State Route 190 Rehabilitation Project

On State Route 190 between State Route 99 and Road 184 in Tulare County

06-TUL-190-0.0/8.0

Project ID 06-0002-0148

Project EA 06-46150

Initial Study with Proposed Mitigated Negative Declaration

Prepared by the

State of California Department of Transportation

June 2012

General Information About This Document

What's in this document?

The California Department of Transportation (Caltrans), the California Environmental Quality Act lead for this project, has prepared this initial study with proposed mitigated negative declaration that examines the potential environmental impacts of alternatives being considered for the proposed project in Tulare County, California. The document describes why the project is being proposed, alternatives for the project, the existing environment that could be affected by the project, potential impacts from each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures.

What should you do?

- Please read this document. Additional copies of this document as well as the technical studies are available for review at the Caltrans district office at 1352 West Olive Avenue, Fresno, CA 93728 and at the Tipton Branch Library at 221 North Evans Road, Tipton, CA 93272. The document can also be accessed electronically at the following website: http://www.dot.ca.gov/dist6/environmental/envdocs/d6/

- We welcome your comments. If you have any concerns about the proposed project, send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to Caltrans at the following address:

  G. William "Trais" Norris, III, Branch Chief
  Sierra Pacific Environmental Analysis Branch
  California Department of Transportation
  855 M Street, Suite 200
  Fresno, CA 93721

  Submit comments via email to: trais_norris@dot.ca.gov

- Submit comments by the deadline: August 7, 2012

What happens next?

After comments are received from the public and reviewing agencies, Caltrans may 1) give environmental approval to the proposed project, 2) do additional environmental studies, or 3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and build all or part of the project.

Printing this document: To save paper, this document has been set up for two-sided printing (to print the front and back of a page). Blank pages occur where needed throughout the document to maintain proper layout of the chapters and appendices.

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: G. William "Trais" Norris, III, Sierra Pacific Environmental Analysis Branch, 855 M Street, Suite 200, Fresno, CA 93721; 559-445-6447 Voice, or use the California Relay Service TTY number, 1-800-375-2929 or dial 711.

06-TUL-190-PM 0.0/8.0
Project EA 06-46150
Project ID 06-0002-0148

Rehabilitate State Route 190 between State Route 99 and Road 184 in Tulare County
from post mile 0.0 to post mile 8.0

INITIAL STUDY
with Proposed Mitigated Negative Declaration

Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation

6/21/12
Date of Approval

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

Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to rehabilitate State Route 190 between the communities of Tipton and Poplar in Tulare County (post mile 0.0/8.0). The project includes rehabilitating the pavement, widening the existing shoulders to Caltrans current roadway standards, adding left-turn channelization to improve access to northbound State Route 99 from State Route 190, and relocating utility poles. The shoulder widening would occur mostly on the north side of State Route 190.

Draft

Determination

This proposed mitigated negative declaration is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a mitigated negative declaration for this project. This does not mean that Caltrans' decision on the project is final. This mitigated negative declaration is subject to change based on comments received by interested agencies and the public.

Caltrans has prepared an initial study for this project and, pending public review, expects to determine from this study that the project would not have a significant effect on the environment for the following reasons:

The proposed project would have no effect on: land use, growth, community impacts, paleontology, hazardous waste or materials, noise, hydrology and floodplain, geology/soils/seismic/topography, cultural resources, water quality and storm water runoff, visual/aesthetics, natural communities, or plant species.

In addition, the proposed project would have no significant effect on: farmland, relocations and real property acquisition, traffic and transportation/pedestrian and bicycle facilities, utilities/emergency services, air quality, wetlands and other waters, or animal species.

The proposed project would have no significant adverse effect on threatened and endangered species because the following mitigation measures would reduce potential effects to a level of insignificance:

- San Joaquin kit fox—The project would impact 18.44 acres of forging habitat. Mitigation measures include compensation for loss of habitat through purchase of conservation credits from an approved United States Fish and Wildlife Service mitigation bank.

_____ _____

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

Date

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List of Abbreviated Terms

Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
FHWA	Federal Highway Administration
NEPA	National Environmental Policy Act
PM	post mile

Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) proposes to rehabilitate State Route 190 between the communities of Tipton and Poplar in Tulare County from post mile 0.0 to post mile 8.0 (see Figure 1-1 and Figure 1-2). The project includes rehabilitating pavement, widening the existing shoulders to Caltrans current roadway standards, adding left-turn channelization to improve access to northbound State Route 99 from State Route 190, and relocating utility poles. The shoulder widening would occur mostly on the north side of State Route 190 to minimize the number of utility poles requiring relocation.

Within the project area, State Route 190 is a two-lane undivided conventional highway. State Route 190 originates at State Route 99 near the community of Tipton and heads east toward the Sierra Nevada Mountain Range. State Route 190 is part of the Tulare County Regional Road System that connects and provides access through the communities of Tipton, Poplar, Porterville, and Springville.

Because funding for the proposed project includes federal funds, a National Environmental Policy Act Categorical Exclusion would be prepared after circulation and public comment of this document.

The proposed project, estimated to cost $20 million, was programmed in the 2010 State Highway Operation and Protection Program.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to rehabilitate this section of State Route 190.

1.2.2 Need

The following illustrates the need for rehabilitation of State Route 190:

- The existing pavement is deteriorating and uneven.
- The existing roadway does not meet Caltrans current roadway standards.

1.2.3 Roadway Improvements

With 11-foot-wide to 11.7-foot-wide lanes and 1-foot-wide shoulders, State Route 190 within the project area does not meet current Caltrans roadway standards. Project improvements would include 12-foot-wide travel lanes with 8-foot-wide shoulders. The rehabilitation and asphalt overlay would extend the service life on segment of State Route 190, reduce short-term maintenance costs due to constant repair, and improve the structure of the roadbed.

The accident history within the project limits for the most recent three-year study period (February 2006–January 2009) shows that the actual total accident rates are higher than the statewide average for similarly designed roadways (see Table 1.1). A total of 45 accidents were recorded during this time period (see Table 1.2). About 31 percent of the accidents (14) were broadsides and about 64 percent of the broadsides (9) were attributed to failure to yield.

Table 1.1 Accident Rates on State Route 190 Within the Project Area (February 2006 to January 2009)

	Actual			State Average		
	Fatal	**Fatal & Injury**	**Total**	**Fatal**	**Fatal and Injury**	**Total**
SR 190	0.027	0.52	1.23	0.037	0.35	0.83

Source: Department of Transportation Office of Traffic Engineering. Accident Rate (per million vehicle miles)

Table 1.2 Types of Collisons on State Route 190 (February 2006 to January 2009)

	Head-On	Side-Swipe	Rear-End	Broad-Side	Hit Object	Over Turn	Other
Influence of Alcohol				1	3		
Failure to Yield				9			
Improper Turn		2		1	7	7	
Speeding			5				1
Other Violation		2	1	3	1		
Other Than Driver	1						1
Totals	**1**	**4**	**6**	**14**	**11**	**7**	**2**

Source: Department of Transportation Office of Traffic Engineering

Currently, drivers that drift off the highway have no paved shoulders or uneven shoulders to assist in correcting vehicle direction. Widening the shoulders to Caltrans roadway standards would help improve safety on this section of State Route 190 by providing extra room for drivers to recover and avoid accidents.

At times, westbound vehicles waiting to turn left from State Route 190 onto the State Route 99 northbound on-ramp may hinder traffic flow because there is no left-turn lane. The existing condition forces westbound traffic to slow or stop until oncoming traffic passes and the turning vehicle can proceed. To increase safety, the project proposes adding left-turn channelization to improve access to northbound State Route 99 from State Route 190.

1.3 Alternatives

A Build Alternative and a No-build Alternative are under consideration.

1.3.1 Build Alternative

The Build Alternative would rehabilitate the pavement on State Route 190 between the communities of Tipton and Poplar in Tulare County (post mile 0.0/8.0). This alternative would also widen the existing shoulders to Caltrans current roadway standards, add left-turn channelization to improve access to northbound State Route 99 from State Route 190, and relocate utility poles. The shoulder widening would occur mostly on the north side of State Route 190 to minimize the number of utility poles requiring relocation. Currently, the project would relocate 32 utility poles on the south side of State Route 190 and 38 utility poles on the north side of State Route 190. All utility poles would be moved beyond the 20-foot-wide clear recovery zone beyond the white line at edge of pavement. The headwalls of an irrigation ditch and the side slopes of two retention basins would be moved beyond the 20-foot-wide clear recovery zone.

Side ditches would be placed along State Route 190. Existing culverts along State Route 190 would be realigned to fit these ditches. The Build Alternative would require 40 feet of additional right-of-way from the north side of State Route 190 and 25 feet of additional right-of-way from the south side of State Route 190. The cost of the Build Alternative is $20 million.

Figure 1-1 Project Vicinity Map

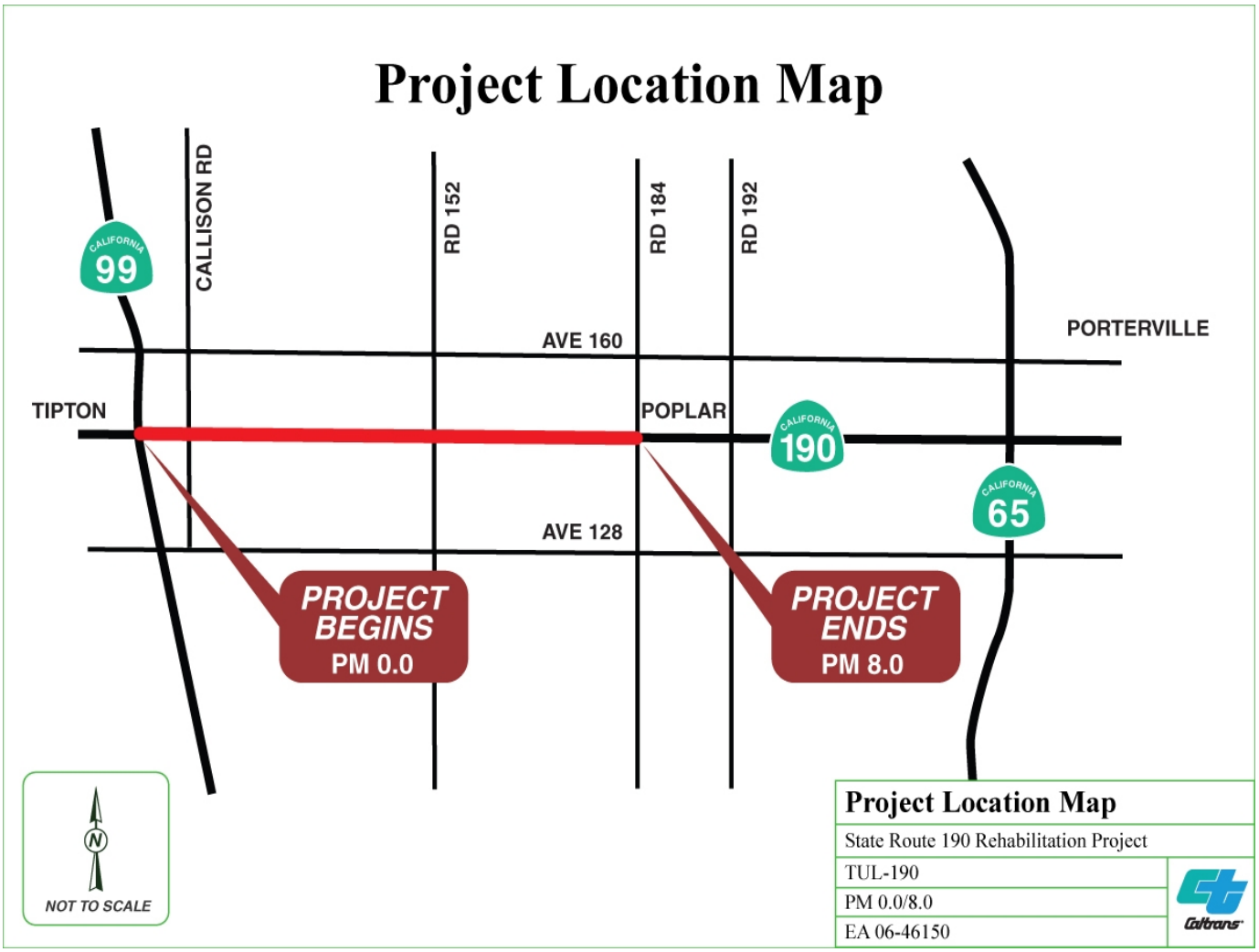

Figure 1-2 Project Location Map

1.3.2 No-Build Alternative

The No-Build Alternative would keep State Route 190 in its existing condition. The No-Build Alternative does not meet the purpose and need of this project, as it would not fix the structural section problems and uneven pavement on the existing section of State Route 190.

1.3.3 Alternatives Considered but Eliminated from Further Discussion

An alternative was considered that would have widened State Route 190 evenly on both the north and south sides of the roadway. However, that alternative was dropped because of the high number of utility poles needing relocation and right-of-way costs.

1.4 Permits and Approvals Needed

The following permits, reviews, and approvals would be required for project construction:

Agency	Permit/Approval	Status
Regional Water Quality Control Board	Section 401	Would be done during the project design phase
U.S. Army Corps	Section 404 Nationwide	Would be done during the project design phase
United States Fish and Wildlife Service	Biological Opinion	A Biological Assessment would be sent to the United State Fish and Wildlife Service during circulation of the draft environmental document to start the Biological Opinion process.

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

This chapter explains the impacts that the project would have on the human, physical, and biological environments in the project area. It describes the existing environment that could be affected by the project, potential impacts from each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures. Any indirect impacts are included in the general impacts analysis and discussions that follow.

As part of the scoping and environmental analysis for the project, the following environmental issues were considered, but no adverse impacts were identified. Consequently, there is no further discussion of these issues in this document.

- Land Use— The project is consistent with existing and future land use and with state, regional, and local plans: the 2010 State Highway Operation and Protection Program (SHOPP), the 2011 Tulare County Regional Transportation Plan, and the 2008 Tulare County General Plan.
- Growth—The project would not promote growth because it is not a capacity-increasing project. The project is an operational improvements project that would rehabilitate the existing roadway (Project Scope Summary Report, June 2010).
- Community Impacts— The project is an operational improvements project that would rehabilitate the existing roadway between the communities of Tipton and Poplar. The project would not disrupt the community character or cohesion or result in any relocation of businesses or residences (Field Visit, 2011).
- Visual/Aesthetics—No scenic resources would be affected by the project (Scenic Resources Evaluation, May 2012).
- Cultural Resources—No National Register-eligible historic properties, rural historic cultural landmarks, or archeological resources were identified in the project area (Historic Property Survey Report, April 2012).
- Hydrology and Floodplain—The project is not within the 100-year floodplain. To handle the shoulder widening, the headwalls of an irrigation ditch and the side

slopes of two retention basins would be moved beyond the 20-foot-wide clear recovery zone. Side ditches would be placed along State Route 190. Culverts would be realigned to fit these ditches (Hydraulics Memo with attached Floodplain Analysis, October 2008).

- Water Quality and Storm Water Runoff— With the incorporation of best management practices and proper and accepted engineering practices, the project would not have adverse effects on surface or groundwater runoff. A Storm Water Pollution Prevention Plan would be prepared and used in this project (Water Quality Compliance Memo, May 2012).
- Geology/Soils/Seismic/Topography— No known faults exist in the project area. The project would not result in substantial soil erosion or landslides. The project is not on a geologic unit or soil that is unstable or that would become unstable as a result of the project (U.S. Geological Survey Earthquake Hazards Program, April 2011).
- Paleontology— Excavation for this project is limited and unlikely to encounter paleontological resources (Paleontological Identification Report, May 2012).
- Hazardous Waste or Materials—An aerially deposited lead study indicated that lead in the soil was detected within the project area but at concentrations below regulatory thresholds. A lead compliance plan is required for this project. A site investigation for pesticides, Title 22 metals, and polychlorinated biphenyls (PCBs) was conducted separately for portions of the project corridor: the Lower Tule River Irrigation District property and along the Caltrans right-of-way adjacent to the Southern California Edison substation. Results indicated there would be no restrictions for disposal or soil reuse options (Preliminary Site Assessment Summary, May 2012).
- Noise and Vibration— This project is not a Type 1 project (the construction of a highway on a new location, the physical alteration of an existing highway that changes the horizontal or vertical alignment, or an increase in lanes) and therefore is not subject to Caltrans Traffic Noise Analysis Protocol (Noise Compliance Memo, May 2012).
- Natural Communities—There are no known natural communities of concern within the project area (Natural Environment Study, June 2012).
- Plant Species—There are no known special-status plant species within the project area (Natural Environment Study, June 2012).

- Invasive Species— No species have been identified within the project limits that have special regulations or requirements based on their status on either the Federal or California Noxious Weeds list. To comply with Executive Order 13112 pertaining to invasive species, best management practices would be used to reduce the potential spread of noxious weeds to or from the project site. This would include using clean dirt for fill, properly disposing of any excavated materials, and deploying proper erosion control techniques. (Natural Environment Study, June 2012).

2.1 Human Environment

2.1.1 Farmlands/Timberlands

Regulatory Setting

The National Environmental Policy Act and the Farmland Protection Policy Act (7 United States Code 4201-4209; and its regulations, 7 Code of Federal Regulations Part 658) require federal agencies such as the Federal Highway Administration to coordinate with the Natural Resources Conservation Service if their activities could 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 requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to deter the early conversion of agricultural and open space lands to other uses.

Affected Environment

The Tulare County Agriculture Commissioner reported a total agricultural production value of $4,863,705,000 in 2010, an increase of 20 percent from the 2009 production value. Milk is the leading agricultural commodity in Tulare County. Tulare County's agricultural strength is based on the diversity of the crops produced. The 2010 Tulare County Agricultural Crop Report assumes that although individual commodities may experience difficulties from year to year Tulare County continues to produce high-quality crops.

Soils within the project area are primarily Akers-Akers, Colpien loam, Exeter loam, Nord fine sandy loam, Tagus loam, Tujunga loamy sand, and Yettem sandy loam. Parcels within the project area support a mix of row crops like alfalfa, corn, wheat, and barley. These crops are routinely rotated throughout the seasons.

Environmental Consequences

The Natural Resources Conservation Service Farmland Conversion Impact Rating was completed for the project in October 2011 (see Appendix D). 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. The Natural Resources Conservation Service only uses prime/unique and statewide/local importance classified land on the Farmland Conversion Impact Rating form. If the rating is more than 160 points, Caltrans considers measures that would minimize or mitigate farmland impacts. The Build Alternative would require 35 acres of prime and unique farmland. The total amount of right-of-way required for the project is 40 acres. The remaining five acres is currently used for roads, driveways, and irrigation ditches and is not considered "farmland."

Although there are parcels listed under the Williamson Act, the amount of right-of-way would not warrant cancellation of any Williamson Act contracts. Forty-seven parcels would require small strips of land from the frontage parcels along State Route 190. About 37 parcels are listed under the Williamson Act. The number of acres acquired from each parcel in relation to the size of each parcel is considered minimal.

The Tulare County office of the Natural Resources Conservation Service determined the project would convert to nonagricultural use prime and unique farmland as well as farmland in the county or local government unit having a relative value of 90 out of 100 possible points under these criteria. Additional points were factored in on the Natural Resources Conservation Service form for a total impact rating of 176 points for the project. Table 2.1 shows the conversion rating used to determine the Farmland Impact Rating for Fresno County.

Table 2.1 Farmland Conversion by Alternative

Alternatives	Land Converted (acres)	Prime and Unique Farmland-(acres)	Percentage of Farmland in County	Percentage of Farmland in State	Farmland Conversion Impact Rating
Build	35	35	0.00004	0	176
No-Build	0	0	0	0	0

Source: Form NRCS-CPA-106 (Farmland Conversion Impact Rating)

The Farmland Conversion Impact Rating for the project is 176 points, a level that would trigger consideration of greater protection under the Farmland Protection Policy Act. Although the Farmland Conversion Impact Rating for the project is over 160 points, the small amount of right-of-way required for this project—small strips of land from the frontage parcels along State Route 190—is not expected to have an adverse effect on farmland within the project area. The project would not require relocation of any farms or dairies or bisect properties. Of the total amount of land in the 47 affected parcels, only 0.08 percent would be used for the project.

Avoidance, Minimization, and/or Mitigation Measures

The impacts to farmland would be considered minimal and would not require mitigation.

2.1.2 Community Impacts

2.1.2.1 Relocations and Real Property Acquisition

The Caltrans Relocation Assistance Program is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations 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.

All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 United States Code 2000d, et seq.) (see Appendix B, Title VI Policy Statement).

Affected Environment

The majority of parcels within the project area contain farmland (row crops). Dairies and residential units are also within the project area. Utilities include irrigation ditches, two retention basins, and a Southern California Edison substation. For more information on utilities affected by the project, please see Section 2.1.3, Utilities/Emergency Services.

Environmental Consequences

The project would not require the relocation of any businesses, residential units, or building structures. It is estimated that the project would require about 40 acres of

new right-of-way to handle the proposed shoulder widening along State Route 190. The new right-of-way would consist of small strips of land from the frontage parcels along State Route 190. Almost all required right-of-way would come from farmland parcels (see Table 2.2 for a list of parcels and estimated right-of-way requirements).

Table 2.2 Required Right-of-Way for the Build Alternative

	Assessor's Parcel Number	Total parcel size (acres)	Actual right-of-way required (acres)
1	230-240-007	22.37	0.37
2	230-240-006	48.09	0.54
3	230-240-012	2	0.08
4	300-030-009	43.21	0.78
5	232-130-011	119.75	0.76
6	232-130-007	39.91	1.06
7	300-030-027	87.37	0.98
8	232-130-012	79.89	1.22
9	232-130-006	79.93	1.19
10	300-030-024	244.08	0.57
11	300-030-023	0.78	0.04
12	232-170-001	296.22	1.99
13	232-170-009	169.6	2.09
14	300-040-001 & 009	244.18	0.61
15	300-040-020	77.37	0.55
16	232-170-008	39.91	1.06
17	232-170-006	39.89	1.04
18	300-040-025 & 026	335.36	0.72
19	232-170-005	159.61	2.1
20	232-160-015 & 016	79.54	1.06
21	232-160-014	79.57	1.04
22	300-090-024	329.18	0.66
23	232-160-013	159.26	2.11
24	300-090-030	1.08	0.02
25	300-090-033	2.35	0.1
26	232-160-012	76.4	0.89
27	232-160-022	33.31	0.91
28	300-090-025	20.02	0.11

	Assessor's Parcel Number	Total parcel size (acres)	Actual right-of-way required (acres)
29	300-090-002	26.51	0.09
30	300-090-003	110.18	0.18
31	232-160-024 & 025	66.62	1.81
32	300-090-027 & 029	122.01	0.39
33	236-230-011 & 012	158.56	1.82
34	300-100-002	155.35	0.44
35	236-230-010	159.4	1.98
36	300-100-002	0.99	4sf*
37	300-100-003	301.74	0.43
38	236-230-023 & 026	68.06	1.12
39	236-230-027	39.93	1.06
40	300-100-004	79.02	0.23
41	300-100-009 & 010	79.23	0.18
42	236-230-015	39.31	1.05
43	236-230-019	40.51	0.98
44	300-100-006	79.42	0.24
45	300-100-007	79.63	0.35
46	236-220-001	159.33	1.25
47	300-110-041	42.8	1.23
		Total:	**40 Acres****

Source: 2012 Right-of-Way Preliminary Appraisal Maps
**Square Feet*
***Total number of acres is 39.48. The number was rounded up for consistency purposes.*

Avoidance, Minimization, and/or Mitigation Measures

A Caltrans appraiser would determine just compensation for property along with any damages caused to the remainder such as repair to irrigation lines.

2.1.3 Utilities/Emergency Services

Affected Environment

This section discusses information obtained from the Right-of-Way Data Utility Sheet Memo (March 2010) completed for the proposed project. Utilities within the project area include power poles, telephone poles, underground cable, gas line, irrigation ditches, and two retention basins (see Table 2.3).

Table 2.3 Utilities Within the Project Area

Utility Ownership	Facility
Southern California Edison	Power Poles, Fence
Southern California Gas	Gas Line
AT&T	Underground Cable
AT&T	Telephone Poles
Lower Tule River Irrigation District	Irrigation Ditch, Headwalls
Lower Tule River Irrigation District	Retention Basins

The Tulare County Sherriff's Department uses State Route 190 to access communities from Tipton to Springville. The California Highway Patrol is responsible for traffic enforcement on State Route 190.

Environmental Consequences

On State Route 190, the project would require the relocation of 32 utility poles on the south side and 38 utility poles on the north side. All utility poles would be moved beyond the 20-foot-wide clear recovery zone beyond the white line at edge of pavement. An underground cable and a gas line might need relocation during construction. The headwalls of an irrigation ditch and the side slopes of two retention basins would be moved beyond the 20-foot-wide clear recovery zone. Lastly, side ditches would be placed along State Route 190. Existing culverts along State Route 190 would be realigned to fit these ditches. A fence around the Southern California Edison substation would also be affected.

The project would have a beneficial effect on fire protection, law enforcement, and emergency services by repairing the roadway, widening the shoulders, and providing a safer left-turn channelization to access State Route 99 from State Route 190. Although construction of the project would create temporary traffic delays, a traffic management plan would be used to minimize wait times.

Avoidance, Minimization, and/or Mitigation Measures

Any utility relocation outside the boundaries of the environmental study area completed for this project would require separate environmental studies. Caltrans

would coordinate with Southern California Edison, Southern California Gas, AT&T, and the Lower Tule River Irrigation District to relocate utilities.

A Transportation Management Plan would be developed to minimize delays and maximize safety for motorists during construction. The Transportation Management Plan would include but is not limited to the following:

- Use press releases managed by the Caltrans public information office.
- Use fixed and portable changeable message signs.
- Use the Caltrans Highway Information Network.
- Use a Traffic Detour Plan and an emergency detour route.
- Use reversing traffic control.

2.1.4 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 pedestrian and bicyclist safety during the development of federal-aid highway projects (see 23 Code of Federal Regulations 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

Caltrans is committed to carrying out the 1990 Americans with Disabilities Act by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public will be provided to persons with disabilities.

Affected Environment

Within the project area, State Route 190 is a two-lane undivided conventional highway. State Route 190 originates at State Route 99 near the community of Tipton and heads east toward the Sierra Nevada Mountain Range. State Route 190 is part of the Tulare County Regional Road System that connects and provides access through the communities of Tipton, Poplar, Porterville, and Springville. Pedestrians are not allowed on State Route 190. This section of State Route 190 is not part of the Tulare

County Bicycle Plan that proposes a Class II bicycle route along Avenue 152 (one mile north and parallel to State Route 190). Although bicycles are allowed on State Route 190, the shoulders provided for riders are narrow.

The accident history within the project limits for the most recent three-year study (February 2006–January 2009) shows that the actual total accident rates are higher than the statewide average for similarly designed roadways (see Table 1.1). A total of 45 accidents were recorded during this time period (see Table 1.2). About 31 percent of the accidents (14) were broadsides and about 64 percent of the broadsides (9) were attributed to failure to yield.

Environmental Consequences

The project would widen the shoulders on State Route 190 to comply with Caltrans roadway standards. Widening the shoulders to Caltrans roadway standards would help improve safety on this section of State Route 190 by providing extra room for drivers that leave the travel lane to recover and avoid accidents. The wider shoulders would also make it safer for bicyclists to use this route.

While building the project, there would be temporary traffic delays.

Avoidance, Minimization, and/or Mitigation Measures

A Transportation Management Plan would be developed to minimize delays and maximize safety for motorists during construction. The Transportation Management Plan would include, but is not limited to the following:

- Use press releases managed by the Caltrans public information office.
- Use fixed and portable changeable message signs.
- Use Caltrans Highway Information Network.
- Use a Traffic Detour Plan and an emergency detour route.
- Use Reversing traffic control.

2.2 Physical Environment

2.2.1 Air Quality

Regulatory Setting

The Federal Clean Air Act, as amended in 1990, is the federal law that governs air quality. The California Clean Air Act of 1988 is its companion state law. These laws

and related regulations by the United States Environmental Protection Agency and California Air Resources Board set standards for the quantity of pollutants that can be in the air. At the federal level these standards are called National Ambient Air Quality Standards. These standards and state ambient air quality standards have been established for six transportation-related criteria pollutants linked to potential health concerns. The criteria pollutants are carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM, broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$), lead (Pb), and sulfur dioxide (SO_2).

In addition, state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The National Ambient Air Quality Standards and state standards are set at a level that protects 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 within their general definition.

Federal and state air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act and the California Environmental Quality Act. In addition to this environmental analysis, a parallel “conformity” requirement under the Federal Clean Air Act also applies.

Federal Clean Air Act Section 176(c) prohibits the U.S. Department of Transportation and other federal agencies from funding, authorizing, or approving plans, programs or projects that are not first found to conform to State Implementation Plan for achieving the goals of Clean Air Act requirements related to the National Ambient Air Quality Standards. “Transportation Conformity” takes place on two levels: the regional, or planning and programming, level, and the project level. The proposed project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and “maintenance” (former nonattainment) areas for the National Ambient Air Quality Standards and only for the specific National Ambient Air Quality Standards that are or were violated. U.S. Environmental Protection Agency regulations at 40 Code of Federal Regulations 93 govern the conformity process.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the standards set for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas

sulfur dioxide (SO_2). California has attainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2, and also has a nonattainment area for lead (Pb). However, lead is not currently required by the Federal Clean Air Act to be covered in transportation conformity analysis. Regional conformity is based on Regional Transportation Plans and Federal Transportation Improvement Programs that include all of the 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 is based on use of travel demand and air quality models to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that requirements of the 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 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, scope, and "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 proposed project is deemed to meet regional conformity requirements for purposes of project-level analysis.

Conformity at the project-level also requires "hot spot" analysis if an area is "nonattainment" or "maintenance" for carbon monoxide (CO) and/or particulate matter (PM_{10} or $PM_{2.5}$). A region is "nonattainment" if one or more of the monitoring stations in the region measures violation of the relevant standard and U.S. Environmental Protection Agency officially designates the area nonattainment. Areas that were previously designated as nonattainment areas but subsequently meet the standard may be officially redesignated to attainment by U.S. Environmental Protection Agency and are then called "maintenance" areas.

"Hot spot" analysis is essentially the same, for technical purposes, as carbon monoxide or particulate matter analysis performed for purposes of the National

Environmental Policy Act. Conformity does include some specific procedural and documentation standards for projects that require a hot spot analysis. In general, projects must not cause the "hot spot"-related standard to be violated, and must not cause any increase in the number and severity of violations in nonattainment areas. If a known carbon monoxide or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

Affected Environment

An Air Quality Report was prepared on June 12, 2012. The proposed project, between the communities of Tipton and Poplar in Tulare County, is within the San Joaquin Valley Air Basin. The San Joaquin Valley, nearly 300 miles long, is bounded by the Tehachapi Mountains in the south and the San Joaquin-Sacramento River Delta in the north. The Sierra Nevada Mountain Range forms the eastern boundary, and the valley extends to the lower coastal ranges in the west. The total land area is 23,720 square miles.

The valley is characterized by hot, dry summers and cool winters. Precipitation is directly related to latitude and elevation, with the southern portion accumulating an average of less than 6 inches of rain per year. The rainy season is typically between November and April, with Tulare County's average annual rainfall ranging from 6 inches in the south to 18 inches in the north. Snow is rare on the valley floor, though the Sierra Nevada Range generally has heavy accumulations during the winter. Warm temperatures, prevailing winds, and the location of the county within an enclosed valley all play a role in the air quality of the area.

Tulare County is in a nonattainment area for particulate matter ($PM_{2.5}$) and ozone and an attainment-maintenance area for PM_{10}.

Environmental Consequences

Regional Air Quality Conformity

According to (40 Code of Federal Regulations 93.127 Table 3), intersection channelization and signalization projects are exempt from regional emissions analysis requirements. The local effects of these projects with respect to carbon monoxide and particulate matter concentrations must be considered to determine if a hot-spot analysis is required prior to making a project-level conformity determination. These projects may then proceed to the project development process even in the absence of a conforming transportation plan and Federal Transportation Improvement Program.

Particulate Matter

Qualitative particulate matter hot-spot analysis is required under the Environmental Protection Agency Transportation Conformity rule for projects of air quality concern, as described in the Environmental Protection Agency's Final Rule of March 10, 2006. Project types listed in 40 Code of Federal Regulations 93.126 do not require any hot spot analysis for conformity purposes. All other projects in areas subject to conformity for particulate matter (PM_{10} or $PM_{2.5}$) must have documented consideration with interagency consultation and public involvement of whether or not they are projects of air quality concern. If they are in fact projects of air quality concern, a full qualitative analysis is needed.

The project is located in a federal $PM_{2.5}$ non attainment area and a federal attainment-maintenance PM_{10} area and requires a full qualitative PM_{10} and $PM_{2.5}$ hot spot analysis under 40 Code of Federal Regulations 93.123(b)(1)(i). This project is not considered a project of air quality concern per Section ii (intersection channelization or interchange reconfiguration projects involving turn lane or other operational improvements) of the Environmental Protection Agency Transportation Conformity Guidance (Final Rule) March 10, 2006.

The preliminary results indicate the project would not result in any violation of federal standards.

Ozone

The project area is in a nonattainment area for the federal and state 8-hour ozone levels. Ozone is considered a regional pollutant. Because there are no approved guidelines for ozone, a project is considered as conforming to the State Implementation Plan for ozone when the project is listed in an approved Regional Transportation Plan and associated conformity analysis. The proposed project is listed in Tulare County's 2011 Regional Transportation Plan.

Carbon Monoxide

The project would not have an adverse effect on carbon monoxide levels. Historical air quality data shows that the existing carbon monoxide levels for the project area do not exceed either the state or federal ambient air quality standards.

Mobile Source Air Toxics

The proposed project has low potential mobile source air toxics effects. The Environmental Protection Agency projections indicate a continuing downward trend of the six primary mobile source air toxics. The study of mobile source air toxics,

dose-response effects, and modeling tools are currently in a state where accurate information is incomplete or unavailable. This is relevant to making an accurate prediction of any reasonably foreseeable adverse effects on the human environment. There is currently no specific significance level for receptor exposure. Without a significance level for exposure, one cannot accurately and scientifically predict the effects on the human environment. Studies are currently being conducted to clarify some of these unknowns; however, the information is not available now.

Avoidance, Minimization, and/or Mitigation Measures

The project would be subject to the San Joaquin Valley Air Pollution Control District Rule 9510 (Indirect Source Review Rule). This rule applies to construction equipment emissions for transportation projects that exceed 2 tons of either PM_{10} and/or nitrogen oxide air pollutants. Mitigation options include using a construction fleet that is "cleaner than the California state average" and/or in the form of fees paid to the San Joaquin Valley Air Pollution Control District. The contractor would be responsible for the Indirect Source Review Air Impact Analysis and any applicable fees.

Short-Term Construction Impacts

Construction activity may generate a temporary increase in mobile source air toxics emissions. The use of diesel retrofit technologies outlined in the Congestion Mitigation and Air Quality Improvement Program provisions (technologies designed to lessen a number of mobile source air toxics) would help lower short-term mobile source air toxics. Compliance with the San Joaquin Valley Air Pollution Control District rules and regulations during construction would reduce construction-related air quality impacts.

Construction mitigation includes strategies that reduce engine activity or reduce emissions per unit of operating time. Operational agreements that reduce or redirect work or shift times to avoid community exposures would have positive benefits when sites are near vulnerable populations. The use of technological adjustments to equipment, such as off-road dump trucks and bulldozers, would also be appropriate strategies. These technological fixes could include particulate matter traps, oxidation catalysts, and other devices that provide an after-treatment of exhaust emissions. The use of clean fuels, such as ultra-low sulfur diesel, also would be a very cost-beneficial strategy. The Environmental Protection Agency has listed a number of approved diesel retrofit technologies; many of these can be deployed as emissions mitigation measures for equipment used in construction.

During construction, the project would generate air pollutants. The exhaust from construction equipment contains hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors. However, the largest percentage of pollutants would be windblown dust generated during excavation, grading, hauling, and various other activities. The effects of these activities would vary each day as construction progresses. Dust and odors could cause occasional annoyance and complaints. The project would be subject to a Dust Control Permit from the San Joaquin Valley Air Pollution Control District. Caltrans standard specifications pertaining to dust control and dust palliative requirement is a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 7-1.01F "Air Pollution Control," and Section 10 "Dust Control" require the contractor to comply with the San Joaquin Valley Air Pollution Control District rules, ordinances, and regulations.

2.3 Biological Environment

2.3.1 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (33 United States Code 1344) is the primary law regulating wetlands and surface waters. The Clean Water Act regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. are navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act is a regulatory program that says discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army of Engineers with oversight by the U.S. Environmental Protection Agency.

The U.S. Army of Engineers issues two types of 404 permits: Standard and General permits. Nationwide permits, a type of General permit, are issued to authorize a variety of minor project activities with no more than minimal effects. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of U.S. Army of Engineer's Standard permits. For Standard permits, the U.S. Army 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 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 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 with fewer adverse effects. The Guidelines state that the U.S. Army of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative to the proposed discharge that would have fewer effects on waters of the U.S. and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (Executive Oder 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency such as the Federal Highway Administration and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction in wetlands unless the head of the agency finds 1) that there is no practicable alternative to the construction, and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, the California Department of Fish and Game, State Water Resources Control Board, and the Regional Water Quality Control Boards regulate wetlands and waters. In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or Tahoe Regional Planning Agency) may also be involved. Sections 1600–1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify the California Department of Fish and Game before beginning construction. If the California Department of Fish and Game determines the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. California Department of Fish and Game jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the U.S. Army

of Engineers may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the California Department of Fish and Game.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The Regional Water Quality Control Boards also issue water quality certifications for impacts to wetlands and waters in compliance with Section 401 of the CWA.

Affected Environment

A Natural Environment Study was completed for the project on June 12, 2012. The biological study area encompassed the existing Caltrans right-of-way and areas north and south of State Route 190. Aquatic features within the project area consist of an irrigation ditch, irrigation water holding basins, and a culvert.

Environmental Consequences

The project would require the headwalls of an irrigation ditch and the side slopes of two retention basins be moved beyond the 20-foot-wide clear recovery zone. Side ditches would be placed along State Route 190. Existing culverts along State Route 190 would be realigned to fit these ditches. The work required for expanding the Lower Tule River Irrigation District culvert at post mile 0.9 would require a 404 Permit from the United States Army Corps of Engineers and a 401 Permit from the Regional Water Quality Control Board.

Avoidance, Minimization, and/or Mitigation Measures

In the project design phase, Caltrans would coordinate with the United States Army Corps of Engineers to obtain a 404 Permit and the Regional Water Quality Control Board to obtain a 401 permit. Caltrans would follow all permit requirements.

2.3.2 Animal Species

This section discusses potential impacts and permit requirements for wildlife not listed or proposed for listing under the state or federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.3. All other special-status animal species are discussed here, including California Department of Fish and Game fully-protected species and species of special concern, and the U.S. Fish and Wildlife Service or National Oceanic and Atmospheric Fisheries Service candidate species.

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service, and the California Department of Fish and Game are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the California Endangered Species Act or the Federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.5 below. All other special-status animal species are discussed here, including California Department of Fish and Game fully-protected species and species of special concern, and the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600–1603 of the Fish and Game Code
- Section 4150 and 4152 of the Fish and Game Code

Affected Environment

A Natural Environment Study was completed on June 12, 2012. The biological study area encompassed the existing Caltrans right-of-way and areas north and south of State Route 190. Using the Sacramento U.S. Fish and Wildlife Service on-line official species list and the California Department of Fish and Game Natural Diversity Database, the area was researched for potential occurrences of special-status species. The Tipton and Woodville United State Geological Survey 7.5-minute quadrangles were the two maps that contained the footprint of the project. The following quadrangles of the surrounding area were also searched for special-status species that might be affected by the project: Ducor, Sausalito School, Pixley, Alpaugh, Lindsay, Cairns Corner, Porterville, Tulare, Paige, and Taylor Weir.

Burrowing Owl

The burrowing owl is listed as a California species of concern and is also protected under the Migratory Bird Treaty Act. They are described as having long legs, spotted upper-sides, a white throat, and broad, arched eyebrows. The burrowing owl resides in dry grassland, desert, grassy, forbs, and open shrub stages of pinyon-juniper and ponderosa pine habitats. They feed on insects but will also consume small mammals, reptiles, birds, and carrion. Burrowing owls live in abandoned rodent or other existing animal burrows. The burrowing owl thermo-regulates and can be seen perching in open sunlight in the early morning and sheltering themselves in shaded areas in the afternoon.

Although burrowing owls are known to occur 10 miles west and southwest of the project site, this species was not observed within the project area during surveys. The project site does, however, contain suitable burrowing habitat for this species.

Environmental Consequences

The project area is within documented burrowing owl habitat; however, no direct impact to their habitat is anticipated. Temporary indirect impacts could occur during disturbance from construction activities.

Avoidance, Minimization, and/or Mitigation Measures

Although burrowing owls were not observed within the project area, Migratory Bird Special Provisions would be included in the construction contract to avoid impacting this species. These provisions would require pre-construction surveys for nesting migratory birds (including burrowing owls) so that measures can be taken to avoid impacts if a nest is discovered. If burrowing owls are located during pre-construction surveys, the California Department of Fish and Game would be consulted, and the construction schedule would be altered until appropriate buffer zones are created to ensure that this species is not disturbed.

2.3.3 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (16 United States Code Section 1531, et seq.) (see also 50 Code of Federal Regulations Part 402). This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies such as the Federal Highway Administration are required to consult with the U.S. Fish and Wildlife

Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an Incidental Take statement. 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.

At the state level, California enacted a similar law: 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 Game is the agency responsible for implementing California Endangered Species Act. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species.

Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions, the California Department of Fish and Game issues a take permit. For species listed under both the Federal Endangered Species Act and California Endangered Species Act requiring a Biological Opinion under Section 7 of the Federal Endangered Species Act, the California Department of Fish and Game may also authorize impacts to California Endangered Species Act species by issuing a Consistency Determination (Section 2080.1 of the California Fish and Game Code).

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over

such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

Affected Environment

A Natural Environment Study was completed on June 12, 2012. The biological study area encompassed the existing Caltrans right-of-way and areas north and south of State Route 190. Using the Sacramento U.S. Fish and Wildlife Service on-line official species list and the California Department of Fish and Game Natural Diversity Database, the area was researched for potential occurrences of special-status species. The Tipton and Woodville United State Geological Survey 7.5-minute quadrangles were the two maps that contained the project footprint. In a further search for special-status species that might be affected by the project, the following quadrangles of the surrounding area were examined: Ducor, Sausalito School, Pixley, Alpaugh, Lindsay, Cairns Corner, Porterville, Tulare, Paige, and Taylor Weir.

Swainson's Hawk

The Swainson's hawk is state listed as a threatened species and is protected by the Migratory Bird Treaty Act. This species is a summer migrant to the Central Valley and typically winters in South America. They are slender with long, pointed wings and dark flight feathers. They occur in a variety of color morphs and have clean, whitish undersides with a neat, dark breast. Swainson's hawks forage in grasslands, grain or alfalfa fields, and livestock pastures. They roost in trees and sometimes on the ground. They eat mice, gophers, ground squirrels, rabbits, large arthropods, amphibians, reptiles, and birds.

Although Swainson's hawks are known to occur 3.7 miles north of the project site, this species was not observed within the project area during surveys. A red-tailed hawk nest was observed during surveys about 700 feet from the project site. The project area contains suitable nesting habitat for the Swainson's hawk.

San Joaquin Kit Fox

The San Joaquin kit fox is federally listed as an endangered species and state listed as threatened. They are the smallest canid species in North America, having an average length of 20 inches and an average weight of 5 pounds. They are described as having small, slim bodies, long ears, a narrow nose, and a long bushy black-tipped tail. Their colors vary from buff, tan, grizzled, or yellow-grey. San Joaquin kit foxes are found in the southern half of California living within annual grasslands or grassy, open stages of vegetation dominated by shrubs and brush. They are mostly nocturnal but

can be seen in the daytime during cool weather. They are carnivorous and like to eat desert cottontails, rodents, insects, reptiles, birds, bird eggs, and vegetation.

Although no night surveys were conducted for this species, it is assumed the San Joaquin kit fox uses the area as foraging habitat as documented sightings were reported in the California Natural Diversity Database. No active dens were seen during daytime surveys. The project area contains suitable habitat for this species.

Environmental Consequences

Swainson's Hawk

The project area contains suitable nesting habitat for the Swainson's hawk, although no Swainson's hawk nests were observed during surveys. There is a possibility that a Swainson's hawk could build a nest within the project area prior to construction of the project.

San Joaquin Kit Fox

No active dens were observed during surveys for this species. However, it is assumed that the San Joaquin kit fox uses the project area as a foraging habitat. The project would affect 18.44 acres of forging habitat.

Avoidance, Minimization, and/or Mitigation Measures

Swainson's Hawk

Although no mitigation is proposed for the Swainson's hawk, the mitigation proposed for the San Joaquin kit fox would provide suitable foraging habitat for the hawks. No impacts to the Swainson's hawk are anticipated while using the following avoidance and minimization measures:

- Pre-construction surveys would be done within the biological study area, plus a one-half-mile radius around it.
- If an active nest is detected, minimization efforts would be coordinated with the California Department of Fish and Game. These efforts could include a no-work buffer zone around the active nest and environmentally sensitive area fencing.
- If an active next is detected, a qualified biologist would monitor the nest during construction to ensure no interference to breeding activities.
- If an active nest is detected, work may be temporarily suspended if construction activities disturb the Swainson's hawk to an extent they abandon the nest.

San Joaquin Kit Fox

Mitigation Measures

Although no active dens were observed during surveys for this species, the project area is within documented San Joaquin kit fox habitat. The project would affect 18.44 acres of forging habitat. Mitigation measures would include compensation for loss of habitat through purchase of conservation credits from an approved United States Fish and Wildlife Service mitigation bank.

Avoidance and Minimization Measures

The following avoidance and minimization efforts are required:

- At the end of each working day, the contractor would take measures to prevent the entrapment of San Joaquin kit foxes in all excavated, steep-walled holes or trenches. These measures would include covering excavations with plywood or providing dirt or plank escape ramps. The contractor would also inspect all pipes and culverts before burying, capping, or other activities. If a San Joaquin kit fox is discovered during this inspection, the pipe or culvert would not be disturbed (other than to move it to a safe location, if necessary) until after the fox has escaped.
- The contractor would immediately notify the resident engineer if a dead, injured, or entrapped San Joaquin kit fox is found. All construction activity within a 150-foot radius of the kit fox would be halted and would not resume until the resident engineer provides written authorization. Any entrapped kit fox must be permitted to escape. No injured or dead kit fox may be handled or otherwise disturbed.
- If a San Joaquin kit fox den is discovered, all construction activity within a 150-foot radius of the den would be halted and the resident engineer must be contacted immediately. Construction may not continue within the 150-foot radius until the resident engineer provides written notification.
- Prior to the initiation of groundbreaking, a Caltrans biologist would present an education and training session for all construction personnel. All individuals who would be involved in the site preparation or construction would be present, including the project representative(s) responsible for reporting take to the United State Fish and Wildlife Service and the California Department of Fish and Game. Training sessions would be repeated for all new employees before they access the construction site.

- All food-related trash items such as wrappers, cans, bottles, and food scraps would be disposed of in closed containers and removed at least once every day from the entire project site.

2.4 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 gases, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change by the United Nations and World Meteorological Organization in 1988, has led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are primarily concerned with greenhouse gas related to human activity that include carbon dioxide (CO_2), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 – tetrafluoroethane), and HFC-152a (difluoroethane).

There are typically two terms used when discussing the impacts of climate change. "Greenhouse Gas (GHG) Mitigation" is a term for reducing GHG emissions in order to reduce or "mitigate" the impacts of climate change. “Adaptation," refers to the effort of planning for and adapting to impacts due to climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)[1]

Transportation sources (passenger cars, light duty trucks, other trucks, buses and motorcycles) in the state of California make up the largest source (second to electricity generation) of greenhouse gas emitting sources. Conversely, the main source of greenhouse gas emissions in the United States (U.S.) is electricity generation followed by transportation. The dominant greenhouse gas emitted is CO_2, mostly from fossil fuel combustion.

There are four primary strategies for reducing greenhouse gas emissions from transportation sources: 1) improve system and operation efficiencies, 2) reduce growth of vehicle miles traveled, 3) transition to lower greenhouse gas fuels, and 4) improve vehicle technologies. To be most effective all four should be pursued

[1] http://climatechange.transportation.org/ghg_mitigation/

collectively. The following regulatory setting section outlines state and federal efforts to comprehensively reduce GHG emissions from transportation sources.

Regulatory Setting

State

With the passage of several pieces of legislation including State Senate and Assembly Bills and Executive Orders, California launched an innovative and pro-active approach to dealing with greenhouse gas emissions and climate change at the state level.

Assembly Bill 1493 (AB 1493), Pavley. Vehicular Emissions: Greenhouse Gases (AB 1493), 2002: requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year. In June 2009, the U.S. Environmental Protection Agency administrator granted a Clean Air Act waiver of preemption to California. This waiver allowed California to implement its own greenhouse gas emission standards for motor vehicles beginning with model year 2009. California agencies will work with federal agencies to conduct joint rulemaking to reduce greenhouse gas emissions for passenger cars model years 2017–2025.

Executive Order S-3-05: (signed on June 1, 2005 by then-Governor Arnold Schwarzenegger) the goal of this executive order is to reduce California's greenhouse gas emissions to 1) 2000 levels by 2010, 2) 1990 levels by the 2020, and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

Assembly Bill 32, the Global Warming Solutions Act of 2006: Assembly Bill 32 sets the same overall greenhouse gas emissions reduction goals as outlined in Executive Order S-3-05 while further mandating that the California Air Resources Board create a plan that includes market mechanisms and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing Assembly bill B 32, including the recommendations made by the State Climate Action Team.

Executive Order S-01-07: Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this executive order, the carbon intensity of California's transportation fuels is to be reduced by at least ten percent by 2020.

Senate Bill 97 (Chapter 185, 2007): this bill required the Governor's Office of Planning and Research to develop recommended amendments to the California Environmental Quality Act Guidelines for addressing greenhouse gas emissions. The amendments became effective on March 18, 2010.

Federal

Although climate change and greenhouse gas reduction is a concern at the federal level, currently there are no regulations or legislation that have been enacted specifically addressing greenhouse gas emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency nor the Federal Highway Administration has announced explicit guidance or methodology to conduct project-level greenhouse gas analysis.

As stated on the Federal Highway Administration climate change website (http://www.fhwa.dot.gov/hep/climate/index.htm), climate change considerations should be integrated throughout the transportation decision-making process, from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will help decision-making and improve efficiency at the program level and will inform the analysis and stewardship needs of project-level decision-making. Climate change considerations can easily be integrated into many planning factors such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies set forth by the Federal Highway Administration to lessen climate change impacts do correlate with efforts that the State has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours travelled.

Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency such as the “National Clean Car Program” and Executive Order 13514- *Federal Leadership in Environmental, Energy and Economic Performance.*

Executive Order 13514 is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also direct federal agencies to participate in the interagency Climate Change Adaptation Task Force, which is engaged in developing a U.S. strategy for adaptation to climate change.

On April 2, 2007, in *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act and that the U.S. Environmental Protection Agency has the authority to regulate greenhouse gases. The court held that the U.S. Environmental Protection Agency administrator must determine whether or not emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the U.S. Environmental Protection Agency administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)—in the atmosphere threaten the public health and welfare of current and future generations.

- **Cause or Contribute Finding:** The administrator found that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution that threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the U.S. Environmental Protection Agency's *Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles*, which was published on September 15, 2009[2]. On May 7, 2010 the final *Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards* was published in the Federal Register.

The U.S. Environmental Protection Agency and the National Highway Traffic Safety Administration are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced greenhouse gas emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever greenhouse gas regulations for heavy-duty engines and

[2] http://www.epa.gov/climatechange/endangerment.html

vehicles, as well as additional light-duty vehicle greenhouse gas regulations. These steps were outlined by President Obama in a memorandum on May 21, 2010.[3]

The final combined U.S. Environmental Protection Agency and National Highway Traffic Safety Administration standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards will cut greenhouse gas emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016).

On January 24, 2011, the U.S. Environmental Protection Agency along with the U.S. Department of Transportation and the State of California announced a single timeframe for proposing fuel economy and greenhouse gas standards for model years 2017–2025 cars and light trucks. Proposing the new standards in the same timeframe (September 1, 2011) signals continued collaboration that could lead to an extension of the current National Clean Car Program.

Project Analysis

An individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of greenhouse gas.[4] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See California Environmental Quality Act Guidelines sections 15064(h)(1) and 15130. To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible

[3] http://epa.gov/otaq/climate/regulations.htm

[4] This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the SCAQMD (Chapter 6: : The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

The Assembly Bill 32 Scoping Plan contains the main strategies California will use to reduce greenhouse gases. As part of its supporting documentation for the raft scoping plan, the California Air Resources Board released the greenhouse gas inventory for California (forecast last update: 28 October 2010). The forecast is an estimate of the emissions expected to occur in 2020 if none of the foreseeable measures included in the scoping plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the greenhouse gas inventory for 2006, 2007, and 2008.

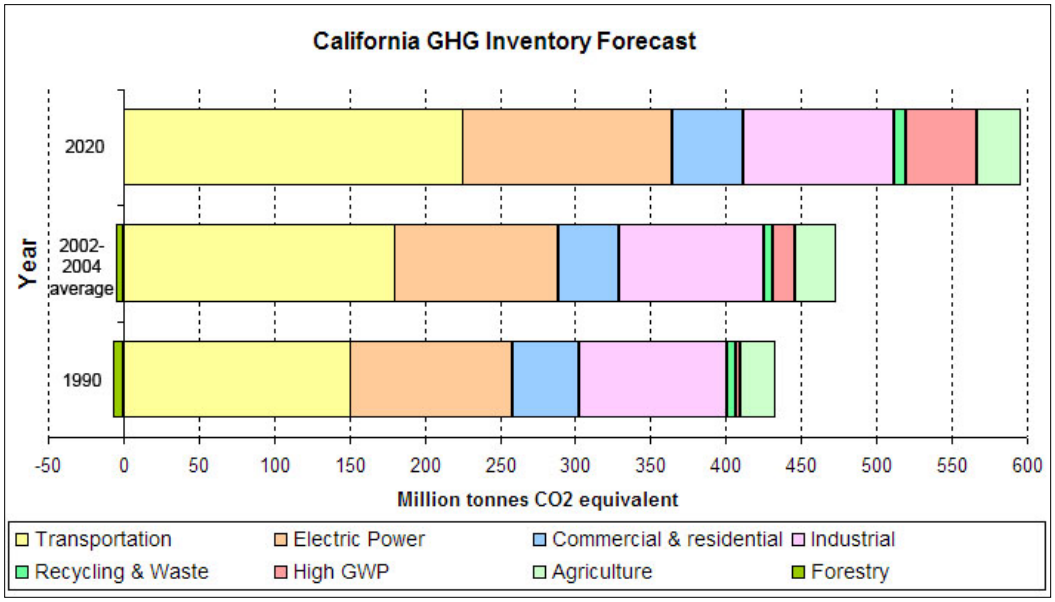

Figure 2-1 California Greenhouse Gas Inventory
Taken from: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing greenhouse gas emission reduction and climate change. Recognizing that 98 percent of California's greenhouse gas emissions are from the burning of fossil fuels and 40 percent of all human-made greenhouse gas emissions are from transportation, Caltrans has created and is implementing the Climate Action Program that was published in December 2006 (see Climate Action Program at Caltrans, December 2006).[5]

[5] Caltrans Climate Action Program is located at the following web address: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

One of the main strategies in Caltran's Climate Action Program to reduce greenhouse gas emissions is to make California's transportation system more efficient. 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 mph; the most severe emissions occur from 0–25 miles per hour (see Figure 2-2 below). To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors, greenhouse gas emissions, particularly CO_2, may be reduced.

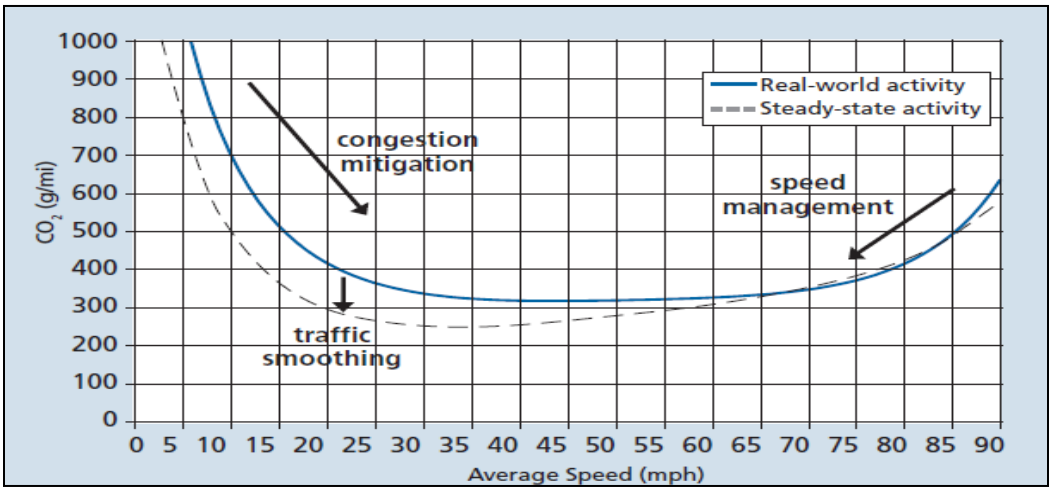

Figure 2-2 Possible Effect of Traffic Speeds in Reducing On-Road CO_2 Emissions[6]

Caltrans proposes to rehabilitate State Route 190 between the communities of Tipton and Poplar in Tulare County (post mile 0.0/8.0). The project includes pavement rehabilitation, widening the existing shoulders to Caltrans current roadway standards, adding left-turn channelization to improve access to northbound State Route 99 from State Route 190, and relocating utility poles. The shoulder widening would occur mostly on the north side of State Route 190. One Build alternative and the No-Build Alternative are under consideration.

The purpose of the project is to remedy structural problems and uneven pavement by rehabilitating the roadway and widening the existing shoulders to Caltrans roadway standards. Construction greenhouse gas emissions are unavoidable, but the project as

[6] Traffic Congestion and Greenhouse Gases: Matthew Barth and Kanok Boriboonsomsin(TR News 268 May-June 2010)<http://onlinepubs.trb.org/onlinepubs/trnews/trnews268.pdf>

proposed would not increase or change long-term traffic volumes and is not expected to cause an overall increase in operational greenhouse gas emissions.

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction greenhouse gas emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lives, improved Transportation Management Plans, and changes in materials, the greenhouse gas emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events. Construction activity may generate a temporary increase in mobile source air toxics emissions. The use of diesel retrofit technologies outlined in the Congestion Mitigation and Air Quality Improvement Program provisions (technologies that are designed to lessen a number of mobile source air toxics) would help lower short-term mobile source air toxics. Compliance with the San Joaquin Valley Unified Air Pollution Control District rules and regulations during construction would reduce construction-related air quality impacts.

Construction mitigation includes strategies that reduce engine activity or reduce emissions per unit of operating time. Operational agreements that reduce or redirect work or shift times to avoid community exposures would have positive benefits when sites are near vulnerable populations. The use of technological adjustments to equipment, such as off-road dump trucks and bulldozers, would also be appropriate strategies. These technological fixes could include particulate matter traps, oxidation catalysts, and other devices that provide an after-treatment of exhaust emissions. The use of clean fuels, such as ultra-low sulfur diesel, also would be a very cost-beneficial strategy. The Environmental Protection Agency has listed a number of approved diesel retrofit technologies; many of these can be deployed as emissions mitigation measures for equipment used in construction.

During construction, the project would generate air pollutants. The exhaust from construction equipment contains hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors. However, the largest percentage of

pollutants would be windblown dust generated during excavation, grading, hauling, and various other activities. The impacts of these activities would vary each day as construction progresses. Dust and odors could cause occasional annoyance and complaints. The project would be subject to a dust control permit from the San Joaquin Unified Air Pollution Control District. Caltrans Standard Specifications pertaining to dust control and dust palliative requirement is a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 7-1.01F "Air Pollution Control" and Section 10 "Dust Control," require the contractor to comply with the San Joaquin Valley Air Pollution Control District rules, ordinances, and regulations.

California Environmental Quality Act Conclusion

While construction would result in a slight increase in greenhouse gas emissions during construction, Caltrans expects there would be no change in greenhouse gas emissions with the Build Alternative when compared to the No-Build Alternative. However, it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and California Environmental Quality Act significance, it is too speculative to make a determination on the project's direct impact and its contribution on the cumulative scale to climate change. Nonetheless, Caltrans is taking further measures to help reduce energy consumption and greenhouse gas emissions. These measures are outlined in the following section.

Greenhouse Gas Reduction Strategies

Assembly Bill 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as the Air Resources Board works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in Assembly Bill 32. Many of the strategies Caltrans is using to help meet the targets in Assembly Bill 32 come from the California Strategic Growth Plan, which is updated each year. Then-Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a $222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including $100.7 billion in transportation funding during the next decade. The Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in greenhouse gas emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined

together are expected to reduce congestion. The Strategic Growth Plan relies on a complete systems approach to attain CO_2 reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as shown in Figure 2-3, the Mobility Pyramid.

Figure 2-3 Mobility Pyramid

Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high-density housing along transit corridors. Caltrans is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light- and heavy-duty trucks; Caltrans is doing this by supporting ongoing research efforts at universities, by supporting legislative efforts to increase fuel economy, and by participating on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by the U.S. Environmental Protection Agency and Air Resources Board. Lastly, the use of alternative fuels is also being considered; Caltrans is participating in funding for alternative fuel research at the University of California at Davis.

Table 2.4 shows Caltrans and statewide efforts that Caltrans is implementing to reduce greenhouse gas emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

To the extent that it is applicable or feasible for the project and through coordination with the project development team, the following measures would also be included in the project to reduce the greenhouse gas emissions and potential climate change impacts from the project:

Caltrans and the California Highway Patrol are working with regional agencies to implement intelligent transportation systems to help manage the efficiency of the existing highway system. Intelligent transportation systems commonly include such measures as electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of surface transportation systems.

Adaptation Strategies

"Adaptation strategies" refer to how Caltrans and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects would vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

Table 2.4 Climate Change Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO_2 Savings (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies and other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements and Intelligent Transportation System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	0.07	2.17
Mainstream Energy and Greenhouse Gas into Plans and Projects	Office of Policy Analysis and Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated

Strategy	Program	Partnership		Method/Process	Estimated CO_2 Savings (MMT)	
		Lead	Agency		2010	2020
Educational and Information Program	Office of Policy Analysis and Research	Interdepartmental, CalEPA, CARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening and Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.045 0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 0.36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal EPA, CARB, BTH, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality, the Office of Science and Technology Policy, and the National Oceanic and Atmospheric Administration, released its interagency report October 14, 2010 outlining recommendations to President Barack Obama for how federal agency policies and programs can better prepare the United States to respond to the impacts of climate change. The Progress Report of the Interagency Climate Change Adaptation Task Force recommends that the federal government implement actions to expand and strengthen the nation's capacity to better understand, prepare for, and respond to climate change.

Climate change adaptation must also involve the natural environment as well. Efforts are underway on a statewide level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, then-Governor Schwarzenegger signed Executive Order S-13-08 that directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This executive order set in motion several agencies and actions to address the concern of sea level rise.

The California Natural Resources Agency was directed to coordinate with local, regional, state and federal public and private entities to develop The California Climate Adaptation Strategy (Dec 2009),[7] which summarizes the best-known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to Executive Order S-13-08 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including Environmental Protection; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into the following strategies for different sectors: public health; biodiversity and habitat; ocean and coastal resources; water management;

[7] http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF

agriculture; forestry; and transportation and energy infrastructure. As data continues to be developed and collected, the state's adaptation strategy would be updated to reflect current findings.

Resources were also directed to request the National Academy of Science to prepare a Sea Level Rise Assessment Report by December 2010[8] to advise how California should plan for future sea level rise. The report would include the following:

- Relative sea level rise projections for California, Oregon and Washington that take into account coastal erosion rates, tidal impacts, El Nino and La Nina events, storm surge and land subsidence rates
- Range of uncertainty in selected sea level rise projections
- Synthesis of existing information on projected sea level rise impacts to state infrastructure such as roads, public facilities and beaches, natural area, and coastal and marine ecosystems
- Discussion of future research needs for sea level rise

Before release of the final Sea Level Rise Assessment Report, all state agencies planning to build projects in areas vulnerable to future sea level rise were directed to consider a range of sea level rise scenarios for the years 2050 and 2100 to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data.

Until the final report from the National Academy of Sciences is released, interim guidance has been released by the Coastal Ocean Climate Action Team as well as Caltrans as a method to initiate action and discussion of potential risks to the state's infrastructure due to projected sea level rise.

All projects that have filed a Notice of Preparation or are programmed for construction funding from 2008 through 2013 or are routine maintenance projects as of the date of Executive Order S-13-08 may, but are not required to, consider these planning guidelines. This project was programmed for construction in the 2010 State Highway Operation and Protection Program.

[8] The Sea Level Rise Assessment report is currently due to be completed in 2012 and will include information for Oregon and Washington State as well as California.

Also, Executive Order S-13-08 directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level affecting safety, maintenance and operational improvements of the system and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, Caltrans is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change impacts, Caltrans has not been able to determine what change, if any, may be made to its design standards for transportation facilities. Once statewide planning scenarios become available, Caltrans would be able to review its current design standards to determine what changes, if any, may be warranted to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being made in response to Executive Order S-13-08 and is mobilizing to respond to the National Academy of Science report on Sea Level Rise Assessment, due for release in 2012.

Chapter 3 Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including project development team meetings and interagency coordination meetings. This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

Coordination with the California Department of Fish and Game

On August 24, 201l, Caltrans biologist Frank Meraz held a field visit with California Department of Fish and Game environmental scientist Laura Peterson-Diaz to discuss permit requirements and to review potential impacts to state-listed species. It was agreed that a 1602 Permit was not necessary for impacts to the irrigation ditches in the project area. They also agreed, due to lack of habitat within the project area, no special-status species other than the San Joaquin kit fox had the potential to be affected by the project.

Coordination with the United States Fish and Wildlife Service

On September 16, 2010, Caltrans biologist Frank Meraz obtained a species list for federally threatened or endangered species that occur or may be affected by the project. An updated list was sent on November 23, 2011.

Coordination with Native American Groups

In December 2010, a Sacred Lands Inventory Search request was submitted to the Native American Heritage Commission for a search of the commission's Sacred Land files. The Native American Heritage Commission did not respond to this request.

However, in 2010, Caltrans conducted an archeological and ethnographic inventory on several rural highways within the Central San Joaquin Valley, including the project area of State Route 190. Extensive consultation with local Mono, Yokuts, Tubatulabal, and Miwok tribes was initiated. A list of tribal contacts was provided by the Native American Heritage Commission for the inventory. At the same time, a Sacred Lands search conducted by the Native American Heritage Commission returned with negative results.

All cultural resources information for the State Route 190 Rehabilitation project was provided to several tribes affiliated with the project area.

Chapter 4 List of Preparers

This document was prepared by the following Caltrans Central Region staff:

Yeshi Amente, Transportation Engineer. B.S., Civil Engineering, California State University, Los Angeles; 13 years of design experience. Contribution: Project Engineer.

Abdulrahim Chafi, Transportation Engineer. Ph.D., Environmental Engineering, California Coast University, Santa Ana; B.S., M.S., Chemistry and M.S. Civil/Environmental Engineering, California State University, Fresno; 14 years of environmental technical studies experience. Contribution: Prepared Air Quality Report.

Richard Kuan, Transportation Engineer. B.S., Civil Engineering, California State University, Fresno; 20 years of design experience. Contribution: Project Engineer.

David Lanner, Associate Environmental Planner. B.F.A., Art, Utah State University; 15 years of cultural resources experience. Contribution: Prepared Historic Property Survey Report with attached Archaeological Survey Report.

Jennifer Lugo, Associate Environmental Planner. M.A., History, California State University, Fresno; B.A., History, Minor Political Science, California State University, Fresno; 7 years of environmental planning experience; 1 year of architectural history experience. Contribution: Prepared Draft Environmental Document.

Frank Meraz, Associate Environmental Planner, Natural Sciences. B.S., Biology, California State University, Fresno; 8 years of environmental planning experience. Contribution: Prepared Natural Environment Study.

Mandy Marine, Associate Environmental Planner/Native American Coordinator, Archaeologist. B.A., Anthropology, California State University, Fresno; more than 20 years of California archaeology experience. Contribution: Conducted Native American coordination.

G. William "Trais" Norris, III, Senior Environmental Planner. B.S., Urban and Regional Planning, California State Polytechnic University, Pomona; 11 years of land use, housing, redevelopment, and environmental planning experience. Contribution: Environmental Manager, Branch Chief, Sierra Pacific Environmental Analysis Branch.

Shawn Ogletree, Associate Environmental Planner. B.S., Environmental Conservation of Natural Resources, Texas Tech University; MPH, California State University, Fresno; 11 years of environmental health and environmental technical studies experience; 10 years of biology experience. Contribution: Prepared Preliminary Site Assessment.

Beatriz Ruano, Associate Environmental Planner. B.A., Psychology, California State University, San Francisco; 11 years of environmental planning experience. Contribution: Environmental Coordinator.

Raymond Segura, Transportation Engineer. B.S., Construction Management, California State University, Fresno; 12 years of landscape design and transportation experience. Contribution: Prepared Scenic Resource Evaluation.

Victor Shaw, Senior Transportation Engineer. B.S., Civil Engineering, California State University, Sacramento; 22 years of engineering experience. Contribution: Project Manager.

Richard C. Stewart, Engineering Geologist. P.G., B.S., Geology, California State University, Fresno; 21 years of hazardous waste and water quality experience; 5 years of paleontology and geology experience. Contribution: Prepared Paleontological Identification Report.

Vladimir Timofei, Transportation Engineer. M.S., Civil Engineering, California State University, Fullerton; 11 years of environmental technical studies experience. Contribution: Prepared Noise and Water Quality Compliance Memos.

Philip Vallejo, Associate Environmental Planner. B.A., History, California State University, Fresno; 8 years of cultural resource compliance experience. Contribution: Prepared Historic Resource Evaluation Report.

Powell Yang, Transportation Engineer, PE, Civil. B.S., Mechanical Engineering, California State University, Fresno; 9 years of hydraulics experience. Contribution: Prepared Floodplain Analysis and Hydraulics Memo.

Appendix A California Environmental Quality Act Checklist

The following checklist identifies physical, biological, social, and economic factors that might be affected by the project. The California Environmental Quality Act impact levels include “potentially significant impact,” “less than significant impact with mitigation,” “less than significant impact,” and “no impact.”

Supporting documentation of all California Environmental Quality Act checklist determinations is provided in Chapter 2 of this document. Documentation of “No Impact” determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization, and/or mitigation measures is under the appropriate topic headings in Chapter 2.

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

IV. BIOLOGICAL RESOURCES: Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

VI. GEOLOGY AND SOILS: Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.			
VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b)Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
(f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
XIV. PUBLIC SERVICES:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	☒
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. Box 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY 711

Flex your power!
Be energy efficient!

July 20, 2010

TITLE VI
POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact Charles Wahnon, Manager, Title VI and Americans with Disabilities Act Program, California Department of Transportation, 1823 14th Street, MS-79, Sacramento, CA 95811. Phone: (916) 324-1353 or toll free 1-866-810-6346 (voice), TTY 711, fax (916) 324-1869, or via email: charles_wahnon@dot.ca.gov.

Cindy McKim
CINDY McKIM
Director

"Caltrans improves mobility across California"

Appendix C Minimization and/or Mitigation Summary

Relocations and Read Property Acquisition

A Caltrans appraiser would determine just compensation for property along with any damages caused to the remainder such as repair to irrigation lines.

Utilities and Emergency Services

Any utility relocation outside the boundaries of the environmental study area completed for this project would require separate environmental studies. Caltrans would coordinate with Southern California Edison, Southern California Gas, AT&T, and the Lower Tule River Irrigation District to relocate utilities.

A Transportation Management Plan would be developed to minimize delays and maximize safety for motorists during construction. The Transportation Management Plan would include but is not limited to the following:

- Use press releases managed by the Caltrans public information office.
- Use fixed and portable changeable message signs.
- Use the Caltrans Highway Information Network.
- Use a Traffic Detour Plan and an emergency detour route.
- Use reversing traffic control.

Traffic and Transportation/Pedestrian and Bicycle Facilities

A Transportation Management Plan would be developed to minimize delays and maximize safety for motorists during construction. The Transportation Management Plan would include, but is not limited to:

- Use press releases managed by the Caltrans public information office.
- Use fixed and portable changeable message signs.
- Use the Caltrans Highway Information Network.
- Use a Traffic Detour Plan and an emergency detour route.
- Use reversing traffic control.

Air Quality

The project would be subject to the San Joaquin Valley Air Pollution Control District Rule 9510 (Indirect Source Review Rule). This rule applies to construction equipment emissions for transportation projects that exceed 2 tons of either PM_{10} and/or nitrogen oxide air pollutants. Mitigation options include using a construction fleet that is "cleaner than the California state average" and/or in the form of fees paid to the San Joaquin Valley Air Pollution Control District. The contractor would be responsible for the Indirect Source Review Air Impact Analysis and any applicable fees.

Short-Term Construction Impacts

Construction activity may generate a temporary increase in mobile source air toxics emissions. The use of diesel retrofit technologies outlined in the Congestion Mitigation and Air Quality Improvement Program provisions (technologies designed to lessen a number of mobile source air toxics) would help lower short-term mobile source air toxics. Compliance with the San Joaquin Valley Air Pollution Control District rules and regulations during construction would reduce construction-related air quality impacts.

Construction mitigation includes strategies that reduce engine activity or reduce emissions per unit of operating time. Operational agreements that reduce or redirect work or shift times to avoid community exposures would have positive benefits when sites are near vulnerable populations. The use of technological adjustments to equipment, such as off-road dump trucks and bulldozers, would also be appropriate strategies. These technological fixes could include particulate matter traps, oxidation catalysts, and other devices that provide an after-treatment of exhaust emissions. The use of clean fuels, such as ultra-low sulfur diesel, also would be a very cost-beneficial strategy. The Environmental Protection Agency has listed a number of approved diesel retrofit technologies; many of these can be deployed as emissions mitigation measures for equipment used in construction.

During construction, the project would generate air pollutants. The exhaust from construction equipment contains hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors. However, the largest percentage of pollutants would be windblown dust generated during excavation, grading, hauling, and various other activities. The effects of these activities would vary each day as construction progresses. Dust and odors could cause occasional annoyance and complaints. The project would be subject to a Dust Control Permit from the San Joaquin Valley Air Pollution Control District. Caltrans standard specifications

pertaining to dust control and dust palliative requirement is a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 7-1.01F "Air Pollution Control," and Section 10 "Dust Control" require the contractor to comply with the San Joaquin Valley Air Pollution Control District rules, ordinances, and regulations.

Wetlands and Other Waters

In the project design phase, Caltrans would coordinate with the United States Army Corps of Engineers to obtain a 404 Permit and the Regional Water Quality Control Board to obtain a 401 permit. Caltrans would follow all permit requirements.

Animal Species

Although burrowing owls were not observed within the project area, Migratory Bird Special Provisions would be included in the construction contract to avoid impacting this species. These provisions would require pre-construction surveys for nesting migratory birds (including burrowing owls) so that measures can be taken to avoid impacts if a nest is discovered. If burrowing owls are located during pre-construction surveys, the California Department of Fish and Game would be consulted, and the construction schedule would be altered until appropriate buffer zones are created to ensure that this species is not disturbed.

Threatened and Endangered Species

Swainson's Hawk

Although no mitigation is proposed for the Swainson's hawk, the mitigation proposed for the San Joaquin kit fox would provide suitable foraging habitat for the hawks. No impacts to the Swainson's hawk are anticipated while using the following avoidance and minimization measures:

- Pre-construction surveys would be done within the biological study area, plus a one-half-mile radius around it.
- If an active nest is detected, minimization efforts would be coordinated with the California Department of Fish and Game. These efforts could include a no-work buffer zone around the active nest and environmentally sensitive area fencing.
- If an active next is detected, a qualified biologist would monitor the nest during construction to ensure no interference to breeding activities.
- If an active nest is detected, work may be temporarily suspended if construction activities disturb the Swainson's hawk to an extent they abandon the nest.

San Joaquin Kit Fox

Mitigation Measures

Although no active dens were observed during surveys for this species, the project area is within documented San Joaquin kit fox habitat. The project would affect 18.44 acres of forging habitat. Mitigation measures would include compensation for loss of habitat through purchase of conservation credits from an approved United States Fish and Wildlife Service mitigation bank.

Avoidance and Minimization Measures

The following avoidance and minimization efforts are required:

- At the end of each working day, the contractor would take measures to prevent the entrapment of San Joaquin kit foxes in all excavated, steep-walled holes or trenches. These measures would include covering excavations with plywood or providing dirt or plank escape ramps. The contractor would also inspect all pipes and culverts before burying, capping, or other activities. If a San Joaquin kit fox is discovered during this inspection, the pipe or culvert would not be disturbed (other than to move it to a safe location, if necessary) until after the fox has escaped.
- The contractor would immediately notify the resident engineer if a dead, injured, or entrapped San Joaquin kit fox is found. All construction activity within a 150-foot radius of the kit fox would be halted and would not resume until the resident engineer provides written authorization. Any entrapped kit fox must be permitted to escape. No injured or dead kit fox may be handled or otherwise disturbed.
- If a San Joaquin kit fox den is discovered, all construction activity within a 150-foot radius of the den would be halted and the resident engineer must be contacted immediately. Construction may not continue within the 150-foot radius until the resident engineer provides written notification.
- Prior to the initiation of groundbreaking, a Caltrans biologist would present an education and training session for all construction personnel. All individuals who would be involved in the site preparation or construction would be present, including the project representative(s) responsible for reporting take to the United State Fish and Wildlife Service and the California Department of Fish and Game. Training sessions would be repeated for all new employees before they access the construction site.
- All food-related trash items such as wrappers, cans, bottles, and food scraps would be disposed of in closed containers and removed at least once every day from the entire project site.

Appendix D Farmland Conversion Impact Rating

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request 10/11/11	4. Sheet 1 of _____
1. Name of Project Laird's Corner Rehabilitation Project	5. Federal Agency Involved	
2. Type of Project	6. County and State	
PART II *(To be completed by NRCS)*	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 ☑ NO ☐	4. Acres Irrigated 550342	Average Farm Size 223
5. Major Crop(s) Citrus, Cotton, Alfalfa	6. Farmable Land in Government Jurisdiction Acres: 638789 % 20.7	7. Amount of Farmland As Defined in FPPA Acres: 867965 % 28.1
8. Name Of Land Evaluation System Used California Storie System	9. Name of Local Site Assessment System None	10. Date Land Evaluation Returned by NRCS

PART III *(To be completed by Federal Agency)*		Alternative Corridor For Segment _____ Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly		35.0			
B. Total Acres To Be Converted Indirectly, Or To Receive Services					
C. Total Acres In Corridor		35.0			
PART IV *(To be completed by NRCS) Land Evaluation Information*					
A. Total Acres Prime And Unique Farmland					
B. Total Acres Statewide And Local Important Farmland					
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value		0.00004			
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)*		90			
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*	Maximum Points				
1. Area In Nonurban Use	15	15			
2. Perimeter In Nonurban Use	10	10			
3. Percent Of Corridor Being Farmed	20	20			
4. Protection Provided By State And Local Government	20	14			
5. Size of Present Farm Unit Compared To Average	10	3			
6. Creation Of Nonfarmable Farmland	25	0			
7. Availability Of Farm Support Services	5	4			
8. On-Farm Investments	20	20			
9. Effects Of Conversion On Farm Support Services	25	0			
10. Compatibility With Existing Agricultural Use	10	0			
TOTAL CORRIDOR ASSESSMENT POINTS	160	69	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland (From Part V)	100	90	0	0	0
Total Corridor Assessment (From Part VI above or a local site assessment)	160	69	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	176	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES ☐ NO ☐

5. Reason For Selection:

Appendix E United States Fish and Wildlife Service Species List

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 111123024804

Database Last Updated: September 18, 2011

Quad Lists

Listed Species

Invertebrates

Branchinecta conservatio
Conservancy fairy shrimp (E)

Branchinecta lynchi
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus
delta smelt (T)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Gambelia (=Crotaphytus) sila
blunt-nosed leopard lizard (E)

Thamnophis gigas
giant garter snake (T)

Mammals

Dipodomys nitratoides nitratoides
Tipton kangaroo rat (E)

Vulpes macrotis mutica
San Joaquin kit fox (E)

Plants

Caulanthus californicus
California jewelflower (E)

Clarkia springvillensis
Springville clarkia (T)

Pseudobahia peirsonii
San Joaquin adobe sunburst (T)

Quads Containing Listed, Proposed or Candidate Species:

DUCOR (287A)
SAUSALITO SCHOOL (287B)
PIXLEY (288A)

11/23/2011 1:50 PM

ALPAUGH (288B)
LINDSAY (310A)
CAIRNS CORNER (310B)
WOODVILLE (310C)
PORTERVILLE (310D)
TULARE (311A)
PAIGE (311B)
TAYLOR WEIR (311C)
TIPTON (311D)

County Lists

Tulare County

Listed Species

Invertebrates

Branchinecta lynchi
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
Critical habitat, vernal pool tadpole shrimp (X)
vernal pool tadpole shrimp (E)

Fish

Oncorhynchus (=Salmo) aquabonita whitei
Critical habitat, little Kern golden trout (X)
Little Kern golden trout (T)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)
Critical habitat, CA tiger salamander, central population (X)

Rana draytonii
California red-legged frog (T)

Reptiles

Gambelia (=Crotaphytus) sila
blunt-nosed leopard lizard (E)

Thamnophis gigas
giant garter snake (T)

Birds

Gymnogyps californianus
California condor (E)
Critical habitat, California condor (X)

Mammals

Dipodomys ingens
giant kangaroo rat (E)

Dipodomys nitratoides exilis
Fresno kangaroo rat (E)

Dipodomys nitratoides nitratoides
Tipton kangaroo rat (E)

Ovis canadensis californiana
Sierra Nevada (=California) bighorn sheep (E)

Vulpes macrotis mutica
San Joaquin kit fox (E)

Plants

Chamaesyce hooveri
Critical habitat, Hoover's spurge (X)
Hoover's spurge (T)

Clarkia springvillensis
Springville clarkia (T)

Orcuttia inaequalis
Critical habitat, San Joaquin Valley Orcutt grass (X)

Pseudobahia peirsonii
San Joaquin adobe sunburst (T)

Sidalcea keckii
Critical habitat, Keck's checker-mallow (X)
Keck's checker-mallow (=checkerbloom) (E)

Candidate Species

Amphibians

Rana muscosa
mountain yellow-legged frog (C)

Mammals

Martes pennanti
fisher (C)

Plants

Abronia alpina
Ramshaw sand-verbena (C)

List of Technical Studies that are Bound Separately

- Air Quality Report
- Noise and Water Quality Compliance Memo
- Natural Environment Study
- Historic Property Survey Report
- Preliminary Site Assessment Summary
- Scenic Resource Evaluation
- Paleontological Identification Report
- Hydraulics Memo with attached Floodplain Analysis