation (Caltrans) conducted a study to measure and compare the fuel economy of vehicles traveling on different pavement types. Vehicles on concrete pavements had 2 percent less fuel consumption.
- Use ultra-reflective sign materials that are illuminated by headlights. Current overhead signs are illuminated with an external light source that requires electricity. The new ultra-reflective sign materials do not use electricity.
- For ease of maintenance vehicle movement, a Class 2 aggregate base roadway that is 16 feet wide and 8 inches thick will be built around each basin. Class 2 aggregate base materials have lower greenhouse gas emissions than concrete or hot mix asphalt materials.
- The project will match the existing grade and will reduce earthwork. The matching grade will avoid the need for excavating excess material or filling with an imported borrow. This will avoid the use of heavy machinery for excavation, trucks for bringing in imported borrow, and compactors for compacting the imported borrow.
- Lengthen lane closure duration to reduce necessary mobilization efforts.

Increased Lane Closure Length—A lane closure that is 1 mile long will be proposed in the construction specifications for this project. Doubling the lane closure length from a standard 0.5-mile length to 1 mile will double the production of work during each shift requiring lane closures. This will result in reduced greenhouse gas emissions due to the reduced number of working days requiring lane closures and reduced construction mobilization associated with setup and removal of temporary lane closures.

Increased Lane Closure Duration—An expanded work window of 10 hours will be proposed in the construction specifications for this project. A 10-hour lane closure for every shift requiring temporary traffic control will allow 25 percent more production to be completed during each shift. This will result in reduced greenhouse gas emissions due to the reduced number of working

days requiring lane closures and reduced construction mobilization associated with setup and removal of temporary lane closures.

Measures to reduce operational greenhouse gas emissions will include the following:

- Design and install long-life pavement structures to minimize maintenance and life cycle costs. The structural section for this project will be Continuously Reinforced Concrete Pavement. Continuously Reinforced Concrete Pavement will last about 40 to 50 years with virtually no rehabilitation or maintenance. Continuously Reinforced Concrete Pavement will reduce the life cycle cost, maintenance cost and will contribute to fuel savings, reducing greenhouse gas emissions.
- Swales and detention basins will be designed to convey and retain stormwater. They will be treated with native or drought-tolerant grasses and forbs that nurture infiltration. This will reduce dependence on mechanical equipment, concrete channels, and drainage systems that will produce greenhouse gas emissions to move and treat stormwater.
- Trees will be preserved wherever feasible to minimize the loss of tree covering within the project limits. Trees that must be removed for project construction will be replaced at a 15 to 1 ratio, which means 15 trees will be planted for every tree removed.
- Provide native and drought-tolerant seed mix on disturbed slopes and exposed soils. The project will maximize the use of compost as opposed to synthetic fertilizers to improve soil health.
- Implement intelligent transportation systems and traffic demand management elements to smooth traffic flow and increase system efficiency. Overhead changeable message signs will be installed at two locations to inform northbound and southbound traffic of congestion.
- Install level two electric vehicle chargers for public use. Potential sites include roadside rest areas, park and ride areas, and district facilities. Locations will be determined during the Plans, Specifications, and Estimates phase of the project.

Monitoring program for travel information—Five years after the project has been built, Caltrans will prepare a traffic growth report for the project segment. The report will compare the growth that has occurred to what was forecasted during project development and what was indicated in the travel demand model for the project. The report will be provided to Caltrans Headquarters to assess how accurate forecasting and travel demand model growth rates were for this project and how they could be applied to future transportation projects.

## **List of Technical Studies**

Air Quality Report, November 2020

Noise Study Report, October 2016, addendum December 2020

Water Quality Report, December 2019

Natural Environment Study (Minimal Impacts), January 2020

Location Hydraulic Study, July 2015, Supplemental June 2019

Hazardous Waste Reports

- Initial Site Assessment, May 2019
- Preliminary Site Investigation, September 2019

Visual Impact Assessment, December 2020

Paleontology Studies

- Paleontological Identification Report, July 2019
- Paleontological Evaluation Report and Preliminary Paleontological Mitigation Plan, November 2020

Historical Property Survey Report, August 2020

- Historic Resource Evaluation Report
- Archaeological Survey Report

To obtain a copy of one or more of these technical studies/reports or the Initial Study/Environmental Assessment, please send your request to the following email address: [d6.public.info@dot.ca.gov](mailto:d6.public.info@dot.ca.gov)

Please indicate the project name and project identifying code (under the project name on the cover of this document) and specify the technical report or document you will like a copy of. Provide your name and email address or U.S. postal service mailing address (street address, city, state and zip code).

Risk Checkpoint: PA&ED	
Date: 3/27/2021	
Project Nickname: South Madera 6 Lane	
EA: 06-0H220	
Co-Rt, Post Miles: MAD SR99 PM 1.7/R7.5	
Project Manager: Anand Kapoor	
FY & Program (SHOPP or STIP): 2025 (STIP)	
Capital Costs: \$159,000k	
Support Costs: \$28,900k	
Total Costs: \$187,900k	
RTL Target: 5/2/2024	

Phase	Cost Contingency Range \$k			Schedule Contingency Range ( Wkg Days)		
	Optimistic	PERT	Pessimistic	Optimistic	PERT	Pessimistic
0-PA&ED	\$25	\$51	\$67	141	109	130
1-PS&E	\$0	\$0	\$0	0	0	0
2-RW Sup	\$0	\$0	\$0	0	0	0
3-Con Sup	\$42	\$63	\$96	54	80	104
Support Contingency	\$67	\$114	\$163	195	189	234
9-RW Cap	\$0	\$0	\$0	0	0	0
4-Con Cap	\$37	\$176	\$395	16	26	42
Capital Contingency	\$37	\$176	\$395	16	26	42
Total Contingency	\$104	\$290	\$558	211	215	276

Risk Identification								Risk Assessment			Risk Response				Quantifying "Red" (High P & I) Level Risks			
Status	ID #	Type	Category	Title	Risk Statement	Current status / assumptions	Risk Trigger	Probability (P)	Cost Impact Schedule Impact (I)	Cost Score Schedule Score (PxI)	Strategy	Response Actions	Risk Owner	Updated	Impacted Phase	Calculated Contingency	Support (hours) Capital Cost \$k	Schedule (Days)
Active	1	Threat	Environmental	Scope Change	As a result of a change in scope, additional environmental studies may be necessary, resulting in an increase to project cost and schedule.	There will be no changes to project scope.	Project scope changes.	2-Low (11-30%)	1 - Very Low (Insignificant)	2	Mitigate	Minimize changes during PAED, determine additional hours and cost for environmental compliance, perform regular reviews monthly.	Environmental	9/25/2020	0-PA&ED Sup	\$11k	O 300 hours ML 450 hours P 600 hours	O 10 ML 20 P 30
									1 - Very Low (Insignificant)	2						\$2k	O 20 hours ML 50 hours P 90 hours	O 30 ML 45 P 50
																20%		\$9
								0-PA&ED Sup										
Active	2	Threat	Environmental	Paleontological resources	As a result of encountering paleontological resources during construction, work may be stopped until a qualified paleontologist can evaluate the nature and significance of the find, which would lead to a delay in construction schedule.	Assuming no paleontological resources will be encountered.	Paleontological resources are encountered during construction.	1-Very Low (1-10%)	1 - Very Low (Insignificant)	1	Accept	During construction, halt work and wait for an evaluation from a qualified paleontologist in the effected area. Have contractor work in another area within the project limits (Work around).	Environmental	9/25/2020	3-Con Sup	\$3k	O 200 hours ML 400 hours P 500 hours	O 50 ML 75 P 100
									1 - Very Low (Insignificant)	1						\$4k	O \$50k ML \$60k P \$100k	PERT 75
																5%		
								4-Con Cap										
Active	3	Threat	Environmental	Migratory Birds, Nesting Raptors, Nesting Swainson's Hawk, Burrowing Owls or Swallows	As a result of finding migratory birds, nesting raptors, nesting Swainson's hawk, Burrowing owls, or Swallows within the project limits, monitoring, exclusionary devices, and avoidance buffers may be required, resulting in increases to project schedule and cost.	Assuming migratory birds, nesting raptors, nesting Swainson's hawk, Burrowing owls, or Swallows will not be present in the project area.	Nesting Swainson's hawk, nesting raptors, migratory birds, Burrowing owls or swallows are found in the project area.	4-High (51-70%)	2 - Low (<\$9,395k)	8	Accept	Include contract specifications for the contractor to install exclusionary devices where applicable before the onset of nesting season. If any active nests are found during construction, a no-disturbance buffer will be established and work in that buffer may need to be stopped until the young have fledged and are no longer reliant on the nest for parental care.	Environmental	9/25/2020	0-PA&ED Sup	\$32k	O 200 hours ML 450 hours P 600 hours	O 50 ML 60 P 80
									16 - Very High (>6 months)	64						\$46k	O 500 hours ML 600 hours P 800 hours	O 40 ML 60 P 85
																60%		
								3-Con Sup										
Active	4	Threat	Environmental	Nesting Swainson's Hawk or State Listed Species	As a result of a nesting Swainson's hawk or state listed species occurring adjacent to or within the action area, a 2081 Incidental Take Permit may be required, which would lead to increases in cost (approximately \$30,000) and schedule.	Assuming there will be no nesting Swainson's hawk or state listed species adjacent to or within the action area.	Nesting Swainson's hawk or state listed species are found adjacent to or within the action area.	4-High (51-70%)	2 - Low (<\$9,395k)	8	Accept	Obtain a 2081 incidental take permit for Swainson's Hawk (or other state listed species) during the PS&E phase and purchase mitigation through a mitigation bank or a request for proposal.	Environmental	9/25/2020	3-Con Sup	\$14k	O 50 hours ML 150 hours P 450 hours	O 45 ML 65 P 80
									16 - Very High (>6 months)	64						\$141k	O \$50k ML \$200k P \$550k	O 20 ML 30 P 40
																60%		
								4-Con Cap										
Active	5	Threat	Environmental	Habitat for Listed or Special-Status Species	As a result of finding suitable habitat for listed species or special-status species, additional environmental surveys may be required, resulting in increases in project schedule and cost.	Assuming there will be no suitable habitat for listed species or special-status species in the project area.	Suitable habitat for listed species or special-status species are found in the project area.	2-Low (11-30%)	1 - Very Low (Insignificant)	2	Mitigate	During PAED phase, determine additional hours and costs for biological surveys, Refine cost and schedule as necessary.	Environmental	9/25/2020	0-PA&ED Sup	\$3k	O 65 hours ML 85 hours P 125 hours	O 500 ML 200 P 300
									4 - Moderate (1-3 months)	8						\$31k	O \$20k ML \$150k P \$300k	O 20 ML 30 P 90
																20%		
								4-Con Cap										
Active	6	Threat	Environmental	Permits to Enter	As a result of the inability to obtain access to land (private PTEs and/or private land - ARPA, etc.) in an adequate timeframe, a delay in PA&ED studies may occur, which would lead to a delay in project schedule and an increase in project support cost.	Assuming there will be no delay in obtaining access to land.	Right of Way fails to obtain access to private and/or public land within the target timeframe.	1-Very Low (1-10%)	1 - Very Low (Insignificant)	1	Accept	PAED studies would be delayed until access is obtained.	Environmental	9/25/2020	0-PA&ED Sup	\$3k	O 200 hours ML 400 hours P 650 hours	O 60 ML 70 P 125
									2 - Low (<1 month)	2								
																5%		

Risk Identification								Risk Assessment			Risk Response				Quantifying "Red" (High P & I) Level Risks			
Status	ID #	Type	Category	Title	Risk Statement	Current status / assumptions	Risk Trigger	Probability (P)	Cost Impact Schedule Impact (I)	Cost Score Schedule Score (PxI)	Strategy	Response Actions	Risk Owner	Updated	Impacted Phase	Calculated Contingency	Support (hours) Capital Cost \$k	Schedule (Days)
Active	7	Threat	Right of Way	Easements	As a result of obtaining more information in the PA&ED phase, easements may be needed, which will result in R/W capital increase and schedule delays.	No additional easements will be required.	In the PAED phase, design determines an easement is required	2-Low (11-30%)  20%	2 - Low (<\$539k)	4	Mitigate	Design to determine early the required easements and request from RW as soon as design gets to know. Communicate early with rw division to acquire easements necessary to build the required components.	Design	9/25/2020	0-PA&ED Sup	\$1k	O 10 hours ML 35 hours P 50 hours PERT 34 hours	O 20 ML 100 P 150 PERT 95
									4 - Moderate (1-3 months)	8						\$1k	O 10 hours ML 25 hours P 50 hours PERT 27 hours	O 50 ML 100 P 150 PERT 100
															2-RW Sup	20		
Active	8	Threat	Utilities	Unexpected Utilities	As a result of existing utilities within the project limit, unexpected utilities may be found when potholing takes place which may require utility relocation that will result in cost and schedule impact.	Some unforeseen or undocumented utilities may be encountered when potholing.	when potholing is complete	2-Low (11-30%)  20%	2 - Low (<\$539k)	4	Mitigate	Potholing early and modify the design to try to avoid utility relocation	Design	9/25/2020	1-PS&E Sup	\$6k	O 100 hours ML 200 hours P 400 hours PERT 217 hours	O 50 ML 70 P 90 PERT 70
									4 - Moderate (1-3 months)	8						\$54k	O \$300k ML \$200k P \$500k PERT \$267k	O 60 ML 90 P 120 PERT 90
															9-RW Cap	18		
Active	9	Threat	Design	Nonstandard design exception	As a result of a design exception not being approved for nonstandard features proposed / required which would lead to an increase in right of way capital / consruction capital and support cost.	Design exceptions are expected to be approved.	Design exception is rejected.	2-Low (11-30%)  20%	1 - Very Low (Insignificant)	2	Mitigate	Design to start on DSDD, identify all nonstandard features early. Keep open communication with Paul Gennaro and Robert Navarro to ensure on time concurrence.	Design	9/25/2020	4-Con Cap	\$284k	O \$500k ML \$1,500k P \$2,000k PERT \$1,417k	
									1 - Very Low (Insignificant)	2						\$6k	O 100 hours ML 200 hours P 400 hours PERT 217 hours	O 30 ML 60 P 90 PERT 60
															1-PS&E Sup	12		
Active	10	Threat	Stakeholders	Political environment	As a result of future political change in the current council of the County of Madera, moving the trees (Palm & Pine) may not materialize resulting in scope change and cost increase.	Current County, City and Madera Historical Society staff are in agreement and would like to see Palm and Pine removed from the median. Agreed to relocate to the west side of SR99.	Council members change	1-Very Low (1-10%)  5%	8 - High (\$1,813k - \$3,623k)	8	Accept	Keep external stakeholders (staff / council) engaged and involved in the PDT meetings. Communicate regularly.	Project management	9/25/2020	0-PA&ED Sup	\$1k	O 20 hours ML 30 hours P 60 hours PERT 34 hours	O 10 ML 30 P 90 PERT 37
									4 - Moderate (1-3 months)	4						\$50k	O \$400k ML \$400k P \$4,000k PERT \$1,000k	O 5 ML 20 P 30 PERT 20
															4-Con Cap	1		
Active	11	Threat	Stakeholders	Public Opposition	As a result of the esisting Palm and Pine tree in the median that need removal/relocation, those trees mark the middle of California and removing them may induce visual impact creating public opposition and resulting in an increase support cost.	no public opposition and Palm and Pine will be removed from the median.	public hearing	2-Low (11-30%)  20%	4 - Moderate (\$907k - \$1,812k)	8	Mitigate	During environmental phase, conduct public outreach and public hearing to inform public as early as possible.	Environmental	9/25/2020	0-PA&ED Sup	\$10k	O 200 hours ML 400 hours P 500 hours PERT 384 hours	O 30 ML 60 P 90 PERT 60
									4 - Moderate (1-3 months)	8								
Active	12	Threat	Environmental	VMT	As a result of new VMT requirement, Increase in mitigation may be required which will result in added scope and cost.	No additional mitigation is required..	VMT analysis/results shows induced traffic is significant and mitigation is necessary.	2-Low (11-30%)  20%	2 - Low (<\$906k)	4	Mitigate	Environmental division will review consultant report when approved and recommend an action to mitigate.	Environmental	9/25/2020	0-PA&ED Sup	\$2k	O 30 hours ML 60 hours P 120 hours PERT 65 hours	O 20 ML 40 P 60 PERT 40
									2 - Low (<1 month)	4								
Active	13	Threat	Design	Changes of policy or standards	As a result of changes in Federal, State or Local Policy or changes in design standards during PA&ED would lead to design changes and delay the dead line and increse the project cost.	Current policies and standards would remain in effect.	Changes in project mile stone and cost.	2-Low (11-30%)  20%	2 - Low (<\$9,395k)	4	Accept	Adopt changes as soon as the policy or standard changes are came into effect.	Design	9/29/2020	0-PA&ED Sup	\$8k	O 150 hours ML 250 hours P 600 hours PERT 292 hours	O 10 ML 20 P 30 PERT 20
									2 - Low (<1 month)	4						\$26k	O \$80k ML \$120k P \$200k PERT \$127k	O 30 ML 45 P 50 PERT 44
															4-Con Cap	9		
Active	14	Threat	Design	Scope Change	As a result of decisions by PDT to replace Avenue 9 Overcrossing.	Avenue 9 Overcrossing will not to be replaced, instead profile will be lowered to have a vertical clearance of 15'-6".	Project scope changes.	2-Low (11-30%)  20%	2 - Low (<\$9,395k)	4	Mitigate	Make changes during PA&ED, determine additional hours and cost for incorporating Ave 9 OC in the project scope.	Design	9/29/2020	0-PA&ED Sup	\$4k	O 100 hours ML 160 hours P 240 hours PERT 164 hours	O 10 ML 20 P 30 PERT 20
									2 - Low (<1 month)	4						\$2,400k	O \$10,000k ML \$12,000k P \$14,000k PERT \$12,000k	O 30 ML 45 P 50 PERT 44
															4-Con Cap	9		
Active	15	Threat	Design	Contaminated soil Quantity	AS a result of existing ADL, contaminated soil quantity may increase which will result in an increase of the cost.	Contaminarted soil exist and it must be hauled to a hazourdous facility.	Change in quantities of contaminated soil	2-Low (11-30%)  20%	2 - Low (<\$9,395k)	4	Mitigate	When quantities are known during the design phase, cost will be assessed and evaluated	Design	11/3/2020	4-Con Cap	\$8k	O \$20k ML \$40k P \$60k PERT \$40k	O ML P
									2 - Low (<1 month)	4								

**RISK REGISTER CERTIFICATION (ACCOUNTABILITY CHECKPOINTS) FORM**

PPM-0001 (REV 07/2013)

The risk register is to be approved and signed-off by the District Deputies\* listed below for all scalability levels. By signing this form, you are certifying that you have reviewed the risks documented in the register and agree that they have been managed to the extent possible by the PDT.

Project Information: <input checked="" type="checkbox"/> Capital Project <input type="checkbox"/> Major Maintenance Project (Check One)		Total Estimated \$ Cost: _____
Project ID/District-EA	06-0H220 / 0612000158	
Project Description	South Madera Six Lane	
Project Manager (PM)	ERIC KARLSON	
Project Risk Manager (For Risk Level 3 Projects)	_____	
<input type="checkbox"/> No Risk Register Certification Required - - Check box if project is less than \$1 million in total cost and risk register not prepared. Sign below and submit this form with PID, PA&ED, PS&E submittal, and RE Handoff File (as applicable).		
Project Manager Signature	_____	Date: _____

<u>PA&amp;ED (Required for Capital Projects Only)</u>		
ERIC KARLSON Project Manager	<u>Eric Karlson</u>	Date: <u>04/27/2021</u>
HARPREET BINNING Acting Chief, Central Region Environmental	<u>Jennifer H. Taylor</u>	Date: <u>04/29/2021</u>
LAURA GORDON Chief, Central Region Project Development	<u>Samuel Shaath</u>	Date: <u>4/30/2021</u>
NABEELAH ABI-RACHED Deputy District Director, Program/Project Management/Asset Management	<u>Richard Helg</u>	Date: <u>4-30-21</u>

<u>Prior to PS&amp;E (Required for Capital Projects and Major Maintenance Projects)</u>		
ERIC KARLSON Project Manager	N/A	Date: _____
LAURA GORDON *Chief, Central Region Project Development	N/A	Date: _____
PAM MARQUEZ Acting Chief, Central Region Construction	N/A	Date: _____
HUMBERTO ALMAGUER Acting Chief, Central Region Right of Way	N/A	Date: _____
HARPREET BINNING **Acting Chief, Central Region Environmental	N/A	Date: _____
NABEELAH ABI-RACHED Deputy District Director, Program/Project Management/Asset Management	N/A	Date: _____

\*or Deputy District Director, Maintenance & Operations signature for HM Projects designed by the District Maintenance Division

\*\*or Deputy District Director, Transportation Planning signature for HM Projects environmentally cleared by the District Environmental Stewardship Branch